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**The Effect of Fraud Assessment Documentation Structure
on Auditors' Ability to Identify Control Weaknesses:
The Moderating Role of Reviewer Experience**

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The Effect of Fraud Assessment Documentation Structure on Auditors' Ability to Identify Control Weaknesses: The Moderating Role of Reviewer Experience

ABSTRACT: The current regulatory environment, brought on by recent high-profile audit failures, expands the auditor's role in detecting fraud. For example, auditors must now provide an opinion on clients' internal controls, addressing their effectiveness at preventing or detecting fraud. While the structure of workpaper documentation has been shown to affect audit workpaper preparers' assessments of overall fraud risk, prior research has not addressed the role their reviewers' experience plays in mitigating documentation structure effects. Our study matches audit workpaper preparers with reviewers to investigate whether reviewer task-specific experience moderates the effect of fraud assessment documentation structure on the audit review team's ability to identify the presence of significant control weaknesses. Consistent with expectations, we find that preparers who are required to document components of their fraud assessments provided more favorable (and lower quality) assessments of significant control weaknesses than those using either a supporting or balanced documentation structure. More importantly, results indicate that reviewer task-specific experience moderated the effect of documentation structure on reviewers' identification of control weaknesses such that experienced reviewers compensated more for the effect of component documentation than reviewers with less experience. Our results suggest that experienced reviewers are better able to overcome challenges presented by documentation structure and more effectively assess the impact of control weaknesses than their less experienced counterparts. These results provide support for new regulations emphasizing the role of experience during the control assessment process.

Keywords: review process; control environment; fraud; control weakness; audit documentation; task-specific experience

Data availability: Data are available upon request.

INTRODUCTION

This study examines the role of reviewer task-specific experience in moderating the effect of fraud assessment documentation structure on the on audit review team's ability to identify significant control weaknesses.¹ Recent high-profile audit failures have prompted Congress and standard setting bodies to pass new regulations that emphasize and expand the auditor's role in detecting and preventing fraud (e.g., the Sarbanes-Oxley Act of 2002 and Statement on Auditing Standards No. 99). Section 404 of the Sarbanes-Oxley Act now requires management of public companies to assess the effectiveness of their internal controls, and to include this assessment with their annual SEC filings. Auditors must now not only provide an opinion on management's assertions, but also conduct their own independent assessment of, and issue an opinion on, the effectiveness of their client's internal controls. These new tasks are in addition to their continuing responsibilities relating to financial statement assurance. This increased workload in the new regulatory environment has pushed public accounting firms to dramatically increase recruiting on college campuses (Arndt 2004; Gomez 2004; The Daily News of Los Angeles 2004), increasing the ratio of staff auditors to more experienced managers and partners at a time when experience is deemed to be one of the more important attributes when assessing internal controls (PCAOB 2003).

Research on auditor experience indicates that task-specific experience improves auditors' judgments. Specifically, task-specific experience obtained through task performance and review of others' performance in an area can lead to expert decision-making (Bonner 1990). Task-specific experience provides the opportunity for the development of enhanced knowledge structures, which improves auditors' decision-making effectiveness (Biggs et al. 1987; Shelton

¹ Similar to Trotman (1985), we define a review team as consisting of a hierarchical pair of auditors: a subordinate auditor who prepares the workpapers and a supervising auditor who reviews this work, with the review team's efforts culminating in the judgments/decisions of the reviewing auditor.

1999). Therefore, a reviewer's experience with fraud risk assessments (i.e., task-specific experience) can be expected to influence his/her effectiveness in identifying control weaknesses that present opportunities for fraud. This is important because a key function of the review process is to help ensure the appropriateness of conclusions drawn by less-experienced auditors (Shelton 1999). Reviewer experience becomes even more critical in situations where the reviewer has to overcome shortcomings of workpaper documentation prepared by less experienced auditors (Libby and Trotman 1993). Given the influx of new staff-level hires to supervise, the pool of highly experienced reviewers may be in short supply (Cummins 2005; Marquez 2005).

