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Challenges Facing Auditors in Detecting Financial Statement Fraud: Insights from Fraud Investigations

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INTRODUCTION

Financial statement users and regulators expect external auditors to detect fraudulent financial reporting (fraud). For instance, in 2004, the PCAOB Chairman stated that, "detecting fraud is the responsibility of external auditors and that with few exceptions they should find it" (CFO.com 2004).[1] Audit regulators and the auditing profession have responded to this expectation by issuing a number of standards outlining auditors' responsibilities to detect fraud (e.g., PCAOB 2010; IAASB 2009, PCAOB 2002; AICPA 2002; AICPA 1997; AICPA 1988). These standards indicate that auditors are responsible for providing reasonable assurance that audited financial statements are free of material misstatements due to fraud. Nonetheless, prior research indicates that auditors detect relatively few significant frauds (Dyck et al. 2010, KPMG 2009). This finding raises the obvious question: Why do auditors rarely detect fraud?

This study investigates this question by drawing on the experiences of fraud examiners who investigate fraud cases. Fraud examiners specialize in investigating suspected or actual fraud cases and present their findings in various fora, including litigation settings. The fraud examiners, whose experiences inform this study, may have extensive experience providing expert witness testimony in audit failure litigation. We chose this participant pool because their perceptions regarding auditors' failure to

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[1] While we recognize that internal auditors also play an important role in detecting fraud, the focus of our study is on the effectiveness of external auditors. As such, we use the word "auditor" to refer to external auditors of the financial statements.

detect fraud are (1) useful in an important setting (i.e., auditor litigation) and (2) are based on evidence they gather that is both valuable and difficult to obtain. For example, in performing their tasks, fraud examiners who are involved in auditor litigation frequently review audit working papers, consider auditors' incentives, and are steeped in auditing standards to allow them to determine the cause of any audit failures. As such, fraud examiners have, and can provide, important insights into why auditors fail to detect fraud because of their cumulative experiences in investigating actual fraud cases—especially those where audit failure is alleged. Our research approach is akin to using a pathologist to discover why a physician did not save a patient.[2] Our goal is to identify factors that account for auditors' failure to detect fraud by accessing the experiential knowledge base of fraud examiners.

Our research approach involves three stages. First, we analyzed the academic literature on fraud to develop a framework of the factors likely to affect auditors' fraud detection. The purpose of this stage was to guide us in developing our research instrument. Second, we interviewed four fraud experts with extensive experience and knowledge about auditors' detection of fraud to identify what they perceived to be the main factors influencing auditors' effectiveness at detecting fraud.[3] This stage allowed us to validate the reasonableness of the framework as well as obtain anecdotes to enrich the framework. Third, we conducted an experiential survey, in which we collected responses from 65 fraud examiners regarding their experiences on a recent investigation of a fraud.[4] If the auditor did not detect the fraud, the fraud

[2] Was the physician too busy to notice symptom X? Was the physician ill-trained and so did not recognize symptom X? Was the physician distracted? Did the physician notice symptom X but neglect to take notes on it? Did the physician's incentives (or superiors) limit time with the patient so the observation for symptom X was not done? Did the Affordable Care Act or similar regulation shift emphasis from symptom X because of reimbursement rates? etc. Answering these questions require the pathologist to consider and evaluate the medical processes deployed, the doctor's cumulative medical knowledge and experience, the doctor's incentives and the regulatory environment.

[3] The fraud experts include two partners of Big 4 accounting firms who were recognized as national-level fraud experts and two senior-level accounting professors who had extensive experience working as expert witnesses on litigation involving auditors' failure to detect fraud.

[4] We describe our approach as an experiential survey since we ask our participants to provide responses based on their experiences on an actual fraud investigation, as has been done in prior research (e.g., Gibbins and Newton 1994; Gibbins, Salterio, and Webb 2001).

examiner was asked to assess the importance of the components of our framework as inhibitors to the auditor's success at detecting the fraud or to identify other inhibitors not contained in the framework. Thus, the relative importance of factors and elements of our framework is determined by empirical data from potential audit failures as judged by the experiences of fraud examiners who examined the audit failure *ex post*.

Identifying the importance of factors and elements that inhibit auditors from detecting fraud is an important starting point in considering efforts to enhance auditors' abilities to detect fraud. Understanding why auditors rarely detect fraud is of great interest to regulators, audit firms, academics and financial statement users. Although several studies have suggested various reasons for auditors' failure to detect fraud (e.g., Asare & Wright 2004, Nieschwitz et al. 2000, Wilks and Zimbelman 2004a, Hoffman and Zimbelman 2009, Burton et al. 2011), these studies are conducted in experimental settings that do not incorporate the full range of features of actual cases where auditors failed to detect fraud.[5] Thus, our experiential survey complements these findings with insights obtained from participants actively engaged in fraud investigations.

This study makes four contributions. First, we develop a framework that identifies four general factors, and elements within each factor, that may inhibit auditor fraud detection. The four factors are (1) the audit process, (2) institutional forces, (3) auditor incentives and (4) auditor KTE. The audit process is the methodology employed to search for and detect fraud. The effectiveness of the methodology is dependent on the three other factors in our framework. The factor labeled "institutional forces" includes the regulatory and legal environment (e.g., PCAOB and ASB standards, the nature and limitation of GAAS audits, etc.). Auditor incentives include the financial and retention pressures faced by the auditor (e.g., expected litigation costs, loss of clients, etc.). Lastly, auditors' KTE includes the auditors' cumulative fraud knowledge and experience acquired through both formal and informal learning.

[5] A notable exception is Erickson et al. (2000), who analyzed testimony and auditor working papers obtained from court transcripts to explore why auditors failed to detect the Lincoln Savings and Loan fraud.

Second, we obtain experiential based evidence on why auditors rarely detect frauds from fraud examiners. Fraud examiners routinely make causal attributions for an audit failure that they are investigating, which requires them to focus on the effectiveness of the audit process, the adequacy of the auditors' fraud knowledge or training, and the extent to which an auditor following audit standards could have detected the fraud and the role of auditors' incentives. In addition, fraud examiners who testify as expert witnesses or work on litigation cases regarding audit failures play a significant role in assisting the trier of fact to determine the penalties and consequences attributable to auditors when an audit fails to detect material fraud. As such, fraud examiners' experiences regarding the causes of auditors' failure to detect fraud is an important, albeit a relatively unexplored, source of information for the audit profession to improve its contribution to society.

Third, unlike studies that focus on one or two elements of the audit process that affect auditors' ability to detect fraud (e.g., fraud risk assessment, program planning, etc.), we simultaneously consider several elements within the audit process as well as factors outside the audit process (i.e., auditor KTE, auditor incentives, and institutional forces) in determining auditor effectiveness at detecting fraud; as such, our approach is more holistic. Fourth, by collecting and analyzing data from the experiences of fraud examiners who were brought in, *ex post*, to investigate a fraud case, we obtain empirical evidence that allows us to assess the relative importance of factors and elements that could hinder auditor performance in the detection of fraud. In this vein, our approach complements other methods in that it allows us to gain insights from actual fraud cases where the auditor failed to detect the fraud.

We analyzed responses from 65 fraud examiners who investigated a fraud that was not detected by the auditor (over 90% of our responses). Our results indicate that fraud examiners identify the audit process, KTE, and incentives as the most important inhibitors to auditors in detecting fraud. With respect to the audit process, the fraud examiners identify failing (i) to effectively assess management's incentives and opportunities; and (ii) to sufficiently modify audit tests as the primary drivers of audit failures. With respect to KTE, the fraud examiners find fault with (i) auditors' training; (ii) knowledge of fraud

schemes; and (iii) undue trust in management. Finally, fraud examiners identify the nature of GAAS audits, which they perceive as not sufficiently focused on detecting fraud, as the primary institutional inhibitor of fraud detection.

