

**An Investigation of Auditors' Judgments when Companies Release
Earnings before Audit Completion**

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An Investigation of Auditors' Judgments when Companies Release Earnings before Audit Completion

ABSTRACT

Over two-thirds of United States public companies now announce annual earnings prior to (versus with, or after) audit completion. We expect this practice has potential to increase pressure in auditor/client negotiations over post-announcement audit adjustments. In a controlled experiment with audit partners and senior managers, we find, in the presence of today's typical level of audit committee engagement, auditors are significantly more likely to accept aggressive financial reporting when earnings have been released (versus drafted). Further, we test and find this effect is mitigated with strong audit committee effectiveness (i.e., including ideal, but achievable, characteristics typically currently lacking in today's average committees). Our process-model tests find the joint effects are mediated by auditors' directional goals such that in the absence of strong audit committees, released earnings increases auditors' directional goals, leading to lower judgment quality. Our study provides evidence on the importance of investing in high-quality audit committees in promoting high-quality financial reporting.

Key Words: Auditor Judgment; Audit Committees; Professional Identification; Earnings Announcements; Audit Completeness; Financial Reporting Quality

1. Introduction

Using a controlled experiment, we investigate whether the audit-judgment quality of highly experienced audit partners and senior managers is affected by the differential timing of firms' annual earnings releases and firms' financial-statement-audit completion. Our study is motivated by the dramatic shift in firms releasing unaudited versus audited annual earnings announcements. Prior to 2004, approximately 75 percent of annual earnings announcements were released *on or after* the audit report date (Bamber, Bamber, and Schoderbek [1993], Schwartz and Soo [1996]), whereas, today, approximately 70 percent of U.S. public companies release earnings approximately 16 days, on average, *prior to* the audit report date (Schroeder [2016]; Marshall, Schroeder, and Yohn [2018]).¹

Although recent archival studies document lower financial reporting quality for firms releasing annual earnings prior to the audit report date (Marshall et al. [2018], Bronson, Masli, Schroeder [2018]), factors potentially contributing to the diminution in financial reporting quality are largely unexplored. While firms' managers are responsible for the information contained in financial reports, we propose auditors can have a contributing role in the observed reduction in financial reporting quality when earnings are announced prior to audit completion. Specifically, because firms experience adverse capital market reactions when announced unaudited accounting information is subsequently revised in audited 10-K filings (Bronson, Hogan, Johnson and Ramesh [2011], Hollie, Livnat, and Segal [2005, 2012]), we propose firms announcing earnings prior to

¹ This shift is primarily due to audits taking 16 days longer, on average, post-2004 with added requirements of Public Company Accounting Oversight Board (PCAOB) Auditing Standards No. 2 and 3 (Bronson, Hogan, Johnson and Ramesh [2011]) and managers maintaining their historical earnings release dates due to market pressures for timely earnings (PCAOB [2004a, 2004b], Krishnan and Yang [2009]). Furthermore, this practice persists to present day with firms marking their annual financial statements in the earnings announcement as "unaudited" (Marshall et al. [2018]).

audit completion may unintentionally increase pressure on auditors to avoid post-earnings-announcement adjustments during the completion of the audit.

Our study capitalizes on a comparative advantage of experiments to complement and extend evidence from the extant archival literature. For example, given limitations in archival datasets, prior research could not detect or control for (1) whether, and to what extent, audits are actually incomplete when earnings are announced prior to the audit report date or (2) the potential role of the auditor in contributing to diminished financial reporting quality when earnings are announced prior to the completion of audit procedures. In our experiment, we are able to manipulate the timing of the earnings announcement in relation to the completion of the audit, and isolate the potential effects on experienced auditors' judgment quality (i.e., their decision processing and ultimately their likelihood of requiring a year-end audit adjustment for aggressive accounting treatment). In addition, we are able to control for potential selection in firms' decisions to issue earnings announcements before/after audit completion and investigate the relation of those decisions to financial reporting quality. Furthermore, we also exploit the experimental method to investigate a means of mitigating the deleterious effects of announced annual earnings on auditors' judgments. Specifically, we manipulate audit committee (AC) effectiveness to determine whether the AC attributes proposed by the PCAOB [2012] and Center for Audit Quality (CAQ) [2013, 2016] improve post-earnings-announcement audit judgments (and financial reporting quality). Identifying this mitigating mechanism is important because regulators are unlikely to require firms to wait for audit completion to voluntarily announce earnings.

We build on prior archival studies by providing three types of empirical evidence unique to our research setting. First, given the opacity of audit processes in real-world audit settings, we collect post-experimental survey data from our participants revealing a significant amount of audit

work (e.g., conclusions about significant accounting estimates, audit review) is often incomplete when annual earnings are released prior to the audit report date. These data support the audit-completion-timing claims made in prior archival studies and identify pre-audit-completion earnings announcements (“released earnings”) as a potentially common and salient source of pressure to avoid subsequent year-end audit adjustments. Second, in our controlled experiment, we test theory as to how this client pressure influences auditor judgments; specifically, we investigate whether releasing annual earnings prior to the completion of the audit increases auditors’ adoption of client-preferred directional goals (referred to as “directional goals” throughout). Third, we ex ante test whether stronger ACs, which are unavailable in archival settings, can help auditors avoid succumbing to released-earnings-induced pressure (and client pressures in general).

We develop a theoretical process model predicting released earnings prior to audit completion influences auditors’ judgments by means of their directional goals. Specifically, we posit released earnings prior to the completion of the audit is perceived as a source of client pressure to avoid consequences associated with subsequent earnings-related revisions. Following prior research (Kadous, Kennedy, and Peecher [2003]; Koch and Salterio [2017]), we predict this client pressure unintentionally leads to auditors’ adoption of directional goals to accept the clients’ aggressive accounting treatment. In turn, following motivated reasoning theory, we posit auditors’ directional goals influence their decision processing in a manner that reduces critical thinking and professional skepticism resulting in lower-quality judgments (Kunda 1990; Nolder and Kadous 2018). We make these predictions in the presence of today’s typical level of audit committee engagement (i.e., independent, expert, but not actively engaged in resolving reporting matters).²

² Despite enhanced requirements of AC members with the Sarbanes-Oxley Act of 2002 (SOX), survey evidence suggests auditors and CFOs perceive AC members to be often ineffective at resolving accounting issues and often not

Next, extending prior research on directional goals, we identify strong AC effectiveness as a means to reduce auditors' adoption of directional goals, thereby mitigating the negative effects of perceived client pressures on auditors' judgment quality.

We test our model and predictions using an experiment with 114 highly experienced auditors (67.1 percent audit partners/directors, 31.3 percent audit senior managers, and 1.6 percent audit managers with median audit experience of 17 years). We manipulate the timing of the annual earnings release relative to the completion of the audit by varying whether the annual earnings announcement was "released" prior to the audit task or "drafted" and expected to be released after the audit task. We also manipulate AC effectiveness and create a strong AC, modeled with characteristics envisioned by audit advocacy groups (PCAOB [2012], Center for Audit Quality (CAQ) [2013, 2016]) including active involvement in accounting issues and proactively communicating with auditors, which we expect are achievable but relatively rare in practice.

