

*Auditing: A Journal  
of Practice & Theory*  
Vol. 22, No. 1  
March 2003

# The Impact of Pressure from Potential Client Business Opportunities on the Judgments of Auditors across Professional Ranks

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## SUMMARY

This study examines the impact of the pressure to obtain potential client business opportunities on auditor judgments. Thirty-two lower rank auditors (staff and seniors) and 39 higher rank auditors (managers and partners) were either provided or not provided with information on additional client business opportunities when assessing a client's potential inventory obsolescence risk. Lower rank auditors judged the obsolescence risk to be lower when provided with information on additional business opportunities than when such information was not provided. In contrast, there were no differences in the judgments of higher rank auditors when either provided or not provided with such information. These findings suggest that, through greater tacit management skills and exposure to other counter-pressures such as litigation and risk-management concerns, higher rank auditors are better able to manage competing goals and recognize the importance of freedom from client pressure than are lower rank auditors. Implications for training procedures and audit judgment research are discussed.

**Keywords:** auditor judgment; audit pressure; additional business opportunities.

## INTRODUCTION

In this paper, we examine the effects of incentives in the form of additional business opportunities on auditors' inventory obsolescence judgments. While client service can take many forms (e.g., obtaining the client's respect and confidence, providing good service, presenting management letter recommendations) (Emby and Etherington 1996), we focus on one aspect of client service that involves providing new or expanded business services to existing clients. As the market for audit services becomes more competitive, generating additional business services has become increasingly important to a firm's profitability (Cohen and Trompeter 1998). Therefore, the presence of incentives for additional business services may put pressure on the auditor's judgment to support client-preferred reporting methods (Hackenbrack and Nelson 1996; DeZoort and Lord 1997). However, an auditor's role as an impartial evaluator of financial statements (Advisory Panel on Auditor Independence 1994), the perceived threat of litigation (Arthur Andersen et al. 1993), and the AICPA code of professional conduct on maintaining objectivity (e.g., AU section 55.03) may discourage their agreement with client preferences.

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*We gratefully acknowledge useful comments received from Arnold M. Wright (editor), two anonymous reviewers, Duane Brandon, Larry Killough, Ruth Ann McEwen, Jennifer Mueller, Laurie Pant, Jim Yardley, and workshop participants at Drexel University, Suffolk University, and Virginia Polytechnic Institute and State University. The nonalphabetical order of the authors' names reflects a rotation across multiple projects. Both authors made equal contributions to this project.*

*Submitted: January 2001  
Accepted: March 2002*

Therefore, an increased understanding of pressures that cannot be eliminated in audit practice, such as incentives for additional business, could lead to strategies to mitigate pressure effects such as additional training about complex trade-offs (DeZoort and Lord 1997).

Prior research suggests that lower rank auditors may be susceptible to pressures from within and outside the organization. For example, studies indicate that obedience and time pressures from within a firm influence lower rank auditors' (staff and seniors) willingness to sign-off on materially misstated accounts and underreport time (e.g., Kelly and Margheim 1990; McDaniel 1990; Ponemon 1992; Lord and DeZoort 2001). Audit fee pressure and client-based incentives from outside a firm (e.g., client retention) have also been found to impact lower rank auditors' budgeting behavior and willingness to accept a client-preferred reporting method (e.g., Hackenbrack and Nelson 1996; Houston 1999). These findings suggest that pressures confronting lower rank auditors can have deleterious effects on audit judgment and are consistent with psychology research indicating that decision makers' judgments may be biased in a manner consistent with their incentives (Fiske and Taylor 1991; Bazerman et al. 1997). In addition to technical skills and professional judgment, recognizing opportunities for generating additional services is a component of lower rank auditors' performance evaluations and is emphasized in the socialization process in public accounting (e.g., Covalesski et al. 1998). Therefore, in the presence of additional business opportunities, lower rank auditors may have difficulty prioritizing this pressure *vis-à-vis* others and could thus support a client's preference in an attempt to enhance client relations.

Since generating additional services is obviously an important component of the performance evaluations of higher rank auditors (Emby and Etherington 1996), it may appear that higher rank auditors would be influenced more by the presence of additional business opportunities than lower rank auditors. However, research suggests that higher rank auditors have greater tacit management skills that may allow them to balance the competing goals they confront in the audit (e.g., legal liability risk vs. additional business opportunities) (Tan and Libby 1997; Sternberg and Horvath 1999). That is, their tacit knowledge may allow higher rank auditors to consider task and contextual factors when faced with various pressures. For example, studies have shown that experienced auditors are not influenced by client pressure when there is concern for legal liability or when all available accounting precedents indicate the same treatment (e.g., Trompeter 1994; Salterio 1996). Alternatively, when existing standards are ambiguous or accounting precedents are mixed, client pressures may influence higher rank auditors' judgments (e.g., Trompeter 1994; Salterio and Koonce 1997). As a result, higher rank auditors may not always be as influenced by pressure for additional services as lower rank auditors. This study seeks to obtain a better understanding of how higher rank auditors balance various pressures—an area with limited prior research.

