We thank Brian Ballou, Tim Bauer, Justin Leiby, EB Poziemski, Drew Reffett, Aaron Zimbelman, and workshop participants at the University of Illinois for their helpful comments. We also grateful to the auditors who participated in the experiment.
Can Providing Advice on Management’s Accounting Estimates Improve Auditor Objectivity?

ABSTRACT

We investigate how auditors develop expectations to evaluate the reasonableness of management’s accounting estimates. Consistent with prior literature, we predict and find experimental evidence that auditors rely heavily on management’s point estimate. However, we find that auditor reliance on management’s point estimate is weakened if the auditor first evaluates the estimate in an advisory role, such as when management requests auditor advice about the estimate. Contrary to concerns that auditor involvement in management’s decision process may impair objectivity, we find that management’s request for advice motivated auditors to be more critical of and rely less on management’s point estimate. The results indicate that regulation focused on restricting the auditor-client relationship could impair rather than enhance auditors’ ability to critically evaluate management’s estimates.

Keywords: accounting estimates; advice; involvement; reasonableness.

Data Availability: Contact the authors.
I. INTRODUCTION

Financial statements contain complex accounting estimates where management must make assumptions about the magnitude and likelihood of future events, and where small changes in assumptions can result in material misstatements (Christensen et al. 2012; Peecher et al. 2011). Auditing standards require auditors to evaluate and obtain evidence supporting the reasonableness of management’s estimates (AU 342). While auditors are encouraged to develop independent expectations to evaluate reasonableness, regulators are concerned that auditors are not sufficiently skeptical of the assumptions underlying management’s estimation process (PCAOB 2011a, 2011b).1 As a consequence, auditors may over-rely on management’s assumptions, increasing the propensity for auditors to go along with any point estimate within management’s proposed range (Griffith et al. 2011). We present experimental evidence that auditors rely heavily on management’s point estimates when developing their expectations, but such reliance is weakened when management asks auditors for advice pertaining to the estimate. Our findings suggest that acting in an advisory role can make auditors more rather than less objective in their verification role, which highlights a potential unintended consequence of regulations designed to distance or remove auditors from management’s decision process.

Managers routinely involve the auditors early in the decision process for complex accounting matters and auditors often prefer taking the role of ‘expert advisor’ rather than ‘police officer’ (McCracken et al. 2008). Early auditor advice can improve the audit process by helping management develop appropriate reporting positions as issues arise, but could also place auditors in a position where they are, or perceived as, auditing their own work. Additionally, involvement

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1 In November 2011, the PCAOB published the previously non-public portion of its 2008 inspection report on Deloitte & Touche LLP, which represents the first time that the system of quality control of a Big Four firm was publicly criticized. In the inspection report, the PCAOB cited “cause for concern that the Firm’s system of quality control may not do enough to assure that the Firm performs appropriate procedures to audit significant estimates, including evaluating management’s assumptions and testing the data supporting the estimates” (PCAOB 2008, 12).
in management’s decision process could increase auditors’ reliance on the assumptions underlying management’s estimates when evaluating reasonableness and strengthen their motivation to accept management’s preferences (Kleine et al. 1993). Regulators have clarified that technical accounting discussions between the auditors and management are appropriate and necessary (PCAOB 2005), but many auditors remain uneasy about the potential implications of providing advice into management’s decision process (e.g., O’Sullivan 2008; Stuart 2008).

We apply findings from studies on the judgment process of advisors relative to decision makers to hypothesize that audit judgments are more objective when management asks for the auditor’s advice. Advisors tend to engage in a more balanced information search, have greater concern for accuracy, and focus on the single most important attribute (Bonaccio and Dalal 2006). Yet, whether or not these findings apply to the audit setting is unclear. The advice literature has not examined situations where advisors later assume a verification role. As such, providing advice may hinder rather than promote auditor objectivity in verifying management’s estimates. Also, auditors are strongly influenced by management’s preferred conclusions and exploit ambiguity to justify them (e.g., Hackenbrack & Nelson 1996; Salterio and Koonce 1997; Nelson and Tan 2005). Therefore, providing advice may impair auditor objectivity, as Kadous et al. (2003) found that efforts to make auditors more concerned with accuracy (e.g., performing a quality assessment) exacerbated their tendency to support management’s preferred conclusions. Conversely, we posit that providing advice enhances auditor objectivity as it diverts attention away from management’s preferred conclusions and promotes a critical evaluation of the evidence.

