

**Deception Detection in Auditing and Auditors' Assessment of Risk of Material  
Misstatement Due to Fraud: A Literature Review**

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**Executive Summary**

The investing public has long looked to the independent financial-statement auditor to help prevent and detect instances of material financial-statement fraud. Yet, it has only been in recent decades that audit standards recognize explicitly that auditors are responsible for providing high assurance that the financial statements are not materially misstated due to fraud. Although once generally believed to be an exceedingly rare event, recent research suggests base rates of financial statement fraud may be as high or higher than ten percent of public companies. Cases of fraud that go undetected for years exacts a substantial toll on the confidence of the investing public in capital markets. At the same time, actually providing high assurance that a set of financial statements are not materially misstated due to fraud is difficult for individual auditors due to a combination of questionable economic incentives for individual audit teams to detect fraud as well as psychological preference to avoid believing that one’s own client – a socially close affiliate – has been engaging in deception of the investing public as well as the auditors themselves.

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## 1. Introduction

People tend to believe and prefer to believe one another. This preferred belief for truthfulness and honesty allows societies and economies to be more efficient. Without this preferential belief, people would over allocate resources fact-checking information that, on average, is true especially in social situations. In low-cost social interactions this truth bias functionally prevents needless skepticism, which would add strain and prevent meaningful relationships. While truth bias can be helpful, it can impair the duties of some professions. Financial statement auditors, for example, are charged to maintain professional skepticism when interacting with clients. Keeping the truth bias at bay can be more difficult despite training and profession standards. A large literature exists on deception detection both within the audit profession and in other fields. The purpose of this paper is to discuss the literature on auditor's ability and responsibility to detect deception. We also discuss the broader literature, with the goal of helping us increase auditor's deception detection ability.

### 1.1 Long history of auditors' reluctance to claim responsibility to detect fraud

In 1905, L. R. Dicksee and R. H. Montgomery, two leading auditing authorities in the UK and US wrote that, "The objectives of an audit may be said to be three-fold:-- (1) detection of fraud, (2) detection of technical errors, and (3) detection of errors of principle. On account of its intrinsic importance the detection of fraud is clearly entitled to be considered an "object" in itself ...." (p. 22). During the early 1900s, fraud detection was seen as an auditor's responsibility. Yet, even then, there were undercurrents of avoiding responsibility for fraud detection. After stressing the critical importance of fraud detection themselves, Dicksee and Montgomery (1905, 255) later lament "...that a then recent textbook does not comprise any such

words as ‘Defalcations,’ ‘Fraud,’ or ‘Liabilities of Auditors’ – thus clearly showing that, although these matters may be dealt with incidentally in the body of work, they are regarded as of quite second-rate importance.”

The high value that society place on auditor detection of fraud is evident, however, in two fraud cases from the 1930s in which auditors were declared as liable for detecting frauds. Based on the Ultramares vs. Touche fraud case in 1931, untrue certification of fact was a sufficient basis for determining liability for fraud (Brady, 1938) Following the McKesson & Robbins falsification of their financial statements, Seidman (1939) noted the only way to prevent fraud was through internal controls and by employing outside auditors (Lenard, Alam, & Madey, 1995). The McKesson & Robbins inventory fraud also led to new regulation requiring auditors to physically count inventory (AU-C 501 / AS 2510).

Their concern parallels developments in the late 1930s, as corporations grew larger and more complex, auditors turned to evaluating financial statements on a test basis. To determine the extent of testing needed, auditors utilized risk assessments. These assessments were primarily driven by the auditors’ understanding of the entity’s internal controls. This shift to testing by sampling was accompanied by auditors no longer accepting responsibility to look for fraud among increasingly complex financial statements. Montgomery’s auditing handbook noted in 1940 that fraud detection would "require an examination of such detail that its cost... would be prohibitive" (Montgomery, 1940, p. 13)”. Pincus (1989) noted of the time,

“The growing reliance on sampling and control risk assessment led to an increasing emphasis on the fairness of presentation audit objective and a de-emphasis on the fraud detection objective. By the middle of this century, auditors had disavowed any audit responsibility for fraud detection, and an active search for fraud was not considered to be part of an ordinary audit. In 1957, for example, Robert Montgomery's auditing manual referred to fraud detection as a "responsibility not assumed."

Professional standards in the United States at the time also codified that auditors need not look for fraud. The Codification of Statements on Auditing from the AICPA in 1951 stated, “The ordinary examination incident to the issuance of an opinion respecting financial statements is not designed and cannot be relied upon to disclose defalcations and other similar irregularities, although their discovery frequently results.”

A few years later, 1960, Statement on Auditing Procedure (SAP) No. 30 mentioned the word “fraud”, but was similar in sentiment:

“In making the ordinary examination, the independent auditor is aware of the possibility that fraud may exist. Financial statements may be misstated as the result of defalcations and similar irregularities, or deliberate misrepresentation by management, or both. The auditor recognizes that fraud, if sufficiently material, may affect his opinion on the financial statements, and his examination, made in accordance with generally accepted auditing standards, gives consideration to this possibility. However, the ordinary examination directed to the expression of an opinion on financial statements is not primarily or specifically designed, and cannot be relied upon, to disclose defalcations and similar irregularities, although their discovery may result. Similarly, although the discovery of deliberate misrepresentation by management is usually more closely associated with the objective of the ordinary examination, such examination cannot be relied upon to assure its discovery. The responsibility of the independent auditor for failure to detect fraud (which responsibility differs as to clients and others) arises only when such failure clearly results from noncompliance with generally accepted auditing standards.”

Audit firms were using language similar to this in their engagement letters in the early 1970s to ensure the auditor was only liable to catch unintentional errors and not fraud (Carmichael and Craig, 1996).