Several insights follow from these results. First, notwithstanding the emphasis of current auditing standards on the fraud triangle, auditors do not effectively assess management's incentives and opportunities. Current standards provide several examples of incentives and opportunities but very limited guidance as to how these multiple factors can be integrated into a fraud risk assessment. The finding that auditors fail to sufficiently modify audit tests corroborates a common theme in academic fraud research literature. Together, the results suggest critical areas where the need for additional guidance or where expert consultation might be most promising.

The results on auditors' apparent lack of sufficient fraud knowledge raise questions about curriculum and training. In particular, it provides justification for introducing forensic accounting courses in the university curriculum and/or in practice. Although the fraud examiners suggest that trust of management is an important inhibitor of effectiveness, there is relatively little research on auditor trust of management. Auditors are in constant interactions with management and may develop trust schema that interfere with their ability to effectively process fraud cues. While professional standards highlight the importance of professional skepticism, neither those standards nor the academic literature have paid adequate attention to the hurdles inherent in being skeptical of those with whom auditors regularly interact. Finally, the findings suggest that GAAS audits and guidance are not sufficiently focused on fraud detection. This finding calls for a reexamination and possible reengineering of the audit to include more forensic activity, including perhaps, the involvement of a forensic auditor on each engagement (see Asare and Wright 2014). By identifying these factors and their elements, audit research and practice can focus on developing promising interventions, such as enhanced auditor training, closer collaboration with fraud examiners, new decision aids, changes in auditing standards, and/or changes in audit firms'

communication and incentive systems. Further, future research can corroborate the specific challenges identified and explore the efficacy of ways to mediate these challenges.

The remainder of this article is divided into three sections. The next section describes the development and validation of our framework. This section is followed by a description of the method we used to collect the data and presentation of the results. The final section discusses the implications of our findings for future research and practice.

I. FRAMEWORK DEVELOPMENT

Current auditing standards impose an affirmative responsibility on auditors to obtain reasonable assurance that the financial statements taken as a whole are free from material fraud, whether due to fraudulent financial reporting or from misappropriation of assets (AICPA 2012, PCAOB 2002, IAASB 2009).[6] These standards acknowledge that there is an unavoidable risk that some material fraud may not be detected even though the audit is properly planned and performed in accordance with their prescriptions and guidance (AICPA 2012, PCAOB 2002, IAASB 2009). The auditor's objectives relevant to the consideration of fraud in a financial statement audit are to (i) identify and assess fraud risk; (ii) obtain sufficient appropriate evidence regarding the assessed fraud risk through designing and implementing appropriate responses; and (iii) respond appropriately to fraud or suspected fraud identified during the audit. To meet these objectives, auditors should maintain professional skepticism throughout the audit and are required to have a discussion among the key engagement team members, focused on (i) areas of the financial statements susceptible to fraud, (ii) how management could perpetrate and conceal the fraud, and (iii) how entity assets could be misappropriated.

[6] Nevertheless, auditors do not make legal determinations of whether fraud has actually occurred (IAASB 2009).

The aforementioned standards direct the auditor to use risk assessment procedures to identify fraud risk factors, which are classified based on the fraud triangle: (i) incentives or pressures to commit fraud; (ii) opportunities to commit fraud; and (iii) an ability to rationalize the fraudulent action. Auditors should then assess the risk of fraud at both the financial statement and assertion levels, presuming that the risks of fraud exist in revenue recognition. Subsequent to risk assessment, auditors (a) determine overall responses and procedures to address the assessed fraud risk; (b) perform those procedures and, (c) evaluate the resulting evidence obtained from performing those procedures. Finally, the auditor should communicate any negative findings to the appropriate level of management and document the work done and conclusions reached (AICPA 2012, PCAOB 2002, IAASB 2009).

Our approach to identifying and investigating factors inhibiting auditors' detection of fraud involved three main steps: (1) analyzing the academic and professional literature on fraud detection to develop a research framework, (2) validating the framework by interviewing fraud experts, and (3) conducting the experiential survey. We initially analyzed existing reviews of the fraud literature to delineate the variables that have been identified as critical to the detection of fraud (e.g., Nieschwietz et al. 2000, Wilks and Zimbelman 2004a, Hogan et al. 2008. Hammersley 2011 and Trompeter et al. 2013). We compiled the variables and independently classified the variables into separate thematic categories. We then discussed the resulting thematic categories until we reached a consensus that the variables could be assigned to two broad factors that influence each other: (i) the audit process and (ii) three factors that affect the audit process: (i) auditor incentives, (ii) knowledge, training and experience (KTE), and (iii) institutional forces. Within each of these four factors are several components that we label elements. For instance, within the audit process are elements such as risk assessments, program development, etc.

Figure 1 presents our framework and is intended to capture the relationships between the factors and how they affect auditors' detection of fraud. Elements of the audit process include the tasks performed during a typical audit engagement to assess and respond to fraud risks (see e.g., Glover et al. 2004; Asare and Wright 2004; Hoffman and Zimbelman 2009). The audit process is affected by

institutional forces, KTE, and auditor incentives which, together, constitute the set of internal and external conditions influencing auditors' performance of audit tasks. These conditions include the attributes of the auditor, the firm, litigation, auditing standards, and regulations (see e.g., Bazerman et al. 2002). Our framework highlights that failure to detect fraud is primarily attributable to deficiencies in the audit process, which are likely exacerbated (or attenuated) by the auditors' KTE, incentives, and institutional forces.

To validate the research framework, one of the researchers interviewed four fraud experts with extensive experience and knowledge about auditors' detection of fraud to identify what they perceived to be the main factors influencing auditors' effectiveness at detecting fraud. Each interview lasted approximately 45-60 minutes and commenced by asking the fraud expert to describe the top three to five reasons, based on their experiences, why auditors find it difficult to detect fraud. Each of the researchers was provided a transcript of the interviews and independently reviewed the responses and classified them into the thematic categories described supra. We reconciled any differences in classification but were unable to identify any new separate factors, validating the reasonableness and completeness of the framework.

Each of the factors and the elements underlying them are discussed below. In our discussion, we briefly present some of the interesting anecdotes provided by the experts to complement our analysis of prior literature. While we discuss prior research when presenting the research framework, our objective is not to provide an exhaustive review of the research on auditor fraud detection since this has already been presented by others (e.g., Nieschwietz et al. 2000, Wilks and Zimbelman 2004a, Hogan et al. 2008. Hammersley 2011 and Trompeter et al. 2013 for reviews). Instead, our focus is to provide illustrations of relevant research that suggest a particular inhibitor in auditors' ability to detect fraud.

(Insert Figure 1 here)

The Audit Process

The audit process refers to the methodology auditors use to perform their audits. As shown in Figure 1, the elements include: 1) understanding the client's business, 2) assessing fraud risk, 3) designing and executing audit tests, 4) resolving issues and 5) consulting experts such as forensic auditors. These elements are identified in the literature as important actions affecting auditors' detection of fraud. Next, we describe each of these elements and how they map into fraud detection.

Understanding the Client's Business

The four experts highlighted that auditors who do not effectively understand the client's business are not as likely to identify fraud or to assess a heightened risk of fraud relative to those that gain an understanding of the client's business. One noted that understanding the economics influencing a client's success or failure is important so that when a client reports fictitious performance the auditor is more likely to recognize that the performance is not consistent with the other economic events affecting the client.