In our experiment, participants are provided with case information containing a brief description of a hypothetical company, its annual earnings announcement with selected financial information, a description of its AC, and details about a year-end accounting issue related to the deferred-tax valuation allowance. Participants are then provided with the tax specialists' memo which describes the potential issue. We use this setting because the deferred-tax valuation allowance is a subjective, complex estimate evaluated near the end of the audit and it is a common source of "last-chance earnings management" (Gleason and Mills [2002], Dhaliwal, Gleason, and Mills [2004]). The case is designed such that management's estimate and related assumptions are aggressive, resulting in a potential material misstatement. Participants are asked to evaluate the

even informed about issues until after auditor/manager negotiations have been resolved (Cohen, Krishnamoorthy, and Wright [2010], Gibbins, McCracken, and Salterio [2007]). Our baseline level of AC effectiveness (i.e., moderate) meets the minimum requirements related to member independence and expertise.

reasonableness of the account balance containing management's aggressive estimate and to assess the likelihood of requiring a year-end audit adjustment.

Our results are consistent with our hypotheses and theoretical process-model predictions. When the AC is moderately effective (i.e., the expected AC quality for most companies), auditor judgment quality is significantly lower when earnings are released versus drafted. Specifically, auditors are more likely to accept the client's aggressive accounting treatment and they assess the accounting treatment as more reasonable. However, these effects are mitigated with strong AC effectiveness. Importantly, our process-model results support our predictions suggesting auditors' directional goals mediate the effects of released earnings on auditors' judgment quality, such that the client pressure of released earnings leads to a higher likelihood of auditors adopting directional goals when there is moderate AC effectiveness but not when there is strong AC effectiveness. In turn, auditors' directional goals are negatively associated with their judgment quality. Supplemental analyses suggest these effects on auditor judgment quality are unintentional and lower auditor judgment quality results are consistent with less critical thinking and lower professional skepticism as predicted by our theory.

Because the timing of the client's earnings release and the strength of AC effectiveness are beyond the audit firm's control, we explore another factor controlled by the audit firm that can potentially mitigate the harmful effects of client pressure on auditors' adoption of directional goals. We find auditor professional identification (i.e., the extent to which auditors' norms and values overlap with the accounting profession) (Bamber and Iyer [2002, 2007], Bauer [2015]) significantly decreases auditors' directional goals in the presence of client pressures from released earnings and mitigates the harmful effects of released earnings on auditors' judgment quality.

Our study has implications for the academic literature, practitioner community, and regulators. We complement prior archival studies related to earnings-announcement timing (Bronson et al. [2011], Marshall et al. [2018]) by providing survey evidence suggesting audits are often incomplete when companies announce earnings. Further, our controlled-experimental evidence suggests diminished auditor-judgment quality contributes to the archivally observed reduction in financial reporting quality when earnings are released before audit completion. While we test our theoretical predictions in a specific setting (i.e., with year-end earnings announcements and a company's tax valuation allowance as the accounting issue), we believe our theory and results will generalize to other settings in which auditors face pressure to adopt directional goals to avoid audit adjustments (e.g., earnings pre-announcements) and settings where subjective, complex accounting issues are unresolved as of the earnings release date.

We make two contributions to the auditing literature on the effects on auditors of audit-engagement-induced pressure and motivated reasoning. First, we build on prior research by providing evidence that the timing of released earnings prior to the completion of the audit is a client pressure influencing auditors' directional goals and judgment quality. Second, prior motivated-reasoning-related research has focused on factors in the engagement environment that can cause auditors to adopt directional goals, but is only beginning to explore factors that can mitigate the adoption of these directional goals.³ We extend prior research by identifying and providing evidence that higher-quality ACs mitigate auditors' adoption of directional goals when faced with client pressures. Our findings on higher quality ACs have implications for audit quality beyond the setting in our study, as client-related pressures permeate the audit environment.

³ To our knowledge, Zhou (2018) is the only other paper that has examined mitigating mechanisms to counteract the directional influence of client pressures for aggressive financial reporting on auditors' judgment quality. He finds increasing the salience of auditors' intrinsic motivation for their job mitigates auditors' directional judgment biases when faced with client pressures, whereas increasing auditor accountability does not.

Our study also has important implications for regulatory and policy organizations. Our results are consistent with reductions in audit quality when companies release earnings before audit completion. While prior archival studies suggest the PCAOB consider how their standards impact audit timeliness, our study identifies strong AC effectiveness as one potential alternate factor that may overcome these adverse effects on audit quality. Our results also provide support for recent initiatives (e.g., CAQ [2013, 2016]) aimed at improving AC effectiveness by having ACs increase their active involvement in accounting issues and to advocate and support auditors faced with client pressures.

Our remaining paper is organized as follows. Section 2 includes the theoretical development of our hypotheses. Section 3 describes our research design. Section 4 reports the results of our tests and additional analyses. We conclude and discuss implications in Section 5.

2. Hypothesis Development

2.1 BACKGROUND

Since 2004, public companies have dramatically shifted the timing of fourth-quarter/annual earnings announcements relative to the completion of year-end audit procedures. At present, approximately 70 percent of annual earnings announcements occur, on average, 16 days prior to the audit report date (Schroeder [2016]; Marshall et al. [2018]), whereas, prior to 2004, approximately 75 percent of annual earnings announcements were released *on or after* the audit report date (Bamber, Bamber, and Schoderbek [1993], Schwartz and Soo [1996]). This shift in the relative timing of earnings announcements and audit completion is caused by audits taking longer as a result of the implementation of PCAOB Auditing Standards (AS) No. 2 and 3 in 2004. While audits take longer in the post-AS2 and post-AS3 time period, the majority of companies continue

to release earnings announcements consistent with their historical release dates.⁴ Thus, the shift in timing does not appear to be a strategic behavior by management, but rather a result of regulatory changes effecting the timing of audits.

The shift in the relative timing of earnings announcements and audit completion also appears to have implications for the quality of financial reporting information released by companies. Extant research finds companies releasing annual earnings prior to the audit report date have negative associations with financial reporting quality, including a greater likelihood of financial statement restatements and lower discretionary-accrual quality (Bronson et al. [2018], Marshall et al. [2018]); however, the potential sources of diminished financial reporting quality and the effects of released earnings on auditor judgments have not been explored. We extend this line of research by examining the effects of earnings announcement timing on auditor judgment quality and by identifying the mechanism underlying its effects.

We view releasing annual earnings prior to audit completion as a source of client pressure on auditors. To investigate this practice, we draw on motivated reasoning theory and prior auditing research to predict how this client pressure influences auditors' directional goals and the propensity to accept client-preferred aggressive accounting treatments. In addition, we identify strong AC effectiveness as a potential mitigating factor that can counteract the negative effects of earnings announcement timing on auditors' judgment quality. We propose strong AC effectiveness can be applied generally to decrease auditors' directional goals and improve auditor judgment quality in the presence of any client pressure.