In 1973, the Equity Funding Scandal was discovered. The scandal involved the creation of fake insurance policies that were re-sold to other insurance companies. The scandal had been in operation nearly five years and resulted in an overstatement of revenue in excess of 100 million dollars. After discovery, the Profession debated with other parties what the role of an auditor should be. Young (1997) noted that Generally Accepted Audit Standards (GAAS) in the 1970s

indicated that in an ordinary audit examination fraud was not thought to have occurred and that “if auditors properly applied GAAS in an engagement but failed to detect fraud, then no audit failure had occurred even though the financial statements might contain errors.” (p.31)

However, the general public generally did not share auditors’ belief that investigating fraud was outside the auditor’s scope. The so called “expectations gap”—the gap between the lay-person’s view and the auditor’s view of the auditor’s responsibility for fraud—was growing and many introduced legislation to close it. The audit profession fought against accepting the responsibility to detect fraud arguing that audits were not designed to do so. Through the 1980s, financial markets and Congressional attention focused on expanding the auditors’ role. Young (1997) describes the audit profession’s rebuttal:

“In justifying this opposition, certain members of the profession expressed concerns that by requiring auditors to “blow the whistle” the relationship between the auditor and the client would be fundamentally altered “put[ting] us into an adversarial police-like role with corporations we currently service, and no one would benefit” [Wall Street Journal, May 23, 1986]. Auditors would become nothing more than “state-regulated examiners” when auditing “should be a private-sector activity, not an extension of the government’s role” [Wall Street Journal, May 23, 1986].

After many years of debate amidst high-profile frauds and the savings and loan crisis, audit firms found litigation their highest risk. The Private Securities Litigation Reform Act (PSLR) act was passed in the United States in 1995. This act limited the legal exposure faced by audit firms. With this protection and amidst continued reluctance, the Profession accepted added responsibility for fraud –primarily in the reporting area (SAS 82) and for reporting detected or suspected frauds.

SAS 82 was effective in 1997 and the standard was replaced 5 years later by SAS 99 partly in response to accounting scandals at Enron, WorldCom, Adelphia, HealthSouth , and Tyco. SAS 99 for the first time set forth standards requiring auditors “to provide reasonable assurance that

material fraud will be detected.” These standards are now codified as AU-C 240 (AICPA), AS 2401 (PCAOB), and ISA 240 (IAASB).

These recent standards have not eliminated the debate or need for clarification, however. In frauds occurring at Enron and Lehman brothers, audit firms argued they were tasked with seeking out violations of GAAP; however, Enron CFO noted, “a fraud examiner is typically looking for compliance with the rules, the problem in Enron’s case is that you had compliance with the rules yet you still had fraud.” During litigation debating Lehman Brother’s fraudulent reporting of Repo 105 transactions, which misclassified \$50 billion in loans as sales, Lehman’s auditors defended their position noting they complied with the current accounting rules. As DeFond, Lennox, and Zhang (2018) note, this is a perfect example “of what can go wrong when auditors adopt a compliance mindset rather than a fair presentation mindset, and the damage this can inflict on auditors and the auditing profession.”

## 1.2 Perceptions of Auditors’ Responsibility to Detect Fraud

The difference between what the public believes auditors do and what auditors actually do, also known as the “expectations gap”, has plagued the profession for decades. Humphrey, Mosier, and Turley (1993) studied the issue in a British context. They conducted a survey of several occupational groups and inquired as to their expectations and beliefs regarding the auditing practice. They document large differences between auditors and financial statement users on statements such as “Too much is expected of auditors by the investing community” and “All significant fraud is detected”. Epstein & Geiger (1994) surveyed investors and found that only 47% of investors desired absolute assurance that the financial statements were free from material unintentional error. In contrast, 71% of those same investors surveyed desired absolute assurance the financial statements were free of material fraud. On the other hand, Hooks (1991)

noted the ignorance of the public and existence of the gap may be a good thing for the profession. Young (1997) states, “These and other authors have raised questions regarding whether auditors act in the public interest when they adhere to extant standards rather than assess the economic consequences of audited transactions [Merino & Kenny, 1994; Martins & McEnroe, 1991]; when they respond to public outcries in particular ways [Fogarty, 1996; Byington & Sutton, 1991; Mills & Bettner, 1992] or even whether they meet their own definitions of serving the public interest [Sikka et al., 1989].”

The Auditing Standards Board issued Statement on Auditing Standards No. 82 in 1997. This was the first auditing standard in the modern era to specifically require auditors to document a separate assessment of fraud risk. In assessing the standard’s possible costs and benefits, Zimbelman (1997) found that in an experimental setting, SAS 82 procedures increased auditors’ attention to fraud cues, which increased budgeted hours. However, he also found that the nature of the audit plans were not affected. In a replication of this study in a post-SAS 82 world, Glover, Prawitt, Schultz, and Zimbelman (2003) also found that SAS 82 changed the extent of tests responding to fraud risks but not the nature of those tests. While SAS 82 defines the role of auditors, some authors argue that the expectation gap still exists today (Cohen, Ding, Lesage, & Stolowy, 2010; Hogan, Rezaee, Riley, & Velury, 2008; McEnroe & Martens, 2001).

This expectations gap continued, despite additional guidance. Following the infamous accounting scandals of the early 2000s, Sarbanes-Oxley (SOX), SAS 99, and ISA 240 more clearly defined the role of auditors in fraud detection. ISA 240 and SAS 99 require specific audit procedures including, but not limited to, holding an annual fraud brainstorming session (ISA 315, 240.15), asking management explicitly about their awareness and understanding of fraud (ISA 240.17), and assessing the risk of material misstatement due to fraud (ISA 240.16).



Explicit, purposeful discussions among the engagement team regarding fraud risks have been found to reduce the number of total ideas generated but increase the quality of those ideas (Carpenter, 2007). Auditors have had difficulties implementing this guidance as the PCAOB has consistently raised concerns about auditors' fraud judgments (Brazel, Carpenter, Jenkins, 2010).

The auditor's current responsibilities relating to fraud in an audit of financial statements are documented in ISA 240 (international standard), AU-C 240 (US private company standard), and AS 2401 (US public-company standard). In the Netherlands, the Institute of Chartered Accountants (Royal NBA) adopts and translates the standards issued by the IAASB as national standards, with certain amendments to address conflicts with legal and regulatory requirements, where necessary. NBA regulations incorporate direct translations of ISA, ISREs, ISAEs, and ISARSS.<sup>1</sup>

Before we consider auditor's current responsibility to detect fraud, it is important to understand that the standards explicitly state that "The primary responsibility for the prevention and detection of fraud rests with both those charged with governance of the entity and management." (ISA 240) United States' auditing standard AS 1001.03, states, "Management is responsible for adopting sound accounting policies and for establishing and maintaining internal control that will, among other things, initiate, record, process, and report transactions (as well as events and conditions) consistent with management's assertions embodied in the financial statements." AS 2401.04 notes that this mandate includes establishing appropriate controls to prevent, deter, and detect fraud. Auditors, on the other hand, are directed by auditing standards to consider fraud in their audit of financial statements as opposed to management's direct responsibility to prevent and detect it.

