

**Planning Fraud Detection Procedures:
Fraud Specialists vs. Auditors**

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Comments are welcome.*

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Abstract

Previous studies indicate that auditors are able to identify fraud risk factors, but may not be able to translate this knowledge into an audit plan that effectively takes these factors into account and increases the likelihood of detecting the fraud if it exists. Fraud specialists may be able to compensate for such limitations. This study investigates the relative merits of involving fraud specialists during the planning stage in assisting auditors by developing an audit plan that will effectively identify fraud.

In this study, 31 fraud specialists and 17 auditors completed an audit planning case that was adapted from the case used by Asare and Wright (2004) that was based on an actual fraud case. Comparisons between fraud specialists' responses and auditors' responses indicate that both the auditors and fraud specialists in this study selected both standard audit procedures and additional procedures to respond to the fraud risks in the case. Fraud specialists identified more risk factors, assessed control risk and fraud risk higher than the auditors in this study, and selected more procedures from a standard audit program provided to them. In addition, the fraud specialists' time budget revisions were associated with planned non-standard audit procedures and they identified a greater number of effective non-standard procedures than the auditors did.

This research contributes to further understanding of the usefulness of seeking the assistance of a fraud specialist during an audit. Also, this research supports a more participative role for fraud specialists rather than a strictly consultative role. In addition, the results of this study may also provide guidance on the training of fraud specialists.

Key Words: Fraud Specialists; Forensic Accountants; Fraud detection; Audit planning.

INTRODUCTION

Management fraud is the “deliberate fraud committed by management that injures investors and creditors through materially misleading financial statements” (Elliot and Willingham 1980). The ability of an auditor to make an accurate assessment of management fraud risk is crucial to the initial assessment of risk in an audit engagement (SAS 99; CICA HB 5135). If this assessment is incorrect, the planned audit procedures may be inappropriate or insufficient, and this, in turn, may reduce the reliability of the financial statements and increase the auditor’s exposure to litigation and unfavourable outcomes (Palmrose 1987).

When designing audit procedures to reduce the risk of not detecting a material misstatement in the financial statements of an entity, an auditor is required by professional standards to use professional scepticism, to be alert to evidence, notwithstanding prior experience with the client’s management, and to be alert to factors that increase the possibility of management fraud (SAS No. 99; CICA HB 5135). However, only seven percent of the audit partners in Loebbecke, Eining, and Willingham’s (1989) study experienced five or more material management frauds within their careers, suggesting that auditors’ experience with material management fraud is limited.¹ One way that auditors can compensate for their limited exposure to fraud is by consulting with fraud specialists).

Asare and Wright (2004) conducted a study in which 69 experienced auditors were provided with a case (based on an SEC enforcement case) and asked to assess the risk of fraud, review and update a standard audit program for the revenue cycle, and provide an opinion on the

¹ Loebbecke, Eining, and Willingham (1989) studied auditors' experience with material irregularities, surveying the U.S. audit partners of KPMG Peat Marwick. On average, the partners who agreed to participate in the study were 40 plus years in age and had about 20 years of audit experience. Of the 277 participants, 165 (60 percent) had some experience with such irregularities. However, only a small proportion had encountered more than five such events during their careers, suggesting that encountering a material irregularity is a relatively rare event. An average of about three irregularities had been encountered by those who had encountered irregularities, representing about 1 percent of all engagements worked on by the respondents. About half of the irregularities involved management fraud, while the balance involved defalcations.

necessity of conferring with a risk management partner to finalize the proposed plan.² Some of the auditors were given structured guidance in the form of standard risk checklists in accordance with SAS No. 82 (currently SAS No. 99) risk categories, while other auditors were asked to make their assessments without such structured guidance. Asare and Wright found that the auditors who were provided with structured guidance underestimated the risk of fraud. In contrast, the auditors who were not provided with structured guidance assessed the fraud risk at higher levels and were more likely to refer the file to fraud experts. Nonetheless, the auditors who were not provided with structured guidance were unable to design a more effective audit program than the other auditors who were provided with more structured guidance.

Asare and Wright (2004) and recent revisions of fraud risk standards (SAS No. 99, 109; CICA HB 5135, 5140) have recommended that auditors seek the assistance of fraud specialists with the development of audit plan when there is perceived risk of heightened management fraud by an audit client. However, since consultations with specialists are costly, auditors might avoid referring issues to fraud experts unless they believed that a substantially elevated risk of fraud was present in an engagement.³ In such a setting, auditors may delude themselves into understating fraud risks in an engagement; or, alternatively, auditors may delude themselves into believing that consulting with fraud specialists would safeguard them against audit program design weaknesses, while, in fact, some fraud specialists may have limited competencies in audit program design (AICPA 2006; DeZoort and Stanley 2006). For example, despite being labelled as Certified Fraud Examiners (CFE), practitioners with the CFE may not actually have any accounting or auditing experience (Meservy, Romney and Zimbelman, 2006).

² Asare and Wright (2004) consider risk management partners to be fraud specialists.

³ For example, Hunton, Wright, and Wright (2004) show that financial statement auditors are unlikely to involve IT specialists even if they face an ERP-intensive complex environment that requires additional IT expertise.

According to Jamal (2008: 3):

There is no study that documents the expertise of forensic auditors. Can forensic auditors detect fraud better than other auditors? Or are they after-the-fact experts who are called in after a fraud is suspected, and whose expertise is in doing detailed ex post data collection and evidence documentation work required to make a case for court? Given that my concern is primarily with top management financial statement fraud (as in Enron), I do not believe that the relevant skill for detecting such fraud is a detailed ability to track transactions and documents. The skill required for an Enron-type case requires a detailed understanding of accounting standards, good professional judgement, and the independence to force management to follow the substance (and not just the form) of accounting standards.

In this study, we investigate the relative merits of involving fraud specialists during the planning stage in assisting the auditor by developing an audit plan that will effectively identify fraud in an audit context. To the best of our knowledge, this is the first study that directly examines the benefits of involving fraud specialists in the development of an audit plan. Research reported herein has the potential to contribute to understanding of the usefulness of involving fraud specialists in designing an audit plan when the auditor has identified fraud risk factors during the planning stage of the audit.

BACKGROUND AND RESEARCH QUESTIONS

Research Approach

This research builds directly on Asare and Wright (2004). Their study examined the impact of risk assessment and audit program development tools on two facets of fraud planning effectiveness: (1) the quality of audit procedures assessed against a benchmark validated by a panel of experts, and (2) the propensity to consult a fraud expert.⁴ Their findings showed, “that fraud risk assessment (FRASK) was not associated with the planning of more effective fraud procedures but was directly associated with the desire to consult with fraud specialists.”⁵ They concluded that the benefit of improved FRASK might not lie in promoting more effective audit

⁴ Asare, Stephen K. and Wright, Arnold M. 2004. The effectiveness of Alternative Risk Assessment and Program planning Tools in a Fraud Setting, *Contemporary Accounting Research* Vol. 21 No. 2 (Summer 2004) pp. 325-52.