⁴ Maintaining the same earnings release date is consistent with market demands for timely information and with companies trying to avoid negative market reactions associated with delayed earnings announcements (Kross 1981; Bagnoli et al. 2002; Einhorn and Ziv 2008).

2.2 HYPOTHESES DEVELOPMENT

2.2.1. Effect of Released Earnings on Auditor's Directional Goals and Acceptance of Clients' Aggressive Accounting Treatment.

Building on seminal work by Kunda [1990], prior auditing research suggests auditors with directional preferences, in reaction to various client pressures and circumstances in the audit environment, often engage in motivated reasoning to arrive at a particular conclusion, subject to reasonableness constraints. For example, auditors are more likely to support client-preferred aggressive accounting treatment when engagement risk is relatively low (Hackenbrack and Nelson [1996]), when the auditor perceives a threat of losing the client (Blay [2005]), or when the auditor's affinity for the client is relatively high (Koch and Salterio [2017]). Kadous et al. [2003] provide evidence these effects occur through auditors' adoption of directional goals to accept client-preferred aggressive accounting treatment. However, excessive client pressure perceived by auditors has been found to violate motivated reasoning's reasonableness constraints, thereby leading to auditors proposing larger adjustments in response to clients' aggressive accounting (Koch and Salterio [2017]).

We extend this line of literature by examining whether the release of unaudited annual earnings prior to the completion of the audit is a source of client pressure that triggers motivated reasoning in auditors. Firms and auditors face consequences for subsequent revisions to GAAP information in the 10-K disclosures including adverse market reactions (Bronson et al. [2011], Hollie et al. [2005, 2012]), an increased likelihood of auditor dismissals, and lower future audit fees (Haislip, Myers, Scholz, and Seidel [2017])). We expect auditors anticipate the potential consequences associated with subsequent revisions to publicly released earnings and therefore also anticipate more difficult negotiating positions regarding potential audit adjustments. Accordingly,

we posit auditors perceive heightened client pressure to avoid subsequent adjustments to year-end earnings when companies release annual earnings prior to the completion of the audit.⁵

Interestingly, in a study conducted prior to the significant shift in the average timing of annual earnings releases in relation to audit completion, Kadous et al. [2003] found the timing of the auditor's involvement in a financial reporting issue increased auditors' perceived pressure to accept the client's aggressive accounting treatment, but *decreased* auditors' directional goals and the likelihood of auditors accepting the client-preferred accounting treatment.⁶ Koch and Salterio [2017] suggest the client pressure of publicly releasing an accounting issue in unaudited financial statements during that time period (i.e., prior to 2004 when this practice was relatively rare) likely violated auditors' reasonableness constraints such that auditors were unable to reach the client-preferred conclusion while maintaining an "illusion of objectivity" (Pyszczynski and Greenberg 1987). In support of this conjecture, using the data from Kadous et al. [2003], Koch and Salterio [2017] find auditors' perceived pressure intensity—a proxy for violating auditors' reasonableness constraints—explains the negative effect of this client pressure on auditors' likelihood of accepting the client-preferred accounting treatment.

⁵ We expect auditors prefer to complete audit procedures prior to the earnings announcement date or to at least prioritize audit areas having the potential to be materially misstated (e.g., complex areas such as the tax valuation allowance). However, we also expect significant barriers limit auditors from achieving these goals. For example, firm resource constraints likely limit auditors' abilities to increase staffing resources, especially during year-end busy seasons. With respect to the audit of the tax valuation allowance (used in our setting), the timing of the audit work is likely not a strategic choice by either management or the auditor. Structurally, the tax provision is one of the last audit areas to be complete because it is impacted by all other audit areas. Thus, before the auditors and/or tax specialists can start their procedures, the audit must be substantially complete.

⁶ The Kadous et al. [2003] study manipulated high (versus low) client engagement pressure by varying the auditor's year-end-audit involvement with a revenue-recognition accounting issue that was previously released (versus not released) to the public in two interim quarterly financial statements. However, the purpose of their engagement pressure manipulation was to obtain variability in auditors' directional goals and to test their theorized relationship between auditors' directional goals and judgment quality. Although footnote 14 of Kadous et al. [2003] suggests a paper-and-pencil pilot study with audit-senior participants yielded a significant interaction between "quality assessment and (manipulated) engagement pressure," their study did not predict a directional relationship between the timing of the auditor's involvement and auditors' judgment quality. Our study also differs from Kadous et al. [2003] in that we use a different experimental setting and more experienced auditor participants than either their main study or pilot study.

[Insert Figure 1 about here]

Given the release of annual earnings prior to audit completion is now the norm rather than the exception, we expect auditors' reasonableness constraints are no longer violated in the current year-end audit environment. Thus, we predict the client pressure of releasing unaudited annual earnings prior to the completion of the audit will *increase* auditors' directional goals to accept the client's aggressive accounting treatment (Figure 1, Link 1). In turn, following motivated reasoning theory, we expect auditors' directional goals will influence their decision processing in a manner supporting their desired conclusions (Kunda [1990]). We expect auditors with directional goals from client pressures will engage in impaired decision processing consistent with less critical thinking and less professional skepticism resulting in lower-quality judgments (Nolder and Kadous [2018]).⁷ As a result, we predict auditors' directional goals will increase their propensity to accept the client's aggressive accounting treatment (Figure 1, Link 2).

2.2.2. Mitigating Effect of Audit Committee Effectiveness on Auditors' Directional Goals and Acceptance of Clients' Aggressive Accounting Treatment

While an abundance of research has studied the harmful effects on auditors' judgment quality of client pressure and directional goals (Hackenbrack and Nelson [1996], Kadous et al. [2003], Koch and Salterio [2017]), with the exception of Zhou [2018], prior research has not yet examined factors that can mitigate the effects of client pressures on auditors' adoption of directional goals. We identify strong AC effectiveness as a potential mitigating factor. We examine this factor because ACs play an important role in corporate governance and in the promotion of high-quality financial reporting (Blue Ribbon Committee [1999]).

⁷ Examples of this type of impaired decision processing include measures of reduced information acquisition and biased information evaluation, which is consistent with motivated-reasoning related research (McMillan and White [1993]; Brown, Peecher, and Solomon [1999]; Smith and Kida [1991]; McMillan and White [1993]; Ditto and Lopez [1992]; Church [1991]; McMillan and White [1993]; and Hales [2007]).

Prior research documents positive associations between AC effectiveness (e.g., independence, expertise, and frequency of meetings) and financial reporting and audit quality, with increases in these associations after adoption of SOX (DeFond and Zhang [2014]). However, post-SOX survey evidence suggests ACs are often not effective in their oversight role over the financial reporting process. Specifically, auditors report ACs often (i.e., 48%) play a passive role in helping resolve disagreement with management and that very few AC members (i.e., 38%) ask probing questions during meetings (Cohen et al. [2010]). Likewise, CFOs report the AC is frequently (i.e., 67%) not informed of auditor-client disagreements until *after* the outcome has been negotiated (Gibbins, McCracken, and Salterio [2007]). This suggest, while ACs meet regulatory requirements, their perceived effectiveness is often questionable, especially as it relates to their involvement in helping auditors address significant accounting issues.