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<sup>1</sup> See also <https://www.ifac.org/about-ifac/membership/country/Netherlands>

The current audit standards define the auditor's responsibility to provide "reasonable assurance that the financial statements taken as a whole are free from material misstatement, whether caused by *fraud or error*. (ISA 240; emphasis added). Butler, Ward, Zimbelman (2010) note some consumers of financial statements are confused by the term misstatement and whether that should include intentional errors, as opposed to only unintentional errors. The current standards explicitly address this by defining that material misstatements are to be detected by auditors whether intentional or not.

Because the current audit standards explicitly require auditors to assure material fraud does not affect the financial statements, research regarding fraud detection is vital to the profession and to society. Nieschwietz, Schultz, Zimbelman (2000) reviewed empirical fraud research up to the year 2000 and noted a significant demand for this research and that the supply of such research is lacking as this research is "very challenging" (p. 191). Our study aims to address this lack of research and to encourage increased professional skepticism by auditors.

### 1.3 Frequency and Economic Magnitude of Fraud

The rate and magnitude of financial statement fraud in the world is extremely difficult to measure primarily because the rate of undetected frauds is unknown. Nevertheless, some authors have made an attempt at assessing the extent of undetected fraud. By incorporating data on earnings restatements, executive compensation and market prices into a dynamic model, Zakolyukina (2018) estimates that the fraction of CEOs misstating earnings at least once is around 60%. The model also predicts the likelihood of detecting intentional GAAP violations over a 5-year horizon amounts to only 13.91%.

Dyck, Morse, Zingales (2013) use detected frauds and the demise of Arthur Andersen as a shock to the incentives for fraud to estimate that the probability of a company engaging in fraud

in any given year is 14.5%. Several studies have documented the impact of known frauds. Palmrose (1988) documented 25 years' worth of auditor litigation from 1960-1985 and noted over 40% of these cases involved fraud. She also found that cases that include management fraud are more likely to entail auditor settlement payments rather than dismissals/no auditor payments. In the examined timeline, between 23% and 58% of cases brought against Big 8 auditors included management fraud.

The incidence of fraud is non-trivial. Dyck, Morse, Zingales (2010) document 216 companies with alleged corporate frauds between the years 1996-2004. They note the final settlements or punishments for the companies reflect a median fraud punishment of \$34 million with an average of \$198 million. The skewed distribution is due to the large punishments levied against Enron (\$7.4 billion) and Cendant (\$9.7 billion). Costs are most importantly born by other stakeholders. Palmrose, Richardson & Scholz (2004) find significantly more negative abnormal market returns for restatements involving fraud or auditor negligence as opposed to non-fraudulent restatements. This may be due to costly litigation Palmrose, Richardson & Scholz (2004), cost of internal monitoring or equity investment risks (Palmrose, Scholz, & Wahlen, 2004).

Another issue in measuring fraud is that precisely defining fraud is problematic. ISA 240 defines fraud as "An intentional act by one or more individuals among management, those charged with governance, employees, or third parties, involving the use of deception to obtain an unjust or illegal advantage." Practitioners, regulators, and academics often use the term "earnings management" to mean fraud of a lesser extent, yet earnings management is often the desired outcome of fraudulent reporting (e.g., Dell's exclusivity payments (SEC, 2010)). Further "real earnings management" is a term used to describe accounting activities, typically within GAAP,

that create a desired reporting outcome but are not economically efficient. Graham, Harvey, Rajgopal (2005) surveyed hundreds of CFOs and documented a large majority admit to smoothing earnings even at the expense of long-term value. In addition, these managers admitted to sacrificing long-term value to improve financial reporting perceptions. The high incidence of fraud and earnings management create demand for additional research in the detection and prevention of fraud.

#### 1.4 The Difficulty of Assessing Risk of Material Misstatements

Despite the expectations gap between the public and auditors with regard to their responsibility for investigating fraud, many stakeholders including regulators, practitioners, and users of financial statements are in agreement about the need to enhance the successful detection of material misstatements, including fraud (Abernathy, Barnes, & Stefaniak, 2013; Center for Audit Quality, 2010). A recent survey study, based on 102 investors and 93 audit professionals provides evidence that investors see the lack of fraud discovery as a key determinant of an engagement's audit quality (Christensen, Glover, Omer, & Shelley, 2016). This view is reflected in standard-setters' efforts to enhance auditors' deception detection capabilities (Public Company Accounting Oversight Board, 2007, 2013) and academic calls for more research on the usefulness of fraud considerations in financial statement audits (Hogan et al., 2008).

While SAS 99 & ISA 240 clearly define auditors' responsibility to consider the possibility of fraud when planning and performing the audit, external auditors are seldom the first party to detect fraud. Dyck et al (2010) report that most fraud cases are detected by employees (17%), the media (13%) and non-financial market regulators (13%), but only 10% of actual fraud cases are detected by auditors. These findings are even more surprising in light of the authors' assertion that access to inside information increases the probability to detect fraud by 15 percent. These

puzzling numbers have spurred a large stream of literature in audit research in an effort to identify causes of and potential remedies to this underperformance. However, limited access to auditors' workpapers and client-specific audit procedures make it difficult for researchers to identify factors that facilitate the detection of intentional misstatements. An exception to this rule is the management fraud case of Lincoln Savings and Loan from 1987, whose workpapers have been publicly released along with auditors' depositions from the civil litigation. A case study incorporating this evidence concludes that auditors' main deficiencies were related to a lack of understanding their client's business, the industry the client operates in and the economic factors influencing the business (Erickson, Mayhew, & Felix Jr, 2000). However, this case does investigate whether auditors lack the necessary skills and knowledge to understand their client's business or what role motivational factors play.