⁵ *Ibid*

tests but rather in making auditors more willing to consult with specialists.⁶ Asare and Wright (2004) assumed that this willingness to consult with specialists is a boon because the specialists will compensate for the auditors' inability to develop more effective audit tests by suggesting such tests to them when consulted. However, this may not be the case and may give auditors unrealistic expectations about the types of help that fraud specialists can provide. Fraud specialists may have the ability *investigate* a fraud but not necessarily the ability to *plan an audit* that would detect fraud.⁷

To address this issue, our research project starts where Asare and Wright (2004) leave off, i.e., by examining whether fraud specialists have the skills for the development of an audit program that would effectively detect management fraud. Fraud specialists have various investigative competencies, but they may not necessarily have the expertise to design *audit tests* to detect management fraud. We attempt to answer this question by taking the following approach. We used the same case as was used by Asare and Wright (2004), adapted as required for use with Canadian practitioners (the adaptations were minor). We presented this same case to auditors and fraud specialists (forensic accountants) working at public accounting firms. The auditors in our study had significant audit experience but no fraud experience.

The case was presented to the fraud specialists under the fact scenario that the audit team has assessed the case as having higher than a low risk of fraud and that the fraud specialist's assistance is sought to assess the adequacy of the audit program so as to ensure it is an effective audit plan. The fraud specialists were provided with a copy of a standard audit program (adapted from Asare and Wright (2004)) and asked to identify which procedures in the standard audit program were necessary given the situation described in the case, and to supplement them with

⁶ *Ibid*

⁷ See AICPA (2006, pp. 3-9) for a discussion of differences between commonly used forensic procedures and audit procedures.

any additional procedures required to effectively assess whether fraud is taking place in the client company.

We used two versions of the experimental materials, which required different degrees of the fraud specialists' involvement in risk assessment. In one version ("Type P"), the fraud specialists were asked to complete a risk assessment checklist and to assess inherent, control, and fraud risks before being asked to review the audit program as done by the previous group. In the second version, ("Type C"), the fraud specialists were presented with the audit team's risk assessments and were simply asked to review the audit program in order to identify procedures that should be used on the audit and the amount of time that should be budgeted relative to the previous year. The purpose of using these two versions was to investigate whether Fraud Specialists' judgments would be affected by the role. Type P was a more participative role whereas Type C was a more consultative role. We documented the auditors' and fraud specialists' recommended additional procedures and asked fraud experts to assess the responses provided by our subjects.

Our study informs academics and practitioners of the usefulness of seeking the support of a fraud specialist during the planning stage of an audit. Asare and Wright (2004) assumed that their participants who planned to consult with fraud specialists were behaving normatively. But this is only true if the fraud specialists actually possess the competencies required to compensate for the auditors' inability to design effective fraud-oriented procedures. To our knowledge, no study of fraud specialists' ability to develop such procedures has been conducted to date. Thus, our study makes a contribution to the auditing literature by providing evidence about the behaviour of fraud specialists in the planning stage of the audit.

We find that the fraud specialists in our study adjusted the audit plan to respond to the fraud risks in the case, but this was only true when they performed the risk assessment (a more participative role), as opposed to being provided with the audit team's risk assessment and then being consulted to contribute to the audit plan.

Theory

Early literature in the area of fraud risk assessment attempted to gain an understanding of the factors associated with the increased likelihood of management fraud, or act as warning signals or ("red flags") that can help an auditor assess the risk of fraud in a given situation (Albrecht and Romney, 1980; Loebbecke, Eining and Willingham, 1989; Pincus, 1989; Heiman-Hoffman, Morgan and Patton, 1997).⁸ However, much of this research (e.g., Hackenbrack (1993) and Eining et al. (1993)) studied novice rather than expert auditors (Bonner and Lewis 1990; Bonner and Pennington 1991). Also, there appears to be limited research on judgement processes involved in judgements about the risk of material management fraud.

While there have been several process-oriented studies that have addressed other aspects of the audit process (e.g., Biggs and Mock, 1983; Blocher and Cooper, 1986), there have been only a few process-oriented studies of management fraud risk assessment. For example, Jamal, Johnson and Berryman (1995) were interested in the way in which framing effects would contribute to the auditors' ability to detect an embedded fraud within the financial statements presented as part of the case materials. Jamal et al. (1995) found that over half of their subjects were deceived by management's frame and thus failed to detect the fraud.

Zimbleman (1997) investigated whether the AICPA's SAS No. 82 which requires auditors to separately assess the risk of fraud would lead auditors to spend more time reading fraud cues and design audit plans that are more sensitive to fraud risk. Zimbleman provided

⁸ See Nieschwietz, Schultz, and Zimbleman (2000) for a review.

practicing auditors from two Big 6 firms with cases containing cues indicating high fraud risk or low fraud risk, and asked them to search information stored on a computer, make inherent risk assessments, prepare a staffing budget, and choose audit procedures to test the client's accounts receivable. Computer software kept track of the time subjects spent reading and this time measure was used to test one of the hypotheses of interest; i.e., whether subjects would spend more time attending to fraud cues when conducting a separate assessment of fraud risk as compared with a holistic assessment of inherent risk. Zimbleman (1997) found this to be the case. Also, while subjects increased the numbers of hours budgeted for the higher risk case compared to the lower risk case, they did not produce significantly different audit plans for those cases in terms of the procedures selected. A follow up study by Glover, Prawitt, Schultz, and Zimbleman (2003) compared pre- and post-SAS 82 planning judgments, and found that post-SAS 82 planning judgments were more sensitive to fraud risk factors than in Zimbleman (1997). In their study, auditors adjusted the extent of planned audit tests in response to fraud risk, but made no changes to the nature of their planned tests.

Houston, Peters, and Pratt (1999) had auditors assess the audit risk and business risk for a case where specific errors or irregularities were present, then recommend audit investment and fees. They found that when the likelihood of an error was high, the fee did not contain a risk premium; whereas when the likelihood of an irregularity was high, the fee did contain such a premium. This suggests that auditors are sensitive to the need for more investment in auditing when high risk of fraud is present, although Houston et al. (1999) did not provide evidence on what specific procedures the auditors would perform to compensate for this risk. Auditors could have the desire to compensate for identified risks, but not the ability to do so. Asare and Wright (2004) have suggested that an effective way of addressing such risks is to use fraud specialists.

Asare and Wright (2004) conducted a study wherein experienced auditors were provided with a case and asked to assess the risk of fraud, revise audit plans, and decide whether to consult fraud specialists. Some of the auditors were given structured guidance in the form of standard risk questionnaires, while other auditors were asked to make their assessments without structured guidance. Asare and Wright (2004) found that the auditors who were provided with structured guidance underestimated the risk of fraud. In contrast, auditors who were not provided with structured guidance assessed the fraud risk at higher levels and were more likely to refer the file to fraud specialists. However, as in Zimbelman (1997) and Glover et al. (2003), these auditors were not able to design a more effective audit program than the other auditors.

Taylor, Fuller, and Tuttle (2006) suggested that the reason Asare and Wright (2004) may not have found a relationship was that they measured risk effects on planned audit hours. However some audit responses to fraud risk may result in not increased hours, but other changes, such as increased scepticism, increased supervision, and assigning personnel with higher skills, review of the company's choice of accounting policies, decreased reliance on controls, performing testing closer to the year end, and changing tests to increase assurance.