To improve AC effectiveness, the PCAOB recently issued AS No. 16, requiring increased auditor and AC communication on significant audit and financial reporting matters (PCAOB [2012]). Furthermore, the CAQ has provided guidance encouraging AC members to be more proactive in their oversight responsibilities and involved in the resolution of financial reporting matters (CAQ [2013, 2016]). We expect these regulatory initiatives aimed at improving AC effectiveness will not only improve managers' behavior (Agoglia, Douppnik, and Tsakumus [2011]) but will also improve auditors' judgments. Specifically, we expect strong AC effectiveness will help auditors avoid succumbing to client pressures, as prior research suggests strong AC effectiveness increases auditors' perceived bargaining power in contentious manager/auditor negotiations (Brown-Liburd and Wright [2011]). Thus, we expect auditors will be less likely to adopt directional goals when there is strong AC effectiveness, and in turn, lead to higher-quality auditor judgments.

With respect to our setting, we expect released earnings will negatively influence auditors' decision processing and judgment quality when there is moderate AC effectiveness representative of the current environment where the AC is independent and meets the expertise requirements, but is not actively involved. We also predict this negative effect will be attenuated when there is strong AC effectiveness whereby the committee is actively involved in resolving accounting issues and asks probing questions. Specifically, we expect auditors will be better able to stand against client pressures when they are supported by a strong AC advocating for high audit quality and therefore less likely to adopt directional goals of accepting the client's aggressive accounting treatment. Specifically, we predict strong AC effectiveness will moderate the negative effect of client pressures on auditors' directional goals (Link 1 in Figure 1), which will decrease auditors' propensity to accept the client's aggressive accounting treatment.⁸ The above discussion leads to the following formal predictions:

Hypothesis 1: In the presence of moderate AC effectiveness, auditors will be more likely to accept clients' aggressive accounting treatment when earnings have been released (versus expected to be released after audit completion), but the effect of released earnings will be mitigated when there is strong AC effectiveness.

Hypothesis 2: The joint effects on auditors' likelihood of accepting clients' aggressive accounting treatment of differential AC effectiveness and the timing of the annual earnings announcement in relation to audit completion are mediated by auditors' directional goals.

3. Method

We conduct a 2×2 (timing of the annual earnings release, AC effectiveness) between-participants, full-factorial experiment. In an experimental administration managed by the CAQ,

⁸ We acknowledge the relative effectiveness of ACs is an endogenous factor in naturally occurring governance settings. In the case of a strong AC, the company could plausibly also have stronger internal controls, lower incentives for earnings management, and other attributes potentially causing auditors to be more trusting of management and the company's reported performance. This possibility provides tension for our predictions because auditors using stronger AC effectiveness as a signal of higher reporting quality would be more likely to accept the client's aggressive accounting treatment.

179 auditors from seven national accounting firms accessed our experimental materials via a Qualtrics survey.⁹ Fifty-eight participants exited the study without completing the dependent measures and two participants failed to thoroughly complete the task are therefore excluded.¹⁰ For the remaining 119 participants, the median time spent on the task was 45.57 minutes. The auditors in this final sample are highly experienced with a mean (median) audit experience of 17.6 (17) years. Seventy-four (67.1 percent) are partners or directors, 35 (31.3 percent) are senior managers, three (2.7 percent) are managers, and seven did not disclose their position.¹¹ Participants also have relevant experience for completing this case with significant experience auditing income tax provisions (mean of 7.4 on a scale of 11) and the valuation allowance for deferred tax assets (mean of 7.1 on a scale of 11). These mean assessments are significantly greater than the midpoint of the scale (p -values < 0.001).

3.1 TASK

Participating auditors were asked to evaluate the reasonableness of the income tax provision for a hypothetical client and determine whether there is a need for an adjustment to the valuation allowance for deferred tax assets. The tax valuation allowance is a significant, complex estimate involving substantial discretion and is potentially used as an earnings management tool

⁹ Firm is not a significant covariate in any of our analyses, has no impact on the reported inferences, and is therefore excluded. Additionally, while participants can be employed by the same audit firm in our sample, we believe they are influenced by their own individual experiences, thus being independent observations. None the less, we perform a sensitivity test where we cluster the standard errors for our primary analyses finding consistent results. The CAQ only managed the distribution of a Qualtrics URL to participants and had no ability to edit, delete, or change the data collected via Qualtrics.

¹⁰ The non-completion rates did not significantly differ across experimental conditions ($F_{3,175} = 1.358, p = 0.257$). The two participants excluded for not thoroughly completing the task spent less than 10 minutes on the task and had no variation in their responses to the dependent measures and process measures (i.e., one participant selected the highest rating for all questions answered and the other participant selected the midpoint rating for all questions answered).

¹¹ Audit experience has no effect on the main dependent measure related to auditors' adjustment assessments; however, audit experience has a significant negative effect on auditors' reasonableness assessments ($F_{1,102} = 8.616, p = 0.004$). Including audit experience as a covariate in our analyses has no effect on the inferences reported in our results and tests of hypotheses and thus we exclude audit experience from further analyses.

(Gleason and Mills [2002]). Further, because of its late timing in the financial statement preparation process, Dhaliwal et al. [2004] find managers use the tax expense as a “last-chance” opportunity to manage earnings to meet analysts’ forecasts. We use this setting because of the complexity and subjectivity involved in estimating the income tax valuation allowance and because of the late timing of accounting for income tax accounts; however, we expect our theory and results to generalize to any subjective and complex accounting issue unresolved prior to the earnings release.

The flow of information provided to our participating auditors is illustrated in Panel A of the Appendix. Our case materials were developed with practicing audit partners from a Big 4 firm and were pilot tested for reasonableness. The materials include background information about the client company and the potential accounting issue. Specifically, participants were informed the company has not recorded a valuation allowance for the current year based on their tax-planning strategies and expectations of company’s future taxable income. Also, they were informed their audit team verified the assumptions underlying the projection of future taxable income as of June 30 of the current year (i.e., interim date) in conjunction with the goodwill impairment test, and found them to be reasonable. However, new developments since June 30 have potential implications for the reasonableness of these assumptions as of the year-end, December 31.

In addition to the background information, participants were also provided the fourth quarter and annual earnings announcement (released or drafted version) containing additional background and financial information about the client company. After the earnings release, participants were provided with a memo from their team’s tax specialists. The memo highlights the subjective assumptions made by management in their analysis, and raises concerns about the reasonableness of management’s conclusions given changes in the current environment.

Specifically, the specialists were concerned about the reasonableness of the assumptions supporting management's expectations of future profitability including (1) next year operating income forecast and (2) and the projected growth rate (e.g., 3 to 8 percent) for the four-year projection of operating income. The specialists provide a sensitivity analysis with a schedule of different valuations and potential adjustments based on a range of assumptions (included in Panel B of the Appendix). The potential adjustments from the amount management recorded range from quantitatively immaterial to very material in terms of the impact on net income. The company's recorded valuation allowance uses aggressive assumptions at the high-end of the range.

