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Risk Disclosure Preceding Negative Outcomes: The Effects of Reporting Critical Audit Matters on Judgments of Auditor Liability

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ABSTRACT: Audit practitioners, academics, and attorneys have expressed concern that disclosing critical audit matters (CAMs) will increase jurors' auditor liability judgments when auditors fail to detect misstatements. In contrast, this study provides theory and experimental evidence that CAM disclosures, under certain conditions, reduce auditor liability judgments as jurors perceive that undetected fraudulent misstatements were more foreseeable to the plaintiff (i.e., the financial statement user suing the auditor). However, we find that CAM disclosures only reduce auditor liability for undetected misstatements that, absent CAM disclosure, are relatively difficult to foresee. Finally, CAM disclosures that are unrelated to subsequent misstatements neither increase nor reduce auditor liability judgments relative to the current regime (i.e., where CAMs are not disclosed), but reduce liability judgments relative to reporting that there were no CAMs. As such, we find that, relative to stating there were no CAMs, disclosure of any CAM (i.e., related or unrelated) provides litigation protection in cases of undetected fraud. Consequently, the CAM requirement could incentivize auditors to disclose innocuous boilerplate CAMs, thereby diluting the impact of more warranted CAM disclosures.

Keywords: audit litigation; audit report; negligence; liability; critical audit matters; disclosure.

Data Availabliity: Available from authors upon request.

I. INTRODUCTION

Both the Public Company Accounting Oversight Board (PCAOB) and the International Auditing and Assurance Standards Board (IAASB) have proposed significant changes to the audit reporting model. One proposal, the requirement for auditors to disclose critical audit matters (CAMs), has generated significant discussion and concern among audit practitioners (Ernst & Young LLP [EY] 2013; Gaetano 2014), academics (Bedard, Gonthier-Besacier, and Schatt 2015), and attorneys (Barnes 2013; Katz 2014).[1] While investors support additional auditor disclosure (Carcello 2012), other stakeholders assert that such *ex ante* risk disclosure will result in increased litigation against auditors. For example, the former

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[1] The PCAOB (2013) characterizes CAMs as the areas of an audit that involved the most difficult, subjective, and complex judgments, and/or posed the greatest difficulty in obtaining sufficient appropriate evidence or in forming an opinion. The IAASB refers to such items as Key Audit Matters (KAMs).

head of legal affairs at a Big 4 firm argues that disclosing CAMs will put auditors in a "devilish position," leading to a "wave of litigation" (Katz 2014). Similarly, the chair of the New York State Society of Certified Public Accountants' litigation services committee contends that CAMs will result in auditors "sitting in a courtroom being asked, shouldn't you have done this or that" (Gaetano 2014, 5). Likewise, Ernst & Young (2013) notes that "we believe the proposed identification and disclosure of CAMs ... pose risks of increased legal liability that are real and substantial. We strongly believe the PCAOB must weigh the potential benefits of the Proposal against the increase in auditor liability and costs that we believe would occur."

Further, prior research seems to support these concerns. Both Reffett (2010) and Backof (2015) find that identifying and documenting areas of concern (e.g., fraud risks or possible alternative accounting methods) in the audit workpapers increases jurors' auditor liability judgments when auditors fail to detect misstatements related to the areas of concern. Thus, when auditors disclose CAMs that relate to a subsequently revealed misstatement, it is easy to envision plaintiffs and/or triers of fact (arbitrators, judges, and jurors) reasoning that, "if the auditors had such concerns about the company, why didn't they carry through" (Katz 2014).

However, there is an important distinction between CAMs and the contexts examined in prior research. Specifically, unlike the contexts examined in prior research (i.e., workpaper documentation), CAMs are a form of *ex ante* risk disclosure where auditors publicly disclose CAMs in advance of subsequently revealed misstatements, effectively highlighting the potential for misstatements within related areas of the financial statements. As such, we predict that jurors will view misstatements as having been more foreseeable to the plaintiffs (i.e., the users of the financial statements and auditor's report) when the auditors previously issued a related CAM. Further, extending Decision Affect Theory (Mellers, Schwartz, and Ritov 1997; Shepperd and McNulty 2002), we predict that as jurors view a misstatement as having been more foreseeable to the plaintiff, jurors will experience less negative affect when considering plaintiff losses because the plaintiff was "forewarned." This is important because jurors who experience less negative affect are less likely to find the auditors negligent (Kadous 2000, 2001; Reffett 2010). As such, we expect jurors to be less likely to find auditors negligent when the auditors disclosed a CAM that is related to the misstatement, relative to both the current reporting model (i.e., which includes no mention of CAMs) and to when the auditors explicitly state that there were no CAMs.[2]

We also examine a research question regarding concerns over the potential legal hazards of disclosing CAMs that are unrelated to subsequently revealed misstatements (cf. Katz 2014). Specifically, Richard Murray argues that, "If the company's problem doesn't concern any previously reported CAMs, shareholders can claim that many concerns were expressed by the auditor but not the right one" (Katz 2014). While such concerns are intuitive, jurors potentially could view unrelated CAMs as a general warning of possible misstatements, thereby causing jurors to view even unrelated misstatements as having been more foreseeable to plaintiffs, thereby reducing jurors' auditor liability judgments, similar to related CAMs. Given these competing possibilities, we do not hypothesize the effects of disclosing unrelated CAMs.

To examine our hypotheses and research question, we conducted an experiment in which jury-eligible individuals read a case about an audit that failed to detect a material financial statement fraud and then assess auditor negligence. The experiment manipulates the presence of a CAM in the audit report at four levels: (1) control—no mention of CAMs (i.e., the current regime); (2) disclosure of a CAM that relates to the misstatement; (3) disclosure of a CAM that is unrelated to the misstatement; and (4) an explicit statement that the auditors did not identify any CAMs, although the requirement to disclose CAMs, if they exist, is noted. The experiment also manipulates whether the misstatement involved (1) an overstatement of inventory, or (2) an understatement of an environmental restoration liability. Examining the effects of CAMs across misstatement types is important because the predicted effects of CAMs might be more or less likely to occur for certain misstatements.

Consistent with expectations, when the auditors failed to detect an overstatement of inventory, participants were less likely to find the auditors negligent when the auditors disclosed a related CAM, relative to both when there is no mention of CAMs and to when the auditors explicitly stated that there were no CAMs. Yet when the auditors failed to detect an understatement of their client's environmental restoration liability, participants were neither more nor less likely to find the auditors negligent when the auditors disclosed a related CAM. Path analysis (1) supports the posited theoretical causal mechanisms (i.e., related CAMs increase perceived foreseeability to the plaintiff, which decreases jurors' negative affect, thereby reducing auditor liability judgments), and (2) clarifies the different pattern of results across misstatement type. Specifically, disclosed CAMs increase the perceived foreseeability of the inventory misstatement, but not the environmental restoration liability misstatement. This discrepancy across misstatement types appears to be due to the environmental restoration liability misstatement appearing more foreseeable than the inventory misstatement in the control condition (i.e., in the absence of a CAM), thereby reducing the impact of the CAM in the environmental restoration liability condition. Regarding our research question, disclosing a CAM that is unrelated to the undetected

[2] The PCAOB (2013, 16) expects most audits to have CAMs, but allows for the possibility of explicitly stating that there are no CAMs. Auditors might strategically pursue this option if they are concerned with the legal implications of disclosing CAMs. Further, as financial statement preparers strongly oppose the CAM disclosure requirement (Tysiac 2014), auditors' judgment potentially could be affected by management's preferences (Kadous, Kennedy, and Peecher 2003; Earley, Hoffman, and Joe 2008; Wolfe, Mauldin, and Chandler-Diaz 2009), resulting in auditors determining that no CAMs existed. In this case, or when the auditors truly believe there are no CAMs, our theoretical development indicates that litigation exposure may be elevated in the event of subsequent undetected misstatements.

misstatement (1) did not affect jurors' auditor liability judgments relative to current reporting standards (i.e., the control condition), but (2) results in lower auditor liability judgments relative to when the auditors explicitly state that there were no CAMs.

This study makes several important contributions to the literature. First, contrary to critics' concerns, we find that disclosing CAMs, depending on misstatement type, reduces or has no effect on jurors' auditor liability judgments. These findings suggest that strategically limiting CAM disclosures (cf. Bedard et al. 2015) is unlikely to decrease, and could increase, negligence verdicts in the event of an auditor negligence trial. In fact, our findings that disclosure of any CAM (i.e., related or unrelated) provides litigation protection relative to stating that there were no CAMs indicates that auditors might have legal incentives to expand CAM disclosures in unwarranted areas to reduce negligence verdicts in the event of an undetected fraud. Such incentives could result in auditors developing and commonly reporting unwarranted, boilerplate CAM disclosures, thereby undermining the intent of the proposed standard by diluting the impact of more warranted CAM disclosures.

Second, we demonstrate that the effects of CAMs vary across misstatement types. Specifically, jurors are less likely to find auditors negligent when disclosed CAMs relate to financial statement areas in which misstatements are relatively unexpected, but not when CAMs relate to more foreseeable misstatements. As such, CAM disclosure appears to be particularly important for balances where plaintiffs would generally not expect problems (e.g., inventory, cash) when client-specific circumstances pose idiosyncratic audit challenges. More generally, the observed differences between misstatement types underscore the need to examine the effects of CAMs in numerous contexts.