Mock and Turner (2005) investigated fraud risk assessments and their effects on audit programs following the issuance of SAS No. 82. They sampled clients over a two year period to identify how the auditors' actions changed when the client risk assessment was other-than-low risk versus low risk, based on the number of fraud risk factors present. The auditors in their study identified fraud risk factors and modified the nature, extent and/or timing of audit procedures, assigned more experienced audit team members to the audit, and added or deleted procedures. Mock and Turner's (2005) results showed that the more fraud risk factors were present, the more changes auditors made to the extent of planned audit procedures. Like

Zimbelman (1997) and Glover et al. (2003), Mock and Turner (2005) determined that the decision to modify the audit program in response to the fraud risk assessment was influenced by SAS No. 82. They concluded that audits were being adjusted based on SAS No. 82. These findings are at odds with those of Asare and Wright (2004). In addition, Mock and Turner addressed a standard (SAS 82) that has been superseded (by SAS No. 99 in the United States /CICA HB 5135 in Canada), and they did not directly look into the use of Fraud Specialists or other fraud specialists in an audit context.

Wells (2004) pointed out that large accounting firms have fraud specialists on staff but they are used reactively rather than proactively. He recommended that fraud specialists become involved during the audit to help identify key risk areas. The fraud specialist would identify the risk areas and communicate these to the auditor for “further consideration.” Wells (2004) argued that the presence of fraud specialists on an audit would act as a deterrent to fraud-inclined client for there would be a perception that the likelihood of illegal activities being detected would increase. Wells (2004) does not support his conjectures with evidence, so it is difficult to know whether fraud specialists could contribute in the way he suggests.

In summary, previous studies indicate that auditors are able to identify fraud risk factors, but may not be able to translate this knowledge into an audit plan that effectively takes them into account and enhances chances of detecting the fraud if it exists. Fraud specialists may be able to compensate for such limitations, but there is no published research that provides evidence of this. Academics and practitioners may be over-estimating what fraud specialists can contribute to the effectiveness of an audit plan. They may be able to investigate a suspected fraud, but may not be able to design audit tests to detect a hypothesized fraud as well as auditors can.

Our literature review indicates that there is no published research on the usefulness of seeking the assistance of a fraud specialist (forensic accountant) during the planning stage of an audit.⁹ The usefulness of consultations with fraud specialists is often based on anecdotal evidence after a fraud has been discovered where it is suggested that the auditor should have sought the assistance of a fraud specialist. When auditors fail to detect a management fraud the public is usually left asking, ‘where were the auditors?’ In recent years, there has been a focus on the auditor’s need to do a better job at assessing the potential fraud at their audit client. SAS No. 99 and CICA HB 5135 attempt to address this situation. However, once the auditor has assessed an increased potential risk, what is the next course of action? Presumably, the auditor needs to revise the audit plan from the standard audit plan to one that is more likely to detect the existence of fraud. Auditors can either tailor the audit program themselves or seek the assistance of a fraud specialist. If they believe that the fraud specialist can do a better job, and they are right, then they should forward the file to the fraud specialist. However, if the fraud specialist is no more skilled than they are at adjusting the audit plan to increase the chance of fraud detection, then the auditors should revise the audit plan themselves, although they may need additional training or decision aids to do so effectively.

Research Questions

Our main research question is whether fraud specialists will select audit procedures that are more sensitive to fraud risks than those selected by auditors. We assess this in three ways, by considering fraud specialists’ (1) selection of standard procedures in response to fraud risk; (2)

⁹ There are a few articles dealing with opportunities for forensic auditors (Beasley 2003; DeZoort and Stanley 2006), forensic accountants and auditors’ curriculum and certification requirements (Rezaee 2002; Meservy, Romney, and Zimbelman 2006) and how forensic experts classify fraud risk factors (Apostolou, Hassell and Weber 2000; Hansen and Klamm 2004). However, none of these studies focus on the effectiveness of forensic specialists’ judgments when assisting financial statement auditors in development of an audit plan.

amount of time budgeted for categories of audit procedures in the presence of fraud risk that is higher than low; and (3) selection of additional non-standard procedures to address the fraud risk. Further, to examine how the role of the fraud specialist affects the specialist's contribution to audit planning, we have the fraud specialists respond in a consultative mode to risk assessments made by the audit team, and in a participative mode -- by making their own risk assessments before considering audit planning decisions.

Stated formally,

RQ1: Do fraud specialists effectively modify the extent and nature of audit tests when the risk of fraud is not low?

RQ2: Do fraud specialists propose unique procedures that are not proposed by auditors when the risk of fraud is not low?

RQ3: Are fraud specialists' recommendations affected by having a strictly consultative role versus a more participative role in assisting the audit team when the risk of fraud is not low?

METHOD

Experimental Task

Participants completed an audit case that was adapted from Asare and Wright (2004) and was based on an actual company that had issued fraudulent financial statements. In the first section, participants were asked to assume that they were assisting in the development of an audit plan for the client's revenue cycle. They were presented with comparative financial statements and information about the company.

There were two versions of the case. In one version of the case (Type P), 15 fraud specialists and 17 auditors were given a standard risk checklist and were asked to complete the checklist and assess inherent risk, control risk and fraud risk on a 10-point scale. They were then

asked to participate in the audit planning by selecting from a set of standard procedures, revising time budgets for categories of procedures, and identifying additional procedures that they felt were necessary under the circumstances. In a second version of the case (Type C), 16 fraud specialists were only provided with the audit team's preliminary risk assessments before being asked to participate in the audit planning by selecting from a set of standard procedures, revising time budgets for categories of procedures, and identifying additional procedures that they felt were necessary under the circumstances. Table 2, Panel A provides descriptive information about the fraud risk assessment phase of the case. Table 3 provides details of the risk factors identified by the subjects who completed Type P of the case.

In both versions, the participants were then asked to design the audit program for the revenue cycle by 1) choosing procedures from a standard audit program based on the previous year's audit; 2) modifying as they felt necessary the budgeted hours for procedure categories; and 3) proposing any additional procedures they felt were necessary. Table 2 Panels B and C and Table 5 provide descriptive information about the audit program choices and the budget revisions made by the participants.

In the final part of the instrument, participants were asked to provide demographic information.

Packages containing sets of case materials in individual envelopes were distributed by mail to contacts at the firms who agreed to participate in the study. The contacts distributed the cases to fraud specialists in their firm. Once the cases were completed, they were returned directly to the researchers in a self-addressed postage-paid envelope.

Participants

Thirty one fraud specialists and 17 auditors completed the case. Half of the fraud specialists and were from Big 4 accounting firms and half were from medium size firms. Similarly, 60% of the auditors were from Big 4 firms and 40% were from medium size firms. The participants in both groups were partners, directors, or managers with a significant amount of experience.¹⁰ On average, the fraud specialists were 40 years old, had 11.76 years of specialized fraud experience, and 5.67 years of auditing experience. The auditors were, on average, 35 years old, had 13.02 years of auditing experience, but no specialized fraud experience. Twenty of the fraud specialist participants had an IFA (investigative forensic accountant) specialist designation¹¹ and ten had a CFE designation¹². On average, the fraud specialists spent about 53% of their time on fraud-related activities and 36% on litigation-related activities. The auditors spent 88% of their time in audit-related activities. Table 1 summarizes key demographic information.

¹⁰ The demographic information for the fraud specialists is based on 30 respondents, since one participant completed the study but did not provide demographic information.