When auditors make assessments, they are typically required to document their conclusions in the audit workpapers. This documentation will later be scrutinized by those supervising their work. In practice, the format of such documentation may vary. Since this documentation may serve as a source of evidence in the event of litigation, it is important to consider the different ways in which auditors may structure such documentation (Koonce et al. 1995). Agoglia et al. (2003) show that varying the format of a justification memo affects the overall control environment assessments and evidence documented by reviewed auditors (preparers) as well as the judgments of their reviewers. Our study extends prior research by examining whether reviewer task-specific experience moderates the effect of fraud assessment documentation structure on the review team's ability to identify *specific* control weaknesses that present opportunities for fraud (as is now required by Section 404 and PCAOB Auditing Standard No. 2).

We presented auditors (preparers) a case with control environment evidence for a hypothetical client that was based on the control environment of an actual firm that had

experienced fraud. Preparers were asked to compile documentation regarding the client's control environment and to identify control environment weaknesses with regard to fraud. Specifically, preparers were required to document the control environment's ability to prevent fraudulent activities using evidence to support their assessments (supporting documentation), using both important positive and important negative evidence about the control environment (balanced documentation), or using important positive and negative evidence regarding components of the control environment (component documentation). Preparers were then presented with ten fraud risk factors identified in SAS No. 99 (AICPA 2002) and asked to assess how likely each was to be a problem area for the client.² A reviewer was paired with each preparer and asked to review the fraud assessment documentation. Reviewers then provided their own assessment of how likely each of the ten fraud risk factors was to be a problem with regard to the client's control environment.

Results indicate preparers using the component documentation structure were less effective at identifying control weaknesses than those using either the supporting or balanced documentation structures. More importantly, the results indicate that task-specific reviewer experience plays a significant role in mitigating the effect of fraud assessment documentation structure on auditor fraud risk judgments. Specifically, reviewer experience moderated the effect of component documentation on the identification of control weaknesses. This result suggests that, relative to reviewers with lesser task-specific fraud assessment experience, reviewers with greater experience appear to be better able to overcome judgment difficulties encountered by the novice preparers. Thus, the emphasis on experience during the control assessment process prescribed by recent pronouncements (e.g., PCAOB 2004a; SAS No. 99) seems well placed.

² Fraud risk factors represent potential weaknesses in controls, with respect to their ability to prevent/detect fraud.

The remainder of this paper is organized as follows. The next section discusses the theoretical background and hypotheses. This is followed by a description of the research method and a presentation of the results. The final section offers conclusions and implications.

THEORY AND HYPOTHESES

The Current Professional Environment

The accounting profession is undergoing significant changes as a result of a number of high profile corporate scandals. Both Congress and the Auditing Standards Board (ASB) have acted to impose greater responsibilities on auditors with respect to fraud and internal controls. Congress acted with their passage of the Sarbanes-Oxley Act of 2002 and the ASB implemented SAS No. 99, *Consideration of Fraud in a Financial Statement Audit* (AICPA 2002). Under SAS No. 99, auditors are required to gather and consider more information to assess fraud risk than they have in the past, as well as explicitly document their assessment in the workpapers. Among other responsibilities, SAS No. 99 requires that, when obtaining information about the client and its environment, the auditor should consider the presence of fraud risk factors. SAS No. 99 (para. 31) defines fraud risk factors as “events or conditions that indicate incentives/pressures to perpetuate fraud, opportunities to carry out the fraud, or attitudes/rationalizations to justify fraudulent actions.”³ Although fraud risk factors do not necessarily indicate that fraud is present, they often are present when fraud does exist and are, therefore, important elements to consider within the scope of an audit engagement.

As part of compliance with Section 404 of the Sarbanes-Oxley Act, managers must evaluate the effectiveness of their internal control procedures and auditors must attest to the

³ SAS No. 99 provides examples of fraud risk factors related to fraudulent financial reporting (e.g., revenue recognition policies and management estimate issues) and misappropriation of assets (e.g., inadequate controls over cash and inventory items).

accuracy of their client's assertions.⁴ PCAOB Auditing Standard (AS) No. 2 addresses the importance of controls over possible fraud. As a result of this standard, auditors now conduct their own independent assessment of (and issue an opinion on) internal controls, with respect to their effectiveness at preventing or detecting fraud that may result in material misstatement of the financial statements. Thus, while it has always been important to the performance of the audit, the auditor's responsibility for identifying and documenting control weaknesses has increased exponentially in the new regulatory environment. Further, PCAOB AS No. 3 addresses audit documentation. AS No. 3 states that auditors who prepare (e.g., preparer) audit documentation should provide sufficient information to enable an experienced auditor (e.g., reviewer) to understand the procedures performed, evidence obtained, and conclusions reached, including relevant information inconsistent with conclusions (PCAOB 2004b). This recent guidance highlights the importance of audit documentation quality and its significance for those who review the documentation.