#### 1.4.1 Auditors Thinking Strategically

Managerial incentives to act strategically offers a challenge that external auditors face when interacting with their clients. Several authors have attempted to document these incentives with experimental studies that model the auditor-client fraud investigation directly. Bowlin (2011) finds that managers conceal fraud by over-riding low-risk accounts. Auditors fail to anticipate this behavior and allocate more resources to high-risk accounts in this risk-based auditing setting. A prompt to predict managers' expectations can lead to a more efficient allocation of resources. This behavioral game theoretical account illustrates the dependent nature of managerial reporting behavior and auditors' effort allocation. These findings are echoed in a study by Hoffman & Zimelman (2009). The authors show that the efficiency of fraud brainstorming sessions varies with the level of strategic reasoning that auditors apply. More effective audit procedures result from the consideration of how a client may conceal fraud. Both of these studies demonstrate how a prompt to auditors can serve as a potential remedy that steers audit effort to more efficient

procedures. Our study contributes to this stream of literature by comparing the effect of two different types of prompts (negative affect vs. fraud) on auditors' fraud detection ability.

#### 1.4.2 Detecting Deception in Narratives

There is little evidence with regard to auditors' ability to detect deception in narratives. The few existing studies use students as participants and ask them to role-play as managers (Chih-Chen & Welker, 2007; C. C. Lee, Welker, & Wang, 2013). For example, Lee et al. (2013) find that accounting students do not perform better than chance at detecting deceit in audit inquiries and training them prior to the inquiry does not improve their accuracy. Lee and Welker (2008) show that experienced and inexperienced auditors attend to different cues, but both groups fail to incorporate deceptive cues successfully into their deception judgments. An important caveat of these studies is that people may act differently when they are asked to lie as opposed to choosing to lie in a voluntary decision (Belot, Bhaskar, & van de Ven, 2012) and future experimental research could benefit from the use of actual capital markets communication such as conference calls.

#### 1.4.3 Detecting Fraud Risks, Cues, and Red Flags

The identification of fraud risks is only a first step that could potentially result in more efficient audit tests and a higher likelihood of fraud detection. Several authors have documented challenges with regard to auditors' revision of audit plans when confronted with elevated fraud risk (Dennis & Johnstone, 2018; Glover, Prawitt, Schultz, & Zimbelman, 2003; Public Company Accounting Oversight Board, 2007). While this is a fruitful research area in itself, we follow Hammersley et al (2011) who find that the identification of fraud risk factors determines successful audit program modifications. That is, without the detection of deceptive cues in the first place, auditors will not be able to modify their tests and procedures efficiently. Therefore,

our research contributes to this first necessary but not sufficient condition of fraud detection—detecting deception cues and the potential for fraud.<sup>2</sup>

The detection of fraud risks is not free from behavioral heuristics and biases. Several authors document these cognitive limitations that auditors face in assessing risks of material misstatement. For example, a field study by Waller and Zimbelman (2003) delivers evidence of a dilution effect in initial risk assessments about a client's financial statements. Consistent with prior experimental laboratory studies (Glover, 1997; Hackenbrack, 1992; Hoffman & Patton, 1997), they find evidence suggesting that auditors under-weigh diagnostic cues on fraud likelihood in the presence of non-diagnostic cues. Shelton (1999) reports that this dilution effect decreases with experience level.

#### 1.4.4 Role of Auditor Experience

Ex ante, it is not clear how experience relates to deception detection skills. In audit research, there is little evidence on the effect of experience on detecting fraud (Ariail & Blair, 2010). Consistent with findings in the social psychology literature that experts and non-experts do not differ in their veracity judgments (C. F. Bond & DePaulo, 2006), some authors find that less than half of audit partners in their study detect seeded fraud in case materials (Jamal, Johnson, & Berryman, 1995; Johnson, Grazioli, Jamal, & Glen Berryman, 2001). Other studies show that experience may be beneficial in fraud-related audit tasks. Brazel et al. (2010) document more efficient brainstorming sessions when partners versus lower level staff lead these sessions. In an analytical task, Knapp and Knapp (2001) find that more experienced auditors outperform their

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<sup>2</sup> While we do not investigate auditors' modification of audit plans once they have identified elevated risks of fraud, Bauer, Hillison, Peecher and Pomeroy (Bauer, Hillison, Peecher, & Pomeroy, 2018) suggest a potential solution to auditors' inactivity. The authors recommend that auditors take advantage of the informal advice culture that pervades auditing. Relying on mindset theory, they find that auditors think more deliberately and they develop audit plans better able to detect a seeded fraud when advising a fellow auditor as opposed to deciding on their own audit plan.

less experienced colleagues in detecting seeded fraud. Ex ante, it is not clear how these findings relate to a pure deception detection setting as the advanced skills and knowledge structures of more experienced auditors are in contrast to their closer relationship ties with clients (Bauer, 2015) and hence a potential unwillingness to detect fraud. It is thus a separate question whether partners can also activate their advanced knowledge in light of motivational goals.

#### 1.4.5 Auditors' Native and Trained Ability to Detect Fraud

Other authors have examined the efficiency of training auditors to detect fraud. For example, Carpenter, Durtschi & Gaynor (2011) provide evidence that accounting students who followed a forensic accounting course provide higher risk assessments than untrained students when confronted with several fraud risk factors in an analytical case. These judgments are comparable to a panel of experts and are sustained over an extended period of seven months. The authors conclude that the training enhanced students' skepticism. Apart from trait skepticism (Hurt, 2010), Brewster, Peecher & Solomon (2018) introduce a new concept into the literature, which they term wise thinking disposition. The authors define wise thinking dispositions as "those that cause auditors to naturally and reflectively seek to balance acquiring new knowledge with remaining open to new beliefs, evidence, uncertainties and doubts" (Brewster et al., 2018, p. 2). After demonstrating convergent and discriminant validity of the theoretical construct, the study provides evidence that auditors with stronger wise thinking disposition are less subject to a dilution effect in their fraud risk assessment (i.e. they base their judgments on diagnostic information and successfully ignore non-diagnostic skepticism guidance).

