

LITERATURE NOTE

What Do We Know About Auditors' Fraud Risk Assessments and Responses?

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KEY TAKE-AWAYS

- Auditors often spot fraud risks but fail to design specific procedures.
They tend to just increase sample sizes. Identifying focused risk factors leads to better audit programs.
Assessment framing: The structure of risk assessments changes judgments. Expanding the fraud triangle and using frequency formats improves evaluation. Decomposing likelihood and magnitude can improperly lower risk assessments.
- High-quality team brainstorming strengthens the link between risk factors, risk assessments, and audit responses.
- A strong tone at the top is crucial. Partners who emphasize professional skepticism improve the effectiveness and efficiency of fraud judgments.
- Firms must enhance cue recognition, refine assessment tools, improve brainstorming, and prioritize skepticism.

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What Do We Know About Auditors' Fraud Risk Assessments and Responses?

**Literature Note for
“An Unintended Consequence of Full Population Testing on Auditors' Professional
Skepticism”**

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Executive Summary

This literature note provides insights into how auditors assess and respond to fraud risks. Overall, the evidence shows that fraud audit effectiveness depends not only on standards and technical guidance, but also on judgment structures, cognitive framing, team dynamics, and tone at the top.

First, auditors often recognize heightened fraud risk but can fail to translate that recognition into targeted, effective audit responses. Instead, they frequently rely on increases in sample sizes rather than designing substantive procedures focused specifically on the fraud area. Encouragingly, identifying more fraud-focused risk factors may enable auditors to more effectively modify standard audit programs in response to fraud risks.

Second, how fraud risk assessment is structured and framed significantly influences auditor judgments. Expanding the traditional fraud triangle to incorporate management capability leads to higher fraud risk assessments. Presenting fraud information in frequency formats rather than probabilities improves judgments when fraud base rates are low. Compared to using a holistic fraud assessment approach, decomposing the likelihood and magnitude assessments makes the low likelihood of fraud more salient and leads to lower fraud risk assessments. These findings suggest that judgment aids with respect to fraud must be carefully designed and evaluated.

Third, audit team dynamics and leadership emphasis on professional skepticism play a critical role. Audit teams' high-quality fraud brainstorming strengthens the relations between risk factors, risk assessments, and audit responses. Moreover, partner emphasis on professional skepticism improves both the effectiveness and efficiency of auditors' fraud judgments.

Collectively, the literature highlights that improving fraud risk assessments and responses requires a multifaceted effort. Audit firms should focus on strengthening auditor fraud cue recognition, promoting targeted responses, refining fraud risk assessment aids, improving brainstorming practices, and reinforcing a tone at the top that prioritizes professional skepticism and audit effectiveness.

Introduction

Fraud detection remains a persistent challenge in auditing. This literature note summarizes six academic studies on how auditors identify, assess, and respond to fraud risk, discussing how technical, cognitive, and organizational factors influence their judgments. This note aims to

provide practitioners and other stakeholders with insights from research on improving fraud-related audit performance.

Research Study Discussions

Research Study 1: How Do Audit Seniors Respond to Heightened Fraud Risk?

Hammersley, Johnstone, and Kadous (2011)

- **What is the study about?**

This experimental study examines how audit seniors respond to heightened fraud risk and whether they effectively modify audit programs to respond to the presence of fraud cues.

- **Main findings**

Although auditors recognize heightened fraud risk, they do not develop higher-quality audit programs when fraud is present. Compared to the fraud-absent condition, they do not identify more risk factors related to the seeded fraud and frequently modify audit programs in ineffective ways. Most modifications consist of indiscriminate increases in sample sizes rather than the design of targeted procedures. Encouragingly, higher-quality audit programs are more likely to emerge when auditors identify more risk factors focused on the fraud area.

- **Practical implications**

While auditors appear to have learned that increasing sample sizes is one way to respond to heightened fraud risk, they also need to understand when larger samples are likely to be less effective and when targeted testing of specific transactions is necessary. Audit firm training should therefore emphasize the importance of tailoring substantive tests towards specific fraud risk factors. In addition, training should strengthen auditors' ability to recognize fraud cues, which will enable them to more effectively tailor audit procedures and modify standard audit programs in response to identified risks.