Alternative Documentation Structures

Auditors are typically required to document their conclusions in the workpapers, which will later be scrutinized by those supervising their work. Audit workpapers contain documentation relating to various aspects of the audit such as planning, internal control evaluations, and audit procedures performed. The form this documentation takes, however, can vary in practice. Given that this documentation typically provides rationale for the auditor's opinion and often serves as key sources of legal evidence in the event of litigation (Koonce et al.

⁴ Internal control assessment involves ensuring that steps are in place to prevent or detect the theft or unauthorized use of the company's assets to the extent that such prohibited acts could result in a material effect on the financial statements. The control environment, a component of internal control, "sets the tone of the organization, influencing the control consciousness of its people" and is the "foundation" upon which all other internal controls rest (AICPA 1995, para. 25).

1995), it is important to consider the potential effect of the documentation's structure on audit judgment.

Related research has focused on comparing the differences in judgments between auditors required, or not required, to justify their decisions (e.g., Johnson and Kaplan 1991; Koonce et al. 1995; Peecher 1996; Hoffman and Patton 1997). Although this research indicates that justification can affect audit judgments, it does not examine the effects of how that documented justification is structured. A recent study examines the effects of alternatively structured justification memos on audit judgments. Agoglia et al. (2003) find that the format of these justifications (i.e., how the workpapers require them to be structured) can affect the overall fraud risk assessments of auditors preparing this documentation as well as those of auditors reviewing their work. Following Agoglia et al. (2003), we investigate three different structures in which preparers can document their fraud assessments: (1) supporting documentation, which requires preparers to provide evidence supporting their conclusions; (2) balanced documentation, which requires preparers to document important positive and negative evidence (e.g., both strengths and weaknesses of a client's control environment); and (3) component documentation, which requires preparers to document important positive and negative information for components of their task (e.g., strengths and weaknesses of components of the control environment).⁵

The results of Agoglia et al. (2003) indicate that component justification memos result in the greatest amount of evidence documented and the lowest overall fraud risk levels assessed by preparers, relative to balanced and supporting memos. They attribute this result to the fact that auditors using component memos documented more total evidence items than auditors in the

⁵ While not intended to represent an exhaustive list of possible documentation structures, these three documentation structures were chosen to be consistent with prior research and because they represent structures similar to those that have been used in practice (Agoglia et al. 2003).

other memo conditions. If a large amount of evidence is documented, the relative weight given to each evidence item is likely to decrease (Pincus 1989), which may affect an auditor's judgments when the proportion of positive and negative evidence is imbalanced. For example, if a client's control environment has only a small number of weaknesses, the relative weight given to these weaknesses is likely to decrease as the overall set of evidence considered increases (e.g., Hackenbrack 1992; Glover 1997; Hoffman 1997; Shelton 1999). Given that even troubled clients typically have a greater proportion of positive control environment characteristics than negative characteristics (Agoglia et al. 2003), the increased documentation requirements for our component documentation structures will tend to result in a greater focus on positive evidence. In turn, component documentation preparers may be less likely to identify significant control weaknesses as areas of concern than supporting or balanced preparers. Thus, we expect that documentation structure will affect review teams' ability to identify *specific* control weaknesses (an important task given their new responsibilities relating to fraud and internal control) in much the same way as it has been found to affect *overall* assessments of the control environment. It is necessary to first establish that this effect exists in order to investigate the role reviewer experience plays in moderating it. Therefore, the following hypothesis is tested:

H1: Component documentation preparers will assess control environment weaknesses more favorably than preparers using supporting or balanced documentation.

Reviewer Task-Specific Experience

When auditors make assessments, they are typically required to document their conclusions in the audit workpapers, which are subject to review by a supervising auditor (Emby and Gibbins 1988; Brazel et al. 2004). Prior research examining the review process demonstrates that altering the format of a justification memo can affect not only the judgments of workpaper

preparers, but those of their reviewers as well (Agoglia et al. 2003). However, this prior research does not consider the role of reviewer experience on the effect of documentation structure.