We conduct a 2 x 2 between-participants experiment where practicing auditors evaluate the reasonableness of a client’s proposed adjustment to the warranty reserve in response to an
unanticipated increase in product failure rates. Holding all other information constant, we manipulate the amount of management’s proposed adjustment, as either the minimum or midpoint of their estimated range, to determine whether the auditors rely on management’s point estimate. We also manipulate whether or not management requests auditor advice on the warranty reserve decision. The auditors prepared a draft response to management’s estimate range and analysis of the warranty reserve decision either (1) at management’s request for input and before learning of management’s point estimate, or (2) after learning about management’s point estimate, and not explicitly requested by management. The auditors’ judgment of the most appropriate warranty reserve adjustment, after learning management’s point estimate, serves as our primary dependent variable.

The results support our predictions. When management did not request auditor advice, participants’ expectations heavily relied on management’s proposed estimate with participants in the Midpoint reserve condition proposing significantly higher adjustments compared to the Minimum reserve condition. However, management’s request for auditor advice not only significantly weakened but eliminated this reliance as participants’ proposed adjustments did not significantly differ between the Midpoint and Minimum reserve conditions. Process measures indicate that this result is attributable to participants being more critical of the assumptions underlying management’s proposed estimate, leading to more objective auditor judgment.

Our study contributes to the emerging literature on the auditing of complex estimates and the literature on auditor-client negotiation. With respect to estimates, our findings of significant auditor reliance on management’s estimate, validates the interview findings of Griffith et al. (2011) and public criticism from the PCAOB (2011a, 2011b). More importantly, our results demonstrate how providing advice on management’s decision process can curb such reliance.
This result has important practical implications as regulators are concerned that auditors are not adequately skeptical of management’s estimates and their proposed solution is to impose additional restrictions on the auditor-client relationship (e.g., audit firm rotation). While such restrictions could shake up overly comfortable relationships, weaker auditor-client relationships could reduce management’s propensity to ask for, and auditors’ willingness to provide advice (Levin and Cross 2011). With respect to auditor-client interaction, prior research has focused primarily on the negotiation process after an accounting treatment dispute is identified (Gibbins et al. 2001). Our study focuses on the pre-negotiation phase and the more routine interactions between auditors and managers that likely dictate whether disputes even manifest. Within this pre-negotiation phase, auditor provision of advice is common, but previous research has not examined the effects of auditors assuming an advisory role on their professional judgment. Cumulatively, we provide evidence that seeking advice from auditors in material accounting decisions can, in some cases, actually promote rather than impair auditor objectivity.

The remainder of this paper is organized as follows. In Section II, we discuss background research on the auditing of accounting estimates and develop our hypothesis. In Section III, we introduce the experimental method. In Section IV, we present the results. Section V concludes with discussion of implications, limitations, and opportunities for future research.

II. HYPOTHESIS DEVELOPMENT

Accounting estimates are financial statement items that contain uncertainty based on the outcome of future events (AICPA 1988). This uncertainty can provide management the opportunity to develop biased, income-increasing estimates (see Griffith et al. 2011 for a review of the accounting literature on estimates). Auditing standards require that the auditor evaluate the
reasonableness of management’s estimates using a combination of (1) testing management’s estimation process, (2) developing an independent expectation, and/or (3) reviewing subsequent events pertinent to the estimate (AU 342). The auditor then determines a reasonable range of outcomes and evaluates management’s estimate against that reasonable range. Griffith et al. (2011) find that auditors tend to focus on auditing the details of management’s estimation process rather than developing independent expectations. These findings are consistent with regulator’s concern that auditors’ focus on management’s process results in over-reliance on the assumptions underlying management’s estimates (PCAOB 2011a, 2011b). Auditor reliance on the assumptions underlying management’s estimates is consistent with motivated reasoning where auditors, due to client-aligned incentives, exploit ambiguity to justify known management accounting preferences (e.g., Hackenbrack and Nelson 1996; Salterio and Koonce 1997), particularly when such preferences become known before evidence is evaluated (Jenkins and Haynes 2003). We now consider how management asking for auditor advice affects auditor reliance on management.