¹¹ An Investigative Forensic Accountant ('IFA') is a Chartered Accountant ('CA') who is a designated specialist in investigative and forensic accounting. All CA's are required to complete a prescribed articling period of two to three years in a public accounting office as well as pass a three day multi-subject uniform final exam. During the articling period the CA student must complete a set number of hours in practise in the areas of audit and tax. To become an IFA a CA must successfully complete a part-time two-year diploma program in Investigative Forensic Accounting. This diploma includes a total of nine courses in topics such as fraud investigations, loss quantification, and the law, which culminates in a two day capstone exam. Upon successful completion of the diploma an individual may apply for an IFA specialist designation if they have qualifying work experience of at least 1,500 hours over the previous three years and letters of recommendation. Once recognized as a specialist, the candidate becomes designated as a 'CA●IFA' and must continue to practise in the area of investigations and forensic account and have related continuing professional education ('CPE') to maintain the designation.

¹² A Certified Fraud Examiner ('CFE') must have at least two years of professional experience in a field that is either directly or indirectly related to the detection or deterrence of fraud. If a candidate has a Bachelor's degree, then two years is all that is required; otherwise the candidate must have additional work experience. Acceptable fraud-related experience includes accounting and auditing, criminology and sociology, fraud investigations, loss prevention, or law. While some CFE's may have accounting and auditing related experience, it is not a requirement for this designation. Finally, to obtain a CFE designation a candidate must successfully complete an exam and thereafter a CFE must maintain annual CPE requirements.

ANALYSIS AND RESULTS

As Table 2 Panel A indicates, the fraud specialists' estimates of inherent risk were similar to those of the auditors who completed the same task. However, the fraud specialists' assessments of control risk and fraud risk were significantly higher than those of the auditors who participated in this study (Table 2 panel A: $p=.037$ and $p=.047$, respectively). This is consistent with the finding in Panel A of Table 2 which shows that the fraud specialists identified significantly more fraud risk factors than the auditors did; i.e., 9.19 vs. 6.82 ($p<.049$). Also, fraud specialists who completed Type P of the case rated control risk and fraud risk higher than the risk levels given in Type C of the case (Table 4, Panel B: $p=.046$ and $p=.001$).

As mentioned earlier, participants were asked to perform three audit procedure planning tasks. First, they were given a standard audit program and asked to select procedures from that program. These choices are summarized in Table 5 and Table 6. Table 6, Panel A indicates that auditors' selection of procedures from a standard audit program was associated with their fraud risk assessment ($p=.036$) and their experience ($p=.038$). The fraud risk assessment was positively associated with the number of procedures selected from the standard audit program, whereas audit experience was negatively associated with the number of procedures selected.

Fraud specialists' choice of procedures from the standard audit program was not associated with whether they were in a participative or consultative role. Table 6, Panel B indicates that the only factor that appears to play a role in their selection of standard procedures is whether they possess a specialist IFA designation ($p=.003$). However, their identification of additional procedures was associated with their role, as described later.

The second task involved revisions to the previous year's budgeted hours for the various categories of procedures, as summarized in Table 7. The auditors in this study adjusted the time

budget in response to the number of risks identified (ChecklistScore) (Table 7, panel A: $p=.001$), their assessments of inherent risk (IR) ($p=.000$) and fraud risks (FR) ($p=.008$), and number of procedures they selected from the standard audit program (stdPROGRscore) ($p=.009$). Consistent with the results in Panel A of Table 6, the adjustments were also associated with their audit experience (Table 7, Panel A: $p=.052$). In both cases, fraud risk was associated with an increase in the number of procedures and the amount of time budgeted and experience was associated with a reduction in the number of procedures selected and the amount of time budgeted.

Fraud specialists adjusted the time budget by proposing other (non-standard) tests (Table 7, Panel B; $p=.009$; see list of procedures in Table 8).

The third planning task asked participants to identify any additional procedures they thought necessary. One of the authors and two independent forensic experts¹³ assessed subjects' responses. Results are reported in Table 8. Since our participants completed two different versions of the case (Type C, where subjects were only given the audit team's summary risk assessments, and Type P, where subjects were required to make their own risk assessments given the case information and a risk checklist), Table 8 summarizes the audit procedures under these two headings. Panel A lists the 13 procedures from Asare and Wright's (2004) SEC benchmark program. Panel B lists 14 additional procedures (drawn from over 100 procedures that participants identified) that our expert panel rated as potentially effective procedures for addressing the fraud risks in this case. The notes to Table 8 list each procedure. The highest

¹³ Expert #1: CA and IFA, is a retired partner from a big four accounting firm. He had fifteen years in audit practise and five years in the firm's National Auditing department and spent twenty years as a partner in the firm's Fraud Investigation and Dispute Services department, the last five in charge of the practice. He was Chair of the Alliance for Excellence in Investigative and Forensic Accounting (IFA) and Divisional Chair of the Institute of Chartered Accountant of Ontario Professional Conduct Committee.

Expert #2: CA, IFA and CBV, is a practising partner at a big four accounting firm. After five years in Audit she worked for twenty years in forensic accounting and business valuations practices. Over the past five years she is in the Risk, Controls and Governance practice where she continues to carry out fraud assessments in internal controls.

number of additional procedures proposed was five (one person), and the lowest- none (seven people).

When we examined associations between the number of proposed additional procedures and revisions to the time budget (not tabulated), we found that the number of additional procedures proposed was positively related to the percentage increase in time budget devoted to “other tests” ($\beta=.381$; $p=.05$), and negatively related to the budget changes for testing bad debts ($\beta=-.398$; $p=.04$). Therefore, it appears that fraud specialists suggested a revision of the standard audit program such that the additional procedures would not increase overall hours ($p>.05$), and substituted additional procedures for standard procedures for testing of bad debts.

CONCLUSIONS, DISCUSSION, AND LIMITATIONS

Our first question was whether fraud specialists effectively modify the extent and nature of audit tests when the risk of fraud is not low. We found that fraud specialists’ inherent risk judgments were statistically indistinguishable from those of auditors; however, their control risk and fraud risk assessments were statistically significantly higher than those of the auditors (Table 2). Fraud specialists also identified a higher number of risk factors and selected a larger number of procedures from a standard audit program than auditors did (Table 2).

Our second question was whether fraud specialists propose unique procedures that are not proposed by auditors when the risk of fraud is not low. A panel of expert fraud specialists reviewed our subjects’ responses to the audit procedures and evaluated whether the procedures addressed risks in the case. Our expert panel rated all the procedures identified by our participants and compiled the list of additional procedures that they assessed as being effective (see Panel B of Table 8). Both our auditors and fraud specialists identified comparatively few

procedures listed in the SEC benchmark program (Panel A of Table 8). However, they identified a significant number of *additional* procedures that would effectively address some of the risks in the case (Panel B of Table 8). Compared against the benchmarks contained in Table 8, the fraud specialists identified a larger number of more effective procedures than the auditors.

Our third question was whether fraud specialists' recommendations are affected by having a strictly consultative role versus a more participative role in assisting the audit team when the risk of fraud is not low. Fraud specialists who completed Type P of the case rated control risk and fraud risk higher than the risk levels given in Type C of the case (Table 4). Also, fraud specialists in a more participative role (Type P) identified a higher number of additional effective procedures than those in a more consultative role (Type C), particularly the procedures listed in Panel B of Table 8.