Prior research also suggests auditors who do not effectively understand the client's business are not as likely to identify fraud or to assess a heightened risk of fraud. Understanding the economics influencing a client's success or failure helps an auditor detect fictitious performance. For instance, Erickson et al. (2000) note that a failure to understand the economic influences affecting Lincoln Savings and Loan resulted in that prominent audit failure. The importance of understanding an audit client's business is also embedded in professional standards (e.g., AICPA SAS 109 2006) and generally embodied within the audit approaches adopted by major firms over the past few decades (Bell et al. 1997; Winograd et al. 2000).

Assessing Fraud Risk

The four experts acknowledged that fraud risk assessment is a critical task for auditors to perform in order to detect fraud. For instance, one expert expressed concern that because the signs of fraud are very subtle, auditors have difficulty recognizing them. Additionally, an expert indicated that auditors did not understand fraud schemes well enough to perceive high fraud risk. They also noted the difficulties posed by the fact that auditors rarely encounter fraud. For example, one expert noted that because fraud is a rare event, auditors usually have not seen it and don't recognize the risk indicators when they are present. Two experts indicated auditors are not accustomed to engaging in strategic reasoning. These experts expressed the belief that auditors do not effectively use strategic reasoning when planning the audit and also fail to effectively use the brainstorming process to assess fraud risk. One expert suggested that auditors are able to identify fraud risks but choose to ignore the risks or not put forth sufficient effort to pursue them.

Prior research confirms that because fraud is a rare event, auditors generally have little experience with it and, as a result, may have difficulties recognizing fraud risk indicators when they are present (e.g., Loebbecke et al. 1989). As such, auditors may not understand fraud schemes (and their indicators) well enough to perceive high fraud risk.[7] Prior research suggests that brainstorming can assist auditors in the risk assessment process (Carpenter 2007). Other studies, however, point out that auditors' fraud risk assessments are subject to biases (see, e.g., Hoffman and Patton 1997). Research also shows that auditors tend to be highly influenced by one aspect of the fraud triangle—attitude or rationalization— (i.e., focus on whether or not they can trust management) and have difficulty effectively responding to risk factors from the other dimensions of the fraud triangle (Wilks and Zimbelman 2004b). With this said, prior research suggests that some judgment interventions, such as decomposition in risk assessment, can help auditors become more sensitive to aspects of fraud risk (Zimbelman 1997 and Wilks and Zimbelman

[7] This inhibitor arguably relates to auditors' KTE, but we mention it here to illustrate how the audit process is impacted by the other factors.

2004b). More recently, Brazel et al. (2009) show that publicly available information about a client's non-financial performance also can help determine fraud risk when such indicators are inconsistent with financial performance. Lastly, there is limited evidence on the relative importance of fraud risk assessments to fraud detection.

Designing and Executing Audit Tests

The fraud experts are in agreement that auditors have difficulties designing effective tests to detect fraud. One expert indicated that it is rare for auditors to specifically design audit tests to look for fraud. Auditors use the same procedures, year after year, which allow the clients to predict what the auditor will do and to conceal a fraud from the tests performed on the audit. The experts also mentioned several procedures that they believed auditors could employ to detect fraud. For example, one expert asserted that communicating with potential informants at the client through interviews or anonymous hotlines is a source of information that auditors could effectively use to detect fraud. Another audit tool mentioned by two experts as an underutilized way to detect fraud is to use technology or computer assisted audit techniques to detect fraud. These experts also noted that such techniques require specialized skills that not all auditors possess.

Prior research suggests that even when auditors accurately assess fraud risk, they often do not design effective tests for detecting fraud (e.g., Zimbelman 1997, Glover et al. 2003, Asare and Wright 2004, Hammersley et al. 2011). These studies show that auditors tend to respond to high fraud risks by doing more standard audit procedures that are generally thought to be ineffective at detecting a concealed fraud. More recent research has explored how interventions such as strategic reasoning can help auditors

respond effectively to heightened fraud risk by modifying the nature of audit tests (Hoffman and Zimbelman 2009).[8]

Consulting Experts

The experts noted that audit partners may not recognize the need to involve fraud specialists on the engagement, and where they do they may be reluctant to use them because of cost considerations. Consistent with this fact, Asare and Wright (2004) report that auditors are generally reluctant to consult fraud experts for assistance even when they assess high fraud risk. However, in a more recent study, Asare and Wright (2014) argue that audits are increasingly including the involvement of forensic specialists to address the forensic expertise deficit in engagement teams. They report that accounting firms have deployed in-house forensic specialists who have a good understanding of the client's business and engagement objectives thereby increasing the willingness of audit teams to consult with the specialists. Nevertheless, they also find that auditors and forensic specialists sometimes disagree on what constitutes immaterial fraud risk, leading to what auditors derisively refer to as "scope creep" or a "wild goose chase."

In addition, research by Boritz et al. (2011) suggests that fraud specialists can assist auditors in the audit planning process and are likely to recommend changes to the audit plan that are more effective but may not be more efficient than what auditors recommend. Specifically, when planning an audit for a revenue cycle, fraud specialists appear to select more standard and non-standard procedures than auditors. The standard procedures are not judged to be more effective as measured by a panel of experts. However, the fraud experts also recommended a larger number of non-standard additional audit procedures that were judged to be more effective but less efficient than those recommended by experienced auditors.

[8] According to Hoffman and Zimbelman (2009), strategic reasoning involves asking the following three questions: (1) which potential frauds may have occurred? (2) how could management conceal the potential frauds from the standard audit plan? and (3) how could the audit plan be modified to detect the concealed frauds?

These findings suggest that auditors can benefit by involving fraud specialists in audit planning but it is likely to lead to less efficient audits overall, potentially explaining why auditors are reluctant to consult fraud experts for assistance.

Resolving Audit Issues

One of the experts noted that auditors fail to effectively pass on information within the audit team. A lower-level auditor may identify information such as a transaction that may indicate fraud exists but then not effectively share the information with someone with the expertise to identify it as a fraud cue. Two experts indicated deficiencies in resolving issues that arise with one noting that auditors fail to effectively resolve issues and conflicts with the client.

Resolving audit issues can involve many parties, including communicating within and between members of the audit team as well as with the client (Brown and Wright 2008; Gibbins et al. 2001). Lower-level auditors are often those who see original documents and other evidence of transactions and are thereby exposed to areas of the audit that are most likely to lead to direct knowledge of fraud. However, lower-level auditors may lack the requisite knowledge about fraud and, therefore, not recognize when they are exposed to evidence of a fraud (Kerr and Murthy 2004; Knapp and Knapp 2001). Additionally, prior research in auditing has explored the dynamics that exist on audit teams in the context of more senior auditors reviewing the work of subordinate auditors (e.g. Rich et al. 1997) and characterized the process as one in which lower-level auditors attempt to persuade higher-level auditors. This group dynamic has potentially significant adverse implications for auditors' effectiveness at detecting fraud where subordinates have fears of either identifying an issue that is not of significance ("false alarm") or causing disruptions with the progress on the audit.

General research in social psychology has explored the effects of dynamics between group members, such as an audit team, on decisions. When multiple parties are making decisions within a group, influence between group members is inevitable. Some research has demonstrated that group

dynamics, such as "group think" and "group shift," can lead to dysfunctional behavior as groups adopt more extreme positions than individuals within the group adopted before interacting (Postmes et al. 2001). When resolving issues with the client, auditors may take more extreme positions because of their interaction with either the client or with their fellow auditors. A particularly troublesome outcome would occur if auditors are persuaded to dismiss issues related to fraud. While there is a rich body of research on auditor-client negotiations and the resolution of differences (see Brown and Wright 2008 for a review), we are not aware of any studies that examine auditor negotiations concerning suspected fraud.