Reviewer experience may be an important variable to consider since a primary function of the hierarchical review process is to reduce the likelihood of the audit being compromised by the judgments of less-experienced auditors (Solomon 1987; Shelton 1999; Brazel et al. 2004), a task at which reviewer experience should play a crucial role (AICPA 2002; PCAOB 2004a).

Research on auditor experience indicates that auditors' judgments improve with greater experience. Bonner and Lewis (1990) show that auditors with more experience generally perform more effectively than auditors with less experience. Experience provides an opportunity for the acquisition of relevant technical knowledge, which is essential for improving task performance (Libby 1995). As a result, auditors with more experienced-based knowledge usually make better decisions than auditors with less (Libby and Luft 1993). For example, Knapp and Knapp (2001) show that, with greater levels of experience, auditors become more effective at assessing the risk of financial statement fraud. Prior research also suggests that task-specific experience improves auditors' judgments. Task-specific experience, obtained through exposure to an area, can lead to expert decision making (Bonner 1990). As a result of their well-developed knowledge structures, expert auditors tend to use directed strategies to acquire information pertinent to a specific decision or task, resulting in more effective decision making (Biggs et al. 1987; Shelton 1999).

The knowledge structures developed through task-specific experience (e.g., experience performing and reviewing evaluations of the effectiveness of a client's control environment) should help reviewers to focus their reviews on more relevant evidence items (Biggs et al. 1987; Shelton 1999), allowing them to better identify the true nature of a specific fraud risk factor(s).

Thus, reviewers with greater task-specific experience are likely to be less influenced by their preparers' conclusions/documentation (i.e., better equipped to formulate an independent evaluation of the evidence), particularly in situations where the preparer's assessment does not appropriately reflect conditions at the client. This is consistent with Monroe and Ng (2000), who view the auditor risk assessment process as belief revision task, with a prior assessment serving as a starting point, or "anchor." This anchor is then revised, often insufficiently, to create a current assessment. In cases where preparer assessments do not fully reflect conditions at the client, reviewers with lower task-specific experience may be less able to properly assess the impact of specific fraud risk factors on the firm's control environment given their less-developed knowledge structures. Therefore, these reviewers may be more likely to anchor on their preparers' fraud risk factor assessments and, in turn, their assessments may deviate less from those of their preparers. In contrast, more experienced reviewers' knowledge structures should enable them to better identify and react to specific weaknesses affecting the firm's control environment, resulting in assessments that deviate farther from their preparers' assessments than those of less experienced reviewers.

Therefore, more experienced reviewers' knowledge structures should allow them to more effectively overcome any challenges presented by documentation structure and better assess the impact of fraud risk factors on the firm's control environment than their less experienced counterparts. With respect to the three documentation structures investigated here, more experienced reviewers will be better equipped to overcome the potential oversights of preparers in the component documentation condition (i.e., relative to those with less experience, experienced component reviewers are more likely to identify control weaknesses that their preparers may have overlooked). If the supporting and balanced conditions result in better

preparer documentation and assessments, then there is less of a burden on the reviewer and reviewer experience becomes less of a factor. Thus, we expect that reviewer task-specific experience will moderate the effect of documentation structure on the difference between preparer-reviewer control weakness assessments. That is, given the expectation presented in H1, we expect preparer-reviewer assessment differences to be greatest when preparers document their assessments using component documentation and the reviewer is more experienced. The following hypothesis is, therefore, tested:

- H2: As reviewer task-specific experience increases, differences between preparer and reviewer assessments of control environment weaknesses will be greater for component documentation audit teams than for supporting or balanced documentation audit teams.

METHOD

Participants

One hundred and eight practicing auditors from large international accounting firms participated in the study (54 as preparers and 54 as reviewers). Auditors participating as preparers were generally audit seniors with an average of 4.0 years experience, while auditors participating as reviewers were generally audit managers with an average of 8.7 years experience.⁶ Discussions with audit partners indicate that auditors with these levels of experience should be familiar with evaluating control environments and reviewing these evaluations, respectively.

⁶ Demographic variables including familiarity with authoritative guidance, effort expended, and pressure to perform the task were tested and did not have a significant effect on the overall findings.

Experimental Case

The experimental materials utilize a detailed case based on the audit of an actual company that experienced a misappropriation of assets (i.e., fraud).⁷ The case materials included background information on the client and detailed information regarding the client's control environment. The information was presented in the form of audit team member comments provided across the seven control environment dimensions incorporated in SAS No. 78 (AICPA 1995). The seven dimensions are: integrity and ethical values, commitment to competence, board of directors and audit committee, management's philosophy and management style, organization structure, the assignment of authority and responsibility, and human resource policies and practices. The evidence set presented to participants was extensive, containing 126 separate evidence items.