To investigate these issues, 32 lower rank auditors and 39 higher rank auditors assessed the level of inventory obsolescence risk during the preliminary planning stage of an audit and listed the factors that most influenced this risk assessment. All auditors received detailed evidence that both supported and discounted the existence of inventory obsolescence. While the client believed that inventory obsolescence was not a problem, the case information was indicative of a subjective audit task. Auditors in the additional business opportunity group received narratives of discussions with other audit team members and client personnel concerning the existence of nonaudit revenue opportunities with the audit client. No such information was provided to auditors in the no additional business opportunity group. Our results suggest that the risk assessments of lower rank auditors who were provided with information on additional business opportunities were significantly lower (more consistent with the client's preference) than the risk assessments of lower rank auditors who were not provided with such information. However, no differences were observed in the judgments of the higher rank auditors when either provided or not provided with information on additional business opportunities. These results are further corroborated by an examination of the qualitative factors that auditors listed as influencing their risk assessments.

Consistent with prior findings of pressure-induced dysfunctional behavior by lower rank auditors (e.g., Houston 1999), the presence of incentives for generating additional services induced lower rank auditors to make less conservative judgments in support of the client's preference. Given its existence in performance evaluations and the socialization process, the presence of additional business opportunities may have led lower rank auditors to behave in a self-serving manner. The findings using higher rank auditors are consistent with prior research suggesting that higher rank auditors are not always susceptible to pressure-induced dysfunctional behavior (e.g., Trompeter 1994; Salterio and Koonce 1997). The results of this study have implications for developing effective training programs that can make lower rank auditors aware of various coping strategies when confronted with pressure. Furthermore, the findings highlight the importance of taking into account contextual and individual factors (e.g., professional rank) when assessing whether specific pressures influence audit judgment (DeZoort and Lord 1997).

The remainder of the paper is organized as follows. The next section provides background literature and the hypotheses of interest. The third and fourth sections describe the methodology and results of the study. The last section discusses the results and implications.

## LITERATURE REVIEW

### Pressure from Additional Business Opportunities on Lower Rank Auditors' Judgments

Prior audit judgment literature has documented that while certain pressures may improve audit performance, the risks associated with pressure-induced dysfunctional behavior can be damaging to the auditor and the firm (see DeZoort and Lord [1997] for a review). For example, time pressure from within the organization can lead to underreporting of time and decreased audit effectiveness (e.g., Kelly and Margheim 1990; McDaniel 1990; Ponemon 1992). Similarly, the presence of fee pressure from clients can create an incentive for audit seniors to emphasize cost control, potentially impairing audit effectiveness (Houston 1999; Margheim and Kelley 1992; Public Opinion Board [POB] 1999). The existence of client-based incentives (e.g., client retention) can also put pressure on the auditor to "see it the way the client does" (Levitt 2000), especially in the case of accounting estimates such as potential inventory obsolescence (Wright and Wright 1997). These studies suggest that pressures confronting lower rank auditors may provide incentives for these auditors to behave in a dysfunctional manner.

This concern is consistent with psychology research indicating that judgments are often unconsciously and powerfully biased in a manner that is consistent with the decision-maker's incentives (Fiske and Taylor 1991; Bazerman et al. 1997). These findings are particularly true in the case of ambiguous situations (e.g., accounting estimates) (Einhorn and Hogarth 1985; Nelson and Kinney 1997). When presented with identical information, an individual's perception of a situation differs dramatically depending on one's role and incentives. Considerable evidence of self-serving behavior has been observed in judgments of fairness and productivity, negotiation, and marketing decisions (e.g., Messick and Sentis 1979; Ross and Sicoly 1979; Roth and Murnighan 1982; Fiske and Taylor 1991; Curren et al. 1992; Loewenstein et al. 1993). The pervasiveness of this behavior suggests that the problem does not lie in a desire to be unfair, but rather in an inability to interpret information in an unbiased manner (Lord et al. 1979; Nisbett and Ross 1980). That is, people tend to focus on what is personally beneficial and interpret information consistent with their self-interests (Babcock et al. 1995).

Pressures to recognize additional business opportunities may influence lower rank auditors' judgments given their presence in performance evaluations and the socialization process. For example, Emby and Etherington (1996) found that lower rank auditors rated client service as more important than staff development and practice development in their performance evaluation, but less important than items such as technical skills and professional ability. In addition, audit staff, seniors, managers, and partners all provided similar ratings for the importance of client service in staff- and senior-level

auditors' performance evaluations. We focus on one aspect of client service: providing new or expanded business services.

While obtaining potential client business opportunities is likely to be a less important performance dimension than other factors (e.g., technical skills), expanding services is a component of lower rank auditors' performance evaluations and has become a part of the public accounting culture. These activities are emphasized through the socialization process as lower rank auditors are mentored on the importance of managing their visibility within the firm, bringing in significant new business, and managing business relationships with clients (Scandura and Viator 1994; Covaleski et al. 1998). Therefore, lower rank auditors are cognizant of the importance of recognizing additional business opportunities and once an opportunity is present, may have difficulty prioritizing this pressure vs. other competing pressures. As a result, pressure to recognize additional business opportunities may lead lower rank auditors to support the client's preference.

### **Pressure from Additional Business Opportunities on Higher Rank Auditors' Judgments**

Clearly, generating additional services is an important dimension in the performance evaluation of higher rank auditors (Hooks et al. 1994; Emby and Etherington 1996). In fact, it is likely that higher rank auditors' compensation is affected more by additional services than lower rank auditors' compensation. However, while competition may encourage the generation of additional services (Cohen and Trompeter 1998), litigation and risk-management concerns may have an offsetting effect causing higher rank auditors to exercise caution. Research suggests that managers and partners are concerned with legal liability, and with the ability to use working papers to defend the auditor's report (Johnstone 2000; Rich et al. 1997; Trompeter 1994; also see Gibbins 1984; Gibbins and Emby 1985). In addition, the lower turnover rates of higher rank auditors (Fogarty 1994; Mannix et al. 1995) may heighten their concerns over the long-term negative consequences of litigation.