These are important findings because the PCAOB (2012) indicates that it considers "relevant academic research" in the standard-setting process. Cumulatively, we find no empirical evidence, in two contexts, to support concerns that disclosing CAMs that are either related or unrelated to undetected fraud will increase jurors' auditor liability judgments. Although these results, coupled with similar results in several contemporaneous studies (Brown, Majors, and Peecher 2015; Kachelmeier, Schmidt, and Valentine 2015), should provide standard setters with comfort that disclosing CAMs will not increase auditor liability judgments, there could be exceptions that future research should identify and examine. For example, two contemporaneous studies find that in certain circumstances, CAMs can increase jurors' auditor liability judgments, such as when misstatements involve violations of rules-based/bright-line standards (Gimbar, Hansen, and Ozlanski 2016), or when the concept of reasonable assurance is not clarified for jurors in the audit report (Backof, Bowlin, and Goodson 2015).[3]

II. HYPOTHESIS DEVELOPMENT

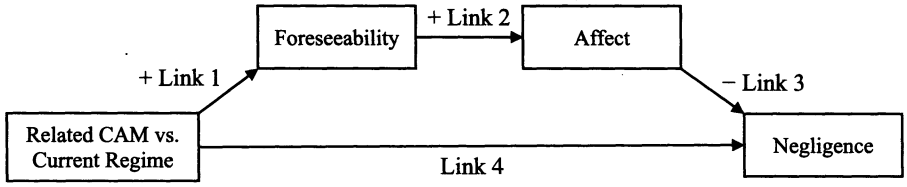
The PCAOB and IAASB have both proposed several changes to the audit reporting model. These proposals respond to calls to clarify and expand auditor reporting to increase transparency and value relevance for financial statement users (European Commission 2012; IAASB 2012; Financial Reporting Council 2013; PCAOB 2013; Doxey 2015). In general, the proposed changes require auditors to provide additional information regarding auditors' responsibilities, the nature of the auditors' procedures, and insights gained from those procedures (IAASB 2012; PCAOB 2013). Of particular interest to this study is the proposed requirement for auditors to disclose CAMs in the audit report (PCAOB 2013). Although there appears to be general agreement among key stakeholders (e.g., regulators, financial statement users, and audit firms) that significant changes to the audit reporting model are required to ensure the value and viability of the audit profession (e.g., Carcello 2012; PCAOB 2013; EY 2014), there also is concern that *ex ante* risk disclosures related to the most difficult areas of the audit will increase auditors' litigation exposure (see Section I). In this section, we leverage research from accounting and psychology to develop expectations regarding the likely effects of disclosing CAMs on jurors' assessments of auditor liability. We first consider the effects of disclosing CAMs that are related to subsequently revealed undetected misstatements (hereafter, "related CAMs"), and then consider the effects of disclosing CAMs that are unrelated to undetected misstatements (hereafter, "unrelated CAMs").

Related CAMs

We present a model that predicts that related CAMs reduce jurors' auditor liability judgments by increasing jurors' *ex post* perceptions of the foreseeability of the undetected misstatement to the plaintiff, which leads to less negative affective reactions

[3] While the primary results of our study are generally consistent with the contemporaneous studies, it is important to note that our study is unique in multiple regards. One, we are the only study to advance theory about how CAMs provide litigation protection by increasing the *ex post* perceived foreseeability of misstatements to the plaintiff (i.e., financial statement users). Two, the theory underlying this prediction extends Decision Affect Theory. In general, Decision Affect theory predicts that unexpected events elicit stronger affective reactions than expected events (Mellers et al. 1997). However, researchers have only considered the effects of individuals' *ex ante* perceptions of the foreseeability of events on their affective reactions to their own misfortunes (Mellers et al. 1997; Mellers, Schwartz, and Ritov 1999; Shepperd and McNulty 2002), while we predict and find that evaluators' *ex post* perceptions of the foreseeability of others' misfortunes influence the evaluators' affective reactions to, and liability judgments for, those misfortunes. That is, evaluators experience less negative affect when they believe, *ex post,* that a negative outcome was foreseeable to those who were harmed. Finally, ours is the only study to provide evidence that the effect of CAM disclosures on jurors' auditor liability judgments varies across misstatement type.

FIGURE 1
Theoretical Model



toward the auditors (see Figure 1). Specifically, assuming that the proposed standard is adopted, auditors will publicly disclose CAMs (i.e., in the publicly available audit report) in advance of the revelation of any undetected misstatements. We contend that this advance risk disclosure effectively forewarns financial statement users of factors that could increase the risk of the auditors failing to detect a material misstatement in accounts related to the disclosed CAMs. As such, we predict that related CAMs increase the salience of potential problems within a given financial statement area, making undetected misstatements in that area, *ex post,* appear more foreseeable to financial statement users relying on the audit report (Link 1 in Figure 1). For example, if a disclosed CAM indicates that the auditors had difficulty obtaining sufficient and appropriate evidence to test inventory, then we predict that jurors are more likely to believe that the plaintiffs should have expected (i.e., foreseen) an eventual material misstatement of the inventory balance.

Perceptions of foreseeability are important, as Decision Affect Theory establishes that unexpected outcomes elicit stronger affective reactions than expected outcomes (Mellers et al. 1997; Shepperd and McNulty 2002).[4] We extend this theory to predict that evaluators' affective reactions to others' misfortunes (i.e., negative outcomes) are less negative when the evaluators, *ex post,* believe that the cause of the misfortune was foreseeable to those suffering harm. This extension is logical for at least two reasons. First, evaluators are less likely to experience negative affect when they believe the party suffering harm could have avoided the harm. For example, in our setting, investors or lenders could choose not to provide capital to companies whose inventory poses audit challenges. Second, when evaluators perceive a negative outcome to have been relatively foreseeable, the evaluators will view the negative outcomes as less "painful" to the harmed individuals because the individuals were more likely to have expected the negative outcome. Thus, we predict that jurors' affective reactions will become less negative with increases in the perceived foreseeability of the misstatement (Link 2 in Figure 1).

Prior research (Kadous 2000, 2001; Reffett 2010; Reffett, Brewster, and Ballou 2012) indicates that a significant determinant of jurors' auditor liability judgments is their affective reaction to the auditors. As individuals have a strong desire to view the world as fair and just (Walster 1966), they experience negative affect when learning of the negative consequences other parties experienced as a result of undetected material misstatements. This is important because in cases of alleged audit failure, jurors tend to attribute negative affect they experience to the auditors, thereby increasing their motivation to blame the auditors (Kadous 2000, 2001). Increased motivation to blame the auditors also results in motivated reasoning (Kunda 1990), with jurors engaging in a biased search for, and interpretation of, the evidence in order to blame the auditors (Kadous 2000). Thus, when jurors' affective reactions are less negative (i.e., more positive), their motivation to blame the auditors is reduced and they are less likely to engage in a biased search for, and interpretation of, the evidence, thereby leading to decreased auditor liability judgments (Kadous 2000, 2001; Reffett 2010).[5] Therefore, we predict that more positive affective reactions to the

[4] It is important to note that other theories, most notably, culpable control theory (Alicke 2000), lead to the same general prediction. Indeed, three other contemporary studies, Backof et al. (2015), Gimbar et al. (2016), and Kachelmeier et al. (2015), all rely on culpable control theory (Alicke 2000) in various capacities to develop predictions for how CAM disclosures affect jurors' auditor liability judgments. While all three studies focus on jurors' perceptions of the auditors and their control over misstatements, our theory focuses on the impact of CAM disclosures on jurors' perceptions of plaintiffs, specifically, jurors' *ex post* perceptions of how foreseeable misstatements were to the plaintiffs, and how such perceptions affect jurors' affective reactions to the case. As such, we believe that Decision Affect Theory is more suitable for our study.

[5] The reduction in affect also indicates that counterfactual thoughts likely will not be elevated due to CAM disclosure. Prior psychology research (cf. Roese 1997) indicates that negative affect, while certainly a consequence of counterfactual thoughts, is also an antecedent. Essentially, individuals are more likely to think about alternative courses of action when they are angry, upset, etc. As we expect related CAMs to reduce negative affect, counterfactual thoughts are unlikely to be elevated and possibly reduced. Prior research also indicates that evaluations of individuals tend to be harsher following narrowly occurring negative outcomes (i.e., outcomes that were close to being prevented; Miller and McFarland [1986]). Thus, when auditors fail to detect fraud, jurors will potentially view auditors as having been closer to detecting a fraud when the auditors disclosed a related CAM. However, results from Reffett (2010) do not support this possibility, as the trigger for more intense counterfactual thoughts was not perceptions of how close the auditors were to detecting the fraud, but rather whether the auditors took action to investigate for the fraud. Thus, even if a disclosed CAM increases jurors' perceptions of how close the auditors were to detecting the fraud, counterfactual thoughts are unlikely to be elevated. See "Supplemental Analysis" in Section IV for additional discussion.

auditors will decrease the probability that jurors will find the auditors negligent in cases of alleged audit failure (Link 3 in Figure 1):

H1: Jurors will be less likely to find the auditors negligent when the audit report discloses a CAM that relates to the undetected misstatement compared to when the audit report is silent regarding CAMs.

We expect that disclosing related CAMs will provide litigation protection not only relative to the current reporting regime, but also relative to explicitly stating that there are no CAMs (see footnote 2). This expectation is based on the theoretical development of H1 also being applicable to this other benchmark. Specifically, jurors are more likely to believe that a misstatement was foreseeable when the auditors disclosed a related CAM relative to when the auditors explicitly stated in the audit report that there were no CAMs. Thus, we expect that jurors will be less likely to find the auditors negligent when the audit report discloses a related CAM relative to when the audit report explicitly states that there were no CAMs:

H2: Jurors will be less likely to find the auditors negligent when the audit report discloses a CAM that relates to the undetected misstatement compared to when the audit report explicitly states that the auditors did not identify any CAMs.