Research Study 2: The Effect of Alternative Fraud Model Use on Auditors' Fraud Risk Judgments

Boyle, DeZoort, and Hermanson (2015)

- **What is the study about?**

This experimental study compares the traditional fraud triangle with the fraud diamond model—which incorporates an additional capability component—to evaluate their effectiveness in auditors' fraud risk assessments.

- **Main findings**

Auditors using the fraud diamond model assess significantly higher (i.e., more conservative) fraud risk than those using the fraud triangle, although this increase occurs regardless of the level of CEO related risk. Further analysis supports a revised three-factor fraud model consisting of pressure, opportunity, and an expanded capability factor integrating the traditional rationalization/attitude component with additional capability-related elements.

- **Practical implications**

Audit firms should consider enhancing their fraud assessment aids to better support auditors in identifying and assessing fraud risk, particularly by prompting explicit consideration of management's capability to commit fraud.

Research Study 3: Improving Auditors' Fraud Judgments Using a Frequency Response Mode

Kochetova-Kozloski, Messier Jr, and Eilifsen (2011)

- **What is the study about?**

When assessing the likelihood of management fraud (i.e., a probabilistic judgment), auditors may be susceptible to heuristics and biases. This experimental study examines whether presenting and evaluating fraud information in frequency terms (e.g., 1 out of 100 cases) rather than as a probability estimate (e.g., 1%) improves auditors' judgments of fraud likelihood.

- **Main findings**

When the fraud base rate is low, auditors who process fraud information and assess fraud likelihood in frequency formats produce judgments closer to a rational, unbiased standard. This indicates that using a frequency approach helps mitigate auditors' judgmental biases related to rare events.

- **Practical implications**

Adjusting how auditors process and express probability information can enhance their fraud risk assessments. Specifically, training auditors to use frequency-based reasoning may improve their evaluation of rare but high-impact fraud risks.

Research Study 4: The Influence of Judgment Decomposition on Auditors' Fraud Risk Assessments: Some Trade-offs

Simon, Smith, and Zimbelman (2018)

- **What is the study about?**

Auditing standards recommend separate assessments of the likelihood and magnitude of risks. For example, Auditing Standard (AS) 2110 states: "In identifying and assessing risks of material misstatement, the auditor should . . . assess the likelihood of misstatement . . . and the magnitude of potential misstatement to assess the possibility that the risk could result in material misstatement of the financial statements" (PCAOB 2010, para. 59d). This experimental study examines whether likelihood-magnitude decomposition improves auditors' fraud risk assessments compared to a holistic approach (i.e., assessing overall fraud risk without previously performing such a decomposition).

- **Main findings**

For higher-risk schemes, auditors using likelihood-magnitude decomposition assess significantly lower fraud risk compared to those using a holistic assessment approach. The reason is that separating likelihood and magnitude assessments makes the low likelihood of fraud more salient, increasing its influence on overall fraud risk assessments.

- **Practical implications**

The likelihood-magnitude decomposition recommended by auditing standards may have unintended consequences. Standard setters and audit firms should carefully consider the potential trade-offs when implementing structured judgment tools that diverge from intuitive, holistic assessments.

Research Study 5: Auditors' Use of Brainstorming in the Consideration of Fraud: Reports from the Field

Brazel, Carpenter, and Jenkins (2010)

- **What is the study about?**

This study examines audit teams' fraud brainstorming sessions in practice using a survey. The authors developed a measure that evaluates brainstorming quality based on three key elements: attendance and communication, structure and timing, and engagement team effort. They investigated whether brainstorming quality influences auditors' fraud judgments.

- **Main findings**

There is substantial variation in the quality of fraud brainstorming sessions in practice. High-quality brainstorming sessions strengthen the link between fraud risk factors and auditors' fraud risk assessments, as well as the connection between those assessments and audit procedure modifications in response to the fraud. Specifically, when brainstorming session quality is higher, audit teams are more likely to add or change testing procedures, engage more senior staff or fraud specialists, modify the timing of tests, and increase the extent of testing in response to elevated fraud risk assessments.

- **Practical implications**

Brainstorming can enhance audit quality, particularly when conducted effectively. Firms should focus on improving participation, structure, and engagement in brainstorming sessions to foster meaningful fraud discussions, enabling auditors to translate fraud risk assessments into effective audit responses.