Consequently, higher rank auditors may balance the trade-off between enhancing client relationships and maintaining objectivity. The ability to balance these various incentives requires tacit management skills such as reconciling competing goals, contextual sensitivity, and management of one's career (Sternberg and Horvath 1999). Unlike technical knowledge, tacit knowledge is learned from experience by observing others' behavior and others' reactions to one's own behavior (Bhamornsiri and Guinn 1991; Tan and Libby 1997; Tan 1999). Tan and Libby (1997) found that tacit knowledge was unrelated to performance at the audit staff and senior level but was related to managers' superior performance, while Tan (1999) found that many auditors at the manager and partner level achieved high ratings on tacit knowledge attributes. Therefore, as auditors move up the ranks and acquire expertise that includes managerial dimensions (Tan and Libby 1997), they may be able to better prioritize competing goals in the presence of additional business opportunities (Sternberg and Horvath 1999).

This notion is consistent with research indicating that auditors of higher professional rank may not be overly influenced by audit pressures. For example, in a study of time budgets, Bamber and Bylinski (1988) found that the presence of time pressure did not induce audit managers to allocate significantly different time to a review task. In fact, more experienced managers were even less likely to feel this pressure than less experienced managers. Similarly, Marxen (1990) found that higher rank auditors prepared time budgets with more hours than lower rank auditors. The author suggests that as auditors increase through the ranks, they may be more aware of potential litigation issues resulting from an inadequate audit.

Several studies have also examined the influence of pressures from outside the firm on higher rank auditors' judgments (e.g., Salterio 1996; Salterio and Koonce 1997; Haynes et al. 1998). For example, Salterio and Koonce (1997) found that higher rank auditors did not heed the client's position when all available precedents pointed to the same accounting treatment. Only when the available precedents were mixed did higher rank auditors tend to follow the client's position. Similarly,



Trompeter (1994) found that audit partners' judgments were more influenced by client-imposed pressures when the authoritative literature was ambiguous, thus allowing for more flexibility in its interpretation and application. However, when the perceived risk of litigation was high, regardless of the ambiguity level of GAAP, audit judgments were conservative. In general, while these studies did not specifically contrast the behavior of lower and higher rank auditors, the research suggests that higher rank auditors may consider numerous external factors when confronted with various pressures.

### Hypotheses

Given its presence in performance evaluations and in the socialization process, once an opportunity for recognizing additional business is present, lower rank auditors may have difficulty prioritizing this pressure vs. competing pressures. On the other hand, higher rank auditors' greater tacit knowledge may make them aware of and better able to balance the competing incentives that they confront in the audit environment. Therefore, we propose that the judgments of higher rank auditors are less susceptible to additional business opportunity incentives than those of lower rank auditors.

Additional business opportunity pressures may also impact the type of factors that auditors consider as influencing their judgments (i.e., either indicative of low or high inventory obsolescence risk). Prior research suggests that decision makers will attempt to construct a rational argument for the conclusions that they want to draw (Dunning et al. 1989). Decision makers tend to evaluate evidence in a manner consistent with their preferred position (Lord et al. 1979; Nisbett and Ross 1980; Johnson 1993; Kadous and Magro 2001). As a result, individuals tend to view arguments supporting their own position as more convincing than those supporting the other side. If they succeed in finding consistent information, then they are able to draw the desired conclusion while maintaining an appearance of objectivity (Babcock and Loewenstein 1997). In effect, information-seeking acts are a coping mechanism to deal with pressure (Folkman and Lazarus 1980; Bhagat et al. 1995; DeZoort and Lord 1997). This is consistent with research on justification, suggesting that how a decision is made is just as important as the decision itself (e.g., Peecher 1996, Kennedy et al. 1997). That is, auditors' preferences are likely to influence the manner in which they search for and weigh cues in order to justify and defend their preferences. Therefore, as lower rank auditors may be influenced by pressures to recognize additional business opportunities, they may list more factors indicative of low inventory obsolescence risk (i.e., consistent with a client's preference) in the presence of information on additional business opportunities. On the other hand, since higher rank auditors may try to balance various conflicting pressures, they may list factors that are indicative of both low and high inventory obsolescence risks, regardless of the information provided. The discussion above suggests the following hypotheses:

- H1:** The risk assessments of lower rank auditors are more likely to be influenced by the presence of client business opportunities than higher rank auditors.
- H2:** Lower rank auditors are more likely to identify a higher frequency of low-risk factors in the presence of client business opportunities than higher rank auditors.

## METHOD

### Participants

Seventy-one Big 5 auditors with an average of 6.60 years of audit experience from four large public accounting firms participated in the experiment. Participants included 14 staff auditors, 18 seniors, 22 managers, eight senior managers, and nine partners.<sup>1</sup> Auditors were randomly assigned to one of two conditions, in which they were either provided with information on additional business opportunities or not provided such information (hereafter referred to as the business opportunity and

<sup>1</sup> Three participants (i.e., one higher rank and two lower rank auditors) were eliminated due to missing data.

no business opportunity conditions). Auditors at the staff and senior levels were included in the lower rank group, and managers, senior managers, and partners were included in the higher rank group.<sup>2</sup> This design resulted in four groups: lower rank auditors in the business or no business opportunities conditions, and higher rank auditors in the business or no business opportunities conditions. Nine additional auditors participated in pretesting the research instrument.