Finally, we also incorporate features into the case materials to allow us to capture auditors' decision processing quality. Specifically, at the end of the case materials, we provide six optional links including representations from management related to characteristics affecting the viability of management's projections (included in Panel C of the Appendix). Three of the links have titles and contain information supporting management's projections (e.g., "growing consumer demand") and three of the links contain information refuting management's projections (e.g., "volatile economic year"). Participants were asked to access, at their discretion, any or none of the links to obtain supplemental details.¹²

3.2 INDEPENDENT VARIABLES

We manipulate the timing of the annual earnings in relation to the year-end audit at two levels. In the Released conditions, participants were informed the annual earnings announcement (unaudited) was released and filed with the SEC approximately 16 days ago, consistent with the current practice (Schroeder [2016]). In addition, the annual earnings announcement is formatted

¹² The availability of the supplemental, optional links was designed to capture participants' willingness to acquire additional information to shed light on auditors' decision processing. The information in the supplemental links was not designed to influence auditors' adjustment and reasonableness assessments. Our results of H1 and H2 are robust to including auditors' information acquisition as a covariate in our analyses (untabulated).

as if it has been filed and released with the SEC and is dated February 13. In the Drafted conditions, participants were informed the annual earnings announcement was anticipated to be released in March concurrent with the 10-K filing (in approximately 14 days) and it was in a draft form with a proposed date of release “March XX, 2017 (Date of 10-K Filing).” An excerpt of the earnings announcements is included in Panel D of the Appendix. Importantly, information in the earnings announcement is held constant across both conditions and it was included prior to the tax memo, thereby allowing auditors to adopt directional goals prior to their evaluation of the accounting issue (Wilks [2002]).

We manipulate the strength of AC effectiveness at two levels following prior research (Brown-Liburd and Wright [2011], Agoglia et al. [2011]) and we incorporate key features of “effective” ACs promoted by the CAQ [2013, 2016].¹³ In the Moderate AC conditions, the AC is designed as one with average effectiveness such that it meets, but does not exceed, the minimum requirements for public companies (i.e., members are independent and there is one financial expert). This condition serves as a control or baseline condition to study the effects of released earnings on auditors’ judgments. We expect most public companies’ AC effectiveness are similar to this average condition. In the Strong AC conditions, the AC is designed as one with above-average effectiveness such that it exceeds the minimum requirements for public companies and it possesses characteristics envisioned by the CAQ (i.e., active involvement in resolving accounting issues and asking probing questions). This condition serves as an idealistic condition that is achievable but currently likely rare in public companies. The complete manipulation descriptions are included in Panel E of the Appendix.

¹³ We thank Steven Fuller for sharing his experimental manipulation of audit committee effectiveness (strong and moderate) which is adapted from prior research and descriptions from the CAQ.

3.3. DEPENDENT AND MEDIATING VARIABLES

We use two proxies for auditors' propensity to accept the client's aggressive accounting treatment. First, following Ng and Tan [2003, 2007] and Libby and Kinney [2000], auditors assessed the likelihood of recommending an initial adjustment to the income tax provision as of the year-end using an 11-point Likert scale from "not at all likely" to "extremely likely" (referred to as auditors' "adjustment assessments"). Second, following Griffith, Hammersley, Kadous, and Young [2015], auditors assessed the reasonableness of the Company's income tax provision balance as of December 31 using an 11-point Likert scale from "not at all likely" to be reasonable to "extremely likely" to be reasonable (referred to as auditors' "reasonableness assessments").¹⁴ Finally, following prior research by Kadous et al. [2003] adopted from Klein et al. [2001], we measure our mediating variable—auditors' directional goals—using a composite score from participants' responses to five items related to the following goal, "To build a justifiable case that Limelight's tax provision balance is reasonable and appropriate as of December 31, 2016 considering the current circumstances." Responses were collected using 5-point Likert scales and higher scores represent higher directional goals.

4. Results

4.1 MANIPULATION CHECKS

Related to our manipulation of the relative timing of audit completion and the earnings release, 114 of 119 (95.8 percent) participants correctly indicated whether the annual earnings

¹⁴ As expected, results show the two dependent measures are highly correlated (Pearson Correlation = -0.759, $p < 0.001$). Results are inferentially the same when performing nonparametric analyses of rank-transformed dependent measures and when performing analyses of binary dependent measures such that responses above (below) the scale midpoint are coded as 1 for "yes" (0 for "no"). Specifically, for each of the alternate dependent measures, the planned contrast tests of H1 are significant (two-tailed p -values < 0.10) and the predicted mediation process model path coefficients for tests of H2 are all significant (one-tailed p -values < 0.05).

announcement “has already been released and filed with the SEC” or whether it “has been drafted, but not yet released and filed with the SEC,” suggesting a successful manipulation of the timing of the earnings release. Because of the importance of this information for testing our theory, we exclude the five participants who failed this manipulation check question.¹⁵ We also asked participants, “to what extent do you think other auditors (at your level) would feel pressure to accept” the client’s accounting treatment in this situation from 1 “very low pressure” to 4 “average pressure” to 7 “very high pressure.” Participants in the Released conditions assessed perceived pressure as higher (mean = 5.36, standard deviation = 1.16) than those in the Drafted conditions (mean = 4.98, standard deviation = 1.26, $t_{106} = 1.609$, $p = 0.055$ one-tailed), suggesting a successful manipulation of client pressure.¹⁶ We also find a successful manipulation of AC effectiveness as participants in the Strong AC (mean = 7.04, standard deviation = 2.18) versus Moderate AC (mean = 5.73, standard deviation = 2.23) conditions assessed the AC to be a stronger advocate ($t_{106} = 3.078$, $p = 0.003$) and the AC to be more effective at resolving accounting issues (means 8.04 vs 4.70, standard deviations 1.96 vs. 1.93, $t_{106} = 8.936$, $p < 0.001$).¹⁷

4.2 PRELIMINARY ANALYSES ON THE ISSUE OF RELEASING EARNINGS PRIOR TO AUDIT COMPLETION

Before conducting tests of our hypotheses, we examine the extent to which the participating auditors report that their public company clients release earnings prior to the audit report date and

¹⁵ Our reported inferences are robust to including all 119 participants in the analyses.

¹⁶ Comparing across studies and making reasonable assumptions about the unreported sample size for the perceived pressure measures in Kadous et al. [2003], we note auditors’ perceived pressure in our setting is lower relative to those reported in Kadous et al. [2003, 769] (i.e., means of 6.38 and 6.11 using a 7-point scale). This is consistent with our observation that in the current environment, (i.e., post-2004) released earnings prior to audit completion is less unusual relative to the previous environment studied in Kadous et al. [2003].