Previous studies indicate that auditors are able to identify fraud risk factors, but may not be able to translate this knowledge into an audit plan that effectively takes them into account and enhances their chances of detecting the fraud if it exists. Fraud specialists may be able to compensate for such limitations. Our research shows that, both the auditors and fraud specialists adjusted the audit plan to respond to the fraud risks in the case ($p < .05$ for comparisons of revisions to budgeted hours for each group of tests in the standard program against zero, not tabulated). The auditors' adjustments involved both increases and decreases in budgeted hours, with the increases associated with increased assessments of risk and the decreases associated with the amount of audit experience possessed by the auditor and, somewhat counter intuitively, with the total number of procedures selected from the standard audit program.

The fraud specialists' total budget adjustments increased in association with the time added to other tests that were not in the standard program (Table 7, Panel B). Table 8 summarizes the additional procedures that fraud specialists identified.

Asare and Wright (2004) speculated that their auditors' willingness to consult with specialists is a boon because the specialists would compensate for the auditors' inability to develop more effective audit tests by suggesting such tests to them when consulted. Our study confirms this assumption. These findings support the important contribution that fraud specialists can make to the effectiveness of an audit plan when the risk of fraud is not low. In addition, our study suggests that a more participative role leads to a more effective contribution by fraud specialists.

This research has the potential to contribute to further understanding of the usefulness of seeking the assistance of a fraud specialist during an audit. Also, this research supports a more participative role for fraud specialists rather than a strictly consultative role. In addition, the results of this study may also provide guidance on the training of fraud specialists. The auditors in this study had extensive auditing experience but no fraud experience. The fraud specialists had extensive auditing experience but also had specialized fraud training and experience. These differences suggest that improvements in audit planning for effective fraud detection could come from enhanced training.

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Table 1
Participant Demographic Data

Demographic Variable	Mean /Count (Standard Deviation/ Percentage of the sample)	
	Fraud Specialists	Auditors
Age	40.60 (7.42) years	35.76 (6.35) years
Gender	20 (66.7%) male 10 (33.3%) female	8 (47.1%) male 9 (52.9%) female
Years of Specialized Fraud Experience	11.76 (7.52) years	0.00 (0.00) years
Years of Auditing Experience*	5.67 (6.64) years	13.02 (6.80) years
Current Position	12 (40%) partners 15 (50%) senior managers/ directors 3 (10%) managers	5 (29.4%) partners 7 (41.2%) senior managers 4 (23.5%) managers 1 (5.9%) principal
CA designation	25 (83.3%) yes 5 (16.7%) no	16 (94.1%) yes 1 (5.9%) no
CPA designation	3 (10 %) yes 27 (90%) no	4 (23.5%) yes 13 (76.5%) no
CFE designation	10 (33.3%) yes 20 (66.7%) no	0 (0.00%) yes 17 (100%) no
IFA designation	20 (66.7%) yes 10 (33.3%) no	0 (0.00%) yes 17 (100%) no
If IFA, how received	10 (33.3%) DIFA program 5 Examination 7 Grandfathering	n/a
If IFA, what year received designation	5 (25%) in 2000 4 (20%) in 2001 3 (15%) in 2003 2 (10%) in 2004 1 (5%) in each of 2005, 2006, and 2007 3 (15%) did not state year	n/a
Fraud practice, %	52.98, n=28	n/a
Litigation practice, %	35.80, n=23	n/a
Valuation practice, %	28.33, n=4	n/a
Audit practice, %	17.00, n=5	88.67, n=15
Tax Practice, %	30.00, n=1	6.67, n=3
SOX, %	n/a	15, n=5
Business Advisory Services, %	n/a	10, n=3
Quality Control Reviews, %	n/a	50, n=1
Service Auditor Reports, %	n/a	25, n=1
Size of the firm	15 (50%) Big Four 15 (50%) Medium-size firm	10 (60%) Big Four 7 (40%) Medium-size firm
Number of times contacted for [sought] consultation by audit group [of Fraud Specialists] during the last 5 years**	4.84 (9.65)	0.12 (0.00)

Notes:

*Range of audit experience was from 0 minimum to 36 maximum years for Fraud Specialists, and from 4 minimum to 25 maximum - for auditors; range of specialized fraud experience was from 4 minimum to 30 maximum years for Fraud Specialists.

**Range was from 0 minimum (11 participants) to 45 (one participant) times for Fraud Specialists, and from 0 minimum (16 participants) to 2 maximum (one participants) - for auditors.

Table 2
Descriptive Statistics

Variable	Fraud Specialists		Auditors		<i>t-stat</i> (<i>p-value</i>)*
	<i>n</i>	<i>Mean</i> (<i>Std Dev</i>)	<i>n</i>	<i>Mean</i> (<i>Std Dev</i>)	
Panel A					
Number of fraud risk factors checked off on the checklist (ChecklistScore)**	16	9.19 (3.69)	17	6.82 (2.90)	4.213 (.049)
Inherent Risk assessment (IR)***	16	6.00 (2.19)	17	5.71(2.34)	0.139 (.712)
Control Risk Assessment (CR)	16	4.81 (2.04)	17	3.35 (1.80)	4.761 (.037)
Fraud Risk Assessment (FR)	16	6.75 (1.57)	16	5.34 (2.21)	4.301 (.047)
Panel B					
Number of standard procedures selected to test aged trial balance (out of 3) (stdtestATBscore)	25	2.52 (0.65)	17	1.71 (1.31)	4.803 (.037)
Number of standard procedures selected to test confirmations (out of 6) (stdCONFIRMscore)	25	5.24 (1.23)	17	4.29 (2.52)	2.454 (.129)
Number of standard procedures selected to test for adequacy of bad debt provision (out of 4) (stdBADDEBTscore)	25	3.04 (1.06)	17	2.12 (1.45)	6.943 (.014)
Number of standard procedures selected to test cut off (out of 2) (stdCUTOFFscore)	25	1.80 (0.41)	17	1.53 (0.87)	2.166 (.153)
Number of standard procedures selected as analytical procedures (out of 8) (stdANALYTICScore)	25	4.76 (1.56)	17	3.35 (2.18)	6.263 (.019)
Total number of procedures selected from standard program (out of 22) (stdPROGRtotal)	25	17.56 (2.80)	17	13 (7.82)	6.415 (.000)
Percentage of standard procedures selected from the entire standard program (stdPROGRpercent)	25	75.47 (17)	17	56.52 (34)	5.175 (.031)
Panel C					
Proposed revisions to the time budget for the final audit program for tests of aged trial balance, in % relative to original budget (testATBrev)	26	1.23 (3.82)	17	-4.71(18.16)	1.863 (.182)
Proposed revisions to the time budget for the final audit program for confirmations, in % relative to original budget (CONFIRMrev)	29	4.93 (5.67)	17	2.94 (5.32)	0.091 (.764)
Proposed revisions to the time budget for the final audit program for tests of adequacy of bad debt provision, in % relative to original budget (BADDEBTrev)	27	5.59 (4.60)	17	5.29 (7.39)	0.041 (.841)
Proposed revisions to the time budget for the final audit program for cutoff tests, in % relative to original budget (CUTOFFrev)	26	7.85 (5.86)	17	1.47 (2.94)	23.593 (.000)
Proposed revisions to the time budget for the final audit program for analytical procedures, in % relative to original budget (ANALYTICSrev)	26	5.08 (5.60)	17	2.94 (13.47)	1.020 (.320)
Proposed revisions to the time budget for the final audit program for other tests, in % relative to original budget (OTHERTESTSrev)	27	7.96 (11.20)	17	22.94 (31.23)	4.002 (.055)
Proposed revisions to the time budget for the final audit program for all tests, in % relative to original budget (TOTALREVHRSrev)	26	21.62 (15.20)	17	21.00 (18.96)	0.012 (.913)

Notes:

*All p-values are two-tailed, reported for comparison of full auditor sample versus Fraud Specialist sample in “No risk assessment provided/Checklist provided” (Type P) condition. Comparisons of full auditor sample versus full Fraud Specialist sample yield similar results, i.e. significant differences are observed for the same variables as reported in Table 2.