**Auditor as an Advisor and Reliance on Management**

Management asking auditors for auditor advice on accounting estimates could actually exacerbate auditor reliance on management’s estimates by overlaying an accuracy goal on their preexisting motivation to justify management’s preferred conclusions (cf. Kadous et al. 2003). That is, although accuracy goals generally lead to increased cognitive effort, appropriate cognitive strategies, and bias reduction (e.g., Kruglanski and Freund 1983; Tetlock 1983a; Tetlock 1983b), overlaying an accuracy goal on a preexisting directional goal amplifies directional processing as the increased cognitive effort is used to justify preferred conclusions (Kadous et al. 2003). Specifically, Kadous et al. (2003) found that asking auditors to assess the
quality of management’s preferred accounting choices made auditors even more likely to support these preferred conclusions.

Conversely, although creating an accuracy goal, we posit that management requesting auditor advice on accounting estimates will actually reduce reliance on management as it lessens the influence of management’s preferred conclusions on auditor judgment. Unlike a quality assessment (Kadous et al. 2003) which is, by definition, performed on an ex post basis, seeking/giving advice is presumed to be done before management has finalized their accounting position. As such, auditors likely interpret the advice request as a management desire for GAAP conformity and management not having a strong preference for a particular accounting position. Based on this interpretation, auditors would be more likely to set aside management preferred conclusions (as indicated by the assumptions underlying their estimate) and to perform an objective evaluation of the evidence. That is, auditors are likely to consider management’s preferences as irrelevant and weighting of them, in response to a request for advice, would violate their role as an advisor (Grice 1975).²

We predict that the exclusion of management’s preferences from the auditor’s initial evidence evaluation, when in an advisory role, will result in more objective accounting judgments. The advice literature demonstrates that advisors, compared to decision makers: (1) engage in a more balanced information search, (2) have greater concern about the accuracy of their recommendations (3) and evaluate information on the most important attribute (Bonaccio and Dalal 2006). When making their own decisions, individuals conduct a biased information search and evaluation, frequently focusing on evidence that supports their preferred conclusions (Kunda 1990). Due to a greater concern for accuracy and less concern with preferred

² It is likely that the auditor will use their perceived expertise advantage pertaining to accounting standards and interpretations (McCracken et al. 2008) when responding to requests for advice.
conclusions, advisors tend to conduct a more balanced information search (Jonas and Frey 2003; Jonas et al 2005). Advisors are also more likely to provide a recommendation based on the single most important attribute while individual decision makers are likely to overweigh less important attributes (Kray and Gonzalez 1999).

Cumulatively, the effects of management requesting that the auditor provide advice on accounting estimates prompts the auditor to be more critical of management and management’s support for the estimate, and thus to be more objective. As such, we hypothesize that the objective evaluation of the estimate will result in audit decisions that are less influenced by management’s point estimate.

**Hypothesis:** Auditors’ expectations of accounting estimates are less sensitive to management’s point estimate when management requests advice from the auditor (In Figure 1 (A-C) > (B-D)).

### III. METHOD

We employ a 2 x 2 between-subjects experiment where practicing auditors analyze the warranty reserve for a manufacturer of video game consoles. We manipulate (1) whether or not management requests the auditors’ advice before communicating their proposed estimate to the auditor (*Request vs. No Request*) and (2) the location of management’s proposed point estimate as either the minimum or midpoint of management’s estimate range. Participants develop expectations of the most appropriate amount for the warranty reserve.

**Participants**

Invitations to participate in the online experiment were sent to 253 seniors, managers and senior managers at four international, three national and six regional accounting firms, with an assurance of firm anonymity. Potential participants were invited by the firm contacts via email.
and informed that the researchers would donate $25 to a charity of their choosing in appreciation of their participation. Of the 73 auditors that responded, 65 (17 senior managers, 20 managers and 28 seniors; 25.7 percent response rate) who average 6.4 years of experience completed the experimental task. Participants rated themselves as highly involved in discussions of important accounting issues with their audit clients (0 = Never, 10 = Very Often; mean = 7.7) and familiar with the accounting for warranties (0 = Not At All Familiar, 10 = Very Familiar; mean = 5.1).