¹⁷ We also asked participants to assess the strength of the company’s internal controls as it relates to “tone at the top” in their control environment. We find no difference in mean assessments across the Released and Drafted conditions ($t_{106} = 0.522$, $p = 0.603$) indicating our AC strength manipulation did not also manipulate auditors’ perceptions about the company’s internal control strength. Thus, it appears auditors in our setting did not use stronger AC effectiveness as a signal of higher reporting quality, which could have influenced their judgments.

to what extent these audits may be incomplete in those circumstances. While archival research provides evidence that a majority of public companies currently release annual earnings prior to the audit report date (Marshall et al. [2018]), it is unclear whether and to what extent the audit is incomplete. After the completion of the experiment, we asked our participants about their experiences related to the practice of clients releasing annual earnings prior to the audit report date. Of the 114 auditors in our sample, 108 completed these post-experiment survey questions. We summarize our participants' responses to these questions in Table 1. Consistent with archival findings, 78.7 percent (85 of 108) of auditors report that at least one of their public company clients releases annual earnings prior to the audit report date and 45.4 percent of auditors report that 81-100 percent of their public company clients release annual earnings prior to the audit report date.

[Insert Table 1 about here]

We also asked auditor participants a series of questions to understand the status of the audit when their clients released earnings prior to the audit report date. Regarding audit completion (or incompleteness), auditors reported that on average 18.1 percent of total audit hours are remaining as of the earnings announcement date with a standard deviation of 17.4 percent. This suggests a non-trivial amount, and in some cases a large percentage, of audit work remains when earnings are announced. Auditor participants also indicated a high likelihood the engagement quality review partner had not yet completed his/her review with an average response of 6.0 (standard deviation of 3.2) on a scale from 1 "not at all" to 11 "to a great extent." This suggests, for many clients, engagement quality review partners have not yet completed their reviews. Regarding whether significant accounting estimates have not yet been finalized at the earnings announcement date, the average response was 3.5 (standard deviation of 2.6) on a scale from 1 "not at all" to 11 "to a great extent." While the majority of auditor participants suggest

that a number of significant accounting estimates are finalized as of the earnings announcement date, the response frequencies (untabulated) are rather dispersed. Specifically, 27.1 percent of auditor participants responded with a 6 or higher suggesting a nontrivial number of participants experienced instances where clients release earnings before auditors are able to finalize their conclusions about significant accounting estimates. The combined survey evidence from the auditor participants supports our assumption that, on average, a significant amount of audit work, including audit review, is incomplete when clients release annual earnings prior to the audit report date.

4.3 TESTS OF HYPOTHESES

Related to Hypothesis 1 (H1), the results for auditors' propensity to accept the client's aggressive accounting treatment are illustrated in Figure 2 (Panels A and B). Furthermore we present the means and standard deviations by condition, the conventional analysis of variance (ANOVA), and follow-up contrast tests including the hypothesized interaction contrast in Table 2 (auditors' adjustment assessments) and Table 3 (auditors' reasonableness assessments).¹⁸ Given we predict an ordinal interaction, contrast coding is the most appropriate test of our Hypothesis 1. In accordance with our hypothesized interaction, contrast weights of -3 in the Released / Moderate AC condition and +1 for the other three conditions are most appropriate (Buckless and Ravenscroft [1990], Guggenmos et al. [2018]). The planned contrast for auditors' adjustment assessments is significant ($F_{1,110} = 6.577, p = 0.012$, Table 2) and the planned contrast for auditors' reasonableness assessment is also significant ($F_{1,110} = 8.174, p = 0.005$, Table 3), supporting H1. Importantly, the

¹⁸ A conventional ANOVA tests for two main effects and a disordinal (crossover) interaction. Therefore, the conventional ANOVA does not provide appropriate or powerful tests for hypothesized ordinal interactions, which are best tested with planned contrast coding (Buckless and Ravenscroft [1990], Guggenmos, Piercey, and Agoglia [2018]). While we provide the conventional ANOVA table for completeness, we caution against interpreting the effects from this analysis given our ordinal interaction prediction. Thus, we test H1 using a planned interaction contrast followed by simple main effects tests (Keppel and Wickens 2004).

residual between-cells variations are not significant for auditors' adjustment assessments ($F_{2,110} = 0.341, p = 0.712$) or for auditors' reasonableness assessments ($F_{2,110} = 0.898, p = 0.410$), suggesting our contrast explains the data well.

[Insert Figure 2 and Tables 2 and 3 about here]

Follow-up simple-effects tests provide additional support for our predictions. In the Moderate AC conditions, auditors' likelihood of requiring a year-end audit adjustment is significantly lower when earnings have been released (mean = 6.46) versus drafted (mean = 7.69, $t_{55} = -1.951, p = 0.028$). In contrast, in the Strong AC conditions, auditors are equally likely to require a year-end audit adjustment regardless of whether earnings have been released (mean = 7.79) or drafted (mean = 8.12, $t_{55} = -0.465, p = 0.644$).¹⁹ Likewise, in the Moderate AC conditions, auditors assess the account balance as more reasonable when earnings have been released (mean = 5.89) versus drafted (mean = 4.97, $t_{55} = 1.630, p = 0.054$), whereas in the Strong AC conditions, auditors reasonableness assessments do not differ across the released (mean = 4.13) and drafted (mean = 4.67, $t_{55} = -0.987, p = 0.328$) conditions. The findings support H1 that strong AC effectiveness mitigates the negative effect of released earnings on auditors' propensity to accept client's aggressive accounting. Moreover, we find when earnings have been released, auditors are significantly more likely to require year-end audit adjustments if there is a strong versus moderate AC effectiveness ($t_{50} = 1.766, p = 0.042$) and they assess the account balance as significantly less reasonable ($t_{50} = -2.812, p = 0.004$). This finding is important given this is the setting most auditors face during the completion of year-end audits. Together, our findings highlight the importance of having a strong AC to help auditors stand against aggressive financial reporting.

¹⁹ In fact, in each condition, auditors are more likely than not to require a year-end audit adjustment, on average (condition means are significantly greater than the scale midpoint with p -values < 0.05), except for the Released / Moderate AC condition whereby auditors are equally likely to require or not require an audit adjustment ($t_{27} = 0.949, p = 0.351$).

Related to Hypotheses 2 (H2), the results for auditors' directional goal commitment by condition are reported in Table 4. We note the sample for H2 analyses excludes six participants who did not complete the goal commitment questions, resulting in a sample of 108 auditors. As expected, the pattern of means by condition follows those reported for the dependent measures: auditors' directional goals are higher in the Released / Moderate AC condition (mean = 14.52) relative to the other three conditions (means ranging from 12.00 to 13.38). As shown in Table 4, the planned contrast is marginally significant using a two-tailed test ($F_{1,104} = 2.857, p = 0.094$, Panel C).