**Only half of the Fraud Specialist participants (16 out of 31) were provided with fraud factor checklist, the other half received recommended assessments of inherent, control, and fraud risk. See Table 4 for which risk factors were deemed as present in the case by participants.

***Assessments were performed on a 10 point scale where 1=extremely low risk, and 10=extremely high risk.

Table 3
Presence of Fraud Risk Factors in the Case
as Rated by Auditors and Fraud Specialists in Condition (Type P)

Fraud Risk Factors based on Asare and Wright (2004) Checklist	Fraud Specialists (n, %)*	Auditors (n, %)
Management's characteristics and influence over the control environment:		
Is a significant portion of management's compensation represented by bonuses, stock options, or other incentives, the value of which is contingent upon the entity achieving unduly aggressive targets for operating results, financial position, or cash flow?	15 (93.8%)	14 (82.4%)
Is there an excessive interest by management in maintaining or increasing the entity's stock price or earnings trend through the use of unusually aggressive accounting practices?	10 (62.5%)	9 (52.9%)
Is there a practice by management of committing to analysts, creditors, and other third parties to achieve what appear to be unduly aggressive or clearly unrealistic forecasts?	10 (62.5%)	5 (29.4%)
Does management show an interest in pursuing inappropriate means to minimize reported earnings for tax-motivated reasons?	0 (0%)	1 (5.9%)
Does management have an <i>ineffective</i> means of communicating and supporting the entity's values or ethics, or communication of inappropriate values or ethics?	3 (21.4%)	1 (5.9%)
Is management dominated by a single person or small group without compensating controls such as effective oversight by the board of directors or audit committee?	9 (56.3%)	3 (17.6%)
Does management fail to correct known reportable conditions on a timely basis?	1 (6.3%)	1 (5.9%)
Does management set unduly aggressive financial targets and expectations for operating personnel?	9 (56.3%)	2 (11.8%)
Does management display a significant disregard for regulatory authorities?	0 (100%)	1 (5.9%)
Does management continue to employ an ineffective accounting, information technology, or internal auditing staff?	0 (100%)	2 (11.8%)
Has there been a high turnover of senior management, counsel, or board members?	0 (100%)	1 (5.9%)
Are there frequent disputes with the current or predecessor auditor on accounting, auditing, or reporting matters?	0 (100%)	1 (5.9%)
Is there any known history of securities law violations or claims against the entity or its senior management alleging fraud or violations of securities laws?	0 (100%)	1(5.9%)
Risk factors relating to industry conditions:		
Is there a high degree of competition or market saturation accompanied by declining margins?	15 (93.8%)	14 (82.4%)
Is the industry declining with increasing business failures and significant declines in customer demand?	12 (75%)	8 (47.1%)
Risk factors relating to operating characteristics and financial stability:		
Is the client unable to generate cash flows from operations while reporting earnings and earnings growth?	3 (18.8%)	0 (100%)
Are there significant pressures to obtain additional capital necessary to stay competitive considering the financial position of the entity-including need for funds to finance major research and development or capital expenditures?	9 (56.3%)	5 (29.4%)
Are assets, liabilities, revenues, or expenses based on significant estimates that involve unusually subjective judgments or uncertainties, or that are subject to potential significant change in the near term in a manner that may have a financially disruptive effect on the entity-such as ultimate collectibility of receivables, timing of revenue recognition, realizability of financial instruments based on the highly subjective valuation of collateral or difficulty-to-assess repayment sources, or significant deferral of costs?	11 (68.8%)	11(64.7%)
Are there significant, unusual, or highly complex transactions, especially those close to year-end, that pose difficult "substance over form" questions?	15 (93.8%)	16 (94.1%)
Are there difficulties in determining the organization or individual(s) that control(s) the entity?	0 (100%)	0 (100%)
Has the company experienced an unusually rapid growth or profitability especially compared with that of other companies in the same industry?	5 (31.3%)	2 (11.8%)
Is the company vulnerable to changes in interest rates?	8 (50%)	7 (41.2%)
Does the company have an unrealistically aggressive sales or profitability incentive programs?	11(68.8%)	11(64.7%)
Is there a threat of imminent bankruptcy or foreclosure, or hostile takeover?	0 (100%)	0 (100%)
Is there a poor or deteriorating financial position when management has personally guaranteed	1 (6.3%)	0 (100%)

significant debts of the entity?

Notes:

*n=number of respondents, in respective category (auditors or Fraud Specialists in condition Type P) who responded that a risk factor was present in the case; %= percent of respondents, in respective category (auditors or Fraud Specialists in condition Type P) who responded that a risk factor was present in the case

Table 4**Comparisons of Risk Assessments Provided by Auditors and Fraud Specialists in Type P Condition against Values Given to Fraud Specialists in Type C Condition**

Type of Risk	Test Value	Fraud Specialists		Auditors	
		<i>t</i>	<i>p-value</i>	<i>t</i>	<i>p-value</i>
Inherent Risk (IR)	5.9	.183	.858	-.342	.737
Control Risk (CR)	3.7	2.181	.046	-.795	.438
Fraud Risk (FR)	5.1	4.202	.001	.441	.666