Factors Affecting the Audit Process

Our framework identifies three main factors impacting the audit process: (i) "institutional forces," which includes elements such as the regulatory regime, standard setting mechanisms, and peer reviews, (ii) "auditor knowledge, training and experience," which represents the intellectual capital the auditors bring to the engagement and, (iii) "auditor incentives," which encompasses elements such as time pressure and fees paid by the client on auditors' motivations to detect fraud. We next discuss each factor and the elements therein.

Institutional Forces

All the experts emphasized the impact that institutional factors can have on auditors' effectiveness at detecting fraud. For example, one expert stated that standard setters are reluctant to require new procedures that may be effective at detecting fraud because they fear it may elevate auditors' responsibilities for detecting fraud. The underlying concern for this reaction is that if auditors have more requirements for detecting fraud, they may be held to a higher legal liability standard if they fail to detect fraud. Another expert suggested that auditing standards do not require effective procedures for detecting fraud and are therefore not focused on fraud detection. The experts also touched upon the effect of audit structure, with one noting that audit procedures designed to detect fraud are not integrated into the audit

methodology. The expert explained that the procedures to detect fraud are an add-on, which auditors consider after they do what is required by the predominant focus of audit standards (i.e., the detection of unintentional misstatements). The expert noted that this creates a psychological barrier as the auditor is performing parallel activities. In other words, one activity (auditing for unintentional misstatements) receives the bulk of the emphasis while the other activity (auditing for fraud) is tangential and therefore not given sufficient emphasis. Two experts noted that audit team composition practices might be responsible for audit failures to detect fraud. These experts provided two reasons regarding how audit teams may inhibit fraud detection. One is that because different people see different parts of the audit, they may each have cues about a fraud but they are ineffective at connecting the dots or communicating with one another. A similar reason given by another expert is that the lower level auditors are often exposed to areas of the audit that are most likely to lead to evidence of fraud but these individuals have the least experience and, therefore, knowledge about fraud so they do not recognize when a fraud is occurring. This issue suggests that the process of communication within an audit team is critical but also suggests a potential for better training to help lower level auditors recognize and communicate potential fraud indicators.

The regulatory and legal environments in which auditors operate appear to be the primary institutional forces that can impact their ability to detect fraud. Regulators can impact fraud detection with their standard setting activities. For instance, auditors' responsibility for fraud detection may be stated in an affirmative (e.g., SAS 99, AICPA 2002) or a negative frame (e.g., SAS 53, AICPA 1988), i.e., as one of the objectives of the audit or as an obligation to respond only if fraud is suspected, respectively. Similarly, regulators may be unwilling to mandate specific forensic procedures to search for fraud, perhaps out of concerns that such specificity may trigger litigation (e.g., it took the court's intervention for the confirmation of receivables to be made mandatory in most engagements). In addition, because audits were focused on detecting unintentional misstatements (rather than fraud) for several decades prior to SAS No. 82, audit procedures designed to detect fraud may not be sufficiently integrated in auditing

standards, such that auditing for fraud becomes tangential to the primary focus of the audit. We are not aware of any research that directly measures the impact of extant auditing standards on auditors' detection of fraud. Thus, one of our research foci is to examine the participants' perspective on the relative importance of standards in auditors' failure to detect fraud.

Finally, the securities laws that govern auditors' potential liability can influence their effectiveness at detecting fraud. Ceteris paribus, a legal regime that sets a low threshold for initiating successful litigation against auditors is likely to propel them to be more skeptical than a regime that sets a high threshold. In this vein, the Private Securities Litigation Reform Act (1995) significantly reduced auditors' exposure to legal liability by expanding the pleading requirements as well shifting the regime from joint and several to proportionate liability. Prior research suggests that auditors responded by accepting riskier clients and less conservative reporting (Francis and Krishnan 2002) as well as a decreased propensity to issue going concern reports (Geiger and Raghunandan 2001; Geiger et al. 2006).

On the other hand, laws may create perverse incentives for auditors if they perceive they will be punished for detecting fraud in the current year because they could be held liable for not having detected the fraud in prior years. In these situations auditors may be tempted to collude with management in concealing a fraud as they apparently did in the Waste Management case (Beasley et al. 2009). Further, auditors may be reluctant to invest in decision aids as the failure to follow the recommendations of the decision aid may increase their culpability (Lowe et al. 2002). Some recent research has examined how aspects of today's litigation environment can influence auditors' detection of fraud. For example, Reffett (2010) finds that juries are more likely to hold an auditor responsible for failure to detect a fraud that had been identified as a fraud risk in the working papers than if the risk had not been identified. Burton et al. (2011) investigate the efficacy of changes that could be made to legal judgments against auditors for missing fraud that appear to hold significant promise to encourage more vigilant audit effort aimed at detecting fraud. Overall, the litigation environment has significant potential to influence auditors'

effectiveness at detecting fraud. These considerations motivate our eliciting participants' perspectives on how securities laws affect auditors' fraud detection.

Knowledge, Training, and Experience

All four experts noted that auditors' lack training in fraud detection methods or fraud investigation techniques. They agreed that auditors are not effectively trained to detect or recognize fraud. One expert noted that fact patterns suggesting that fraud exists (i.e., fraud schemes) are unfamiliar to many auditors because they have not been trained in this area and because fraud is a rare event. Auditors may lack adequate training in fraud detection methods or fraud investigation techniques (cf. Hammersley et al. 2011). In this regard, Hammersley et al. (2011) conclude that audit seniors exposed to a fraud case assess higher fraud risk but generally fail to design effective tests to detect the fraud. However, those who are able to identify the fraud scheme are more proficient in identifying audit tests to detect whether fraud is present. This finding suggests knowledge of likely fraud schemes would aid auditors in designing effective tests. Further, other research has suggested the importance of training auditors to reason strategically to enhance fraud detection capabilities (e.g., Hoffman and Zimbelman 2009).

Auditor Incentives

The specific incentive issues mentioned by the fraud experts included conflicts of interest resulting from being paid by the client. One expert observed that this conflict will lead auditors to subtly avoid testing areas where they suspect fraud exists. Similarly, one expert mentioned that auditors become advocates for their clients and therefore lose the ability to objectively evaluate fraudulent accounting methods.

Conflicts of interest can be contrasted with other incentive-related concerns noted by our experts. For example, an expert noted that time and fee budgets cause auditors to reduce costs by doing less quality or quantity of audit testing than necessary to detect fraud or to use staff with less expertise than is

optimal for detecting fraud. These pressures are also believed to lead auditors to do the minimum to meet the letter of the law as specified in auditing standards as opposed to meeting the spirit of the standard such as searching for evidence to detect fraud.

An expert noted that the main goal of many auditors is to finish the audit under budget and to meet the minimum standards that will likely satisfy those who may inspect their work (e.g., the PCAOB). Another expert characterizes the goal of some auditors as getting the work documented in the working papers and to move on. One expert suggested that the litigation environment rewards auditors for doing this as auditors do not perceive they will be rewarded for creatively looking for fraud but, rather, for documenting that they met the requirements of auditing standards. Lastly, an expert noted that securities laws protect auditors from serious litigation. However, another argues that the laws create perverse incentives for auditors if they perceive they will be punished for detecting fraud by being held liable for years past when the fraud went undetected. In these situations auditors may be tempted to collude with management in concealing a fraud.

In some situations, incentives may inhibit auditors from detecting fraud. For instance, there is a potential conflict of interest resulting from being paid by the client that may lead auditors to subtly avoid testing areas where fraud is suspected or to lose the ability to objectively evaluate fraudulent accounting methods. Moore et al. (2006) review research in psychology and political science that suggests that prior audit failures in detecting fraud are likely the result of a lack of auditor independence due to Moral Seduction and Strategic Issue Cycling theories. The former entails an unconscious bias by auditors in supporting client preferences due to motivated reasoning (Kunda 1990): a desire to please management who are instrumental in retaining the audit firm for audit and non-audit services. The Strategic Issue Cycling Theory is advanced from political science where special interest groups, such as auditors, use their power to gain economic advantages. However, over time if these advantages become excessive, broader societal forces will step in to promote the broader interest such as the Sarbanes-Oxley Act.