Unrelated CAMs

As discussed above, attorneys and auditors have also expressed concern that when auditors fail to detect misstatements, disclosed CAMs that do not relate to the misstatement will also increase auditors' litigation exposure, as auditors could be perceived as having identified the "wrong" risks (Katz 2014). However, it is less clear whether the theory developed above is applicable to unrelated CAMs. On one hand, our theory may be applicable if any disclosed CAM serves as a general warning of potential material misstatements by communicating the risk involved in the audit process and financial reporting more generally, thereby tempering financial statement user expectations of absolute assurance (cf. McEnroe and Martens 2001; Asare and Wright 2012; Lo and Boo 2012). That is, jurors could perceive any disclosed CAM as alerting users to the general possibility of a material misstatement, thereby increasing financial statement users' understanding that material misstatements in audited financial statements are possible. On the other hand, litigation exposure could be elevated if auditors are second-guessed for identifying the "wrong" risks (Katz 2014). Due to these competing possibilities, and the lack of a clear fit to existing theory, we present the following research questions:

RQ1a: How do jurors' auditor liability judgments compare when the audit report discloses a CAM that is unrelated to the undetected misstatement versus when the audit report is silent regarding CAMs?

RQ1b: How do jurors' auditor liability judgments compare when the audit report discloses a CAM that is unrelated to the undetected misstatement versus when the audit report explicitly states that the auditors did not identify any CAMs?

III. METHOD

We test our hypotheses and examine our research questions using a 4 × 2 (*CAM* × *Misstatement*) between-participants experimental design. The experimental task asks jury-eligible individuals to read about an audit that failed to detect a material financial statement fraud, assess whether the auditors were negligent, assess the extent to which the plaintiff should have expected problems with the misstated balance (i.e., foreseeability), and report their affective reactions.

Participants

We recruited participants (n = 528) from Amazon's Mechanical Turk, an online marketplace where "workers" complete online tasks for compensation. In addition to providing an easily accessible and cost-effective participant pool, Mechanical Turk data are considered highly reliable and participants are more diverse and representative of the U.S. population than undergraduate students (Paolacci, Chandler, and Ipeirotis 2010; Horton, Rand, and Zeckhauser 2011; Buhrmester, Kwang, and Gosling 2011; Farrell, Grenier, and Leiby 2017). Prior accounting studies have used Mechanical Turk participants to proxy for jurors (Grenier, Pomeroy, and Stern 2015; Grenier, Lowe, Reffett, and Warne 2015; Peecher, Reffett, and Zimbelman 2016; Maksymov and Nelson 2017) and non-professional investors (Rennekamp 2012; Rennekamp, Rupar, and Seybert 2015).[6]

[6] See Rennekamp (2012) and Farrell et al. (2017) for more information on accessing experimental participants via Amazon Mechanical Turk.

In addition to being a U.S. citizen, and at least 18 years old, Mechanical Turk workers had to pass several screening questions to eliminate prospective participants who typically would be eliminated in *voir dire*.[7] Participants who correctly answered 90 percent of the comprehension check questions earned $1.00.[8] As participants spent an average of 41 minutes on the task, the average hourly wage of $1.46 is above the average Mechanical Turk reservation wage of $1.38 (Horton and Chilton 2010). Per the participants' self-reports, participants (35 percent male) are, on average, 37 years old, educated (89 percent have attended some college), and employed, with an average annual income of $55,246 (only 6 percent indicated that they are currently unemployed).

Experimental Task

The experimental task is based on Kadous' (2000, 2001) Big Time Gravel case, where the auditors of a gravel company are sued by a lender due to its reliance on financial statements that contained a material intentional overstatement of inventory, and Reffett's (2010) adaptation of the case, where the misstatement was changed to an understatement of an environmental restoration liability. To emulate efforts that courts take to educate jurors, the case begins with information and related comprehension check questions on important concepts such as financial reporting, material misstatements, reasonable assurance, auditor negligence, CAMs (not in *Control*), and due professional care. Participants then read about a public accounting firm's (Jones & Company) audit of Big Time Gravel's financial statements, and a Securities and Exchange Commission (SEC) allegation that the audited financial statements contained either a material overstatement of inventory or a material understatement of the environmental restoration liability. While the case portrays the misstatement as having been intentionally made by Big Time Gravel's management, the case does not indicate that the auditors colluded with management.

Participants then read a transcript from a lawsuit where a lender (Bierhoff, Inc.) is suing Jones & Company for damages associated with an unpaid $10 million loan to Big Time Gravel. Bierhoff claims that it relied on Big Time Gravel's audited financial statements when deciding whether to make the loan to Big Time Gravel, and that Jones & Company was negligent in not detecting the material fraudulent misstatement. The transcript includes opening and closing statements by the plaintiff and defense, testimony of expert witnesses for both the plaintiff and defense, and juror instructions. Participants make several auditor liability judgments (see below), and then answer additional questions including foreseeability judgments and affective reactions. The case concludes with demographic questions.

Independent Variables

The first independent variable, *CAM*, is manipulated at four levels: (1) the current reporting model, where CAMs are not disclosed in the audit report (*Control*); (2) the audit report discloses a CAM that relates to the undetected misstatement (*Related*); (3) the audit report discloses a CAM that does not relate to the undetected misstatement (*Unrelated*); and (4) the requirement for auditors to disclose CAMs, if they exist, is noted in the audit report, but the auditors explicitly state that there were no CAMs (*None*) (see Appendix A for manipulations).[9]

The second independent variable (*Misstatement*) is the type of the undetected material misstatement manipulated at two levels: (1) an overstatement of inventory (*Inventory*); and (2) an understatement of environmental restoration liability (*Restoration Liability*). Importantly, our chosen misstatements have previously been used within the confines of the same case (i.e., Big Time Gravel), allowing us to hold other case facts as constant as possible, and relate to estimates, an area of particular concern for audit regulators (PCAOB 2007). The two manipulations create a match-mismatch design (cf. Solomon, Shields,

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[7] Prospective participants were not allowed to participate if they had previously (1) served on a jury regarding a financial crime; (2) worked for a bank or other lending institution (i.e., the plaintiff's industry); (3) worked as an accountant, auditor, or lawyer; (4) worked for the Environmental Protection Agency (i.e., related to the environmental restoration liability misstatement); or (5) worked for a mining/gravel company (i.e., the audit client's industry).

[8] Downs, Holbrook, Sheng, and Cranor (2010) stress the need for screening questions to disqualify Mechanical Turk respondents who quickly complete tasks for compensation, compromising data quality. Of our 528 participants, 60 (11.4 percent) failed to correctly answer at least 90 percent of the comprehension check questions and, therefore, were not compensated. Inferences from our results are unaffected when these responses are excluded. In addition to our 528 participants, we received 24 responses where the respondent did not meet the 90 percent threshold and also spent less than ten minutes on the task. We did not include these responses in our sample as it is obvious that these respondents did not diligently complete nor understand the task.

[9] Under the PCAOB proposal, auditors would have the option to disclose the procedures that they performed in response to the CAM. Our intuition in including procedures in our manipulation was to give the CAM the best shot of not increasing auditor liability, particularly since the auditors' procedures are of relatively high quality (e.g., use of an independent specialist). However, Backof et al. (2015) find that although, consistent with our intuition, the inclusion of procedures reduces liability judgments when reasonable assurance is clarified, the inclusion of procedures can lead to elevated liability when reasonable assurance is not clarified. We believe reasonable assurance would likely be clarified for jurors by defense attorneys and courts in most legal settings, and we educate participants on reasonable assurance and employ comprehension check questions to verify participant understanding. Nonetheless, more research is needed on how the wording, format, and content of CAMs affect liability judgments.

and Whittington 1999; Hammersley 2006). That is, within *Related,* the undetected material misstatement and related CAM could be either inventory or restoration liability, and within *Unrelated,* if the undetected material misstatement is inventory (restoration liability), the unrelated CAM is restoration liability (inventory). The match-mismatch design allows us to examine whether jurors' responses to CAMs depend on the type of undetected misstatement.

We examine misstatement type because it is possible that the extent to which disclosed CAMs increase foreseeability might vary across misstatement type, particularly across misstatements that vary in perceived foreseeability in the absence of a CAM disclosure. That is, jurors might perceive some misstatement types, regardless of CAM disclosure, to be more foreseeable than others, thereby reducing the possible effect of CAM disclosure on perceived foreseeability. Further, different misstatements could vary in other regards that potentially interact with CAM disclosure.

Dependent Variables

After reading the court transcript and the jury instructions, participants indicate whether they believe the auditors were negligent (*Verdicts*). Consistent with prior research (Reffett 2010; Reffett et al. 2012; Kadous and Mercer 2012), this dichotomous measure serves as the primary measure of auditor liability. To examine the robustness of the dichotomous measure, participants also report the likelihood of auditor negligence using a 0–100 scale anchoring on "Certainly Not Negligent" = 0 and "Certainly Negligent" = 100 (*Negligence*). If participants indicated a negligent verdict, then they are asked to award the plaintiff some portion of their $10M loss based on the principle of proportionate liability (*Compensatory Damages*).[10]

After reporting liability measures, participants make several other assessments. To measure *Foreseeability,* participants report the extent to which they agree with the statement, "Bierhoff should have expected problems with inventory (or the liability for land restoration, depending on experimental condition)" with anchors of "Completely disagree" = 0 and "Completely agree" = 100. Participants also report the valence and strength of their emotional reactions to the auditors on a 0–100 scale with anchors of "Very strong negative feelings" = 0; "No feelings" = 50; "Very strong positive feelings" = 100 (*Affect*).

IV. RESULTS

Manipulation Checks

To demonstrate the effectiveness of the *CAM* manipulation, it is important to show that participants (1) could identify the nature of any identified CAMs or that the auditors explicitly stated that there were no CAMs, and (2) understood that the audit report was still unqualified despite the presence of a reported CAM. For the nature of the CAM, 121 out of 132 participants (91.7 percent) within *None* correctly identified that the auditors did not report any CAMs. Within *Related* and *Unrelated,* 246 out of 263 participants (93.5 percent) correctly identified that either inventory or restoration liability was reported as a CAM. For *Misstatement,* 510 out of 528 participants (96.6 percent) correctly indicated that either inventory was overstated or the environmental restoration liability was understated. For the audit opinion, 517 out of 528 participants (97.9 percent) recognized that the audit report was unqualified. These high pass rates indicate successful manipulations. Eliminating participants who missed at least one manipulation check question does not change the inferences from the results.