**Experimental Task**

The experimental task was developed based on difficulties that Microsoft encountered with estimating its warranty reserve for the Xbox 360 gaming console.\(^3\) We selected warranty reserve because it is a complex estimate and an earnings management tool (Cohen et al. 2011). The experimental materials were revised based on feedback from numerous practicing auditors and accounting academics. Responses to the debriefing questions indicate that participants considered the case to be realistic and the warranty reserve decision to be material with a high risk of material misstatement. On average, participants completed the experiment in 36 minutes.

The task begins with information about the fictional client, Advanced Learning Devices (ALD), a company that has received critical acclaim for its extremely popular SkyPort hand-held video game console. Participants learn that ALD management has recently focused on increasing production and reducing manufacturing costs of the SkyPort. Participants are then informed that, during interim testing, the audit team noticed that the ratio of warranty claims to unit sales had increased and inquired of ALD’s controller to determine if the projected failure rate for the SkyPort had increased. The controller responded that the SkyPort had not undergone any production changes, other than contracting with a new supplier of graphics processing units.

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\(^3\) Microsoft’s Xbox 360 experienced a higher than expected rate of hardware failures, eventually resulting in a $1.06 billion charge for anticipated costs under an expanded three year warranty policy for inventory write-downs and product returns ([http://www.microsoft.com/presspass/press/2007/jul07/07-05warrantyextensionpr.mspx](http://www.microsoft.com/presspass/press/2007/jul07/07-05warrantyextensionpr.mspx)).
(GPUs), and stated that the SkyPort’s warranty costs are based on a projected failure rate of 4% (the industry average), but he would continue to monitor the issue. Shortly before year-end, the controller notified the audit team that ALD found that the new GPUs are prone to overheating, which may result in a significant increase in SkyPort warranty claims. The controller indicated that ALD was working to resolve the overheating issue and would prepare an adjustment to the warranty reserve. After year-end, two reputable video game industry publications confirmed the controller’s concerns with reports that the SkyPort failure rate is likely between 20% and 50%.

Participants then received, and were asked to evaluate, the controller’s analysis of the warranty reserve decision. In the message, the controller describes ALD’s efforts to develop a user-downloadable software upgrade that is expected to reduce SkyPort overheating. The controller identified a range of possible adjustments to the warranty reserve to reflect a SkyPort failure rate between 5% and 35%, resulting in a revised warranty reserve between $1,169 and $8,180, and adjusted net income between $3,601 and $(3,410). The controller then communicates ALD’s proposed estimate (amount based on experimental condition; described below). Either before or after receiving management’s proposed estimate (based on experimental condition; described below), participants are asked (by the controller or the experimenters; described below) to provide feedback to the controller. Participants then develop expectations related to the most appropriate amount and the range of appropriate amounts for the warranty reserve. The experiment concludes with measurement of process variables, manipulation checks, and demographic questions.

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4 Participants were also provided an extract from ALD’s unaudited financial statements containing details about ALD’s accounting for the warranty reserve and the articles that reported on the overheating issue.
Independent Variables

*Auditor Advice* was manipulated by varying the message from the controller about the warranty reserve decision. In the Request (No Request) condition, the controller requests (does not request) advice from the participant on the warranty reserve decision after identifying the range of possible adjustments to the warranty reserve but before communicating his proposed estimate within the range. Also, participants are asked in the Request (No Request) condition to list three items that they would recommend their audit team include in a response to the controller’s analysis of the warranty reserve decision before (after) the controller communicates his proposed point estimate.\(^5\) *Point Estimate* was manipulated by varying the location of the controller’s proposed point estimate within the range. In the Minimum (Midpoint) condition, ALD arrived at a failure rate of 5% (20%), which is the minimum (middle) of the range, and results in an adjustment to warranty reserve of $692 ($4,197) and a net income of $3,601 ($96).

Exhibit 1 outlines the flow of the experiment for each condition.