Table 5
Participants' Agreement with Standard Audit Program for Revenue Cycle

Standard Audit Program for Revenue Cycle from Asare and Wright (2004)	Fraud Specialists (n, %)*	Auditors (n, %)
Aged Trial Balance:		
Obtain an aged trial balance of trade receivables as of the date selected for confirmation procedures. Perform the following:		
a. Cross-foot the totals and re-foot the total column and analysis columns.	18 (72%)	9 (52.9%)
b. Trace total to the general ledger control account and to the lead schedule or working trial balance.	24 (96%)	12 (70.6%)
c. On a test basis, trace entries for individual customers on the aging analysis (totals and aging detail) to the individual accounts in the accounts receivable subsidiary ledger and select individual accounts from the subsidiary ledger and trace totals and aging detail to the aged trial balance to determine if aging is correct. Test footings of individual customer accounts in the subsidiary ledger.	21 (84%)	8 (47.1%)
Confirmations:		
Select individual customer accounts for confirmation procedures from the aged trial balance and arrange for the preparation of confirmation requests to be mailed under the auditor's control and tested as follows:		
a. Trace individual confirmation requests as to balances and addresses to the subsidiary accounts receivable records.	19 (76%)	11 (64.7%)
b. Send confirmations (using envelopes with the auditor's return address) and prepare confirmation statistics.	25 (100%)	13 (76.5%)
c. Trace confirmation replies to the trial balance and investigate replies with differences.	24 (96%)	13 (76.5%)
d. Obtain new addresses for all confirmations returned by the post office and re-mail.		
e. Send second requests for all unanswered positive confirmation requests. Consider sending third requests by registered or certified mail and performing alternative auditing procedures.	20 (80%) 22 (88%)	12 (70.6%) 11 (64.7%)
f. Ascertain whether any accounts or notes have been assigned, pledged, or discounted by reference to minutes, review of agreements, confirmation with banks, etc.	21 (84%)	13 (76.5%)
Adequacy of Bad Debt Allowance:		
Obtain or prepare an analysis of the allowance for doubtful accounts for the period and review adequacy of the allowance and related provision by:		
a. Review the aged trial balance as of the balance sheet date with the client's credit manager or other responsible individual to identify accounts of a doubtful nature and allowances required; review correspondence files and other relevant data in support of client's representations. Items reviewed should include past-due amounts and significant amounts whether past due.	22 (88%)	13 (76.5%)
b. Examine credit reports for delinquent and large accounts.		
c. Review confirmation exceptions for indication of amounts in dispute.	22 (88%)	10 (58.8%)
d. Consider requesting audited financial statements for large accounts that are past due and appear doubtful.	22 (88%) 11 (42%)	10 (58.8%) 3 (17.6%)
Cut-off Tests:		
Perform cut-off tests for sales and returns:		
a. Select sales invoices for testing from the sales register for several days before and after year-end and examine shipping records and determine that they were recorded in the proper period.	22 (88%)	13 (76.5%)
b. Select credit memos issued after year-end and examine underlying documentation (for example, record of receipt of returned goods) to determine period to which credit memo is applicable and whether it was recorded in the proper period.	23 (92%)	13 (76.5%)
Analytical Procedures:		
Analyze and review trends for the following relationships:		
a. Accounts receivable to credit sales.	23 (92%)	10 (58.8%)
b. Allowance for doubtful accounts to accounts receivable (in total and in relation to past-due categories per aging analysis).	23 (92%)	13 (58.8%)
c. Sales to returns and allowances.	23 (92%)	12 (70.6%)
d. Expense provisions for doubtful accounts to net credit sales.	19 (76%)	8 (47.1%)
e. Expense provisions for doubtful accounts to write-offs.	16 (64%)	8 (47.1%)
f. Moving average relationship of write-offs to trade receivables.	15 (60%)	2 (11.8%)

g. Average balance per customer.	14 (56%)	3 (17.6%)
h. Ratio of account receivable to current assets.	14 (56%)	1 (5.9%)

Notes:

*n=number of respondents, in respective category (auditors or Fraud Specialists in condition Type P) who responded that a standard procedure should be used in the audit program for revenue cycle; %= percent of respondents, in respective category (auditors or Fraud Specialists in condition Type P) who responded that a standard procedure should be used in the audit program for revenue cycle

Table 6
Relation of Participants' Agreement with Standard Audit Program to Their Experience, Expertise, and Risk Assessments

Panel A: Regression Results for Auditor Sample with Total Standard Program Score as Dependent Variable

	<i>df</i>	<i>F</i>	<i>p-value</i>
Regression Model	2	4.025	.044
	<i>β</i>	<i>t</i>	<i>p-value</i>
Constant		1.496	.158
FR	.542	2.336	.036
YearsAudExp	-.537	-2.313	.038

Adjusted R² = 28.7%

Panel B: Regression Results for Fraud Specialist Sample - Type P "No Risk Assessment Provided (Fraud Checklist Provided)" Condition Sample, with Total Standard Program Score as Dependent Variable*

	<i>df</i>	<i>F</i>	<i>p-value</i>
Regression Model	2	9.669	.006
	<i>β</i>	<i>t</i>	<i>p-value</i>
Constant		4.883	.001
FR	-.093	-.481	.642
IFA	.799	4.131	.003

Adjusted R² = 61.2%

Notes:

Regression coefficients are standardized.

FR=fraud risk assessment performed by auditors after reading the case materials and completing fraud checklist; YearsAudExp= audit experience, in number of years

Table 7**Relation of Participants' Proposed Revisions to Standard Audit Program to Their Experience, Expertise, and Risk Assessments**

Panel A: Regression Results for Auditor Sample with Proposed Revision to Total Budgeted Hours in Standard Audit Program of Revenue Cycle as Dependent Variable

	<i>df</i>	<i>F</i>	<i>p-value</i>
Regression Model	6	10.347	.001
	<i>β</i>	<i>t</i>	<i>p-value</i>
Constant		-3.434	.007
ChecklistScore	.771	4.825	.001
IR	1.430	6.919	.000
FR	.707	3.408	.008
stdPROGRscore	-.508	-3.320	.009
YearsAudExp	-.404	-2.234	.052
%Audit Practice	-.795	-3.976	.003

Adjusted R² = 78.9%

Panel B:

Regression Results for Fraud Specialist Sample with Proposed Revision to Total Budgeted Hours in Standard Audit Program of Revenue Cycle as Dependent Variable*

	<i>df</i>	<i>F</i>	<i>p-value</i>
Regression Model	3	7.506	.002
	<i>β</i>	<i>t</i>	<i>p-value</i>
Constant		-.854	.405
IFA	-.487	-1.951	.069
stdPROGRscore	.427	1.862	.081
OTHERTESTSrev	.541	2.965	.009

Adjusted R² = 50.7%

Notes:

Regression coefficients are standardized.

ChecklistScore=total number of items on Fraud Checklist recognized by as present in the case;

IR=inherent risk assessment performed by participants after reading the case materials and completing fraud checklist;

FR=fraud risk assessment performed by participants after reading the case materials and completing fraud checklist;

stdPROGRscore= total number of standard procedures selected from the standard program by the participant;

YearsAudExp= audit experience, in number of years;

%AuditPractice = proportion of participants' practice spent providing audit services to clients;

IFA= an indicator variable, =1 if participant has an IFA designation, 0 otherwise;

OTHERTESTSrev=proposed revision to the time budget for the final audit program for other tests, in % relative to original budget

*Version of the instrument (i.e., presence/absence of fraud checklist) was not significant.

Table 8
Participant-proposed Additional Procedures

Audit Test Number	Auditors				Fraud Specialists											
	Expert 1		Expert 3		Expert 1		Expert 2		Expert 3							
	Type P (n=16)	%	Type P (n=16)	%	Type C (n=16)	Type P (n=15)	Type C (n=16)	Type P (n=15)	Type C (n=16)	Type P (n=15)	Type C (n=16)	Type P (n=15)				
Panel A																
1	-	-	-	-	-	-	-	-	1	6%	4	27%	-	-	-	-
2	1	6%	2	13%	2	13%	2	13%	5	31%	8	53%	6	38%	4	27%
3	-	-	-	-	-	-	1	7%	-	-	1	7%	-	-	1	7%
4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6	-	-	2	13%	-	-	-	-	2	13%	6	40%	3	19%	7	47%
7	1	6%	2	13%	-	-	-	-	-	-	3	20%	-	-	-	-
8	-	-	-	-	1	6%	-	-	2	13%	-	-	-	-	-	-
9	3	19%	4	25%	6	38%	5	33%	6	38%	5	33%	3	19%	3	20%
10	-	-	-	-	-	-	-	-	1	6%	-	-	-	-	-	-
11	1	6%	1	6%	-	-	-	-	-	-	1	7%	-	-	1	7%
12	2	13%	3	19%	-	-	1	7%	1	6%	1	7%	-	-	-	-
13	-	-	1	6%	-	-	-	-	-	-	1	7%	-	-	-	-
	8		15		9	9		18		30		12		16		