Several authors have examined the importance of different types of knowledge (Libby & Luft, 1993), such as tacit knowledge (Bol, Estep, Moers, & Peecher, 2018; Tan & Libby, 1997), task-specific knowledge and world-knowledge (Bonner, 1990) with respect to auditor judgment and decision making. More recent research finds that the organization of auditors' knowledge is



a crucial factor determining the efficient activation of this knowledge when confronted with complex tasks that strain cognitive processing and require pre-existing knowledge, such as the contemplation of the possibility of fraud (Brewster, 2011; Brewster et al., 2018; Peecher, Schwartz, & Solomon, 2007). Research on systems perspectives (Peecher et al., 2007) therefore explores the structure of knowledge and identifies the benefits of a systems perspective on clients' financial statements when investigating misrepresentations. A systems perspective is highly adaptive to changes in the economic environment (Serman, 2000) and seems to be effective when auditors consider inconsistencies between management representations and the economic environment (Brewster, 2011). Libby et al. (1993) emphasize the role of auditors' experience for generating knowledge, which determines performance on the job together with ability, motivation & environmental factors. As fraud is a relatively rare event (Loebbecke, Eining, & Willingham, 1989), auditors cannot easily accumulate fraud-specific knowledge. Choosing suitable training methods and approaches to instigate adequate awareness of fraud in auditors' mental models of their client's environment that permit the activation of knowledge structures at the appropriate time, even in the absence of fraud-specific experience are therefore indispensable determinants of successful fraud detection.

#### 1.4.6 The Benefit of Fraud-Specific Audit Standards and Regulation

Regulators' increased focus on fraud, as reflected in SAS 82 and SAS 99 has direct implications for the conduct of audits. How these specific standards have influenced audit quality is a question of academic debate (Jakubowski, Broce Joseph Stone, & Conner, 2002). For example, Hammersley, Bamber & Carpenter (2010) show that auditors do not sufficiently comply with SAS 99 documentation requirements about specific fraud risks because priming of fraud risk makes client-specific risks seem less typical when the documentation is specific. This leads to overall lower fraud risk assessments and exemplifies an unintended consequence of

fraud risk priming. Other authors consider the decomposition of fraud risk into sub-categories as suggested by SAS 99. Wilks & Zimbelman (2004) identify some trade-offs when decomposing risk according to the fraud triangle. They find that decomposition increases auditors' sensitivity to managerial fraud opportunity and incentives only when fraud risk is low. Similarly, Simon, Smith & Zimbelman (2018) document that the separate consideration of fraud likelihood and magnitude, as suggested by SAS 99, makes auditors less concerned about fraud risks as it draws their attention to the low incidence of fraud. As a consequence, only judgments for non-fraud firms improve.<sup>3</sup> Overall, these studies seem to suggest that raising auditors' awareness for the possibility of fraud by prominently priming them is not unequivocally the most adequate solution. The results are indicative of unintended consequences to this approach. Our study contributes to this stream of literature by drawing on psychology literature on deception detection and suggesting a more subtle and effective remedy as described in the next section.

## 1.5 The Difficulty of Detecting Deception

### 1.5.1 General Findings

A vast literature in social psychology reveals that individuals generally fail to exceed levels of chance when attempting to detect deception [e.g. Bond & DePaulo (2006); Hartwig et al.(2011)]. In their meta-analytic review of the deception detection literature, Bond et al. (2006) report an average accuracy of 54%. An interesting finding is that these accuracies differ for correctly detecting lies (61%) and truths (47%). Individuals' tendency to classify uncertain messages as truthful has been termed a truth bias, which is pervasive even among auditors (Hobson, Mayew, Peecher, & Venkatachalam, 2017) and non-professional investors

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<sup>3</sup> While not the topic of this review, we see some parallels between fraud risk priming and auditors' use of checklists. Red flags questionnaires seem to be particularly ineffective at improving estimates of risk of material misstatement (Asare & Wright, 2012; Pincus, 1989). Recent research suggests that this occurs as these lists induce a less critical mind (van Rinsum, Maas, & Stolker, 2018).

(Rennekamp, Rugar, & Seybert, 2018). An exception to the rule are the results for lie detection experts such as police officers, detectives and judges. These individuals, who are regularly exposed to lies, are somewhat less subject to a truth bias, but their increased skepticism does not result in a better overall truth-lie discrimination (C. F. Bond & DePaulo, 2006). Some authors report the existence of “lie detection wizards” who outperform the general population in deception detection tasks (O’Sullivan & Ekman, 2004), but these findings are controversial (C. F. Bond & Uysal, 2007; Vrij, Akehurst, Soukara, & Bull, 2010). Follow-up studies reveal that these rare wizards, which may be classified as a statistical anomaly, do not make use of the same deception detection strategies, which limits the usefulness of this finding (G. D. Bond, 2008). Furthermore, the literature concludes that deception detection accuracy is not related to confidence (B.M. DePaulo & Pfeiffer, 1986; Bella M. DePaulo, Charlton, Cooper, Lindsay, & Muhlenbruck, 1997; Lichtenstein & Fischhoff, 1977) and that people are generally overconfident in their ability to discriminate lies from truth-telling (Willis & Todorov, 2006).

### 1.5.2 Auditor-Specific Considerations

Auditors operate in a very specific setting which may not allow all of the findings from the deception detection literature to generalize to their environment. First and foremost, auditors are in a continuous professional relationship with their client, which is shaped by particular monetary and non-monetary (dis-)incentives. Second, they possess specific knowledge about their client and repeatedly interact with them. Third, auditors operate in a regulatory environment that focuses their attention on the occurrence of fraud, despite its low incidence. Throughout the remainder of this article, we consider how each of these factors influences perceptions of deceptiveness.

### 1.5.3 Cognitive Dissonance and Negative Affect from Lying

A question that naturally arises is why and how individuals are able to distinguish deception from truth telling. The answer is that communication patterns differ between liars and truth-tellers. Individuals who lie experience cognitive dissonance, an uncomfortable feeling which is best described as “the negative, uncomfortable emotion a person feels when they are saying something that they know is not true.” (Festinger, 1957; Hobson et al., 2017; Vrij, Fisher, Mann, & Leal, 2008). Lying individuals experience this state of mind because people have an inherent need to see themselves as truthful and honest (R. Graham, 2007; Mazar, Amir, & Ariely, 2008). This basic human tendency is reflected in many studies in the experimental economics literature. Even though classical incentive-based economic models assume that humans are rational income maximizers, results from ultimatum games and dictator games generally document a human tendency to deviate from Nash predictions. Instead, participants seem to care about fairness (Roth, Prasnikar, Okuno-Fujiwara, & Zamir, 1991), altruism (Fehr & Fischbacher, 2003) and inequity (Fehr & Schmidt, 1999). However, in situations where individuals stretch the truth, they experience guilt and fear (Ekman, 1979) because telling a lie requires deceivers to remember what they have said, while at the same time controlling their demeanor to appear honest. A study by Hartwig, Granhag, Strömwall, & Kronkvist (2006) reports that 90% of liars in their sample indicate that they had a strategy. All of this is cognitively demanding and creates negative affect (Bella M. DePaulo et al., 2003; Ekman, 1979; Vrij et al., 2010).