Dependent Variables

The primary dependent variable is the point estimate of adjustment to the warranty reserve that participants believe would be most appropriate for ALD to record. Participants also identify their range of appropriate adjustments (i.e., lowest and highest appropriate adjustments). Process measures include perceptions of management’s technical knowledge, management’s desire for higher income, management’s desire for GAAP conformity, the auditor’s role in

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\(^5\) For internal validity, all participants listed three items that they would communicate to management. This design choice allows us to control for the effort level devoted to analyzing the warranty reserve issue, as all participants complete the same tasks. The differences are (1) whether or not management specifically solicits the auditors’ advice and (2) the timing of when they provide feedback (either solicited or unsolicited) as either before or after they learn of management’s point estimate. Consequently, any results of *Auditor Advice* could be attributable to the timing of the feedback and not whether or not the advice was requested. However, from an external validity perspective, this timing difference is *inherent* in a request for advice as the request, in order to be credible, must be made prior to management communicating its final point estimate to the auditor and auditors would not typically be able to or feel inclined to give unsolicited advice prior to learning of management’s point estimate.
management’s decision process, the auditor’s identification with the client, and the perceived strength of support for management’s proposed warranty adjustment.

IV. RESULTS

Manipulation Checks

Participants were asked to identify the point estimate within the range of warranty reserve adjustments that the controller proposed to be recorded ($692 or $4,197), and 62 participants (95%) responded consistent with their assigned condition. Participants were also asked to indicate whether or not the controller invited feedback on the range of possible adjustments to warranty reserve before presenting ALD’s point estimate, and 52 participants (80%) responded consistent with their assigned condition. These high rates indicate that both manipulations were successful. Eliminating participants who failed at least one of the manipulation checks does not change the inferences from the results.

Overall Results

Descriptive statistics are presented in Table 1 (Panel A) and displayed graphically in Figure 2. In Figure 2, there appears to be significant reliance on management in the No Request condition, evidenced by participants in the Midpoint (dotted line) condition assessing the appropriate warranty reserve markedly higher than participants in the Minimum (solid line) condition. Consistent with our hypothesis, management requesting auditor advice weakens participants’ reliance on management, evidenced by smaller differences between the Midpoint and Minimum conditions in the Request condition.
Hypothesis Tests

Our hypothesis predicts that auditors’ judgment of the appropriate adjustment to the warranty reserve will be less sensitive to management’s proposed estimate when management requests auditor advice. ANOVA results (Table 1, Panel B), coupled with the overall pattern of results being consistent with our hypothesis (discussed above), provide support for our hypothesis by demonstrating a significant interaction of Point Estimate and Auditor Advice (p one-tailed < 0.05).

Analyzing the reliance on management’s assumptions in each Auditor Advice condition (Table 1 Panel C) provides further support for our hypothesis. Within No Request, participants in Midpoint assessed the most appropriate reserve significantly higher compared to Minimum (p two-tailed < 0.01), indicating significant reliance on management’s point estimate. These results provide experimental evidence supporting the interview findings of Griffith et al. (2011) and public criticism from the PCAOB (2011a, 2011b). In contrast, within Request, the judgments of participants in Midpoint and Minimum were not significantly different (p two-tailed > 0.10).6 Thus, providing early advice mitigated participant reliance on management as it appears to have promoted objectivity in their judgments. Our hypothesis is supported.

Supplemental Analyses

We conduct three sets of supplemental analyses. First, we examine several process-related measures to further support our theoretical development. Second, we analyze participants’ appropriateness ranges for the warranty reserve to examine the robustness of our results and to potentially gain additional insights. Third, we examine participants’ perceptions of the point estimates.

6 It would be statistically repetitive to test whether the difference between High and Low is significantly lower in Request compared to No Request as it would result in the same test statistic as the ANOVA interaction term.
Process-related measures

In developing our hypothesis, we discussed how increased objectivity would be driven by auditors’ increased desire for accuracy when management requests advice. Consistent with an increased desire for accuracy, when asked whether there was adequate support for the manager’s warranty adjustment (0 = definitely did not provide adequate support, 10 = definitely provided adequate support), participants in the Request condition (mean = 2.89) rated the adjustment as having significantly less support compared to the No Request condition (mean = 3.89; p<sub>one-tailed</sub> < 0.05). In addition, when management’s proposed estimate was Low, participants in the Request condition considered the estimate more aggressive (0 = Very Conservative, 10 = Very Aggressive; No Request = 6.71; Request = 8.36; p<sub>one-tailed</sub> < 0.05). This result suggests that, when advice was requested, participants were more critical in their evaluation of management’s support for the point estimate.