Collectively, these theories suggest that auditors' self-interests may prevent them from pursuing a suspected fraud for fear of antagonizing management.

The issue of auditor independence due to client conflicts of interest is also explored by Dopuch et al. (2001) in an experimental markets study in which the auditor-client contractual regime is manipulated: no requirements, auditor retention required, auditor rotation required, and both auditor rotation and retention required. The results indicate that the current arrangement where there are no requirements for auditor rotation resulted in the lowest level of auditor independence, i.e. willingness to issue biased reports.

Also time and fee budgets may cause auditors to reduce costs by performing lower quality or less quantity of audit testing than necessary to detect fraud or to use staff with less expertise than is optimal for detecting fraud. When auditors feel constrained to meet time budgets they may resist investigating fraud cues so as to not go over budget. Research has shown the adverse effects of time pressure on auditors' detection of fraud (e.g., Braun 2000). To sum up, the framework suggests that the audit process has a direct effect on auditors' fraud detection effectiveness. Moreover, auditors' incentives, KTE and institutional forces may indirectly impact audit effectiveness because of their influence on the audit process.

III. METHOD

Research Approach

We employed an experiential survey to gather data to evaluate the relative importance of the factors and elements contained in our framework on auditors' effectiveness at detecting fraud. To address this issue we obtained data from fraud examiners who reported their experiences on a recent financial statement fraud investigation they conducted. An experiential survey approach has been employed in

prior auditing research to explore relevant factors and their inter-relationships in understanding a complex phenomenon such as accountability (Gibbins and Newton 1994), auditor-client negotiations (Gibbins et al. 2001) and brainstorming for fraud (Brazel et al. 2010). In addition, Graham et al. (2005) employ an experiential survey of executives to investigate financial reporting issues such as earnings management and disclosure decisions. This method has the advantages of investigating a complex phenomenon, capturing professionals' actual experiences, and examining the impact of a large number of variables found in practice. In our case, no prior studies have captured data from fraud examiners in an effort to obtain their insights into why auditors often fail to detect financial statement fraud. Given the expertise and experience of these professionals, an experiential survey offers the potential to inform the literature on this challenging problem.

Research Instrument

Our research instrument collected general information about a financial statement fraud investigation in which our fraud examiners conducted and, if the auditor failed to detect the fraud, we also collected information regarding the relative importance of the factors and elements, identified by our framework, inhibiting the auditor from identifying the fraud. The instrument began by asking each fraud examiner to recall a recent investigation of fraudulent financial reporting. Participants then provided contextual information about the case, including how recent the fraud was and how they got involved in the case. The fraud examiners also reported the accounts affected, the amount that assets and net income were misstated, the duration of the fraud, the complexity of the fraud, the extent to which management concealed the fraud, who initially identified the fraud, and the source of the most convincing evidence that showed the fraud existed and who were identified as culpable in committing the fraud. When the fraud examiner indicated that the auditor detected the fraud, the survey asked the examiner to indicate the phase of the audit when the fraud was identified.

If the auditor failed to detect the fraud, a series of questions were then posed to determine the primary reason(s) for not identifying the fraud. First, participants indicated the likelihood that an auditor performing a GAAS audit would have detected the fraud on an 11-point scale ranging from 0-100 with increments of ten (i.e., 0, 10, 20…100) with labels at 0 (no chance), 50 (coin flip) and 100 (certain). They then rated the importance of the factors and elements within each factor in our framework as to why the auditor did not detect the fraud. These ratings were performed on 11-point Likert scales ranging from zero to ten with endpoints labeled as "not important" (0) and "very important" (10) and the midpoint (5) labeled as "moderate importance." Questions focused on the four main factors in the framework (the audit process, institutional forces, auditor knowledge, training and experience, and auditor incentives), followed by assessments of the importance of the elements within each of these factors. We also gather data on the complexity of the fraud and the extent of concealment as we believe these variables also can have a significant effect on fraud detection and the factors that may inhibit detection.[9] For instance, SAS 99 (AICPA 2002) emphasizes the notion of "reasonable assurance" in detecting material frauds, since some factors such as client collusion may make it very difficult, if not impossible, for the auditor to detect the fraud.

Administration and Participants

The research objectives were explained to approximately ten contact persons in forensic and CPA firms who agreed to recruit participants and send them a secured Internet address to access the research instrument. Due to the sensitivity of the issues examined, responses were confidential and anonymous, and we do not know how many individuals were approached by our contacts to participate in the study. Thus, we cannot determine the overall response rate.

[9] We did not define complexity or concealment, as we were interested in the participants' perception of those constructs.

Sixty-five (65) examiners agreed to participate with a mean (standard deviation) of 12 (8.9) years of fraud investigation experience and a mean of 22 (26.7) financial statement frauds examined in their work as a fraud examiner.[10] The participants came from a diverse set of employment backgrounds with the majority employed by either the forensic practices of various CPA firms (29) or by independent forensic accounting firms (22). Forty-one had worked as a financial statement auditor, with a mean of 10.9 (10.3) years of auditing experience, during which they encountered a mean of 1.80 (2.12) financial statement frauds. They rated their understanding of generally accepted auditing standards (GAAS) and how a typical auditor implements GAAS at a high level with means of 8.50 (2.3) and 8.29 (2.3) on a ten-point scale, respectively. Thus, as desired, the sample reflects a diverse set of highly experienced individuals who are knowledgeable about both fraud investigation and auditing.

IV. RESULTS

Contextual Information

Table 1 presents contextual information about the investigations reported by our participants. As shown in Panel A, about half (49%) of the investigations were done within the current year and 36% within 1-3 years; thus, the data are based on relatively recent investigations. Panel B shows that our participants were most often engaged by an attorney (40%) or the audit committee of the company involved in the fraud (31%); the external auditor seldom hired the investigator (4%). Panel C shows that the duration of the fraud varied with 30% continuing for two years or less, 45% for two to five years, and the remaining 25% for five years or more.

Panel D shows that initial identification of the fraud by the external auditor was relatively rare (8% of the time), which is consistent with prior research (Dyck et al. 2010, KPMG 2009). Whistleblowers

[10] We did a median split by forensic experience to determine whether the importance of the elements and factors discussed in the results differ by level of forensic experience. We find no systematic difference, suggesting that the results are not sensitive to differences in experience.

were the most likely source to identify the fraud (36% of the cases) with internal auditors identifying the fraud in 12% of the cases.[11] As Panel E shows, email (40%) provided the most convincing evidence of the fraud and identified those involved. Accounting documents (36%) were the next most frequent source of convincing evidence. Interviews with upper management provided the most convincing evidence in only 8% of the cases.

As shown in Panel F, the fraud examiners rated the fraud as fairly complex (mean = 5.37, 2.6) and involving a relatively high level of management concealment (mean = 6.25, 3.3). As expected, there is a positive correlation between complexity of fraud and level of management concealment (r=.427 *p*=.001). The distribution of responses (not tabulated) shows that about one-fourth of the cases were rated as below moderate (i.e. five) in complexity and concealment; roughly another fourth of the cases were rated at moderate complexity or concealment (i.e. five on the scale) and roughly half were rated with values above moderate complexity or concealment. Over one-third of the cases were given values of eight or above on the complexity or concealment scale while only five (nine) percent were rated as no complexity (concealment).