Testing of Hypotheses and Research Questions

Related CAMs (H1 and H2)

Table 1 presents descriptive statistics (Panel A), a general linear model with a logit link (Panel B), and planned comparisons (Panel C) for participants' auditor negligence verdicts (*Verdicts*). H1 predicts that jurors will be less likely to find the auditors negligent when the audit report discloses a related CAM relative to the current reporting model where CAMs are not discussed in the audit report. Supporting H1, the rate of negligent verdicts is significantly lower when a related CAM is disclosed (*Related* = 32.1 percent) relative to the current reporting model (*Control* = 42.1 percent; $\chi^2 = 2.87$; df = 1; $p_{one\text{-}tailed} = 0.045$). However, the effects of disclosing related CAMs depend on misstatement type, as we observe a significant decrease in

[10] Participants also indicate whether they believe the auditors were grossly negligent (i.e., extreme, reckless disregard of auditing standards; *Gross Negligence*) and whether they believe that the auditors issued a fraudulent audit report (i.e., had knowledge of the material misstatement, but issued an unqualified opinion; *Auditor Fraud*). If participants believe that the auditors were either grossly negligent or committed fraud, then they can award up to an additional $10M in *Punitive Damages*. As Lowe, Reckers, and Whitecotton (2002) find that jurors consider different factors (e.g., ability to pay) when assessing damages and assessments of gross negligence and auditor fraud has not been extensively examined in the literature, these additional measures are analyzed in supplemental analyses.

TABLE 1
Auditor Negligence Verdicts

Panel A: Descriptive Statistics for Verdicts

		CAM			
Misstatement		***Control***	***Related***	***Unrelated***	***None***
Inventory	Proportion	27/68	14/61	20/62	31/66
	Percent	39.7%	23.0%	32.3%	47.0%
Restoration	Proportion	29/65	29/73	27/67	35/66
Liability	Percent	44.6%	39.7%	40.3%	53.0%
Total	Proportion	56/133	43/134	47/129	66/132
	Percent	42.1%	32.1%	36.4%	50.0%

Panel B: General Linear Model (Logit Link, Binomial Distribution) for Verdicts

Source	**df**	**Chi-square**	**p**
CAM	3	10.88	0.012
Misstatement	1	4.74	0.029
CAM × *Misstatement*	3	1.56	0.668

Panel C: Planned Comparisons for Verdicts[a]

		Misstatement	**Contrast Value**	**Chi-square**	**p**
H1	*Control vs. Related*	Total	−10.0%	2.87	0.045
		Inventory	−16.8%	4.16	0.021
		Restoration Liability	−4.9%	0.34	0.281
H2	*None vs. Related*	Total	−17.9%	8.82	0.002
		Inventory	−24.0%	7.99	0.003
		Restoration Liability	−13.3%	2.47	0.058
RQ1a	*Control vs. Unrelated*	Total	−5.7%	0.88	0.347
		Inventory	−7.4%	0.78	0.377
		Restoration Liability	−4.3%	0.25	0.616
RQ1b	*None vs. Unrelated*	Total	−13.6%	4.89	0.027
		Inventory	−14.7%	2.89	0.089
		Restoration Liability	−12.7%	2.17	0.141

[a] The p-values for hypotheses are one-tailed; p-values for research questions are two-tailed. All Chi-square statistics have one degree of freedom.

Variable Definitions:
Verdicts = number of participants finding the auditor negligent;
Misstatement = type of undetected material misstatement manipulated between participants at two levels;
Inventory = the undetected misstatement is a material overstatement of inventory;
Restoration Liability = the undetected misstatement is a material understatement of environmental restoration liability;
CAM = disclosure of critical audit matter in the audit report manipulated between participants at four levels;
Control = current reporting model where CAMs are not disclosed in audit report;
Related = disclosed CAM is related to the undetected misstatement;
Unrelated = disclosed CAM is unrelated to the undetected misstatement; and
None = the auditor report states that there were no CAMs.

negligent verdicts within *Inventory* (*Related* = 23.0 percent; *Control* = 39.7 percent; $\chi^2 = 4.16$; df = 1; $p_{one\text{-}tailed} = 0.021$), but not within *Restoration Liability* (*Related* = 39.7 percent; *Control* = 44.6 percent; $\chi^2 = 0.34$; df = 1; $p_{one\text{-}tailed} = 0.281$). We further investigate this difference across misstatement types in supplemental analyses.

H2 predicts that jurors will be less likely to find the auditors negligent when the audit report discloses a related CAM relative to when the audit report explicitly states that there were no CAMs. Supporting H2, in Table 1, the rate of negligent verdicts is significantly lower when the audit report discloses a related CAM relative to when it states that there were no CAMs

(*Related* = 32.1 percent; *None* = 50.0 percent; $\chi^2 = 8.82$; df = 1; $p_{one\text{-}tailed} = 0.002$). This contrast is significant for both types of *Misstatement* (see Table 1, Panel C).[11]

Unrelated CAMs (RQ1a and RQ1b)

RQ1a examines whether disclosing a CAM that is unrelated to the misstatement influences jurors' auditor liability judgments, relative to when the audit report is silent with respect to CAMs. In Table 1, we do not observe significant differences between *Control* and *Unrelated* (*Control* = 42.1 percent; *Unrelated* = 36.4 percent; $\chi^2 = 0.88$; df = 1; $p_{two\text{-}tailed} = 0.347$). In other words, auditors are neither punished nor rewarded, relative to the current reporting model, for disclosing an unrelated CAM. RQ1b examines whether disclosing an unrelated CAM influences jurors' auditor liability judgments, relative to when the auditors explicitly state that there were no CAMs. Results indicate that it is better, from a litigation perspective, to disclose an unrelated CAM than to disclose that there were no CAMs (*Unrelated* = 36.4 percent; *None* = 50.0 percent; $\chi^2 = 4.89$; df = 1; $p_{two\text{-}tailed} = 0.027$).[12]

Cumulatively, we find no evidence across two misstatement types that disclosing CAMs that are either related or unrelated to an undetected misstatement will increase jurors' auditor liability judgments and, in certain circumstances, find that disclosing related or unrelated CAMs can reduce such assessments. Further, our findings that disclosure of any CAM (i.e., related or unrelated) provides litigation protection relative to stating that there were no CAMs indicates that auditors might have legal incentives to expand CAM disclosures in unwarranted areas. Thus, as discussed in the introduction, the CAM requirement could result in auditors frequently disclosing unwarranted, boilerplate CAMs, thereby diluting the impact of more warranted CAM disclosures.

Supplemental Analyses

Path Analysis—Related CAMs

We employ path analyses to support our theoretical development that CAMs will increase jurors' *ex post* perceptions of the foreseeability of a related misstatement to the plaintiff, which will reduce jurors' negative affect and ultimately reduce their auditor liability judgments. Before doing so, we first examine levels of *Foreseeability* across experimental conditions (see Figure 2). Collapsing across *Misstatement, Foreseeability* is significantly higher in *Related* than in all other conditions (53.75 versus 39.88, $t_{526} = 5.168$, $p < 0.001$). When the data are split by misstatement type, *Foreseeability* is significantly higher in *Related* than all other conditions for *Inventory,* but not for *Restoration Liability.* Thus, when the data are split by misstatement type, a clear difference emerges, as within *Control* (i.e., when the audit report is silent with respect to CAMs), the foreseeability of the restoration liability misstatement is significantly higher than the foreseeability of the inventory misstatement (50.45 versus 28.57, $t_{131} = 4.83$, $p < 0.001$). This pattern indicates a potential *post hoc* explanation for the partial support of H1. Specifically, the relatively high foreseeability of the restoration liability misstatement likely inhibited the ability of a related CAM to further increase perceptions of foreseeability (within *Restoration Liability, Related* [M = 55.62] is not significantly greater than *Control* [M = 50.45, $t_{136} = 1.116$, $p = 0.266$]). We provide statistical support for this *post hoc* explanation using path analysis.[13]

Path Analysis—Related CAMs

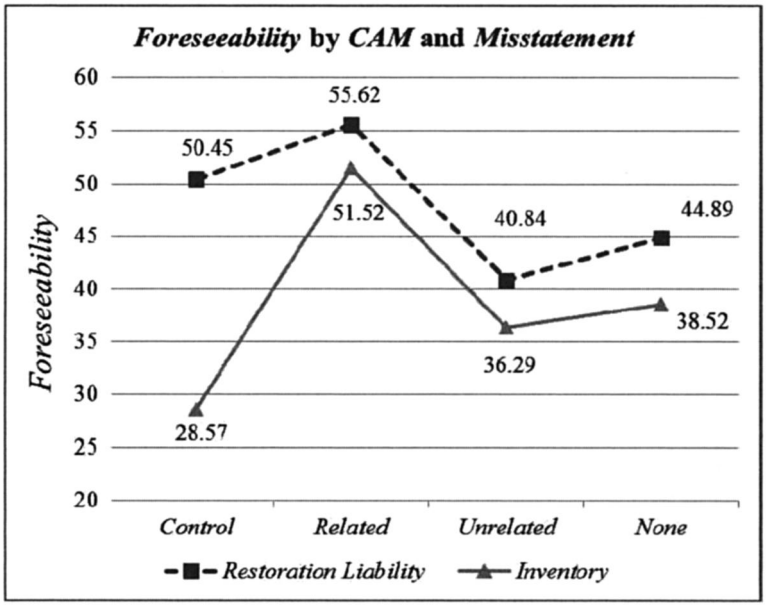
For the *Related* versus *Control* path model (H1; Figure 3, Panel A), as predicted, we find that *Related* significantly increases *Foreseeability* (standardized coefficient 0.256, $p < 0.001$), *Foreseeability* is positively related to *Affect* (i.e., greater foreseeability results in less negative affect toward the auditors) (standardized coefficient 0.195, $p < 0.001$), and *Affect* is negatively related to *Verdict* (standardized coefficient −0.484, $p < 0.001$). Additionally, the model demonstrates excellent fit

[11] The rate of "negligent" *Verdicts* is not significantly different between *Control* (42.1 percent) and *None* (50.0 percent; $\chi^2 = 1.66$; df = 1; $p_{two\text{-}tailed} = 0.197$). However, within *Restoration Liability,* participants experience more negative affective reactions within *None* ($p < 0.01$). These tests suggest that relative to the current regime, stating that there were no CAMs has limited, if any, benefits in terms of reducing jurors' auditor liability judgments, and potentially could be harmful for certain accounts by amplifying negative affective reactions. These results support the more pertinent comparisons of stating there were no CAMS to disclosure of related (H2) or unrelated (RQ1b) CAMs.