Our theoretical development raises the possibility that participants in the Request condition would assume the role of ‘expert advisor’ pertaining to their knowledge of accounting standards. We find that Auditor Advice influenced the participants’ perceptions of the controller’s technical accounting knowledge (0 = very weak knowledge, 10 = very strong knowledge), with participants in the Request condition (Mean = 5.32) rating the controller as less knowledgeable compared to the No Request condition (Mean = 6.22; p<sub>one-tailed</sub> < 0.05). This finding is consistent with the request for advice leading participants to more critically evaluate management’s technical knowledge and believe that management would benefit from their expertise.
Auditors’ Appropriateness Range

Descriptive values for auditors’ lowest and highest appropriate estimates are plotted in Figure 3. We analyze these values by examining (1) the effects of Auditor Advice as a robustness test of our hypothesis and (2) the propensity of the auditor to agree with management (indicator coding for whether or not the auditor reports the same high or low estimate as the manager did).

ANOVA results for the lowest appropriate adjustment only reveal a significant main effect of Point Estimate ($p_{\text{two-tailed}} < 0.01$), with participants’ assessment of the lowest appropriate warranty reserve being significantly higher in the Midpoint condition compared to the Minimum condition (means are $4,083$ and $2,478$, respectively). Thus, inconsistent with our hypothesis, the advice request did not influence the low end of participants’ range for the estimate. Likewise, the propensity of participants to agree with the manager on the low end of the range was unaffected by Auditor Advice.

ANOVA results for the highest appropriate adjustment reveal a significant main effect of Point Estimate ($p_{\text{two-tailed}} < 0.05$) and a significant interaction ($p_{\text{two-tailed}} < 0.05$). Consistent with our hypothesis, the pattern of results for the highest appropriate adjustment (Figure 3) is similar to the pattern for most appropriate adjustment (Figure 2). That is, participants’ assessment of the highest appropriate adjustment was lower in the Minimum condition compared to the Midpoint condition, but only when auditor advice was not requested. Overall, participants’ high end of the range was less sensitive to management’s point estimate when auditor advice was requested, consistent with our hypothesis.

Perceptions of Management’s Point Estimate

Participants in both Auditor Advice conditions, found the Minimum point estimate highly aversive. Compared to the Midpoint condition, participants in the Minimum condition viewed
management’s proposed estimate as more likely to be a result of management’s desire for higher income \((Minimum = 8.00; Midpoint = 5.62; p_{\text{two-tailed}} < 0.01)\) and less likely to be a result of management’s desire for GAAP compliance \((Minimum = 4.34; Midpoint = 5.79; p_{\text{two-tailed}} < 0.01)\). Furthermore, compared to the Midpoint condition, participants in the Minimum condition viewed the proposed estimate as less appropriate \((0 = \text{definitely not appropriate}, 10 = \text{definitely appropriate}; Minimum = 2.15; Midpoint = 5.07; p_{\text{two-tailed}} < 0.01)\) and were more likely to suggest that management record a different adjustment \((0 = \text{definitely suggest lower adjustment}, 5 = \text{would not suggest different adjustment}, 10 = \text{definitely suggest higher adjustment}; Minimum = 8.49; Midpoint = 6.34; p_{\text{two-tailed}} < 0.01)\). Participants’ aversion to the Minimum estimate demonstrates how auditor conservatism permeates many of their professional judgments, irrespective of whether or not management requests auditor advice.

V. CONCLUSION

We provide experimental evidence that auditors rely heavily on management’s point estimate when developing their expectations, but such reliance can be weakened if management seeks auditor advice during their decision process. When management requested auditor advice in the decision process for a material accounting estimate, auditor participants developed expectations that were significantly less sensitive to management’s proposed point estimate. Our results indicate that the request for advice motivated participants to be more critical of management’s point estimate when developing their own expectations. Hence, seeking and incorporating auditor expertise in management’s decision process can contribute to the development of more, not less, objective auditor expectations.
Our results have implications for regulators as they consider the nature of the auditor-client relationship and auditor-client communications. In the post-SOX environment, auditors are more apprehensive to involve themselves in management’s accounting decisions (e.g., O’Sullivan 2008; Stuart 2008). We find that limiting auditor familiarity with the client may actually inhibit rather than promote auditor objectivity and professional skepticism. With proposed regulation focused on imposing further restrictions on the auditor-client relationship (e.g., audit firm rotation; PCOAB 2011a, 2011b), auditors might have fewer opportunities to gain an understanding of management’s decision process and management may be less likely to seek auditor advice early in the decision process.7