### Experimental Procedures

The study required that auditors in all four groups perform a preliminary risk assessment of inventory obsolescence for the audit client. It was emphasized in both the background information and task instructions that this risk assessment was part of audit planning. Participants first received extensive company background information and a summary of nonaudited financial information for the year. This information indicated that the client's internal controls were assessed as good to strong in prior and current years, and the client personnel in the internal audit and accounting department were comprised of highly competent and experienced individuals. In addition, this information indicated that the auditing firm had never had any disputes with the client over financial disclosures or accounting principles applied, and the firm had issued unqualified opinions in the three years that they had audited the client.

Next, all participants were given narratives that described discussions they had with several other audit team members and various client personnel as part of their planning work. These narratives were written in the first-person voice to encourage participants to view the discussions as actual interactions with client personnel and audit team members. All participants received general client information, as well as information related to the inventory obsolescence issue in the narratives. The general client information referred to the strong internal controls and good client relations. The inventory obsolescence information included items indicating high and low risk of obsolescence and was consistent with information in the audit task. Furthermore, all narratives stated explicitly that the client (i.e., controller and VP of production) believed that inventory obsolescence was not a problem. Participants in the additional business opportunity condition also received information regarding the presence of nonaudit revenue opportunities with this client.<sup>3</sup>

### Business Opportunity Manipulation

The business opportunity information was included in the discussion narratives to provide a more realistic and subtle manipulation. Discussions with audit firm members indicated that in practice an audit client is likely to provide indications of the possibility of additional business opportunities to an auditor during conversations, as opposed to obvious and blatant pressure. Therefore, the narratives were designed to be reflective of audit practice. Both audit team members and client personnel indicated in the narratives that the client was interested in integrating their business processes through an Enterprise Resource Program (ERP), such as SAP or PeopleSoft, and this information was integrated throughout the narratives.<sup>4</sup> The narratives emphasized that the client was

<sup>2</sup> In this study, we argue that while lower rank auditors' judgments are often influenced by various pressures, higher rank auditors have greater tacit management skills that may allow them to balance the competing goals they confront in the audit (Tan and Libby 1997; Tan 1999; Bhamornsiri and Guinn 1991). Based upon prior research, we believe that managers and partners are more likely to possess greater tacit knowledge than staff and senior level auditors. As a result, we define partners and managers as experienced auditors and staff and seniors as inexperienced auditors.

<sup>3</sup> The instrument is available upon request to the authors.

<sup>4</sup> Selecting a potential ERP project as the additional service manipulation provides a scenario that is likely to be salient to auditors across professional ranks (Basser 1998). A recent study found that 85 percent of 200 large companies surveyed buy consulting services (particularly systems consulting) from CPA firms that audit their financial statements since they believe that audit firms' consultants are often best qualified for these services (Tie 2000). A potential concern in using an ERP manipulation is that it could itself signal that the client is attentive to inventory and production issues. However, since recent research suggests that ERP implementation can lead to benefits as well as risks (e.g., Sumner 2000; Wright and Wright 2002), the signal concerning the client's attributes may be ambiguous.

interested in speaking with the audit firm once the audit was successfully completed. No such information was given to participants in the no business opportunity conditions.

A separate survey was conducted to verify the presence of additional business opportunities in the performance evaluations of lower rank auditors and ensure that the manipulation would influence lower rank auditors. Ten staff auditors and ten seniors with an average of 1.91 years of audit experience in large public accounting firms participated in the survey. There were no significant differences in the experience level between these participants and the lower rank auditors in the main experiment. Participants in this survey rated the importance of 13 factors in their performance evaluation at their current rank. The ratings were made on a 100-point scale, in which ratings below 25 were labeled as "unimportant," 25 to 49 as "fairly unimportant," 50 to 75 as "fairly important," and above 75 as "important"; t-test comparisons indicate that recognizing opportunities for promoting expanded services (i.e., client service) was rated significantly higher (mean = 77.25) than developing new clients (i.e., practice development) (mean = 68.00), professional development (mean = 51.5), and presentation skills (mean = 47.5), and significantly lower than professional judgment (mean = 91.5), personal skills (89.25), audit engagement management (mean = 87), and technical skills (mean = 85.75) (for all  $p < .05$ ). In addition, client service was rated the same as client problem-solving (mean = 71.75), staff development (mean = 74.75), professional ability (mean = 81.50), applying technical knowledge (mean = 81.25), and leadership skills (mean = 81.00). These results broadly replicate the findings of Emby and Etherington (1996), and indicate that lower rank auditors consider recognizing opportunities for promoting additional services to clients as a significant factor in their performance evaluation.

### Experimental Task

After reading the background information and narratives, all participants received information on the inventory obsolescence task in the form of an audit memo compiled by another audit team member. Inventory is often a material part of an engagement that receives significant attention (AICPA 1972) and lower and higher rank auditors should be familiar with this account in the capacity of either preparer or reviewer. In addition, prior research has found that vague disclosure criteria in financial accounting standards (e.g., inventory obsolescence judgment) may provide auditors with an opportunity to justify aggressive reporting methods under pressure (Hackenbrack and Nelson 1996).