Successful deception detection can make use of these cues (Fiedler & Walka, 1993; Hobson et al., 2017). In particular, individuals who know the deceiving person in a truth-telling context and possess specific knowledge about the content of the message conveyed should outperform strangers at deciding whether that person is lying or not when they are motivated to pick up these cues. We argue that auditors are particularly demotivated to detect signs of deception in their

clients and that this motivational friction is grounded in the ill-designed incentive structure they face when investigating and suspecting the possibility of fraud.

## 1.6 Auditors' Misaligned Incentives for Detecting Fraud

We posit that the absence of rewards to auditors for detecting fraud cases is one reason they are generally unsuccessful at detecting fraud. Peecher, Solomon, & Trotman (2013) point out that auditors face little to no rewards for the detection of fraud cases but that they do face numerous penalties. Unlike investors and short-sellers who may directly benefit from discovering fraud early on, auditors often lose their clients after such a discovery (A. Dyck et al., 2010), face litigation for potentially discovering the case too late (Reffett, 2010) and enter strained discussions with audit committees (Peecher et al. 2013).

These external disincentives to audit firms extend to corporate cultures within audit firms and teams. Brazel, Jackson, Schaefer, & Stewart (2016) illustrate that auditors who skeptically investigate the possibility of fraud receive lower performance evaluations by their supervisors. Similarly, Reffett (2010) finds that supervisors hold auditors more liable for failing to detect fraud if the auditors investigated the perpetrated fraud versus not investigating for fraud. In a second experiment, the author shows that this effect is likely unintentional and hence exemplary for a work environment that does not sufficiently encourage skeptical behavior.

In addition to these audit-specific disincentives, there are more general reputational and monetary costs to blowing the whistle on fraud. Whistleblowers are often maligned and experience severe consequences for their reputation, and in case of employees also diminished job security and career prospects (Dyck et al. 2010). The main concern with whistleblowing (i.e. reporting fraud) is that whistleblowers do not remain anonymous as the investigation of the fraud case often reveals their identity unintentionally (Chen, Nichol, & Zhou, 2017). In addition, there

are complaints that these critical voices often remain unheard. For example, the fraud case surrounding Bernard Madoff's Ponzi scheme was suspected early on by Harry Markopolos, who informed the SEC of irregularities with Bernard Madoff's investment business. Despite these early warnings, the SEC did not follow up on them, resulting in a USD \$50 billion fraud case (Stout, 2009).

In response to this unfair treatment of whistleblowers, Time magazine decided in 2002 to award the whistleblowers surrounding the year 2000 accounting scandals as "people of the year". US-Policy makers followed up on these efforts culminating in the Dodd Frank Wall Street Reform and Consumer Protection Act of 2010. The act extends the "qui tam" rule, also known as Federal Civil False Claims Act, which establishes that private citizens can enforce penalties upon companies that defrauded the government. By doing so, the monetary proceedings from such trials are then shared between the individual and the government. Thus, whistleblowers are rewarded with 15 – 30% of the recovered funds (Dyck et al., 2010). In addition, the Dodd-Frank Act protects whistle blowers from wrongful employment termination and guarantees back-up pay and compensation for these cases (111<sup>th</sup> Congress 2010). Recent research shows that the legislation is successful at deterring fraudulent schemes (Lee, 2017). Oddly, while this Act enables numerous other stakeholders, including internal auditors, to recover potentially huge financial rewards for detecting fraud, these reward incentives to do extend to external financial-statement auditors. Oddly, those in whom society arguably places the most trust to root out frauds get precisely zero reward incentive in the legislation.

## 1.6 Motivated Inaccuracy to Detect Fraud

The lack of rewards and prominence of penalties to audit firms and auditors for detecting fraud are especially troublesome considering insights from the academic literature that auditors have directional goals. Individuals with directional goals, such as the desire for an audit client to be honest, often fall prey to a motivated reasoning bias. This bias is best described as the human tendency to explain away evidence contrary to preferred outcomes, while readily accepting supportive evidence (Ditto & Lopez, 1992; Kunda, 1990). Motivated reasoning is typically unconscious (Moore, Tanlu, & Bazerman, 2010) and subject to a reasonableness constraint, i.e. decision makers pursue directional goals only as long as they can maintain an “illusion of objectivity” (Kadous, Kennedy, & Peecher, 2003; Kunda, 1990; Pyszczynski & Greenberg, 1987). In an audit context, several authors document that directionally motivated auditors may favor aggressive accounting methods (Bazerman, 1997; Kadous et al., 2003), collect less evidence in order to avoid unpleasant interactions with management (Bradley Bennett & Hatfield, 2013; Nelson, 2009) and exploit ambiguity to give their client the benefit of the doubt (Kachelmeier & Van Landuyt, 2017). Motivated reasoning drives the search for evidence (Clor-Proell, 2009) and biases assessments of evidence in order to please a superior (Wilks, 2002).

We expect that auditors’ tendency to process information in a motivated manner manifests itself in their fraud risk assessments. The previously described lack of incentives to detect fraud is expected to affect different types of judgmental errors differently. Auditors follow a primary error detection and minimization (PEDMIN) strategy (Friedrich, 1993). Thus, they learn to minimize false positives (type I errors), because labelling a client erroneously as fraudulent comes with huge personal costs. On the contrary, a false negative, i.e. labelling a fraudulent company as non-fraudulent, has only mild consequences unless the fraud is revealed.

Hobson et al. (2017) document this pattern of biased judgments in an experimental study on auditors' detection of deception in managerial capital markets communication. Experienced audit professionals, mainly current and retired partners, were instructed to listen to extracts from earnings conference calls. Half of the calls in the sample were from firms whose quarterly financial statements were later restated and linked to fraud, regulator investigation or class-action litigation. Participants rated the likelihood that fraud was present for each firm. The authors find a truth bias in auditors' judgments as illustrated in higher type II than type I errors. Yet, instructing participants that people who lie experience elevated levels of cognitive dissonance decreases type II errors significantly without affecting the level of type I errors.