Preparer Task

Preparers were randomly assigned to a fraud assessment documentation structure condition, provided a case booklet, and required to prepare and document an assessment of the control environment's ability to prevent fraudulent activities. The instructions required preparers to structure their assessment documentation in one of three ways: using evidence that supports their assessment of the client's control environment (supporting documentation), using both positive and negative evidence about the control environment (balanced documentation), and using positive and negative evidence about components of the control environment (component documentation). After completing the documentation, they assessed the impact of ten randomly ordered specific fraud risk factors (6 control strengths and 4 control weaknesses) on the control

⁷ The experimental materials were adapted from those developed and employed by Agoglia et al. (2003) and updated to reflect the current auditing environment.

environment's ability to prevent fraud.⁸ Specifically, preparers were asked whether each factor was likely or unlikely to be a problem area. Responses were made on 10-point scales, with endpoints labeled "highly unlikely to be a problem area" (coded as 10) and "highly likely to be a problem area" (coded as 1). Preparer participants then responded to a series of demographic and case-related questions.

Reviewer Task

Reviewers received the same client background and control environment information as preparers. They were randomly matched with a preparer and reviewed that individual's fraud assessment documentation, which had been structured using one of the three documentation conditions. After reviewing their preparer's control environment assessment documentation, reviewers were provided with a list of the ten specific fraud risk factors, along with their preparer's assessments of these factors. Reviewers were asked to assess whether each of the ten fraud risk factors was a potential problem area for the client on the same ten point scales as those utilized by the preparers. Like the preparer participants, reviewers also responded to a series of demographic and case-related questions.

⁸ The ten specific fraud risk factors related to the control environment and were taken from SAS No. 99, *Consideration of Fraud in a Financial Statement Audit* (AICPA 2002). Two individuals involved with the actual audit examined the case materials to identify whether each fraud risk factor was likely or unlikely to be a problem area with respect to the control environment's ability to prevent fraud. Based on the evidence provided in the case materials, four of the ten fraud risk factors were determined to be serious problem areas (i.e., significant weaknesses), while the remaining six were determined to be areas of strength. The four problem areas are: (1) management's attitude toward overriding controls, (2) degree of oversight related to the company's control structure exercised by management, (3) controls related to safeguarding of assets, and (4) segregation of duties, particularly for personnel in key functions. Fraud risk factor categorization as a weakness or strength was confirmed by three experts (audit partners) not involved with the actual audit engagement. These expert responses were used to determine the appropriateness of participants' fraud risk assessments.

RESULTS

Hypothesis One

Hypothesis 1 predicts that component documentation preparers would assess control environment weaknesses as less problematic for the client than preparers using supporting or balanced documentation. To test H1, we analyzed preparers' responses in a 1 x 3 ANOVA with documentation structure (supporting, balanced, or component) as the independent variable and participants' mean assessments of four control environment weaknesses as the dependent variable. Participants indicated how likely each factor was to be a problem with regard to the control environment's ability to prevent fraud on a 10-point scale (where 1 = "highly likely to be a problem area" and 10 = "highly unlikely to be a problem area"). Thus, lower (higher) scores indicate that the participant perceived a control environment weakness (strength) with respect to that risk factor. Table 1 presents participants' assessments of the four control environment weaknesses.

[Insert Table 1 here]

Panel A of Table 1 shows that preparers' mean assessments (across the four control environment weaknesses) were 3.89, 3.94, and 5.61, respectively, for the supporting, balanced, and component documentation groups ($F = 7.930$, $p = .001$). Contrast tests presented in Panel B indicate that the mean assessment of the component group was significantly higher (i.e., component preparers assessed the four factors as lower risk) than both the balanced and supporting groups (both p 's $< .001$). Similar results are observed for each of the four control weaknesses individually (see Table 1). Consistent with H1, these data suggest that the component documentation preparers viewed control weaknesses more favorably than preparers in the supporting or balanced groups. Specifically, preparers using component documentation

indicated that there was a lower likelihood that these control environment weaknesses would be a problem with regard to the control environment's ability to prevent fraud. It appears that, consistent with the development of H1, the increased documentation requirements for the component documentation structure resulted in a greater focus on positive evidence, in turn leading to more favorable assessments of control weaknesses observed for component group preparers. We find that preparers in the component group documented significantly more positive evidence items (62.8% of their total documented evidence), on average, than either the supporting or balanced groups (43.5% and 49.6%, $p = .001$ and $p = .023$, respectively).⁹