[12] While the results of our hypothesis and research question tests suggest that we might observe a significant difference between *Related* and *Unrelated,* the differences between these conditions are not statistically significant.

[13] Although we are able to use path analysis to examine whether differences in foreseeability across the two misstatements explains the observed partial support of H1, we are not able to empirically isolate the reason(s) why the restoration liability is considered to be more foreseeable due to multiple differences between the two misstatements. Two of the more intuitive potential explanations are the higher degree of complexity and lower degree of management deception in the restoration liability misstatement. Jurors could perceive that misstatements are more foreseeable to plaintiffs for accounts that require relatively complex accounting (e.g., restoration liability) than accounts requiring less complex accounting (e.g., inventory). Our inventory case also involved a high degree of deception as management actively colluded with an external specialist. Therefore, jurors could have perceived the misstatement as less foreseeable to plaintiffs, as it would be unreasonable to expect that management is going to engage in such a high level of deception. However, there are other differences between the misstatements (e.g., assets versus liabilities, overstatement versus understatement) that potentially could explain the differences in foreseeability.

FIGURE 2
Graphical Representation of Foreseeability



Variable Definitions:
Foreseeability = 0 (Completely Disagree) to 100 (Completely Agree) with the following statement: "[Plaintiff] should have expected problems with [misstated area]";
Misstatement = type of undetected material misstatement manipulated between participants at two levels;
Inventory = the undetected misstatement is a material overstatement of inventory;
Restoration Liability = the undetected misstatement is a material understatement of environmental restoration liability;
CAM = disclosure of critical audit matter in the audit report manipulated between participants at four levels;
Control = current reporting model where CAMs are not disclosed in audit report;
Related = disclosed CAM is related to the undetected misstatement;
Unrelated = disclosed CAM is unrelated to the undetected misstatement; and
None = the auditor report states that there were no CAMs.

($\chi^2 = 0.584$, df = 2, $p_{two\text{-}tailed} = 0.747$, CFI > 0.999, and RMSEA < 0.001).[14] Inferences are identical after controlling for the effects of *Misstatement* type on all four dependent variables in the model (Figure 3, Panel B). Although this evidence indicates that disclosing a CAM that is related to a subsequently revealed misstatement reduces jurors' auditor liability judgments in a manner that is consistent with our theoretical development, our next supplemental analysis further examines the differences across misstatement type.[15]

Path Analysis—Testing for Invariance across Misstatement Type

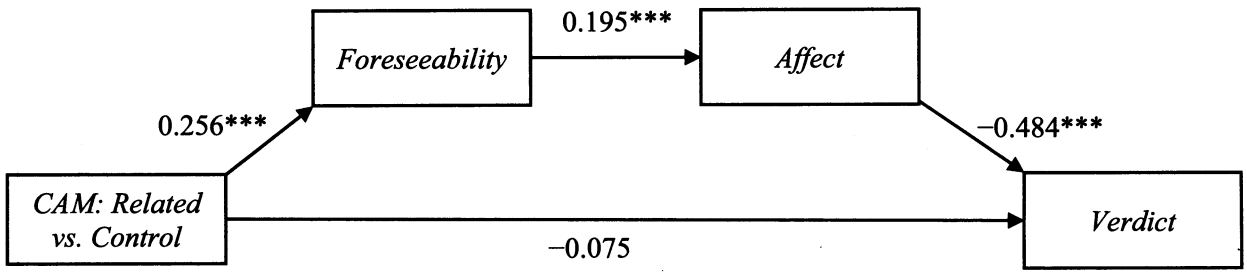
As previously noted, we observe statistically significant differences in the foreseeability of the two misstatement types in the *Control* condition, which could account for the differences observed in our main analysis. To investigate, we test our H1 path

[14] To indicate a model with good fit, the Chi-squared statistic should have a p-value above 0.05; the comparative fit index (CFI) should have a value greater than 0.90, and preferably over 0.95; and the root mean square error of approximation (RMSEA) should be below 0.10, and preferably under 0.08 (Byrne 2010).

[15] We also estimated the path model for *Related* and *None* (H2; not tabulated). The model fits well ($\chi^2 = 5.428$, df = 2, $p_{two\text{-}tailed} = 0.066$, CFI = 0.967, and RMSEA = 0.080). The significance of the links is qualitatively similar to those reported in Figure 3 with one exception. The link between *CAM* and *Verdict* is significant (p = 0.026), indicating that our theoretical development does not completely explain the reduction in liability judgments when comparing *Related* and *None*. To further investigate, we compared *Related* and *None* across several process-related measures (that are not reported or examined elsewhere). We find that, relative to *Related*, participants in *None* were significantly (1) less likely to believe that the auditors' decisions were appropriate, (2) more likely to believe that other auditors would have detected the misstatement, and (3) more likely to believe that the auditors should have detected the misstatement. These results further illustrate the negative view that jurors have of auditors explicitly stating that there were no CAMs in the event of a subsequently revealed undetected misstatement.

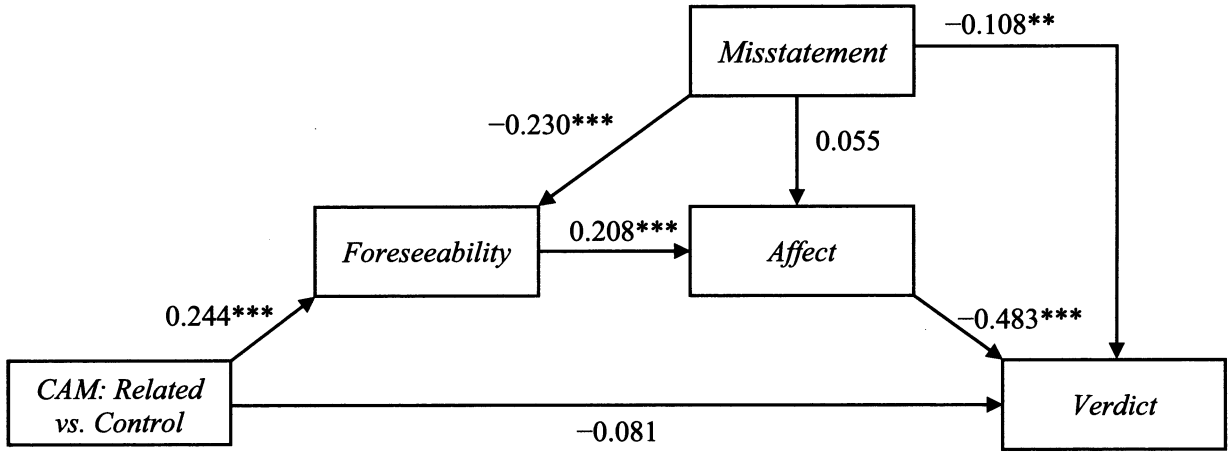
FIGURE 3
Path Analysis—Related CAMs

Panel A: *Related* versus *Control*



$\chi^2 = 0.584$, df = 2, $p_{two\text{-}tailed} = 0.747$
CFI > 0.999
RMSEA < 0.001

Panel B: *Related* versus *Control* (Controlling for Misstatement Type)

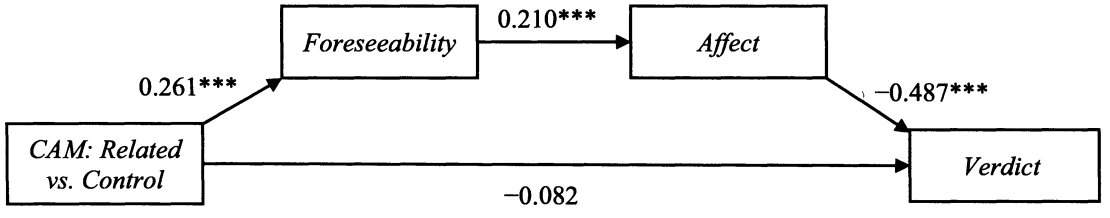


$\chi^2 = 0.933$, df = 3, $p_{two\text{-}tailed} = 0.817$
CFI > 0.999
RMSEA < 0.001

***, ** Denote $p_{two\text{-}tailed} \leq 0.01$ and $p_{two\text{-}tailed} \leq 0.05$, respectively.
CAM = *Related CAM* (+) or *Control* (−).
Foreseeability = 0 (Completely Disagree) to 100 (Completely Agree) with the statement "[Plaintiff] should have expected problems with [misstated area]".
Affect = 0 (Very Strong Negative Feelings) to 100 (Very Strong Positive Feelings) on the statement "While reading the case and making your judgments, did you experience negative feelings (e.g., anger or disgust) or positive feelings (e.g., sympathy or compassion) toward the auditor in this case?"
Verdicts = Not Negligent (0) or Negligent (1).
Misstatement = *Restoration Liability* (−) or *Inventory* (+).