To ensure that participants perceived the information in the audit memo to be pertinent to their decision, it was stated that all relevant information on the inventory obsolescence matter had been compiled by a member of their audit team in this memo. The audit memo stated that the client's competition was in the process of producing and marketing a technologically superior product that would make the client's product obsolete. Participants received detailed information that both supported and refuted the existence of inventory obsolescence in the current year. For example, while the information indicated that the competition had developed a technologically superior product that would be sold at a lower price than the client's product (supporting inventory obsolescence), it was also noted that the client had an international market in which it could sell the inventory and the competition's product would not be available for 8–20 months (refuting inventory obsolescence).<sup>5</sup> In addition to the inventory obsolescence information, the audit memo explicitly told all participants that the client's preference was for no write-down of inventory and no disclosure of the inventory issue. Immediately after receiving the client's preference, participants were asked to make a preliminary risk assessment of the client's potential inventory obsolescence on a nine-point Likert scale with endpoints labeled Very Risky and Not Very Risky (9 = Very Risky; 1 = Not Very Risky). Auditors were also asked to list the factors that significantly influenced their judgment.

<sup>5</sup> The inventory obsolescence task had been used in prior research and was modified for the present study (see Anderson et al. 1997).

Two partners, one senior manager, and six seniors pretested the research instrument. The pretest indicated that the information and the narratives provided in the case were realistic and typical of information that they would encounter during the audit of inventory. They also confirmed that the inventory task was subjective and information that both supported and discounted the existence of inventory obsolescence was included. The pretest auditors confirmed that the client background information was indicative of a good client and there were no differences in client risk between the additional business opportunity and no additional business opportunity versions of the instrument. Based upon the pretest responses, some of the case information was revised (e.g., the inventory task was made more subjective) to ensure that the goals of the study were met.

The final case materials were mailed to a contact partner at each firm. Each partner received a randomized set of instruments and was responsible for disseminating and collecting the instruments. The final instrument consisted of task instructions, client information, discussion narratives, the inventory obsolescence task, and a post-experimental questionnaire. The questionnaire included case questions, a manipulation check, and demographic questions. The case questions included true/false statements that addressed facts from the client information and inventory task and referred to both positive and negative case information (e.g., indicative of high or low risk of inventory obsolescence). Accurate responses to these questions indicated whether auditors attended to both positive and negative information in the case. Auditors responded to an additional business opportunity manipulation check that asked how strongly they believed the client could provide opportunities to generate nonaudit revenues. In addition, to confirm that there were no differences in perceptions of the reliability of information provided by client management between the four groups, participants were asked to rate information reliability. The demographic questions addressed months of audit experience, percentage of time spent on manufacturing clients, and rank.

## RESULTS

### Manipulation Checks and Preliminary Analyses

Table 1 presents results of the post-experimental questions for the main experiment for both the lower and higher rank auditor groups. The additional business opportunity manipulation check asked participants how strongly they believed the client could provide opportunities to generate nonaudit revenues on a nine-point scale (1 = Not Very Strongly; 9 = Very Strongly). As expected, the results of the manipulation test show significant differences in the additional business opportunity ratings between the four groups ( $F = 5.02, p = .003$ ) indicating that the manipulation test was successful.<sup>6</sup> In particular, the mean rating of the Lower Rank/Business Opportunity Group (mean = 7.78) was significantly higher than the Lower Rank/No Business Opportunity Group's rating (mean = 6.29) ( $t = 2.92, p = .007$ ). Similarly, the mean rating of the Higher Rank/Business Opportunity Group (mean = 7.00) was significantly higher than the Higher Rank/No Business Opportunity Group (mean = 5.81) ( $t = 2.21, p = .034$ ). No significant differences were observed between the Lower Rank/Business Opportunity and the Higher Rank/Business Opportunity Groups and the Lower Rank/No Business Opportunity and the Higher Rank/No Business Opportunity Groups.

Table 1 also reports that auditors in all four groups rated the information provided by the client as equally reliable ( $F = .580, p = .630$ ). The results provide support that the nature of the business opportunities did not provide a signal concerning the client's attributes. Table 1 also indicates that no differences were observed in the auditors' responses to the case questions across all four groups, indicating that all participants attended similarly to the case information ( $F = .226, p = .878$ ). As expected, auditors in the lower rank groups had significantly fewer years of auditing experience than those in the higher rank groups (mean = 2.28 vs. mean = 10.14). No experience differences were

<sup>6</sup> Analyses indicate that the business opportunity main effect was significant ( $p = .001$ ), while the rank main effect and the interaction were not significant (both at  $p > .05$ ).



**TABLE 1**  
**Post-Experimental Variables: Means (Standard Deviations) and Analysis of Variance<sup>a</sup>**

Variable	Lower Rank/ Business Opportunity <sup>b</sup> (n = 15)	Higher Rank/ Business Opportunity (n = 21)	Lower Rank/ No Business Opportunity (n = 17)	Higher Rank/ No Business Opportunity (n = 18)	F-Ratio	p-value
Business opportunity manipulation check <sup>c</sup>	7.78* (0.89)	7.00* (1.41)	6.29** (1.72)	5.81** (1.81)	5.02	.003
Information reliability rating <sup>d</sup>	5.64 (1.64)	5.89 (1.60)	6.29 (1.36)	6.06 (1.05)	.580	.630
Number of case information items remembered correctly <sup>e</sup>	5.14 (0.77)	5.27 (0.67)	5.11 (0.85)	5.06 (.99)	.226	.878
Auditing experience in years	2.36* (1.56)	9.77** (6.70)	2.22* (1.42)	10.57** (7.11)	13.35	.000
Percentage of total time spent auditing manufacturing clients	50 (18.43)	53.4 (22.76)	61.6 (15.05)	70.62 (56.07)	.639	.595

<sup>a</sup> Entries within a row marked by \* and \*\* are significantly different according to t-test comparisons ( $p < .05$ ).