In addition, we examine the *quality* of the preparers' assessment. Similar to Tan (1995), assessment quality is measured as the absolute deviation of preparer assessments from expert assessments of the four control environment weaknesses, where more (less) deviation from expert assessments indicates lower (higher) preparer assessment quality.¹⁰ Preparers' mean absolute deviations from experts' assessments were 1.69, 1.64, and 2.89 for the supporting, balanced and component groups, respectively. Contrast tests indicate that component preparers' mean absolute deviations from the experts was significantly higher than both the supporting ($p = .003$) and balanced groups ($p = .002$). Thus, it appears that not only were component preparers' control weakness assessments more favorable than those of preparers in the supporting and balanced groups, they were also of lower quality.

Recall that preparers were also asked to assess the impact of six control strengths on the control environment's ability to prevent fraud. Interestingly, and contrary to what we found for

⁹ On average, preparers in the component group documented 51.9 total evidence items (33.4 positive items), while those in the supporting and balanced groups documented 21.0 (7.9 positive) and 27.9 (14.6 positive) items, respectively.

¹⁰ Expert assessments came from three experts (audit partners) not involved with the actual audit engagement upon which the experimental case is based. For each participant, absolute deviations are calculated for each of the four control weaknesses individually and then averaged across the four items to produce a mean absolute deviation from expert assessments (i.e., our measure of "assessment quality").

the four control weaknesses, documentation structure had no significant affect on preparers' assessments of the control strengths (means = 6.89, 7.43, and 7.28 for the supporting, balanced, and component groups, respectively; $p = .492$). These results indicate that the preparers in the supporting and balanced conditions were not simply more conservative across the board (i.e., all three groups were equally effective at recognizing control strengths), but that they were better able to selectively direct attention to areas of weakness (i.e., they were better able to identify and appropriately assess the weaknesses present at the hypothetical client) than those in the component group.

Hypothesis Two

Given the H1 results, which establish the prerequisite effect of documentation structure on preparers' assessments of control weaknesses, we now turn our attention to H2 and the role of reviewer experience in moderating the effect of documentation structure. To test H2, we ran the following multivariate regression:

$$DIFF_i = a_0 + a_1TSE + a_2SUP + a_3BAL + a_4TSE*SUP + a_5TSE*BAL + e \quad (1)$$

DIFF represents the difference between preparer and reviewer responses. Specifically, DIFF is calculated as the preparer's minus the reviewer's mean assessment for the four control weaknesses. TSE represents reviewers' task-specific experience.¹¹ Specifically, reviewers were asked how much experience they had in reviewing evaluations of the effectiveness of a client's control environment. Responses were made on a 9-point scale, with endpoints labeled "very extensive experience" (coded as 9) and "very limited experience" (coded as 1). Documentation structure was dummy coded. SUP is coded as 1 for supporting documentation and 0 otherwise.

¹¹ Following previous research (e.g., DeZoort and Salterio 2001; O'Donnell 2002; Brazel and Agoglia 2006), this experience measure is obtained through participant self-assessment.

BAL is coded as 1 for the balanced documentation and 0 otherwise. Thus, the component group serves as the baseline condition since hypothesized differences relate to comparisons between it and the other groups. TSE*SUP and TSE*BAL represent the interaction between reviewer task-specific experience and documentation structure.

Table 2 reports the results from estimating the multiple regression model specified in equation (1). Hypothesis 2 predicts that as reviewer task-specific experience (TSE) increases, differences in preparer and reviewer assessments of control weaknesses will be greater for the component documentation pairings than for the supporting and balanced audit teams. That is, experience has the greatest impact when preparers are less effective at identifying significant weaknesses in the client's control environment. Given this hypothesized effect of reviewer experience, we expect (and find) that component reviewers' mean assessments begin to converge toward those of the reviewers in other conditions (means = 4.04, 3.92, and 4.60 for the supporting, balanced, and component groups, respectively; $p = .396$). With respect to direct tests of H2, we expect significant negative coefficients for both a_4 and a_5 . Table 2 shows that the coefficients for the interaction terms (TSE*SUP and TSE*BAL) are in the expected negative direction and statistically significant ($p = .024$ and $p = .029$, respectively), providing support for H2.¹²