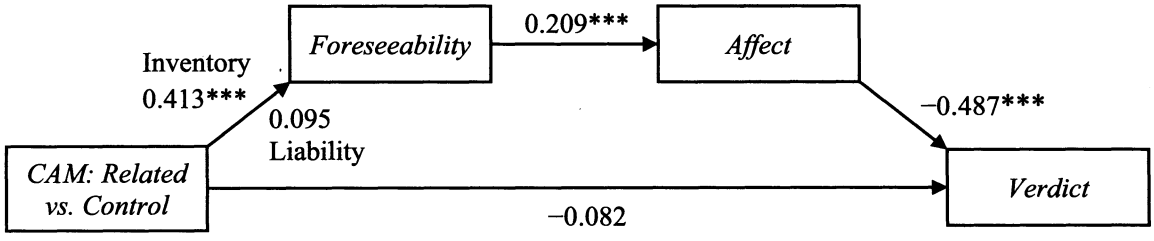
FIGURE 4
Path Analyses
Testing for Invariance between Misstatement Types

Panel A: Link Coefficients Fully Constrained between Misstatement Types



$\chi^2 = 24.197$, df = 8, $p_{two\text{-}tailed} = 0.002$
CFI = 0.861
RMSEA = 0.087

Panel B: Only Link 1 Unconstrained Across Misstatement Types



$\chi^2 = 16.650$, df = 7, $p_{two\text{-}tailed} = 0.020$
CFI = 0.917
RMSEA = 0.072

*** Denotes $p_{two\text{-}tailed} \leq 0.01$.
CAM = *Related CAM* (+) or *Control* (−).
Foreseeability = 0 (Completely Disagree) to 100 (Completely Agree) with the statement "[Plaintiff] should have expected problems with [misstated area]."
Affect = 0 (Very Strong Negative Feelings) to 100 (Very Strong Positive Feelings) on the statement "While reading the case and making your judgments, did you experience negative feelings (e.g., anger or disgust) or positive feelings (e.g., sympathy or compassion) toward the auditor in this case?"
Verdict = Not Negligent (0) or Negligent (1).

analysis for invariance of parameters between misstatement types. Specifically, if *Foreseeability* is driving the differences as we posit, then separately comparing *Related* versus *Control* for each misstatement should produce parameters that are statistically similar and yield the same inferences except for the link between *CAM* and *Foreseeability*. Thus, if our *ex post* explanation is correct, then the link between *CAM* and *Foreseeability* should be insignificant for *Restoration Liability*, but significant for *Inventory*.

To perform the test for invariance of parameters, we follow the guidance of Byrne (2010). The null hypothesis is that the path model's parameters do not vary between misstatement types. To test the null hypothesis, we first compare the fit statistics of a model in which the link coefficients are fully constrained for equality between misstatement types (hereafter, the "fully constrained" model) to a fully unconstrained model in which all link coefficients are allowed to vary between misstatements (hereafter, the "unconstrained" model). If the fit statistics of the fully constrained model are significantly worse than the fit statistics for the unconstrained model, then the implication is that at least one of the link coefficients varies between misstatements. The results for the fully constrained model are depicted in Figure 4, Panel A. All previous inferences hold in the

fully constrained model. However, the fit statistics for the fully constrained model ($\chi^2 = 24.197$, df = 8, $p_{two\text{-}tailed} = 0.002$, CFI = 0.861, RMSEA = 0.087) are worse than the fit statistics for the unconstrained model ($\chi^2 = 11.228$, df = 4, $p_{two\text{-}tailed} = 0.024$, CFI = 0.936, RMSEA = 0.083), and the difference is statistically significant (χ^2 difference = 12.969, df = 4, $p_{two\text{-}tailed} = 0.011$). These results indicate that at least one link coefficient differs significantly between misstatement types.

The next step is to identify the link coefficients that differ between misstatements. The largest difference between standardized coefficients estimated for each misstatement type in the unconstrained model occurs in Link 4 between *CAM* and *Verdict*. However, removing the equality constraint on this link does not significantly improve the model fit (χ^2 difference = 0.303, df = 1, $p_{two\text{-}tailed} = 0.582$) and, therefore, we retain this equality constraint. The next-largest coefficient difference occurs in Link 1 between *CAM* and *Foreseeability*. Reestimating the path model, allowing only this link coefficient to vary between misstatement types, yields Figure 4, Panel B. The fit statistics ($\chi^2 = 16.650$, df = 7, $p_{two\text{-}tailed} = 0.020$, CFI = 0.917, RMSEA = 0.072) are significantly better than the fit statistics for the fully constrained model (χ^2 difference = 7.547, df = 1, $p_{two\text{-}tailed} = 0.006$), and the fit of the new model is not statistically different from that of the unconstrained model (χ^2 difference = 5.422, df = 3, $p_{two\text{-}tailed} = 0.1434$), indicating that no other coefficients vary between misstatement types. This is confirmed by relaxing the remaining equality constraints (Links 2 through 4) individually, which does not significantly improve model fit in any case (p-values ranging from 0.065 to 0.582). Taken as a whole, the test for parameter invariance provides strong evidence that the difference across misstatement types in our main analysis is due to the inherently higher perceived foreseeability of the *Restoration Liability* misstatement compared to the *Inventory* misstatement, absent the effects of CAM disclosures.

Testing for Direction of Causality

It is important to note that we measured the study's process-related variables (*Foreseeability* and *Affect*) after measuring participants' auditor liability judgments. As such, it is possible that the measurement of participants' auditor liability judgments influenced their responses to the questions measuring process-related variables. In other words, participants' process measure responses (i.e., foreseeability and affect) could reflect their beliefs as to how the process measures should relate to their liability judgments, rather than reflecting how the process measures actually relate to participants' liability judgments. We performed two procedures to examine this possibility.

First, we ran two models that reverse the order of the process measures and liability judgments. One model is structured such that the first link is from *CAM* to *Verdict*, the second link is from *Verdict* to *Foreseeability*, and the third link is from *Foreseeability* to *Affect*. The other model is structured such that the first link is from *CAM* to *Verdict*, the second link is from *Verdict* to *Affect*, and the third link is from *Affect* to *Foreseeability*. Both models display consistently poor fit statistics ($\chi^2 = 88.747$, df = 3, $p_{two\text{-}tailed} < 0.001$, CFI = 0.120, RMSEA = 0.328; and $\chi^2 = 17.757$, df = 3, $p_{two\text{-}tailed} < 0.001$, CFI = 0.849, RMSEA = 0.136, respectively), and neither model yields a completely significant path. These two path analyses provide evidence that the relationships between the reported process and dependent measures are inconsistent with the order of elicitation.

Second, we re-performed the path analysis with two subsamples of our participants. The first path analysis only includes participants who indicated that the auditors were negligent, and the second path analysis only includes participants who indicated that the auditors were not negligent.[16] Both analyses result in acceptable goodness of fit statistics and provide results that are inferentially the same, as all links are statistically significant ($p_{one\text{-}tailed} < 0.10$). The consistency of the model results when separating participants based on their liability judgments indicates that participants' liability judgments either did not significantly affect their responses to the subsequent questions measuring process-related variables, or if such effects occurred, did not significantly vary across verdicts. Collectively, these results give us confidence that the reported results are not artifacts of the measurement order of our dependent and process measures and, thus, that the relationships between the reported process and dependent measures are consistent with our theoretical development.

Counterfactual Thinking

To examine the possibility that disclosing a related or unrelated CAM could elevate auditor liability by making it easier for jurors to think of alternative ways in which the auditors could have detected the misstatement, we employ Reffett's (2010) measures of counterfactual thinking frequency and strength. We do not observe any significant differences in these measures using any of the contrasts employed in the hypothesis/research question testing at either level of, or collapsed across,

[16] Given that we separately examined participants who did, versus did not, find the auditors negligent, a link to participants' negligence verdicts was not included in the model for this supplemental analysis. That is, the model used for this supplemental analysis only included a link between *CAM* and *Foreseeability*, and a link between *Foreseeability* and *Affect*.

Misstatement (all $p_{two\text{-}tailed} > 0.10$). Thus, in our experimental setting, as expected, the presence or absence of a CAM did not impact jurors' counterfactual thoughts. Furthermore, adding counterfactual thinking into the Figure 3 path model with a link from affect to counterfactual thinking and then a link from counterfactual thinking to negligence does not change the results of the path analysis (not tabulated). Specifically, the previously significant links are still significant, the added links are significant at $p < 0.01$ (i.e., the reduced negative affect significantly reduces counterfactual thinking, which reduces negligence), and the model exhibits excellent fit. It is important to note that the frequency and intensity of participants' counterfactual thoughts were both positively associated with participants' auditor negligence verdicts ($p < 0.001$). Thus, results indicate that while, as in prior research (Reffett 2010), counterfactual thinking impacts auditor liability judgments, the presence of disclosed CAMs does not impact the frequency or intensity of jurors' counterfactual thoughts.

Alternative Liability Measures

As described in Section III, we collected several other measures of auditor liability, including participants' assessments on a continuous measure of auditor negligence (*Negligence*), whether they believe the auditors were grossly negligent (*Gross Negligence*) or issued a fraudulent audit report (*Auditor Fraud*), and estimates of the amount of compensatory and punitive damages that should be awarded to the plaintiff. Results for H1 (i.e., disclosing a related CAM versus the current reporting model) are very similar to those using *Verdicts,* as we observe reductions in liability for *Inventory,* but not *Restoration Liability,* for the majority of these measures. One exception is that we do not observe significant reductions in either compensatory or punitive damages (all $p_{one\text{-}tailed} > 0.10$), consistent with the prior finding that jurors consider different factors when assessing damages (Kadous 2000; Lowe et al. 2002). Similar to *Verdicts,* results support H2 (i.e., disclosing a related CAM reduces liability relative to stating that there were no CAMs) using the continuous measure of negligence within *Inventory* and when collapsing across *Misstatement* (both $p_{one\text{-}tailed} < 0.01$), but not when using any other liability measure (all $p_{one\text{-}tailed} > 0.10$). However, a floor effect is possible, as the rates of gross negligence and fraud verdicts within *None* are very low (i.e., < 20 percent).