When asked about the likelihood that an external auditor performing a GAAS audit would have detected the fraud, our participants assigned a mean likelihood of 57.5 (23.4).[12] This suggests that our fraud examiner participants believed a GAAS audit would have a slightly better than chance likelihood of

[11] Auditors may not initially detect a fraud due to a temporal effect. That is, others within the organization such as whistleblowers have greater opportunities to identify the fraud before the auditor does. However, as noted above, about 70% of the frauds reported on in this study continued for more than two years, providing auditors performing the annual audit, at least one or two, occasions to detect the fraud. Further, our focus is on the importance of factors regarding why the auditor did not detect the fraud.

[12] The complexity and concealment measurements are on 11-point scales with endpoints labeled low (0) and high (10) and the midpoint labeled moderate (5); each scale included the appropriate descriptor (e.g., complexity or concealment). Means and standard deviations reported later in the paper also use similar 11-point scales ranging from 0-10. Participants also indicated the likelihood that an auditor performing a GAAS audit would have detected the fraud on an 11-point scale ranging from 0-100 with increments of ten (i.e., 0, 10, 20…100) with labels at 0 (no chance), 50 (coin flip) and 100 (certain).

detecting the fraud than the flip of a coin. As indicated by Panel F, the median (modal) response is 60 with responses ranging from 10 to 100. The distribution of these responses (not tabulated) shows that 29% rated the likelihood below 50, 40% rated the likelihood of detection at either 50 or 60, and 31% rated the likelihood at 70 or above. As might be expected, there is a positive association between complexity of the fraud and the likelihood of detection (r =.269 *p* =.047), suggesting that overly complex accounting treatments might invite more audit scrutiny.[13] Alternatively, it's possible that complex frauds are harder to conceal because more issues arise that signal the fraud.

Insert Table 1 Here

Importance of Factors in the Framework

Table 2 reports descriptive statistics of participants' assessments of the importance of the four factors in our research framework. Fraud examiners confirm that inadequate audit process is an important driver of audit failure (mean = 6.57 (σ = 2.52)). Inadequate KTE is also deemed important with a mean of 6.58 (σ = 2.93). Finally, auditors' incentives are also considered important with a mean of 6.06 (σ = 3.20). In comparison, the mean importance of institutional forces is only 2.57 (1.99). Thus, three of the four broad factors were assessed by fraud examiners at mean levels above five (middle point) on a ten-point scale with the institutional forces being considered substantially less important with the mean assessment less than three.

In columns 3 and 4 of Table 2, we report 1-sample t-tests of whether the factor means are significantly different from the mid-point of the scale (five), which was labeled "moderate importance." This test indicates whether fraud examiners have a strong assessment of whether or not a particular factor was an important determinate of the auditor failing to detect the fraud. The means of audit process, KTE and incentives are significantly greater than five while the mean of institutional forces is significantly less

[13] The power of this test is 0.7065.

than five ($p \leq .05$). Finally, untabulated comparisons show that audit process, KTE and incentives are equally important and considered significantly (p=.001) more important in the experiences of our fraud examiners' than institutional forces in explaining auditors' failure to detect fraud.

Insert Table 2 Here

Importance of Elements in the Framework

Table 3 reports descriptive statistics on the elements within each of the four factors of the audit failure framework. As shown in Table 3, four elements stand out as being particularly important given that they have mean ratings that exceed seven, suggesting a very high level of importance in inhibiting the auditor from detecting the fraud. These four main factors suggest that our participants believe auditors: i) fail to recognize management's opportunities to commit the fraud (panel A), ii) are not effectively trained to detect the fraud (panel C), iii) lack the knowledge, training and experience to recognize various fraud schemes (panel C) and iv) have training and/or experience that leads to placing too much trust in management's character or integrity rather than exercising skepticism (panel C). Three of these elements are from the KTE factor while the other element is from the audit process factor.

Elements of the Audit Process

We also performed 1-sample t-tests for the elements within each factor to see which values exceed the midpoint (i.e. five) of our scale. In panel A, three elements within the audit process are rated as greater than five and, therefore, can be considered the three key audit process drivers that substantially inhibited the external auditor from detecting the fraud. These elements are: i) auditors' failure to effectively assess management's incentives (mean = 6.69), ii) failure to recognize management opportunities to commit the fraud (mean = 7.52), and iii) failure to sufficiently modify the audit program (mean = 5.79). The mean importance of each of these three elements is significantly or marginally

significantly greater than the midpoint of the scale (two-tailed $p < .001$; .001; and .068 respectively). Failure to understand the client's business is the next most highly rated element (mean = 4.77) but is less than the midpoint, although not significantly so ($p = .578$). All other elements in the audit process are significantly less than the midpoint (two-tailed $p < .10$), suggesting they were not important inhibiting factors for the auditor in failing to detect the fraud.

Institutional Elements

Panel B reports the relative importance of elements within the institutional forces factor. Our participants generally believe that GAAS audits are not designed to detect fraud (mean = 5.92; two-tailed $p < .10$). The other element, "auditing standards do not provide adequate guidance on how auditors should fulfill their responsibilities to detect fraud," was slightly higher than the midpoint but not significantly so; this indicates our participants believed this factor was of moderate importance.

Elements of Auditors' Knowledge, Training and Experience

As mentioned earlier, the three elements of KTE (see panel C) are all considered important with means significantly in excess of the midpoint of the scale (all two-tailed p-values = .001). Participants report that auditors' inadequate fraud training, inability to recognize various fraud schemes, and lack of sufficient skepticism are very important elements explaining why auditors did not detect the fraud.

Incentive Elements

Panel D (auditor incentives) shows that our participants did not consider any of the elements of auditors' incentives to be more than moderately important in explaining why the auditor did not detect the fraud. Of the three elements, they rated time pressure the highest (mean = 4.91) but this element was not significantly different from the midpoint (two-tailed $p > .85$) suggesting that our participants considered it to be only moderately important. Also, our participants did not believe that either conflicts of interest or the failure of securities laws to effectively punish auditors were even moderately important in inhibiting

the auditor from detecting the fraud on the cases they investigated, since both these elements were rated significantly lower than the midpoint.[14]

Insert Table 3 Here

V. CONCLUDING COMMENTS

This study is the first to develop and then empirically investigate a multi-dimensional framework of factors and their elements affecting auditors' failure to detect financial statement fraud. We developed our framework through analyzing prior research on auditors' detection of fraud and interviews with four experts. The study draws on the experiences of fraud examiners who are brought in *ex post* to investigate fraud and are have the field experience and knowledge to provide important insights on why auditors fail to detect fraud. Many of our participants were engaged as expert witnesses on the cases that they reported on. Since our participants were engaged to testify regarding the cause of an auditor's failure to detect the fraud, their opinions are relevant to helping auditors defend their work in litigation settings.

Data from the fraud examiners' experiences provided several insights and suggest promising research directions, as summarized in Table 4. First, three main factors in our framework (the audit process, KTE, and auditor incentives) appear to play a significant and relatively equal role in inhibiting auditors from detecting fraud. For example, our participants indicated that the audit process including risk assessments and audit tests were inadequate to detect fraud and that GAAS audits are not generally designed to detect the types of fraud that they experienced. Even so, in a slight majority of the cases they reported that a GAAS audit would have detected the fraud, suggesting that failures occur both when

[14] The mean for the participants who detected the fraud while working for an independent forensic accounting firm (4.28) is significantly higher than the mean (2.4) of those who detected the fraud while working for the forensic practice of a CPA firm ($t = 2.043$, $p = .051$). None of the other demographics (e.g., years of experience) had an effect on either the conflict of interest or securities law responses.

auditors do not sufficiently follow GAAS and, in other cases, auditors follow GAAS but the audit process is inadequate to detect the fraud. In contrast, institutional forces such as the regulatory environment were considered to be the least important factor. Overall this finding suggests that while research on the audit process is important, which has been the focus to date, future studies should pay more attention to KTE and auditor incentives.