<sup>b</sup> The lower rank/business opportunity (no business opportunity) group consisted of audit staff and seniors who were provided (not provided) information on the presence of additional business opportunities. The higher rank/business opportunity (no business opportunity) group consisted of audit managers, senior managers, and partners who were provided (not provided) information on the presence of additional business opportunities.

<sup>c</sup> Each auditor rated the extent they believed that the client could provide opportunities to generate nonaudit revenues in the future (1 = Not Very Strongly; 9 = Very Strongly).

<sup>d</sup> Auditors rated the extent to which they agreed that the information provided by client management was reliable (1 = Strongly Disagree; 9 = Strongly Agree).

<sup>e</sup> Auditors responded to six questions that tested their recollection of the facts from the case information and inventory task. Thus, the number of information items correctly remembered by an auditor could range from 0 to 6.

observed between the Lower Rank/Business Opportunity and the Lower Rank/No Business Opportunity Groups and the Higher Rank/Business Opportunity and the Higher Rank/No Business Opportunity Groups. Finally, there were no differences in the percentage of time spent auditing manufacturing clients across the four experimental groups ( $F = .639, p = .595$ ).

### Risk of Inventory Obsolescence

After reading the case information, each participant made a preliminary risk assessment of the client's potential inventory obsolescence on a nine-point scale (1 = Not Very Risky; 9 = Very Risky). Panel A of Table 2 reports the mean risk assessments of inventory obsolescence for the four experimental groups, while Panel B shows a  $2 \times 2$  ANOVA with rank and additional business opportunity as the factors. The ANOVA results indicate a significant interaction between the rank and additional business opportunity factors ( $F = 4.92, p = .030$ ). As reported in Panel C, auditors in the Lower Rank/Business Opportunity Group assessed the client's potential inventory obsolescence to be less risky (mean = 5.73) than auditors in the Lower Rank/No Business Opportunity Group (mean = 6.94) ( $t_{\text{(one-tailed)}} = -2.23, p = .017$ ). However, no differences were observed between the risk assessments of auditors in the Higher Rank/Business Opportunity Group (mean = 6.71) and the Higher Rank/No Business Opportunity Group (mean 6.33) ( $t_{\text{(one-tailed)}} = .805, p = .213$ ). Consistent with H1, the presence of additional business opportunities affected the risk assessments of the lower rank auditors but not the higher rank auditors. Although not directly testing the hypothesis, the Lower Rank/Business Opportunity Group judged the client's potential inventory obsolescence to be



**TABLE 2**  
**Risk of Inventory Obsolescence:**  
**Means (Standard Deviations), Analysis of Variance, and Relevant t-test Comparisons**

**Panel A: Means (Standard Deviations) by Group**

Variable: Risk of Inventory Obsolescence (1 = Not Very Risky; 9 = Very Risky)<sup>a</sup>

	<u>Business<sup>b</sup> Opportunity</u>	<u>No Business Opportunity</u>
Lower Rank	5.73 (1.91)	6.94 (1.08)
Higher Rank	6.71 (0.84)	6.33 (1.97)

**Panel B: Analysis of Variance<sup>c</sup>**

<u>Source of Variation</u>	<u>SS</u>	<u>df</u>	<u>F-Ratio</u>	<u>p-value</u>
Rank	.609	1	.272	.604
Business Opportunity	2.99	1	1.34	.252
Rank × Business Opportunity	11.04	1	4.92	.030

**Panel C: Relevant t-test Comparisons between Groups**

<u>Comparisons</u>	<u>t-statistic</u>	<u>p-value</u>
Lower Rank/Business Opportunity vs. Lower Rank/No Business Opportunity	-2.23	.017
Higher Rank/Business Opportunity vs. Higher Rank/No Business Opportunity	.805	.213
Lower Rank/Business Opportunity vs. Higher Rank/Business Opportunity	-2.10	.022
Lower Rank/No Business Opportunity vs. Higher Rank/No Business Opportunity	1.12	.135

<sup>a</sup> Each auditor responded to what they believed was the level of risk that the client's inventory may be obsolete (1 = Not Very Risky; 9 = Very Risky).

<sup>b</sup> The lower rank auditors consisted of audit staff and seniors, while the higher rank auditors consisted of audit managers, senior managers, and partners. The business opportunity (no business opportunity) group consisted of participants who were provided (not provided) with information on the presence of additional business opportunities.

<sup>c</sup> ANOVA and t-test comparisons (one-tailed) were used to analyze differences between the groups.

less risky than the Higher Rank/Business Opportunity Group ( $t_{(one-tailed)} = -2.10, p = .022$ ), suggesting a greater impact of this client pressure on lower rank auditors. In addition, no differences were observed between the Lower Rank/No Business Opportunity Group and the Higher Rank/No Business Opportunity Group ( $t_{(one-tailed)} = 1.12, p = .135$ ), possibly because inventory risk assessment is a task that is familiar to both lower rank and higher rank auditors. Therefore, auditors across all ranks will be familiar with this task in their role as either reviewer or preparer.