Research Study 6: Professional Skepticism: The Effects of a Partner's Influence and the Level of Fraud Indicators on Auditors' Fraud Judgments and Actions

Carpenter and Reimers (2013)

- **What is the study about?**

This experimental study examines how audit partner emphasis on professional skepticism versus efficiency affects auditors' fraud risk assessments and responses.

- **Main findings**

When partners emphasize professional skepticism, auditors provide higher fraud risk assessments regardless of whether fraud indicators are strong or weak. Auditors exposed to high partner emphasis on professional skepticism and strong fraud indicators demonstrate the greatest effectiveness and efficiency: they select more relevant fraud risk factors, assess the highest fraud risk, and select more effective audit procedures. These auditors simultaneously identify fewer irrelevant fraud risk factors and audit procedures than auditors in other conditions. Thus, their effectiveness improves without compromising efficiency. In contrast, auditors led by partners who emphasize efficiency do not respond effectively to stronger fraud indicators, suggesting reduced effectiveness. Overall, partners who emphasize professional skepticism cultivate auditors who are both effective and efficient, whereas efficiency-focused partners do not improve audit effectiveness and offer no efficiency advantage.

- **Practical implications**

Partner tone at the top is critical. This study underscores both the risks of emphasizing efficiency and the benefits of emphasizing professional skepticism. Accordingly, audit firms and engagement team leaders should ensure a tone at the top that prioritizes skepticism to support higher audit quality.

Conclusion

The findings of the current FAR study—*An Unintended Consequence of Full Population Testing on Auditors' Professional Skepticism*—align with and extend the literature on auditors' fraud judgments. Specifically, we find that auditors using full population testing are less likely than those using sample testing to respond skeptically when subsequent, more appropriate external evidence reveals a fraud red flag. Supplemental analyses support the presence of an attribute substitution bias, as full population testing improperly inflates auditors' assessments of internal evidence appropriateness due to their increased perceptions of evidence sufficiency.

The attribute substitution bias may help explain auditors' tendency to respond ineffectively to heightened fraud risk. Prior research documents auditors' overreliance on increasing the extent of the same procedures, rather than making targeted modifications, in fraud risk responses (e.g., Hammersley et al. 2011). Our findings suggest that auditors may equate the increased extent/sufficiency of the same audit procedure with the enhanced evidence appropriateness needed to mitigate higher fraud risk. By highlighting the role of the attribute substitution bias, this study also contributes to the literature showing that auditors' fraud judgments are influenced by cognitive biases (e.g., Kochetova-Kozloski et al. 2011; Simon et al. 2018), underscoring the importance of training and guidance that promote the critical evaluation of evidence and targeted audit responses.

References

- Boyle, D. M., DeZoort, F. T., and Hermanson, D. R. (2015). The effect of alternative fraud model use on auditors' fraud risk judgments. *Journal of Accounting and Public Policy*, 34(6), 578-596.
- Brazel, J. F., Carpenter, T. D., and Jenkins, J. G. (2010). Auditors' use of brainstorming in the consideration of fraud: Reports from the field. *The Accounting Review*, 85(4), 1273-1301.
- Carpenter, T. D., and Reimers, J. L. (2013). Professional skepticism: The effects of a partner's influence and the level of fraud indicators on auditors' fraud judgments and actions. *Behavioral Research in Accounting*, 25(2), 45-69.
- Hammersley, J. S., Johnstone, K. M., and Kadous, K. (2011). How do audit seniors respond to heightened fraud risk?. *Auditing: A Journal of Practice & Theory*, 30(3), 81-101.
- Kochetova-kozloski, N., Messier Jr, W. F., and Eilifsen, A. (2011). Improving auditors' fraud judgments using a frequency response mode. *Contemporary Accounting Research*, 28(3), 837-858.
- Public Company Accounting Oversight Board (PCAOB). 2010. *Identifying and Assessing Risks of Material Misstatement. Auditing Standard 2110*. Available at: <https://pcaobus.org/oversight/standards/auditing-standards/details/AS2110>
- Simon, C. A., Smith, J. L., and Zimbelman, M. F. (2018). The influence of judgment decomposition on auditors' fraud risk assessments: Some trade-offs. *The Accounting Review*, 93(5), 273-291.