Our results also have implications for audit standard-setting. Auditing standards highlight the benefits of taking a ‘top-down’ approach to auditing (cf. AS No.5, Bell et al. 2005). The top-down approach emphasizes the importance of developing evidence-driven expectations, upon which an objective evaluation of management’s representations can be based. This perspective has been explicitly applied to audit planning (AS No. 9) but has not been widely applied to more detailed auditing standards. For instance, AU 342, *Auditing Accounting Estimates* lists three appropriate audit methods, and only one of those methods explicitly involves developing independent expectations. Our study indicates that management’s request for advice during the decision process encourages auditors to form independent, evidence-based expectations; relying less on management’s point estimate. As such, standard setters may consider stressing the importance of independent expectations in future auditing standards and how providing early advice can be beneficial in that regard. These findings are contrary to prevalent concerns about

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7 It is also possible the regulations such as mandatory firm rotation may drive management to seek auditor advice to reduce the uncertainties associated with a new auditor/management relationship. Examining whether firm rotation increases or decreases the likelihood of management seeking advice is an interesting question for future research.
auditors ‘auditing their own work’ or that auditor involvement demonstrates a potential auditor quality control weakness (e.g., O’Sullivan 2008; Stuart 2008).

This study has limitations that represent opportunities for future research. We examine the expectations that auditors develop to evaluate the reasonableness of management’s estimates, but auditors frequently focus on testing management’s estimation process. It is likely that auditors combine these approaches, and providing participants the opportunity to test the estimation process before developing expectations (or vice versa) could influence the extent to which auditors rely on management’s assumptions. We also cannot determine a normative benchmark that would represent unbiased expectations (i.e., an expectation that is not at all influenced by management’s assumptions). Finally, we focus solely on auditors’ expectations and the ultimately recorded estimate. Future research could investigate how management’s decision of whether (and when) to involve the auditors in the decision process for complex accounting estimates influences the amount is ultimately recorded and other aspects of the audit.
REFERENCES


### Exhibit 1

#### Internet-Based Experiment Administration

<table>
<thead>
<tr>
<th>Understanding the Client and Accounting Issue</th>
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<tbody>
<tr>
<td>1 Participants click on a web link to enter the experiment and begin by reading instructions and ethics information.</td>
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<tr>
<td>2 Participants read background information about the client firm and the warranty reserve decision, extracts from ALD’s unaudited financial statements and a news article reporting on the product failure issue.</td>
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<tr>
<th>Interaction with the Controller</th>
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<tr>
<td>3 Participants receive a message from the controller that contains the controller’s analysis of the warranty reserve decision and the range of possible adjustments to the warranty reserve that were identified by ALD management. Management’s point estimate (Minimum vs. middle) and auditor involvement (Request vs. No Request) in management’s decision process is manipulated in the message from the controller.</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Request</th>
<th>No Request</th>
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<tr>
<td>4 The controller invites advice from the participant on the warranty reserve decision after identifying the range of possible adjustments to the warranty reserve but before arriving at a point estimate within the range. Also, participants are asked to list three items that they would recommend their audit team include in a response to the controller’s analysis of the warranty reserve decision before the controller arrives at a point estimate within the range.</td>
<td>The controller does not invite advice from the participant on the warranty reserve decision after identifying the range of possible adjustments to the warranty reserve but before arriving at a point estimate within the range. Also, participants are asked to list three items that they would recommend their audit team include in a response to the controller’s analysis of the warranty reserve decision after the controller arrives at a point estimate within the range.</td>
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<table>
<thead>
<tr>
<th>Minimum</th>
<th>Midpoint</th>
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<tbody>
<tr>
<td>5 The controller’s conclusion is to record an adjustment to the warranty reserve of $692, which is based on the minimum of the range of possible adjustments that were identified.</td>
<td>The controller’s conclusion is to record an adjustment to the warranty reserve of $4,197, which is based on the middle of the range of possible adjustments that were identified.</td>
</tr>
</tbody>
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<tr>
<th>Appropriateness Assessments and Debriefing Questions</th>
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<tr>
<td>6 Participants are asked for their assessments of what they believe is the lowest appropriate, highest appropriate and most appropriate adjustment to the warranty reserve.</td>
</tr>
<tr>
<td>7 Participants complete the experiment by responding to a debriefing questionnaire and demographic questions.</td>
</tr>
</tbody>
</table>
Hypothesis: (A-C) > (B-D)
**Figure 2**