Audit Test Number	Auditors				Fraud Specialists								
	Expert 1		Expert 2		Expert 1				Expert 2				
	Type P (n=16)	%	Type P (n=16)	%	Type C (n=16)	Type P (n=15)	Type C (n=16)	Type P (n=15)	Type C (n=16)	Type P (n=15)			
Panel B													
1	1	6%	4	25%	4	25%	2	13%	1	6%	3	20%	
2a	-	-	-	-	2	13%	1	7%	1	6%	1	7%	
2b					3	19%	1	7%	3	19%	2	13%	
3	-	-	-	-	2	13%	-	0%	-	0%	-	0%	
4	-	-	-	-	1	6%	1	7%	2	13%	3	20%	
5	-	-	-	-	2	13%	2	13%	1	6%	-	0%	
6	1	6%	2	13%	1	6%	1	7%	-	0%	4	27%	
7	2	13%	-	-	-	0%	4	27%	2	13%	3	20%	
8	-	-	-	-	2	13%	-	0%	1	6%	-	0%	
9	-	-	1	6%	4	25%	2	13%	4	25%	4	27%	
10	-	-	-	-	2	13%	-	0%	1	6%	-	0%	
11	3	19%	3	19%	4	25%	11	73%	3	19%	11	73%	
12	-	-	-	-	3	19%	1	7%	2	13%	2	13%	
13	6	38%	6	38%	4	25%	10	67%	4	25%	5	33%	
14	1	6%	1	6%	2	13%	-	0%	4	25%	-	0%	
	14		17		36	36		29		38			

Notes to Table 8

: *Type C is version of the experimental case where subjects were only given the audit team's summary risk assessments;

**Type P is version of the experimental case where subjects were required to make their own risk assessments given the case information and a risk checklist.

Panel A Procedures: Additional Procedures from Benchmark Program Procedures from Asare & Wright (2004):

- 1 If available, read minutes of the Nov 13th meeting with distributors.
- 2 Inquire of distributors who committed on Nov 13th as to their understanding of the terms of sales
- 3 Inquire of distributors who were at the Nov 13th meeting and who did not commit to participate in the marketing program as to their reasons for not committing.
- 4 Inquire of undecided distributors who changed their minds between Nov 13th and year end, the reasons for changing their minds.
- 5 If minutes of Nov 13th meeting not available, inquire of sample of distributors at the meeting to ascertain their understanding of the issues discussed.
- 6 Review correspondence file with distributors for evidence of side agreements.

- 7 Investigate the rationale for Precision's involvement in the storage and warehousing of distributors sales.
- 8 Ascertain ability of distributors to store huge orders and the responsibility for paying storage costs.
- 9 For all increases in credit limits, review client analysis of distributor credit-worthiness. If no analysis exists, perform probing, substantive analysis of distributors; creditworthiness.
- 10 Test with end-users to confirm that Precision as encouraging them to buy from the distributors.
- 11 Compare sales in the first quarter of 2000 to that indicated by Precision's operating plan.
- 12 Look at subsequent cash receipts for some of the large distributor sales.
- 13 Compare orders taken via the marketing program to authorized credit limit.

Panel B Procedures: Additional Effective Procedures Proposed by Participants in this Study:

No.	Description of Risk	Procedure
1	Revenue recognition Revenues are recognized by Precision before they are earned (fraud specialists referred to this risk by such labels as “Channel Stuffing”, “Bill and Hold”)	Sales to distributors and not sold on to the end user should be measured against the revenue recognition criteria. Abnormal finance terms are indicators of non-compliance with GAAP. Perform the following on sample of distributors: Obtain the contract; Ascertain whether the 4 revenue recognition criteria are met; and Determine whether Precision assisted the customer in obtaining financing or provided direct financing for the sales.
2a	Precision is shipping goods in excess of what distributors have committed to and/or have the capacity to sell.	Select key item sample of distributors for confirmation of inventory on hand and amount receivable by Precision. Contact any non-replies by phone directly to enquire of status of account. (In the circumstances shipment records or subsequent payments may be inappropriate and of questionable value.) Make enquiry of 4 distributors regarding their allotment minima. Request and review schedule of allotments of product that must have been prepared by the Company and probably revised several times.
2b	Channel stuffing	Review the terms under which Precision ships goods to customers to ensure they are based on a purchase contract and that no channel stuffing has occurred.
3		Analyse monthly analog sales and order trends of for company and industry. Assess impact of program on historical purchases by each of the known customers. If end users would be increasing analog purchases to an implausible level, assessment of the consequences of the distributors were still having significant quantities on hand. Ultimately, if end users cannot absorb the equipment what happens? [e.g., bad debts, damage to distribution chain or does Precision step in to rescue the distributors and or provide additional incentives for the end users]. Either outcome would be damage and would result directly from the November 2005 decisions to stuff the distribution channels.
4		Ensure no <u>consignment</u> type arrangement exist especially for customers who don't have warehouse capacity.
5		Obtain listing of customers who have been distributed funds by Precision. Investigate any distributions and sales that are comparable in timing or amount. Obtain supporting documentation to understand the nature of the distribution as well as whether all revenue recognition criteria have been met.
6	Precision recognizes revenue upon shipment. If they ship to a warehouse, but customer does not have the need/capacity for such goods, the company may be improperly recognizing revenue, when all required criteria for recognition have not been met.	Assess ownership of good in offsite storage: Has legal title passed Who owns offsite storage, Who is responsible for rent Who pays insurance (many)

7		Confirm with distributors all amounts: removed from Precision's inventories but not yet delivered to distributors; and held at warehouse or under accommodations to ensure they meet the requirements for revenue recognition according to GAAP. Tie these amounts into sales contracts
8	Allowance for doubtful accounts Provision for bad debts is not adequate	Obtain download of customer list. Run customer list against credit rating agency database. Focus particularly on sales near period end. Examine supporting documentation to ascertain whether amounts were collectible at point of revenue recognition.
9		Assess the reasonableness of accounts receivables collection and allowance for doubtful accounts. (Although credit has been extended, it is uncertain on what basis credit history would support collectibility since credit history reflects past, but customers already acknowledge difficulty in paying for new management initiative. Uncertain if they can sell analogue if Precision is already experiencing difficulty selling.)
10		Obtain analog sales (#of items) data for November 2005 & December 2005 from the 11 distributors participating in the marketing programme. Compare distributors' sales to third parties to distributor's analog purchases from Precision. Determine if distributors are on track for selling 30% (based on Precision's estimate) of their inventory by June 2006, when their promissory notes are due to Precision.
11	Right to Return Distributors will ship back product prior to or on June 2006	Review the terms under which Precision will accept return of their goods.
12		Analyze and assess the historic rates of returns for participation in marketing programmes and actual returns during field work period to determine if provision needed and if so the adequacy of management's provision.
13	Understated Expenses Precision has not recorded all the expenses associated with the programme. As this is a new programme management judgement will be used to determine expenses.	Review the documentation prepared by Precision to estimate the effects of the new marketing program. Identify costs factored into the analysis of the program and what costs have been omitted (if any). Examine and recalculate company's estimate of costs and revenue contra amounts and those actually accrued (if any).
14	Motivation for programme The establishment of the marketing programme was motivated by management compensation plan rather than sound business rational and therefore reflects a conflict of interest.	Determine the impact of the marketing program on management compensation by comparing this year's <u>bonus</u> to top management (by employee) to prior year's to see how much individuals are benefiting from marketing programme.