Insert Table 4 Here

Data on the elements of the audit process that led to audit failures to detect the fraud suggests that three elements were of greatest importance in inhibiting auditors from detecting fraud: 1) auditors failed to effectively assess management's incentives to commit fraud, 2) auditors failed to recognize management's opportunities to commit fraud, and 3) auditors' did not sufficiently modify the standard audit program given the fraud cues in the case. These three elements are very similar to issues identified by prior academic research. For example, Wilks and Zimbelman (2004b) provide evidence that auditors tend to focus on their perceptions of managements' character when assessing fraud risk. This focus can lead to low fraud risk assessments if management is deemed trustworthy even when management has significant incentives and opportunities to commit fraud. Importantly, our data shows that this shortcoming in the fraud risk assessment process was considered to play a significant role in several of the audit failures investigated by our fraud examiners thus providing some corroborating evidence supporting the findings of experimental research.

Similarly, the experiences of the fraud examiners confirmed the external validity of another issue identified by prior experimental research—namely that auditors fail to sufficiently modify the standard audit program (e.g., Zimbelman 1997; Asare and Wright 2004; Hammersley et al. 2011). Thus, this factor is the subject of significant academic research using experiments, and it appears that the research is warranted by actual audit failures. Overall, data from this study serves to triangulate prior research on the

audit process and suggests that interventions that improve auditor judgment in this area of the audit hold significant promise as a means to enhance external auditors' ability to detect fraud.

Our data also suggests that audit failures are not as likely to result from several factors as these factors just mentioned. The factors that our participants did not view as being as critical to the audit failure include: (1) an incorrect belief that detected misstatements were either unintentional or insignificant, (2) ineffective communication about audit findings from lower-level auditors to supervisors, (3) ineffective follow up of key findings by higher level auditors, (4) a failure to consult experts and (5) negotiation practices between the auditor and management that led to ineffective pursuit of the fraud. Each of these areas appears to require less focus by the profession in its effort to help auditors improve their ability to detect fraud.

Academic research is not as plentiful regarding the other two factors reported by our participants as important reasons for auditor failures to detect the fraud. For example, auditors' KTE in assessing fraud risk and designing audit tests to detect fraud have received very little attention. The elements of this factor suggest training auditors to develop audit tests to detect fraud, recognize fraud schemes, and exercise skepticism are all ripe areas for enhancing auditor fraud detection as our fraud examiners considered each of these elements to be significant reasons for auditors' failure to detect the fraud in the case they investigated. While fraud is not necessarily rare, its consequences tend to be severe and catastrophic for some individual investors. In settings characterized by rare events with consequential outcomes, training tends to focus on the management of those rare events. For instance, the training of pilots focuses on the simulation of those rare occasions where disaster might occur. In contrast, the training of auditors appears to seldom focus on auditing in a fraud environment, perhaps because curricula were developed at a time when professional standards did not impose an affirmative responsibility for detecting fraud on auditors. Our study suggests the need for curriculum and firm training to evolve and embrace the importance of the acquisition and organization of fraud knowledge.

Although auditor incentives were identified by our participants as an important factor for auditors' failure to detect fraud, surprisingly none of the three elements identified in our framework (conflict of interest regarding fees, time pressure, and securities laws) were considered to be more than moderately important in the cases investigated. Further corroborating research on this issue is needed. It's possible that fraud examiners do not see first-hand evidence of the effects of such factors in their investigations and/or do not consider their effect when assessing auditor negligence (e.g., time pressure). For instance, the effects of securities laws on auditors' actions may not be clearly evident in a fraud investigation.

In addition to discovering which elements seem to account most for auditors' failure to detect fraud, we also have data on elements of the framework that our fraud examiners reported to be of less importance in inhibiting auditors from detecting the fraud. Top among the deficiencies that appear to have the least effect on auditors' ability to detect fraud are institutional forces. In this regard, we note that the fraud examiners felt that current GAAS had a moderate likelihood (slightly higher than a coin-flip) of detecting the fraud cases that they examined. While this leaves room for significant improvement, it also is much higher than one might expect given evidence suggesting relatively few frauds are detected by auditors. On a related note, the fraud examiners reported that auditing standards do not provide adequate guidance on how auditors should fulfill their responsibilities to detect fraud.

There are several other elements of the framework that our fraud experts report as relatively less important. These include situations where the audit team did not follow up on misstatements, inadequate communication between auditors on the audit team, insufficient consultation with experts, conflicts of interest on the part of the auditor due to the client paying the auditor, and securities laws that do not effectively punish auditors when they fail to detect fraud. Thus, it appears that auditor performance relating to these five elements is not as critically deficient as other elements in terms of changes needed to enhance auditors' capabilities to detect fraud.

Finally, this study has some limitations that should be considered in interpreting the findings. First, our decision to use fraud examiners to explore why auditors fail to detect fraud is similar to using a pathologist to learn why patients died under given medical treatments. We do not know, for example, if the fraud examiners would be better at detecting the fraud than auditors. However, fraud detection is not the task examiners are hired and trained to do. Instead, they are experienced in identifying and interpreting the facts of a given case after the audit has failed to detect the fraud and, thus, likely have valuable, albeit not unbiased, information from which the audit profession can learn. Similarly, our data are based on reports of individuals that were likely drawn from memory. As such, individual biases and idiosyncratic experiences could have skewed our fraud examiners' reports. We believe our sample includes a large enough number of fraud examiners from numerous fraud settings to counteract this tendency but we cannot rule it out. In addition, because our framework was developed through consulting the literature and limited interviews it may not be comprehensive in either the factors or the elements of the factors that led to the audit failures that our participants reported on. However, we took several measures to ensure completeness of the framework (e.g., we performed a review of the literature, we included an open-ended question inquiring about other inhibitors, and we also interviewed a small group of experts). Thus, we believe this limitation is minor; however, future corroborating research is needed to examine the completeness of our framework. Further, forty percent of our sample of fraud examiners were hired by attorneys, but we did not gather data regarding the type of attorney, which may impact fraud examiners assessments of factors inhibiting the auditor from fraud detection, e.g., plaintiff's attorneys might focus examiners on issues with auditor competence while defense attorneys may focus on failures that were due to GAAS issues or management lies. Last, we have a relatively small sample size and cannot rule out the possibility that we are missing an important set of fraud cases that could lead to different conclusions about the causes of auditors' failure to detect fraud. We encourage future research to explore these possibilities and thereby test the boundary conditions of our framework.

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Table 1—Contextual Information

Panel A: Frequency distribution of the age of the fraud investigation

(how long ago was this investigation in years?)

	Count (%)
Less than 1 year	33 (49)
Between 1 and 3 years	24 (36)
More than 3 years but less than 5 years	5 (8)
More than 5 years but less than 10 years	5 (7)

Panel B: Frequency distribution of how fraud examiners got

involved in the fraud investigation

	Count (%)
Hired by an attorney	27 (40)
Hired by the audit committee	21 (31)
Hired by the company's management	9 (14)
Hired by the external auditor	3 (4)
Hired by a government regulator	2 (3)
Other	5 (8)

Panel C: Frequency distribution of age of the fraud (how long in years from when the fraud started until it was detected).

	Count (%)
0 to 2 years	20 (30)
2 to 5 years	30 (45)
5 to 10 years	13 (19)
Over 10 years	4 (6)

Table 1—Contextual Information, continued

Panel D: Frequency distribution of initial identifier of the fraud.