[Insert Table 2 here]

Although not hypothesized, we find a similar interactive effect for reviewers' assessment quality. As with preparer assessment quality, reviewer assessment quality is measured by computing the mean of absolute deviations of reviewers' assessments from experts' assessments across the four control environment weaknesses. Using an equation similar to equation (1) in

¹² We dichotomize the component group at the median level of reviewer task-specific experience as a further illustration of the effect of task-specific experience. Resulting mean assessments for the low and high experience reviewers are 5.03 and 3.79, respectively, suggesting that it is the experienced reviewers that are driving this effect.

which reviewer assessment quality is substituted for DIFF as the dependent variable, we find that task-specific experience (TSE) and documentation structure have an interactive effect on reviewer assessment quality (TSE**SUP* and TSE**BAL* terms are significant at $p = .035$ and $p = .056$, respectively). That is, as task-specific experience (TSE) increases, component documentation reviewers' assessment quality is less affected by documentation structure. Thus, relative to less experienced component reviewers, it appears that not only were experienced reviewers' control weakness judgments less affected by (anchored on) their preparers' more favorable assessments, they were also of higher quality.

DISCUSSION

The current regulatory environment (e.g., the Sarbanes-Oxley Act of 2002 and SAS No. 99), brought on by recent high-profile audit failures, emphasizes and expands the auditor's role in detecting and preventing fraud. Sarbanes-Oxley requires management of publicly traded companies to assess the effectiveness of their internal controls, and to include this assessment with their annual SEC filings. Auditors must now provide an opinion on management's assertions, as well as conduct their own independent assessment of, and issue an opinion on, the effectiveness of their client's internal controls. This increased workload in the new regulatory environment has pushed public accounting firms to dramatically increase recruiting, resulting in an increase in the ratio of audit staff to audit managers and partners at a time when regulatory agencies are recognizing experience as playing a crucial role in the effective assessment of internal controls and fraud risk (AICPA 2002; PCAOB 2004a). This is consistent with research on auditor experience, which indicates that task-specific experience obtained through specific task performance can lead to improved decision-making in a given area (e.g., Bonner 1990). And while the structure of workpaper documentation has been shown to affect auditors' assessments

of overall fraud risk (Agoglia et al. 2003), prior research has not addressed the role their reviewers' experience plays in mitigating documentation structure effects.

Our study matches audit workpaper preparers with reviewers to investigate whether reviewer task-specific experience moderates the effect of fraud assessment documentation structure on the audit review team's ability to identify significant control weaknesses. Consistent with expectations, results indicate preparers using component documentation inappropriately assessed weaknesses in the control environment more favorably than those using either supporting or balanced documentation. More importantly, reviewer task-specific experience moderated the effect of documentation structure on reviewers' identification of control weaknesses such that experienced reviewers compensated more for the effect of component documentation than reviewers with less experience. Our results suggest that experienced reviewers are better able to overcome challenges presented by documentation structure and more effectively assess the impact of control weaknesses than their less experienced counterparts.

The findings of this study have implications for practice and future research. Given the increased expectations with respect to assessing controls facing audit firms today, results of this study suggest that they should consider the effect of how their workpapers relating to the assessment of control weaknesses are structured. Also, our findings indicate that reviewers with greater task-specific experience (relative to those of lesser experience) appear better suited to overcome their preparers' potential control weakness omissions in the workpapers. This suggests that the emphasis on experience during the control assessment process prescribed by recent pronouncements (e.g., PCAOB 2004a; SAS No. 99) seems well placed. In this study, we investigate only a single task/context (i.e., we examine the effects of documentation structure and reviewer experience in a control weakness assessment task). Future research could also consider

reviewer task-specific experience in other contexts and review tasks to determine under which tasks/contexts this experience is most critical. In addition, given new requirements relating to internal controls, future research should investigate the effect of documentation structure and reviewer experience on the auditor's internal controls opinion decision. Such research will further our understanding of the effect of documentation structure and quality on auditor judgment.