Recall that the client's preference was for no write-down of inventory and no footnote disclosure, indicative of low inventory obsolescence risk. Therefore, the findings suggest that, when provided with information on additional business opportunities, lower rank auditors' risk ratings were more in agreement with the client's preference than when no such information was provided. However, higher rank auditors' judgments were not affected by information on additional business opportunities, providing support for H1.<sup>7</sup>

<sup>7</sup> While the business opportunity manipulation check (Table 2) revealed significant differences in the mean ratings between the Business Opportunity and No Business Opportunity Groups, the mean ratings are relatively high for both groups. This is possibly because the importance of additional business opportunities is emphasized to auditors at all professional ranks.



The risk assessment results are further corroborated by an examination of the qualitative factors that participants listed as influencing their judgments of obsolescence risk. Each participant was asked to list the three factors that most influenced their assessment of the inventory obsolescence risk. One of the researchers and another faculty member (average 2.5 years auditing experience) independently coded each listed factor as either indicating an increased risk of obsolescence (coded +1), a decreased risk of obsolescence (coded -1), or neutral (coded 0). The agreement level between the two coders was 89.2 percent ( $Kappa = .825, p < .001$ ). Any differences between the coders were reconciled by the second researcher. The coded scores for the listed factors were summed to arrive at a total score. Thus, a participant's total score could range from +3 (all factors indicating increased obsolescence risk) to -3 (all factors indicating decreased obsolescence risk).

Panel A of Table 3 presents the mean scores for the four experimental groups. The ANOVA results presented in Panel B of Table 3 indicate a significant interaction between the rank and additional business opportunity factors ( $F = 3.95, p = .051$ ). Participants in the Lower Rank/Business Opportunity Group listed more factors indicating a decreased risk of obsolescence (mean =  $-.933$ )

**TABLE 3**  
**Factors Indicative of Increased or Decreased Risk of Inventory Obsolescence:**  
**Means (Standard Deviations), Analysis of Variance, Relevant t-test Comparisons**

**Panel A: Means (Standard Deviations) by Group**

Variable: Total Scores of Coded Factors<sup>a</sup>

	<b>Business<sup>b</sup> Opportunity</b>	<b>No Business Opportunity</b>
Lower Rank	-9.33 (2.12)	.941 (2.38)
Higher Rank	.381 (2.22)	.167 (2.03)

**Panel B: Analysis of Variance<sup>c</sup>**

<b>Source of Variation</b>	<b>SS</b>	<b>df</b>	<b>F-Ratio</b>	<b>p-value</b>
Rank	1.27	1	.264	.609
Business Opportunity	12.05	1	2.49	.119
Rank × Business Opportunity	19.08	1	3.95	.051

**Panel C: Relevant t-test Comparisons between Groups**

<b>Comparisons</b>	<b>t-statistic</b>	<b>p-value</b>
Lower Rank/Business Opportunity vs. Lower Rank/No Business Opportunity	-2.33	.013
Higher Rank/Business Opportunity vs. Higher Rank/No Business Opportunity	.312	.378
Lower Rank/Business Opportunity vs. Higher Rank/Business Opportunity	-1.78	.042
Lower Rank/No Business Opportunity vs. Higher Rank/No Business Opportunity	1.035	.154

<sup>a</sup> Auditors listed three factors that most significantly influenced their assessment of the client's inventory obsolescence risk. Each response was independently coded as indicative of an increased risk of obsolescence (+1), decreased risk of obsolescence (-1), or neutral (0). The coded scores were summed for each auditor to provide a total score that could range from -3 to +3.

<sup>b</sup> The lower rank auditors consisted of audit staff and seniors, while the higher rank auditors consisted of audit managers, senior managers, and partners. The Business Opportunity (No Business Opportunity) Group consisted of participants who were provided (not provided) with information on the presence of additional business opportunities.

<sup>c</sup> ANOVA and t-test comparisons (one-tailed) were used to analyze differences between the groups.



than participants in the Lower Rank/No Business Opportunity Group (mean = .941) ( $t_{\text{(one-tailed)}} = -2.33$ ,  $p = .013$ ). Therefore, lower rank auditors considered fewer factors indicative of increased risk when provided with information on additional business opportunities than when information on such opportunities was not provided. However, no differences were observed in the qualitative factors listed by participants in the Higher Rank/Business Opportunity Group (mean = .381) and the Higher Rank/No Business Opportunity Group (mean = .167) ( $t_{\text{(one-tailed)}} = .312$ ,  $p = .378$ ). Additionally, the differences between the qualitative factors listed by the Lower Rank/Business Opportunity Group and the Higher Rank/Business Opportunity Group were significantly different ( $t_{\text{(one-tailed)}} = -1.78$ ,  $p = .042$ ), while no differences were observed between the Lower Rank/No Business Opportunity Group and the Higher Rank/No Business Opportunity Group ( $t_{\text{(one-tailed)}} = 1.035$ ,  $p = .154$ ).