We estimate the structural equations models illustrated in Figure 3, panels A and B to formally test the mediation effect of auditors' directional goals predicted in H2. We use a nested model comparison allowing Link 1 to vary depending on audit committee strength while holding all other paths invariant to audit committee strength. The models including the standardized path coefficients and tests of significance. The overall models have good fit.²⁰ Given our interaction prediction that the relationship between released earnings and auditors' propensity to accept the client's aggressive accounting depends on the strength of the AC, we test the path from released earnings (i.e., released versus drafted) to auditors' directional goals (Link 1) using a nested model comparison for the AC effectiveness groups (i.e., moderate or strong).²¹

²⁰ The chi-square goodness of fit test shows good fit ($\chi^2_{(1)}=1.188, p = 0.552$ for Panel A and $\chi^2_{(1)}=3.461, p = 0.177$ for Panel B). For the adjustment assessments model in Panel A, the Root Mean Square Error of Approximation (RMSEA) is 0.000 and the Comparative Fit Index (CFI) is 1.000 are within the normal benchmarks (CFI approaching 1.0 and RMSEA less than 0.01, 0.05, and 0.08 for excellent, good, and mediocre fit, respectively). For the reasonableness assessments model in Panel B, the model fit is weaker with a CFI of 0.908 and RMSEA of 0.116 (Hu and Bentler [1999], Thompson [2000], Byrne [2010], Kenny [2015]).

²¹ All results hold and inferences remain unchanged in both models presented in Figure 3 if we revise the models to compare the Released / Moderate AC condition versus the other three conditions rather than testing the difference in paths in Links 1 and 3 across the AC effectiveness conditions. Also, results hold and inferences also remain unchanged if we include the two dependent measures in one model and include a path from auditors' reasonableness assessments to auditors' adjustment assessments.

Consistent with H2, the relationship between released earnings and auditors' directional goals is significantly positive in the Moderate AC conditions (std. coef. +0.245, $z = 1.984$, $p = 0.024$). Also, consistent with predictions, released earnings has no effect on auditors' directional goals when there is strong AC effectiveness (std. coef. -0.843, $z = -0.614$, $p = 0.539$) and the effect of released earnings on auditors' directional goals is statistically different across the Moderate and Strong AC conditions ($\chi^2_{(1)} = 3.131$, $p = 0.038$). This finding is noteworthy as it suggests strong AC effectiveness can help auditors avoid adopting directional goals in response to client pressures. In turn, auditors' directional goals significantly influence their propensity to accept the client's aggressive accounting treatment. As auditors' directional goals increase, their likelihood of requiring year-end audit adjustments decreases (std. coef. -0.290, $z = -3.187$, $p < 0.001$) and they assess the account balance as more reasonable (std. coef. = +0.360, $z = 3.952$, $p < 0.001$). Finally, the joint effects of released earnings and AC effectiveness on auditors' assessments are no longer significant when auditors' directional goals are included in the model for both dependent measures, consistent with full mediation of auditors' directional goals, supporting H2.

[Insert Figure 3 and Table 4 about here]

4.4 SUPPLEMENTAL ANALYSES

4.4.1. Auditors' Professional Identification as a Mediating Factor

The findings suggest the negative effects of released earnings on auditors' directional goal commitment and judgment quality can be fully mitigated with strong AC effectiveness. However, most companies currently do not have strong AC effectiveness, and improving AC effectiveness is beyond the audit firm's control. As such, we also examine whether a factor controlled by the audit firm—the professional identification of auditors—can help auditors avoid adopting directional goals in response to client pressures.

Auditor professional identification is the extent to which auditors identify with the norms and values of the accounting profession (Bamber and Iyer [2002], Bauer [2015]). Prior research finds auditors with higher professional identification are less likely to acquiesce to client preferences and are more likely to make more objective judgments (King [2002], Bamber and Iyer [2007], Bauer [2015]). Auditors with higher professional identification also engage in more effortful processing in complex auditing tasks, which improves task performance (Bhaskar, Majors, and Vitalis [2016]). We posit auditors with higher professional identification will be less likely to adopt directional goals in response to client pressures. In turn, this will reduce the negative effects of released earnings on auditors' propensity to accept the client's aggressive accounting when there is moderate AC effectiveness.

We measure auditors' professional identification following Bamber and Iyer [2007], based on the Organizational Identification Scale developed and validated in psychology research (Mael and Ashforth [1992], Wan-Higgins, Riordan, and Griffeth [1998]). The measure is an average composite score from responses to five items with five-point scales included in Table 5. Scores in our sample range from 2.2 to 5.0, with a mean (median) of 3.94 (3.80), similar to auditors in Bamber and Iyer [2007] who had a mean (median) score of 3.71 (3.80).²²

To test these predictions, we include auditors' professional identification as a covariate in our analyses of auditors' directional goals. As predicted, we find a significant negative effect of auditors' professional identification on auditors' directional goals when re-estimating the ANOVA reported in Table 4 ($F_{1,107} = 8.013$, $p = 0.006$ two tailed). Likewise, when re-estimating the SEM analyses reported in Panels A and B of Figure 3, we find a significant negative association between auditors' professional identification and auditors' directional goals (std. coef. -0.267 , $z = 2.969$,

²² We use a continuous measure of participants' professional identification. Results are qualitatively similar using a binary mean or median split comparing higher versus lower professional identification.

two-tailed $p = 0.003$). In addition, auditors' directional goals significantly influence their adjustment assessments (std. coef. = -0.279 , $z = 2.990$, $p = 0.003$) and their reasonableness assessments (std. coef. = $+0.326$, $z = 3.480$, $p < 0.001$). Importantly, tests of H1 and H2 are robust to including auditors' professional identification as a covariate in our main analyses.²³

To provide additional evidence on professional identification mitigating auditors' propensity to accept aggressive financial reporting in the presence of client pressures, we perform additional analyses for our sample groups with higher and lower professional identification using a median split. In Table 5, we report descriptive statistics (Panel A) and contrast tests (Panel B) partitioned by the level of professional identification. For auditors with lower professional identification, the planned contrast on auditors' adjustment assessments is significant consistent with H1 ($F_{1,50} = 5.731$, two-tailed $p = 0.020$); whereas for auditors with higher professional identification, the planned contrast is no longer significant ($F_{1,49} = 0.660$, two-tailed $p = 0.420$).²⁴ These results suggest auditor professional identification can potentially mitigate the negative effect of released earnings on auditor judgment quality in the absence of strong AC effectiveness.

4.4.2. Evidence of Auditors' Directional Goals and Decision Processing

In our hypotheses development, we posit auditors' directional goals impair their decision processing consistent with less critical thinking and less professionally-skeptical judgments

²³ Specifically, the planned contrast tests of H1 remain significant for both auditors' adjustment assessments ($F_{1,102} = 5.645$, two-tailed $p = 0.019$) and auditors' reasonableness assessments ($F_{1,102} = 7.583$, two-tailed $p = 0.007$). In SEM analyses, the effect of released versus drafted earnings on auditors' directional goals remains significantly greater when there is moderate versus strong AC effectiveness ($\chi^2_{(1)} = 2.726$, one-tailed $p = 0.0498$).

²⁴ For brevity, we do not tabulate the results on auditors' reasonableness assessments as the results are similar, with minor differences. For auditors with lower professional identification, the mean reasonableness assessments are 6.07 in the Released / Moderate AC condition whereas the means in the other three conditions are lower (4.20 in the Released / Strong AC, 5.33 in the Drafted / Moderate AC, and 4.67 in the Drafted / Strong AC conditions). The means are also lower for auditors with higher professional identification in all four conditions (ranging from 4.08 in the Released / Strong AC to 5.46 in the Released / Moderate AC conditions). The planned contrast on auditors' reasonableness assessments for auditors with lower professional identification is $F_{1,50} = 3.885$, two-tailed $p = 0.054$ and for auditors with higher professional identification is $F_{1,49} = 3.001$, two-tailed $p = 0.089$.