For RQ1a, similar to *Verdicts,* we find that disclosing an unrelated CAM does not affect liability judgments, relative to the current reporting model, with one exception. Specifically, jurors award significantly lower punitive damages when auditors disclose an unrelated CAM (*Control* = \$5.97M; *Unrelated* = \$4.59M; $t_{66} = 2.00$; $p_{two\text{-}tailed} = 0.050$). A *post hoc* explanation is that jurors are less likely to monetarily punish auditors when they made an effort to comply with auditing standards by disclosing a CAM, even though it was unrelated to the undetected misstatement. For RQ1b (i.e., unrelated CAM versus stating there were no CAMs), we observe that disclosing an unrelated CAM not only reduces perceived negligence, but also reduces compensatory damages (*None* = \$3.61M; *Unrelated* = \$2.78M; $t_{259} = 2.04$; $p_{two\text{-}tailed} = 0.042$). This result provides further evidence that in the event of an auditor negligence lawsuit, it is advantageous for auditors to have disclosed an unrelated CAM versus having stated that there were no CAMs.

V. CONCLUSION

Contrary to concerns expressed by audit practitioners (EY 2013; Gaetano 2014), academics (Bedard et al. 2015) and attorneys (Barnes 2013; Katz 2014), this study provides theory and empirical evidence that disclosing CAMs can, under certain conditions, reduce, rather than elevate, jurors' auditor liability judgments by increasing juror perceptions of the foreseeability of misstatements to plaintiffs. However, we also find that the effect of CAMs on jurors' auditor liability judgments varies by misstatement type. Specifically, CAM disclosure appears to be particularly important for misstatements that, absent CAM disclosure, are relatively less foreseeable to plaintiffs when client-specific circumstances pose idiosyncratic audit challenges. Finally, we find that disclosure of any CAM (i.e., related or unrelated) provides litigation protection relative to stating there were no CAMs. Thus, auditors might have legal incentives to expand CAM disclosures in unwarranted areas, thereby undermining the intent of the proposed standard by diluting the impact of more appropriate CAM disclosures.

Results of our study are consistent with several contemporaneous experimental studies (Backof et al. 2015; Brown et al. 2015; Kachelmeier et al. 2015; Gimbar et al. 2016) that also find that disclosing a related CAM will either reduce or not affect litigation exposure unless the definition of reasonable assurance is not clarified (Backof et al. 2015) or the misstatement relates to violation of a bright-line accounting standard (Gimbar et al. 2016). Regulators should have a relatively high degree of comfort in the generalizability of these findings as the experiments differ in several important regards (see footnote 3 for discussion of our contribution relative to the contemporaneous studies). First, the experimental case used for Brown et al. (2015), similar to the case used in our study, examines a clearly intentional (i.e., fraudulent) misstatement of a mining company's environmental restoration liability, whereas the experimental cases used in Backof et al. (2015), Gimbar et al. (2016), and Kachelmeier et al. (2015) examine alleged misstatements that are not portrayed as necessarily intentional. In fact, with respect to the case used for Backof et al. (2015), and in some conditions of the case used for Gimbar et al. (2016), it is not certain that the financial statements in question truly were materially misstated. Further, the studies utilize different participant

groups. Specifically, Gimbar et al. (2016) and Backof et al. (2015) utilized undergraduate student participants, Kachelmeier et al. (2015) utilized M.B.A. student participants, and Brown et al. (2015) utilized law student participants and participants solicited from Amazon Mechanical Turk (similar to our study). Consequently, the consistent pattern of results suggests that the results are not due to a particular setting, underlying cause of misstatement (error versus fraud), or evaluator type.

From a public policy standpoint, however, more research is needed to identify situations where litigation exposure might be elevated by disclosing (or not disclosing) CAMs. For example, if the majority of audit firms within a given industry disclose a CAM related to a certain type of account, then an audit firm that does not disclose a similar CAM may be judged harshly in the event of a subsequent misstatement. As such, not only would litigation exposure be elevated, but audit firms would have incentives to herd to industry norms in CAM disclosure (e.g., Kadous and Mercer 2012). Examining this possibility, other potential unintended consequences (e.g., disclosure of innocuous CAMs) and other potential exceptions to the general conclusion of the five existing studies is necessary to fully understand the effect of CAMs on auditor liability. Further, we do not examine the effect of the CAM disclosure requirement on the probability of plaintiffs filing lawsuits against audit firms. Future research should examine this question.

Our theory and empirical evidence regarding *ex ante* risk disclosure have broader applicability in accounting and beyond. In particular, our study indicates that evaluators do not punish, and sometimes reward, professionals for disclosure of the difficulties encountered while performing their services. For example, audit report disclosure of high fraud risk areas might alleviate the adverse effects of identifying and investigating fraud risks (Reffett 2010, 2013). Further, in a financial reporting context, results of our study suggest that management disclosure of the inherent difficulties of measuring certain transactions, events, and/or circumstances may improve evaluator assessments of management's competence in the event of material misstatements (cf. Skinner 1994).

This study is subject to several limitations, in addition to those normally associated with experimental research. First, in our experimental setting, the auditors only disclosed one CAM, but in practice, auditors potentially could disclose multiple CAMs. The effect of reporting multiple CAMs on jurors' auditor liability judgments, particularly when none of the reported CAMs relate to the undetected misstatement, might differ when there is one versus multiple reported CAMs. Second, we modeled the wording of the CAMs based on the PCAOB (2013) proposal. However, the PCAOB's (2013) proposal is not yet final, and the wording and content of CAMs could affect their efficacy in limiting litigation exposure (cf. Backof et al. 2015), thereby representing a fruitful area for future research. Finally, we do not examine how management might strategically respond to the disclosure of CAMs. For example, Bowlin (2011) finds that management is more likely to commit fraud in areas that the auditor considers low-risk. Thus, disclosure of CAMs might have the unintended consequence of helping management commit fraud by informing them of where not to conceal it. In light of these limitations, we provide robust theory and empirical evidence that, contrary to critics' concerns, disclosing CAMs can, under certain conditions, decrease the probability that jurors will find auditors negligent in cases of alleged audit failure. However, as CAMs represent a substantial change to the audit report, clearly, more research is needed to further examine their effects on auditor liability.

REFERENCES

Alicke, M. D. 2000. Culpable control and the psychology of blame. *Psychological Bulletin* 126 (4): 556–574.

Asare, S., and A. Wright. 2012. Investors', auditors', and lenders' understanding of the message conveyed by the standard audit report on the financial statements. *Accounting Horizons* 26 (2): 193–217.

Backof, A. 2015. The impact of audit evidence documentation on jurors' negligence verdicts and damage awards. *The Accounting Review* 90 (6): 2177–2204.

Backof, A., K. Bowlin, and B. Goodson. 2015. *The Impact of Proposed Changes to the Content of the Audit Report on Jurors' Assessments of Auditor Negligence*. Working paper, University of Virginia and The University of Mississippi.

Barnes, D. A. 2013. *PCAOB Proposes New Standards For Auditor Reporting*. Available at: http://www.morganlewis.com/pubs/pcaob-proposes-new-standards-for-auditor-reporting

Bedard, J., N. Gonthier-Besacier, and A. Schatt. 2015. *Costs and Benefits of Reporting Key Audit Matters in the Audit Report: The French Experience*. Working paper, Université Laval.

Bowlin, K. 2011. Risk-based auditing, strategic prompts, and auditor sensitivity to the strategic risk of fraud. *The Accounting Review* 86 (4): 1231–1253.

Brown, T., T. Majors, and M. Peecher. 2015. *The Influence of Evaluator Expertise, a Judgment Rule, and Critical Audit Matters on Assessments of Auditor Liability*. Working paper, University of Illinois.

Buhrmester, M., T. Kwang, and S. D. Gosling. 2011. Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science* 6 (1): 3–5.

Byrne, B. M. 2010. *Structural Equation Modeling with AMOS: Basic Concepts, Applications, and Programming*. Second Edition, edited by Harlow, L. New York, NY: Routledge.

Carcello, J. 2012. What do investors want from the standard audit report? *CPA Journal* 82 (1): 22–28.

Downs, J. S., M. B. Holbrook, S. Sheng, and L. F. Cranor. 2010. Are your participants gaming the system? Screening Mechanical Turk workers. In *Proceedings of the 28th International Conference on Human Factors in Computing Systems*, 2399–2402. New York, NY: ACM.

Doxey, M. 2015. *The Effects of Auditor Disclosures Regarding Management Estimates on Financial Statement Users' Perceptions and Investments*. Working paper, The University of Alabama.

Earley, C., V. Hoffman, and J. Joe. 2008. Reducing management's influence on auditors' judgments: An experimental investigation of SOX 404 assessments. *The Accounting Review* 83: 1461–1485.

Ernst & Young LLP (EY). 2013. *Comment Letter in Response to Proposed Auditing Standards on the Auditor's Report and the Auditor's Responsibilities Regarding Other Information and Related Amendments*. PCAOB Rulemaking Docket Matter No. 034. New York, NY: Ernst & Young LLP. Available at: http://pcaobus.org/Rules/Rulemaking/Docket034/228b_EY.pdf

Ernst & Young LLP (EY). 2014. *Point of View: Auditor Reporting*. Available at: http://www.ey.com/Publication/vwLUAssets/EY-Point-of-view-auditor-reporting-February-2014/$FILE/EY-Point-of-view-auditor-reporting-February-2014.pdf

European Commission (EC). 2012. *Proposal for a Regulation of the European Parliament and of the Council on Specific Requirements Regarding Statutory Audit of Public-Interest Entities*. Brussels, Belgium, European Commission.

Farrell, A. M., J. H. Grenier, and J. Leiby. 2017. Scoundrels or stars? Theory and evidence on the quality of workers in online labor markets. *The Accounting Review* (forthcoming).