The authors conjecture that these results are, as theory predicts, caused by the instruction's power to shatter the reasonableness constraint of motivated reasoning. This negative affect instruction makes it difficult for auditors to explain away signs of cognitive dissonance and enables them to activate their fraud-specific knowledge. Our study builds upon these results by comparing the efficiency of the negative affect instruction with a prominent prompt to look out for signs of fraud in a field-experimental setting where auditors listen to earnings calls of their own clients.

It is vital to contemplate the fraud detection process as one that occurs within a fundamentally social relation between auditors and clients that balances the benefits of relationship strength against auditor dependence concerns in order to reach high levels of audit quality (Bauer, 2015). Research in social psychology demonstrates that deception detection accuracy varies with the degree of relationship closeness between sender and perceiver in the past and the perceiver's desired future relationship with the target (Blanck, Rosenthal, & Snodgrass, 1981; Cuperman, Howland, Ickes, & Simpson, 2011). For example, an experimental



study by Sternglanz and DePaulo (2004) delivers evidence that friends are generally more accurate than strangers at reading each other's concealed emotions. Several authors have replicated the finding that those with meaningful relationships are more accurate at inferring others' concealed emotions, thoughts and feelings (Colvin, Vogt, & Ickes, 1997; Stinson & Ickes, 1992; Thomas & Fletcher, 2003). These insights, however, do not hold universally. For example, Sternglanz and DePaulo (2004) find that strangers are more accurate than friends at detecting concealed sadness and anger. They argue that reading cues that others are deliberately trying to conceal may be committing a particularly baleful violation of polite behavior. Hence, individuals do politely refrain from decoding the concealed message in close others' communication and read instead the overt message, especially when the content of the message could threaten the relationship (Kilpatrick, Bissonnette, & Rusbult, 2002; Rosenthal & DePaulo, 1979; Simpson et al., 2011).

The disadvantage of close others at detecting aversive emotions is known as motivated inaccuracy (Cuperman et al., 2011; Simpson, Ickes, & Blackstone, 1995; Simpson, Oriña, & Ickes, 2003). While motivated inaccuracy for relationship-threatening information can be healthy to sustain relationships (Blanck et al., 1981; Ickes, Dugosh, Simpson, & Wilson, 2003; Simpson et al., 1995), it seems to be particularly problematic when it affects the professional audit-client relationship, which is supposed to be grounded on objective and independent assessments of audit evidence. We argue that the occurrence of fraud is a threatening event to the auditor-client relationship, which leads to impoverished decoding of deceptive nonverbal messages.

Another question of interest with direct implications for the staffing of audit teams is whether deception detection abilities differ with auditor rank and experience. The relation between age and deception detection has received considerable attention in the literature on interpersonal

accuracy, i.e. the ability to accurately judge others' emotions, intentions, traits, truthfulness and other characteristics (Schlegel, Boone, & Hall, 2017). This literature posits that successful deception detection is based on two pillars: accurate detection of emotional states (i.e. guilt or anxiety) and a cognitive element. Since auditors possess very detailed knowledge about their clients' operating business, the accurate perception of emotional states becomes key.

Hartshorne and Germine (2015) report that the capacity to detect emotion peaks in middle-aged adults in the general population. This range corresponds to the typical age of partners and hence, Hobson et al. (2017) report that their sample of experienced auditors outperforms accounting students when it comes to detecting deception in excerpts from conference calls. Consistent with the literature on motivated inaccuracy, some authors find that older adults' advantage decreases when it comes to correctly recognizing fearful, sad and angry faces (Calder et al., 2003; Keightley, Winocur, Burianova, Hongwanishkul, & Grady, 2006). The detection of these socially undesirable emotions seems to be offensive and therefore perceivers ignore these emotions in an attempt to accommodate the deceiver. This "accommodating" behavior however, is a learned behavior that increases with age as people learn to become more non-verbally courteous over time (Kilpatrick et al., 2002; Rosenthal & DePaulo, 1979). Hence, there is tension with regard to the relation between audit experience and deception detection. Future studies on this topic should distinguish the effects stemming from age-related advantages in detecting deception and disadvantages from social accommodativeness, e.g. by contrasting the behavior of experienced auditors who make a judgment about their own client with an equally experienced control group of auditors considering a client that they are not in charge of.

Insights from audit research support our predictions that auditors are subject to a motivated inaccuracy bias, particularly for clients to whom they feel attached. Regulators have long been

concerned about threats to auditor independence. Bauer (2015) provides evidence that auditor identification with their client's values can conflict with professional identity strength and in turn increase auditors' propensity to agree with their client's preferred accounting treatment. These findings suggest that auditors have a desire to see their own clients in a positive light and give them the benefit of the doubt. Further experimental papers on social interactions and misplaced trust echo these concerns about auditor-client interactions on audit quality (Bazerman, 1997; Hobson, Stern, & Zimbelman, 2019; Kachelmeier & Van Landuyt, 2017). This stream of literature is indicative of a trust heuristic and supports our conjecture that auditors are motivated to assess the likelihood that their client is fraudulent in a biased manner. Correspondingly, Shaub and Lawrence (1996) show that skepticism decreases over time. Consistent with our predictions, Loebbecke et al. (1989) report that one fourth of all fraud cases is discovered during the first year of an engagement. Taking all these findings into consideration, it becomes apparent why it is beneficial to investigate determinants of auditors' fraud judgments in natural settings.

As mentioned in the beginning, regulators are concerned with auditors' rare detection of fraud cases. Instead of adjusting the incentives of the profession to successfully label a fraudulent company as fraudulent, they have introduced several mechanisms that are aimed at increasing auditors' attention to the mere possibility of fraud. This heightened focus on fraud may come along with unintended consequences for the quality of an audit. Several authors in psychology and communication studies are aimed at evaluating the effectiveness of warnings (Kok, Schaalma, Ruiters, Van Empelen, & Brug, 2004; Peters, Ruiters, & Kok, 2013). These authors investigate why people tend to ignore warnings about climate catastrophes such as hurricanes or why terrorist alert systems wane in effectiveness. A literature review by Ruiters, Abraham and Kok (2001) synthesizes the literature and concludes that fear arousal is often

ineffective in motivating behavior. Instead, perceptions of effectiveness and self-efficacy are key along with the personal relevance of the warning. These findings suggest that regulatory and audit firms' heightened emphasis on fraud could actually reduce the likelihood of detecting fraud cases given the low incidence of fraud and auditors' motivated inaccuracy to contemplate this possibility for their own clients. Hence, the admonishment to exercise professional skepticism may actually reduce the likelihood of detecting deception.