In addition, the mean score for the Lower Rank/Business Opportunity Group was significantly different from zero ( $t_{\text{(one-tailed)}} = -1.705$ ,  $p = .055$ ), while the means for the other groups were not.<sup>8</sup> This again indicates that lower rank auditors who received information on additional business opportunities identified more factors indicative of low inventory obsolescence risk while the other three groups considered factors indicative of both high and low obsolescence risk. These findings are consistent with the risk assessment results observed in Table 3 and support H2.<sup>9</sup>

### CONCLUSION

This study indicates that, given client preferences for no inventory write-down or additional disclosures, lower rank auditors judged the inventory obsolescence risk to be lower in the presence of pressures suggesting potential client business opportunities than when there were no such opportunities. There were no differences in the judgments of higher rank auditors when either provided or not provided with information on business opportunities. Given the client's stated preferences, a lower risk assessment for inventory obsolescence is more consistent with the client's position than a higher risk assessment. In effect, the findings suggest that lower rank auditors are influenced by incentives for recognizing additional business opportunities given their existence in performance evaluations and the mentoring process. The findings from this study are consistent with prior research suggesting that staff and senior auditors are often susceptible to various pressures encountered in the audit environment (e.g., Ponemon 1992; Houston 1999). The results of higher rank auditors suggest that, given their greater tacit knowledge, managers and partners are more aware of and better able to balance the competing incentives that they confront in the audit environment.

To better understand why the higher rank auditors in this study were less influenced by additional business opportunities than lower rank auditors, it is important to consider the case setting used in the experimental task. Prior research indicates that audit pressures may not always influence the judgments of experienced professionals when there are concerns for litigation risk (e.g., Trompeter 1994). In this study, the experimental case was ambiguous, but the nature of the account (i.e., inventory)

<sup>8</sup> Analyses using the percentage of positive or negative items of the total items yielded identical results. We also examined the specific items listed by the participants to determine if certain items were mentioned more based upon rank or business opportunity conditions, but no differences were observed. The most frequently listed items across the four groups were indicative of both high and low risk of obsolescence and concerned both the client and the competition. These items were the competition's superior product, the time lag before the competition's product would be available, the inventory level of the client, and the international market available for the client's product.

<sup>9</sup> Nonparametric Mann-Whitney tests were conducted on the inventory risk assessment and the qualitative factor variables. These yielded the same results as the parametric analyses reported in the paper. In addition, given that the standard deviation was relatively high in some of the cells, we checked for outliers and performed a sensitivity analysis on the inventory risk variable. A box plot analysis identified three outliers (Neter et al. 1996), and the data was reanalyzed after removing those subjects from the sample. This yielded the same results as those reported in the paper.



involved and the type of company (i.e., a high-technology manufacturer) selected made it likely that higher rank auditors would consider litigation issues when performing this task. Prior research suggests that inventory is a high-litigation-risk area (Stice 1991; Pratt and Stice 1994). In addition, manufacturing clients represented 47 percent and 57.8 percent of the auditor litigation cases in Stice (1991) and Palmrose (1988), respectively. Prior research also indicates that asset overstatements in technology companies often involve inventory (Beasley et al. 2000). Since litigation risk in this case is moderate (i.e., client control risks are low, as stated in the background information, but inherent risks at the account and industry level are high), higher rank auditors completing the experimental case may have considered the litigious and risk factors associated with the experimental task. However, since we did not directly examine the relative effects of these various pressures, future research is needed to get a better understanding as to why new business opportunities had a differential effect on lower and higher rank auditors.

These results have potential implications for audit practice. While auditors of lower ranks typically do not make final judgments for inventory obsolescence, they provide significant input into the decision through informal consultations with higher rank auditors, documentation of evidence and conclusions, and through the review process (Nelson and Kinney 1997; Ricchiute 1999). Effective training programs could be developed to counter any undesirable impact of pressure from additional business opportunities incentives. For example, lower rank auditors can be made more aware of the contextual factors and the requirement of professional standards that need to be balanced when making decisions in the face of pressures. Accounting education may also be a part of the solution since auditing students could be made aware of the complex trade-offs involved when they are initially exposed to the importance of additional business opportunities. By exposing students to the findings of audit judgment research, we can introduce them to the rich and complex audit environment in their educational experience (Knechel 2000). However, future research is needed to empirically examine the efficacy of such additional training.

Some limitations need to be taken into account when considering the results of the study. A potential limitation is that this study focused on the preliminary risk assessment stage, and it did not address subsequent decisions such as actual planning decisions. In addition, since the nature of the additional business opportunity manipulation involved software implementation, higher rank auditors may have been more sensitive to the possibility of an independence problem and the related risk factors (i.e., the audit firm may be auditing a system that it designed and implemented) (Levitt 2000; Turner 2001). Future research could examine the influence that different types of additional business opportunity pressures can have on audit judgments. It should also be noted that rather than stating that there were no opportunities for additional services, we were silent on the possibility in the no business opportunity groups. It is possible that auditors in these groups could have assumed that such opportunities existed. However, since the manipulation check indicates differences in perceived opportunities across all conditions, this does not seem to be a problem. In addition, this would bias against supporting our hypotheses.

While this study highlights the importance of considering contextual and individual factors when investigating pressure-induced dysfunctional behavior (DeZoort and Lord 1997), additional research needs to explore the role of other contextual factors. For example, future research can explore whether domain-specific experience or industry specialization can impact auditors' decisions in the presence of various pressures. Since this study does not consider the impact of the review process that may mitigate the additional business opportunities pressure effects, future research could address this issue. The results of such research can enhance our knowledge of the specific conditions under which such pressures impact auditors' decisions. This, in turn, can contribute substantially to our understanding of pressures faced in the audit environment.

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