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TABLE 1
Preparer Control Weakness Assessments

Panel A: Descriptive Statistics and Analysis of Variance

<u>Variable^a</u>		<u>Supporting</u> <u>(n=18)</u>	<u>Balanced</u> <u>(n=18)</u>	<u>Component</u> <u>(n=18)</u>	F	<u>Statistic</u>	<u>p</u> <u>Value^b</u>
<i>Mean Assessment of Four Control Weaknesses</i>	Mean (SD)	3.89 1.65	3.94 1.50	5.61 1.25	7.930		.001
<i>Management's Attitude Toward Overriding Controls</i>	Mean (SD)	3.66 1.78	3.72 1.60	5.39 1.85	5.640		.006
<i>Degree of Management Oversight of Control Structure</i>	Mean (SD)	3.78 1.66	4.17 1.75	5.61 1.75	5.640		.006
<i>Controls to Safeguard Assets</i>	Mean (SD)	3.16 1.58	3.44 1.75	5.16 1.75	7.309		.002
<i>Segregation of Duties</i>	Mean (SD)	4.94 2.67	4.44 2.25	6.28 1.67	3.233		.048
<i>Quality of Preparer Assessments</i>	Mean (SD)	1.69 1.19	1.64 1.06	2.89 1.24	6.602		.003

Panel B: Contrast Tests Between Groups

<u>Variable^a</u>		<u>Supporting vs.</u> <u>Balanced</u>	<u>Supporting vs.</u> <u>Component</u>	<u>Balanced vs.</u> <u>Component</u>
<i>Mean Assessment of Four Control Weaknesses</i>	t-statistic p-value ^b	-0.113 .910	-3.504 .0005	-3.391 .0005
<i>Management's Attitude Toward Overriding Controls</i>	t-statistic p-value	-0.095 .924	-2.955 .003	-2.860 .003
<i>Degree of Management Oversight of Control Structure</i>	t-statistic p-value	-0.676 .502	-3.187 .001	-2.511 .008
<i>Controls to Safeguard Assets</i>	t-statistic p-value	-0.490 .626	-3.529 .0005	-3.039 .002
<i>Segregation of Duties</i>	t-statistic p-value	0.671 .505	-1.789 .040	-2.460 .009
<i>Quality of Preparer Assessments</i>	t-statistic p-value	0.143 .887	-3.073 .003	-3.216 .002

^a Auditors were asked to assess the likelihood that each fraud risk factor was likely or unlikely to be a problem area with regard to the client's control environment. Assessments were made on 10-point scales, ranging from "highly unlikely to be a problem area" (coded as 10) to "highly likely to be a problem area" (coded as 1). Thus, lower scores indicate control environment weaknesses. *Mean Assessment* represents participants' mean responses for the four fraud risk factors (*Overriding Controls*, *Oversight of Control Structure*, *Controls to Safeguard Assets*, and *Segregation of Duties*). *Quality of Preparer Assessments* is computed as the absolute deviation of participants' assessments from expert assessments of the four control weaknesses.

^b All tests are two-tailed except those regarding contrast tests for supporting vs. component and balanced vs. component, which are one-tailed due to the directional nature of expectations.

TABLE 2
Regression Results

$$DIFF_i = a_0 + a_1TSE + a_2SUP + a_3BAL + a_4TSE*SUP + a_5TSE*BAL + e$$

	<u>Expected Sign</u>	<u>b</u>	<u>t-statistic</u>	<u>p-value^a</u>
a ₀	N/A	N/A	-2.09	.042
TSE	+	.64	3.86	<.001
SUP	N/A	.20	.45	.654
BAL	N/A	.37	.82	.419
TSE*SUP (H2)	-	-.92	-2.03	.024
TSE*BAL (H2)	-	-.93	-1.95	.029

^aOne-tailed p-values are reported where the expected sign is unidirectional.

- DIFF = measured as preparer's minus reviewer's mean assessment for the four control environment weaknesses;
- TSE = reviewers' task-specific experience; reviewers indicated their experience reviewing evaluations of the effectiveness of a client's control environment. Responses were made on a 9-point scale, with endpoints labeled "very extensive experience" (coded as 9) and "very limited experience" (coded as 1);
- SUP = coded 1 for supporting documentation structure, 0 otherwise;
- BAL = coded 1 for balanced documentation structure, 0 otherwise;
- TSE*SUP = interaction between reviewer task-specific experience and supporting documentation structure;
- TSE*BAL = interaction between reviewer task-specific experience and balanced documentation structure.