Financial Reporting Council (FRC). 2013. *Consultation Paper: Revision to ISA (UK and Ireland) 700—Requiring the Auditor's Report to Address Risks of Material Misstatement, Materiality and a Summary of the Audit Scope*. London, England: Financial Reporting Council.

Gaetano, C. 2014. PCAOB's expanded audit report proposal raises litigation concerns. *Trusted Professional: Newspaper of the New York State Society of Certified Public Accountants* 17 (5): 1.

Gimbar, C., B. Hansen, and M. E. Ozlanski. 2016. The effects of critical audit matter paragraphs and accounting standard precision on auditor liability: Can anything the auditors say be used against them? *The Accounting Review* (forthcoming).

Grenier, J. H., B. Pomeroy, and M. Stern. 2015. The effects of accounting standard precision, auditor task expertise, and judgment frameworks on audit firm litigation exposure. *Contemporary Accounting Research* 32 (1): 336–357.

Grenier, J. H., D. Lowe, A. Reffett, and R. Warne. 2015. The effects of expert panel recommendations on juror judgments of auditor negligence. *Auditing: A Journal of Practice & Theory* 34 (4): 157–170.

Hammersley, J. S. 2006. Pattern identification and industry-specialist auditors. *The Accounting Review* 81 (2): 309–336.

Horton, J., and L. Chilton. 2010. The labor economics of paid crowdsourcing. In *Proceedings of the 11th ACM Conference on Electronic Commerce*, 209–218. Available at: http://dl.acm.org/citation.cfm?id=1807376

Horton, J. J., D. G. Rand, and R. J. Zeckhauser. 2011. The online laboratory: Conducting experiments in a real labor market. *Experimental Economics* 14 (3): 399–425.

International Auditing and Assurance Standards Board (IAASB). 2012. *Improving the Auditor's Report: Invitation to Comment*. New York, NY: International Federation of Accountants.

Kachelmeier, S., J. J. Schmidt, and K. Valentine. 2015. *The Effects of Disclosing Critical Audit Matters in the Auditor's Report on Perceived Audit Responsibility for Misstatements*. Working paper, The University of Texas.

Kadous, K. 2000. The effects of audit quality and consequence severity on juror evaluations of auditor responsibility for plaintiff losses. *The Accounting Review* 75 (3): 327–341.

Kadous, K. 2001. Improving jurors' evaluations of auditors in negligence cases. *Contemporary Accounting Research* 18 (3): 425–444.

Kadous, K., and M. Mercer. 2012. Can reporting norms create a safe harbor? Jury verdicts against auditors under precise and imprecise accounting standards. *The Accounting Review* 87 (2): 565–587.

Kadous, K., S. J. Kennedy, and M. Peecher. 2003. The effect of quality assessment and directional goal commitment on auditors' acceptance of client-preferred accounting methods. *The Accounting Review* 78 (3): 759–778.

Katz, D. 2014. Revamped audit report seen launching "wave of litigation." *CFO Magazine* (April 2). Available at: http://ww2.cfo.com/auditing/2014/04/revamped-audit-report-seen-launching-wave-litigation/

Kunda, Z. 1990. The case for motivated reasoning. *Psychological Bulletin* 108 (3): 480–498.

Lo, K., and E. Boo. 2012. Do contrasting statements improve users' understanding of different assurance levels conveyed in assurance reports? *International Journal of Auditing* 16: 19–34.

Lowe, D. J., P. M. J. Reckers, and S. M. Whitecotton. 2002. The effects of decision-aid use and reliability on jurors' evaluations of auditor liability. *The Accounting Review* 77 (1): 185–202.

Maksymov, E. M., and M. W. Nelson. 2017. Malleable standards of care required by jurors. *The Accounting Review* (forthcoming).

McEnroe, J., and S. Martens. 2001. Auditors' and investors' perceptions of the "expectations gap." *Accounting Horizons* 15 (4): 345–358.

Mellers, B., A. Schwartz, K. Ho, and I. Ritov. 1997. Decision affect theory: Emotional reactions to the outcomes of risk options. *Psychological Science* 8 (6): 423–429.

Mellers, B., A. Schwartz, and I. Ritov. 1999. Emotion-based choice. *Journal of Experimental Psychology: General* 128: 332–345.
Miller, D. T., and C. McFarland. 1986. Counterfactual thinking and victim compensation. *Personality and Social Psychology Bulletin* 12: 513–519.
Paolacci, G., J. Chandler, and P. G. Ipeirotis. 2010. Running experiments on Amazon Mechanical Turk. *Judgment and Decision Making* 5 (5): 411–419.
Peecher, M. E., A. Reffett, and A. Zimbelman. 2016. *Juror Dysfunction: Can Auditors Reduce the Penalty for Narrowly Failing to Detect Fraud?* Working paper, University of Illinois, Miami University, and University of South Carolina.
Public Company Accounting Oversight Board (PCAOB). 2007. *Proposed Auditing Standards—Observations on Auditors' Implementation of PCAOB Standards Relating to Auditors' Responsibilities with Respect to Fraud.* PCAOB Release No. 2007–001. Available at: http://pcaobus.org/Inspections/Documents/2007_01-22_Release_2007-001.pdf
Public Company Accounting Oversight Board (PCAOB). 2012. *Consideration of Outreach and Research Regarding the Auditor's Approach to Detecting Fraud.* Standing Advisory Group Meeting. (November 15–16). Available at: http://pcaobus.org/news/events/documents/11152012_SAGMeeting/2012_11_15_%20SAG_BP_%20Fraud.pdf
Public Company Accounting Oversight Board (PCAOB). 2013. *Proposed Auditing Standards—The Auditor's Report on an Audit of Financial Statements When the Auditor Expresses an Unqualified Opinion.* PCAOB Release No. 2013-005. Washington, DC: Public Company Accounting Oversight Board.
Reffett, A. 2010. Can identifying and investigating fraud risks increase auditors' liability? *The Accounting Review* 85 (6): 2145–2167.
Reffett, A. 2013. The relative effects of identifying versus investigating fraud risks on evaluators' assessment of auditor liability. *Advances in Accounting Behavioral Research* 16: 23–54.
Reffett, A., B. E. Brewster, and B. Ballou. 2012. Comparing auditor versus non-auditor assessments of auditor liability: An experimental investigation of experts' versus lay evaluators' judgments. *Auditing: A Journal of Practice & Theory* 31 (3): 125–148.
Rennekamp, K. 2012. Processing fluency and investors' reactions to disclosure readability. *Journal of Accounting Research* 50 (5): 1319–1354.
Rennekamp, K., K. Rupar, and N. Seybert. 2015. Impaired judgment: The effects of asset impairment reversibility and cognitive dissonance on future investment. *The Accounting Review* 90 (2): 739–759.
Roese, N. 1997. Counterfactual thinking. *Psychological Bulletin* 121 (1): 133–148.
Shepperd, J., and J. McNulty. 2002. The affective consequences of expected and unexpected outcomes. *Psychological Science* 13 (1): 85–88.
Skinner, D. 1994. Why firms voluntarily disclose bad news. *Journal of Accounting Research* 32 (1): 38–60.
Solomon, I., M. D. Shields, and O. R. Whittington. 1999. What do industry-specialist auditors know? *Journal of Accounting Research* 37 (1): 191–208.
Tysiac, K. 2014. Preparers oppose PCAOB's plan for more auditor disclosures. *Journal of Accountancy* (January 3). Available at: http://www.journalofaccountancy.com/News/20149360.htm
Walster, E. 1966. Assignment of responsibility for an accident. *Journal of Personality and Social Psychology* 3 (1): 73–79.
Wolfe, C., E. Mauldin, and M. Chandler-Diaz. 2009. Concede or deny: Do management persuasion tactics affect auditor evaluation of internal control deviations? *The Accounting Review* 84 (6): 2013–2037.

APPENDIX A
CAMs within Audit Reports

Panel A: None

The standards of the PCAOB require that we communicate in our report critical audit matters relating to the audit of the current period's financial statements or state that we determined that there are no critical audit matters. Critical audit matters are those matters addressed during the audit that (1) involved our most difficult, subjective, or complex judgments; (2) posed the most difficulty to us in obtaining sufficient appropriate evidence; or (3) posed the most difficulty to us in forming our opinion on the financial statements. We determined that there are no critical audit matters.

Panel B: Inventory

We identified Big Time Gravel's inventory balance as a critical audit matter for the year ended 2012 due to the size and nature of the account. The inventory balance, as reported, comprises 53 percent of the Company's total assets. Due to the nature of the inventory (i.e., gravel that is stored in large piles), the balance must be estimated by specialists. The balance in the inventory account as of 2012 represents a point of agreement between the Company's best estimate and the estimate of an independent specialist we hired. This critical audit matter affects "inventory" and "total assets" on the balance sheet and "total

expenses," and "net income" on the income statement for the year ended 2012. The matter also affects inventory and earnings per share disclosures reported in the notes to the financial statements.

Panel C: Environmental Restoration Liability

We identified Big Time Gravel's liability for land restoration as a critical audit matter for the year ended December 31, 2012 due to the difficulty of obtaining sufficient evidence related to the account. The liability recorded is Big Time Gravel's best estimate, based on available evidence, of the total cost to return Big Time Gravel's quarries to an environmentally acceptable state as determined by the Environmental Protection Agency (the "EPA"). EPA determinations and the total costs associated with restoration are difficult to estimate due to the unique nature of each site and the continually evolving standards and regulations governing the determination. Audit evidence is difficult to obtain as the EPA's policy is to not comment on a determination prior to the end of all commercial activities at a site. Big Time Gravel performed an evaluation of the liability for land restoration and determined that no additional expense and liability should be recorded for the year based on environmental factors. We hired an independent specialist who verified Big Time's environmental evaluation. This critical audit matter affects the "liability for land restoration" and "total liabilities" on the balance sheet, and any changes to the estimate would affect "total expenses" and "net income" on the income statement for 2012. The matter also affects liability and earnings per share disclosures reported in the notes to the financial statements.