There are several examples in the audit literature that are indicative of such counter-productive effects of "warnings". In particular, we argue that the use of the word "fraud" in itself transmits negative connotations due to the previously mentioned disincentives and the auditor-client relationship-threatening character of the event that instead of increasing efforts to detect fraud, it actually undermines these best efforts.

The first audit standard to introduce the word "fraud" is SAS 82, whose effects on fraud discovery have produced mixed results (Jakubowski et al., 2002). Conform with the idea that auditors have an aversion to even thinking about fraud, Butler, Ward and Zimbleman (2010) observe that auditors interpret the language in standards (e.g. 'irregularity', 'misstatement') conform with unintentional actions. Further, Bowlin, Hobson and Piercey (2015) show that the framing of a veracity judgment as a question about their client's honesty or dishonesty matters for deception detection accuracy. In their game theoretic experiment, they find that a skeptical frame increases audit quality only in a situation where auditors rotate periodically from one client to another. Finally, research in psychology shows that indirect scales of deception detection are often more effective than direct assessments of the possibility of deception (Hurd & Noller, 1988). This motivates our interest in comparing the effectiveness of a negative affect and fraud prompt. Indirect scales that avoid the word fraud (i.e. the concept of dishonesty) allow

individuals to consider the possibility that the close other is deceptive without directly associating him or her with the unethical act. Similarly, Rennekamp et al. (2018) find that unconscious judgments can improve non-professional investors' detection of deception in earnings calls compared to conscious judgments.

Research in linguistics and psychology indicates that the language of truthful narratives differs from that of deceptive accounts (Bella M. DePaulo et al., 2003; Pennebaker, Chung, Ireland, Gonzales, & Booth, 2007; Vrij et al., 2008). These insights have motivated research in finance and accounting on managers' language choice in financial capital market communication (Asay, Libby, & Rennekamp, 2018; Hobson et al., 2017; Li, 2008; Tetlock, 2007; Tetlock, Saatchiansky, & Macskassy, 2008).

Larcker & Zakolyukina (2012) were one of the first accounting researchers to investigate the predictive ability of the language used in conference calls to predict financial restatements and future abnormal returns. Their linguistic analysis indicates that deceptive CEOs and CFOs use more extreme positive emotions and reference shareholder value less often. The predictive model is based on linguistic categories of deception and significantly outperforms levels of chance (i.e. the outcome of a random guess) and is at least equivalent to discretionary accrual models. Other authors provide evidence that automated fraud prediction models are most powerful when combining linguistic and financial information with vocal cues (Throckmorton, Mayew, Venkatachalam, & Collins, 2015). Hence, even the voice of a CEO can provide investors with valuable insights about the fundamental value of a firm (Mayew & Venkatachalam, 2012). Hobson et al. (2012) argue that non-verbal cues in earnings conference calls provide investors and auditors with information that can predict signs of deception in the voice of a CEO or CFO. Unlike written communication, such as MD&A discussions and press releases, conference calls

are less rehearsed, which makes its Q&A section particularly useful to investors (Blau, DeLisle, & Price, 2015; Hollander, Pronk, & Roelofsen, 2010; Matsumoto, Pronk, & Roelofsen, 2011; Mayew & Venkatachalam, 2012; Price, Doran, Peterson, & Bliss, 2012).

Although auditors regularly interact with management and have access to proprietary information before earnings are published, they may occasionally learn new things about their client during these calls. In addition, auditors are also in a better position to pick up signs of deception in the voice of CEOs after they have been asked pointed questions, as they have better knowledge of their client and are able to contrast their regular communication with management to the capital market communication. In line with this reasoning, the PCAOB also recommends that auditors listen to their clients' conference calls on a regular basis [AS No. 12, PCAOB (2010)]. While we agree with the PCAOB's recommendation, we argue that it is helpful to guide auditors in their consumption of capital market communication. With their advanced knowledge of management, auditors are in an advantageous position to pick up signs of negative affect that managers experience when they are concealing fraudulent activities in a conference call. Unfortunately, financial reporting is also characterized by self-presentation motives and opportunistic impression management. (Fischer & Verrecchia, 2000; Li, 2010; Libby & Rennekamp, 2012). Additionally, the disclosure venue conference call differs from other types of disclosure in that it exposes auditors to the voice of the CEO, sometimes even live videos. Prior research shows that voice promotes overinvolvement and intimacy (e.g., Atoum and Al-Simadi (2000)). It is therefore possible that the voice of the CEO enhances auditors' truth bias. Future research should consider the appropriate use of prompts prior to auditors' assessment of financial fraud (see e.g. Hobson, Mayew, et al., 2017; Knapp & Knapp, 2001). While Hobson et al. (2017) demonstrate the usefulness of a negative affect instruction for experienced auditors when

listening to earnings calls, our study contrasts this approach with a more traditional admonishment to look out for signs of fraud. We also suggest an explanation for prior studies' mixed results on the role of experience for successful fraud detection by contrasting the age-related benefits of experience with a learned tendency to ignore cues that are diagnostic of fraud.

### **Conclusion**

The investing public has long looked to the independent financial-statement auditor to help prevent and detect instances of material financial-statement fraud. Yet, it has only been in recent decades that audit standards recognize explicitly that auditors are responsible for providing high assurance that the financial statements are not materially misstated due to fraud. Although once generally believed to be an exceedingly rare event, recent research suggests base rates of financial statement fraud may be as high or higher than ten percent of public companies. Cases of fraud that go undetected for years exacts a substantial toll on the confidence of the investing public in capital markets. At the same time, actually providing of high assurance that a set of financial statements are not materially misstated due to fraud is difficult for individual auditors due to a combination of questionable economic incentives for individual audit teams to detect fraud as well as psychological preference to avoid believing that one's own client – a socially close affiliate – has been engaging in deception of the investing public as well as the auditors themselves.

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