	Count (%)
Whistleblower	24 (36)
Internal auditors	8 (12)
External auditors	5 (8)
SEC	4 (6)
Investors	3 (5)
Board of Directors	1 (2)
Analysts	1 (2)
Audit Committee	1 (2)
Do not know	5 (8)
Other[15]	15 (22)

Panel E: Frequency distribution of source of most convincing evidence that showed fraud existed and that documented who was involved.

	Count (%)
Email	27 (40)

[15] Examples of "other" initial identifiers of the fraud include confessions or tips from management, regulators and customers.

Accounting documents	24 (36)
Interview with upper management	5 (8)
Interview with lower management	2 (3)
Memos or letters	2 (3)
Non accounting documents	2 (3)
Interview with non-management employees	1 (2)
Other	4 (6)

Note: We provided participants the opportunity to explain "other" responses in panels B, D, and E, and we conducted a content analysis of the frequency of such responses. Where there are a sufficient number within a particular category we report this, as shown in panel D.

Table 1—Contextual Information, continued

Panel F: Descriptive statistics on the complexity of the fraud, level of concealment and likelihood that an external auditor performing a GAAS audit would have detected this fraud

	Mean (s.d.)	**Median (Mode)**	**25th percentile**	**50th percentile**	**75th percentile**
Complexity	5.37 (2.6)	5 (5)	4	5	8
Concealment	6.25 (3.3)	7 (5)	5	7	9
Detect likelihood	57.5 (23.4)	60	40	60	70

The complexity and concealment measurements are on 11-point scales with endpoints labeled low (0) and high (10) and the midpoint labeled moderate (5); each scale included the appropriate descriptor (i.e., complexity or concealment). Participants also indicated the likelihood that an auditor performing a GAAS audit would have detected the fraud on an 11-point scale ranging from 0-100 with increments of ten (i.e., 0, 10, 20…100) with labels at 0 (no chance), 50 (coin flip) and 100 (certain).

Table 2

Descriptive statistics on fraud examiners' assessments of the importance of broad factors that explain why the external auditor did not detect fraud and comparison of the assessment to the mid-point of the scale.

	Mean (s.d.)	**1-sample t-test (value=5)**	**p-value (2-tailed)**
The audit process (e.g., risk assessment and audit tests) is inadequate to detect this fraud (PROCESS)	6.57 (2.52)	4.519	.001
Institutional forces (e.g., the PCAOB or the ASB, GAAS and audit firm structure) inhibited the auditors from detecting this fraud (INSTITUTION)	2.57 (1.99)	8.881	.001
Auditor knowledge, training and experience with assessing fraud risks and ways of detecting fraud are inadequate (KTE)	6.58 (2.93)	3.936	.001
Auditor incentives (e.g., time pressure, the litigation environment, desire to keep the client inhibited the auditors from detecting the fraud (INCENTIVE)	6.06 (3.20)	2.403	.020

Notes:

(1) Participants were asked to rate the importance of the factors and elements within the framework as to why the auditor did not detect the fraud. These ratings were performed on 11-point Likert scales ranging from zero to ten with endpoints labeled as "not important" (0) and "very important" (10) and the midpoint (5) labeled as "moderate importance."
(2) T tests are performed to determine whether the sample mean is significantly above or below the mid- point in the scale.

Table 3

Panel A: Descriptive statistics on fraud examiners' assessments of elements within the audit process factor for the auditor's failure to detect the fraud.

	Mean (s.d.)	**1-sample t-test (value=5)**	**p-value (2-tailed)**
The auditor did not sufficiently understand the client's business	4.77 (2.84)	.559	.578
The auditor failed to effectively assess management's incentives to commit fraud	6.69 (2.88)	4.057	.001
The auditor failed to recognize management's opportunities to commit the fraud	7.52 (2.69)	6.494	.001
The auditor did not sufficiently modify the standard program in light of the fraud cues present	5.79 (2.9)	1.871	.068
The auditor believed the misstatements that were detected by the audit team were unintentional or not significant enough to follow up on	3.63 (3.1)	3.102	.003
Lower level auditors did not effectively communicate their findings to the auditors who were supervising them	3.69 (2.8)	3.240	.002
Higher level of auditors did not pursue key findings by the auditors they were supervising	4.15 (3.1)	1.888	.065
The auditor failed to consult experts who would have provided needed help	3.48 (3.0)	3.468	.001
The auditor's negotiation with management led them to ineffectively pursue the fraud	4.19 (3.2)	1.752	.086

Table 3

Panel B: Descriptive statistics on fraud examiners' assessments of elements within the institutional forces factor for the auditor's failure to detect the fraud

	Mean (s.d.)	**1-sample t-test (value=5)**	**p-value (2-tailed)**
GAAS audits are not designed to detect fraud	5.92 (3.3)	1.956	.056
Auditing standards do not provide adequate guidance on how auditors should fulfill their responsibilities to detect fraud	5.10 (2.8)	.260	.796

Panel C: Descriptive statistics on fraud examiners' assessments of elements within the knowledge factor for the auditor's failure to detect the fraud

	Mean (s.d.)	**1-sample t-test (value=5)**	**p-value (2-tailed)**
Auditors are not effectively trained to detect fraud	7.19 (2.9)	5.151	.001
Auditors lack the knowledge, training and experience to recognize various fraud schemes	7.34 (3.1)	5.220	.001
The auditor's training and/or experience led to placing too much trust in management's character or integrity rather than exercising skepticism	7.94 (3.2)	6.265	.001

Table 3

Panel D: Descriptive statistics on fraud examiners' assessments of elements within the incentive factor for the auditor's failure to detect the fraud

	Mean (s.d.)	**1-sample t-test (value=5)**	**p-value (2-tailed)**
The auditor had a conflict of interest arising from the client paying the audit and other fees	3.40 (3.2)	3.382	.001
The auditors had a high level of time pressure	4.91 (3.1)	-.186	.853
Securities laws do not effectively punish auditors for failing to detect fraud	3.00 (2.8)	4.957	.001

Notes panels A-D:

(3) Participants were asked to rate the importance of the factors and elements within the framework as to why the auditor did not detect the fraud. These ratings were performed on 11-point Likert scales ranging from zero to ten with endpoints labeled as "not important" (0) and "very important" (10) and the midpoint (5) labeled as "moderate importance."
(4) T tests are performed to determine whether the sample mean is significantly above or below the mid point in the scale.

Table 4

Summary of promising research directions to enhance auditors' abilities to detect fraud

Factor	Finding	Research Direction(s)
Audit process	Auditors failed to effectively assess management's incentives to commit fraud.	Examine efficacy of training or prompts to focus on management's incentives or bring in fraud examiners during the risk assessment process.
	Auditors failed to recognize management's opportunities to commit fraud.	Examine efficacy of training or prompts to focus on management's fraud opportunities or bring in fraud examiners during the risk assessment process.
	Auditor did not sufficiently modify the standard audit program.	Examine efficacy of training auditors to develop audit tests to detect fraud, the use of decision aids identifying fraud tests for various fraud schemes, and/or consult with fraud examiners.
Auditor training, knowledge, and experience	Auditors are not effectively trained to detect fraud	Examine efficacy of training auditors to identify fraud schemes and develop audit tests to detect fraud.
	Auditors lack the knowledge, training and experience to recognize various fraud schemes.	Examine efficacy of providing enhanced training or decision aids regarding fraud schemes. Expand auditing standards to identify examples of fraud

		schemes.
	The auditor's training and/or experience led to placing too much trust in management's character or integrity rather than exercising skepticism.	Consider additional training or decision tools to focus auditors on greater skepticism.

Note: The findings above are those that fraud investigators identified as significantly above the mid-point in the response scale ("moderate importance") regarding why the auditor failed to detect the fraud.

Figure 1

A Framework of Factors Affecting Auditors' Detection of Fraud