**Graphical Representation of Results**

*Auditor's Point Estimate*

*Management's Point Estimate*

- **High**
- **Low**

**Auditor Advice:** In the *Request (No Request)* condition the controller invites (does not invite) advice from the participant on the warranty reserve decision after identifying the range of possible adjustments to the warranty reserve but before communicating his proposed point estimate within the estimate range.

**Management’s Point Estimate:** In the *Minimum (Midpoint)* condition the controller proposes a point estimate for the warranty reserve that is located at the minimum (middle) of the estimate range.

The dependent measure reflects participants’ quantitative responses to “What adjustment to warranty accrual do you believe would be most appropriate for ALD to record?”
Auditor Advice: In the Request (No Request) condition the controller invites (does not invite) advice from the participant on the warranty reserve decision after identifying the range of possible adjustments to the warranty reserve but before communicating his proposed point estimate within the estimate range.

Management’s Point Estimate: In the Minimum (Midpoint) condition the controller proposes a point estimate for the warranty reserve that is located at the minimum (middle) of the estimate range.

The dependent measures reflect participants’ quantitative responses to provide the lowest and the highest appropriate adjustment in response to the question, “What range of adjustments to warranty accrual do you believe would be appropriate for ALD to record?”
Table 1
Participants’ Judgments of Most Appropriate Adjustments to the Warranty Reserve

Panel A: Descriptive statistics for most appropriate adjustment

<table>
<thead>
<tr>
<th>Point Estimate</th>
<th>Auditor Advice</th>
<th>No Request</th>
<th>Request</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>$3,915</td>
<td>$4,547</td>
</tr>
<tr>
<td></td>
<td>Standard deviation</td>
<td>1,354</td>
<td>1,539</td>
</tr>
<tr>
<td></td>
<td>Sample size</td>
<td>21</td>
<td>14</td>
</tr>
<tr>
<td></td>
<td>Cell</td>
<td>A</td>
<td>B</td>
</tr>
<tr>
<td>Midpoint</td>
<td>Mean</td>
<td>$6,133</td>
<td>$5,371</td>
</tr>
<tr>
<td></td>
<td>Standard deviation</td>
<td>1,946</td>
<td>1,443</td>
</tr>
<tr>
<td></td>
<td>Sample size</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Cell</td>
<td>C</td>
<td>D</td>
</tr>
</tbody>
</table>

Panel B: ANOVA results for most appropriate adjustment

<table>
<thead>
<tr>
<th>Factor</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auditor Advice</td>
<td>1</td>
<td>66,561</td>
<td>0.03</td>
<td>0.870</td>
</tr>
<tr>
<td>Point Estimate</td>
<td>1</td>
<td>36,681,241</td>
<td>14.95</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Advice*Estimate</td>
<td>1</td>
<td>7,706,875</td>
<td>3.14</td>
<td>0.081</td>
</tr>
<tr>
<td>Error</td>
<td>61</td>
<td>2,453,712</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Panel C: Contrast test results for most appropriate adjustment

<table>
<thead>
<tr>
<th>Contrast</th>
<th>Mean Difference</th>
<th>Standard Error</th>
<th>p (two-tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>C - A</td>
<td>$2,219</td>
<td>529.55</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>D - B</td>
<td>$824</td>
<td>582.10</td>
<td>0.162</td>
</tr>
</tbody>
</table>

**Auditor Advice**: In the Request (No Request) condition the controller invites (does not invite) advice from the participant on the warranty reserve decision after identifying the range of possible adjustments to the warranty reserve but before communicating his proposed point estimate within the estimate range.

Point Estimate: In the Minimum (Midpoint) condition the controller proposes a point estimate for the warranty reserve that is located at the minimum (middle) of the estimate range.

The dependent measure reflects participants’ quantitative responses to “What adjustment to warranty accrual do you believe would be most appropriate for ALD to record?”