(Kunda 1990; Nolder and Kadous 2018). As expected, we find auditors' directional goals are negatively associated with the amount of additional evidence obtained prior to formulating auditor judgments. Specifically, we find a significant negative association between auditors' directional goals and the count of supplemental evidence items obtained for both refuting (Pearson Correlation = -0.235, two-tailed $p = 0.014$) and supporting evidence items (Pearson Correlation = -0.207, two-tailed $p = 0.031$).²⁵ Also as expected, we find auditors' directional goals are negatively associated with the extent to which auditors are critical of management's aggressive estimates. Specifically, we find a significant positive association between auditors' directional goals and the assessed extent to which the available evidence supports management's position about the reasonableness of the income tax provision (Pearson Correlation = +0.272, two-tailed $p = 0.004$).²⁶ The results are consistent with auditors' directional goals from client pressures impairing auditors' critical thinking and professional skepticism.

4.4.3. Evidence of an Unintentional Effect by Auditors

Following Frederickson and Miller [2004], we examine whether the systematic effects of released earnings on auditor judgments are intentional (conscious) or unintentional (unconscious) by auditors. We ask auditor participants whether other auditors at their level would have assessed the reasonableness of management's estimates differently if "the earnings announcement had

²⁵ We measured whether and to what extent participants accessed and acquired six supplemental, optional evidence items (three refuting and three supporting) immediately prior to making their adjustment and reasonableness assessments (described in the Method section and included in Panel C of the Appendix).

²⁶ Participants assessed the extent to which evidence from the original case information (not including the optional, supplementary information) supports the company's position about the reasonableness of the income tax provision. We measured the mean composite score using an 11-point Likert scale from "Does not at all support" to "Supports a great extent" for each of the nine evidence items. Results are consistent using the mean composite score for the three evidence items participants ranked as the most important. Because these assessments were collected after auditors' adjustment and reasonableness assessments, we caution they could also capture some dimension of auditors' justifications for their judgments.

already been (would not have been) released and filed with the SEC prior to (until after) the completion of the audit” in Drafted (Released) conditions (i.e., in the alternate earnings release condition). On average, the majority of auditors in our sample (69.4 percent, $\chi^2_{(1)} = 16.33$, two-tailed $p < 0.001$), and importantly, the majority of the subset of auditors in the Released / Moderate AC condition (70.4 percent, $\chi^2_{(1)} = 4.481$, two-tailed $p = 0.034$), indicate other auditors’ assessments would not differ, consistent with effects being unintentional.

4.4.4. Controlling for Confounding Factors

We examine whether auditors’ experiences with clients releasing earnings prior to the audit report date impact auditors’ adjustment assessments and our results of H1 and H2. Interestingly, we find a significant, negative effect of the percent of auditors’ clients releasing earnings early on auditors’ adjustment assessments ($F_{1,103} = 5.184$, $p = 0.025$) for analyses with all conditions, consistent with greater experience of clients releasing earnings early causing a lower likelihood of requiring year-end audit adjustments. Importantly, all tests of H1 and H2 are robust to including the percent of auditors’ clients releasing earnings early as a covariate (untabulated).²⁷

5. Discussion and Conclusions

After implementation of PCAOB Auditing Standards No. 2 and 3 in 2004 (i.e., added requirements related to internal control audits and audit workpaper documentation), the “new normal” for many firms is to announce annual earnings significantly before the audit report date. While prior research suggests financial reporting quality is lower when firms announce earnings before the audit report date (Marshall et al. [2018]; Bronson et al. [2018]), these association-based studies cannot convincingly isolate the source of diminished financial reporting quality (i.e., client

²⁷ We also test whether auditors’ experience with clients releasing earnings early affects directional goals. We do not find auditor experience affecting directional goals ($F=0.264$, $p=0.608$) for the full sample or within any of the four experimental conditions (p values ranging from 0.171 to 0.732).

versus auditor). We provide evidence earnings announcement timing relative to audit completion is an important factor influencing experienced-auditor judgments. In the presence of today's typical level of audit committee engagement, auditors succumb to client pressures from released earnings, thereby being more likely to allow aggressive end-of-year financial reporting. Addressing this problem by requiring firms to delay releasing earnings until after the audit is complete, as suggested by prior research, is likely an unworkable and undesirable solution given the general benefits of timely information. By comparison, we turn to other parties involved in monitoring financial reporting quality and identify investment in high-quality audit committees as an implementable solution. Our findings suggest strong AC effectiveness can effectively mitigate the harmful effects of released earnings on auditor judgments (and, thus, financial reporting quality).

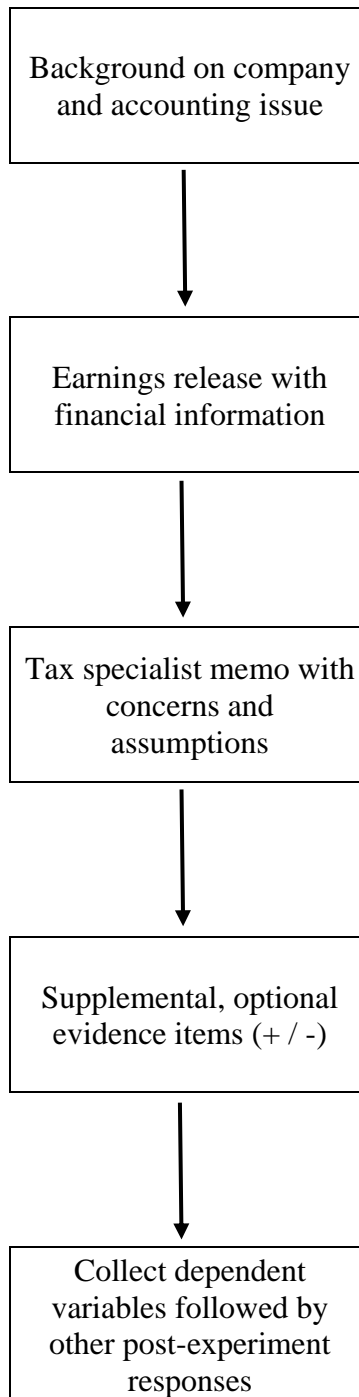
We base our inferences on a controlled experiment conducted with 114 highly experienced audit partners and senior managers. We use the comparative advantage of experiments to provide highly internally valid evidence addressing some of the methodological limitations in prior archival-based studies. For example, archival data sets do not identify the extent to which audits are incomplete at the earnings announcement date. Our survey data provides evidence a significant amount of audit work including conclusions about significant accounting estimates and audit review is often incomplete when annual earnings are released prior to the audit report date. In addition, we unambiguously manipulate the timing of the earnings announcement in relation to the completion of the audit and isolate the effects on experienced auditors' judgments. Through randomization, we also control for potential selection issues in firms' decisions to issue earnings announcements before/after audit completion; thus, we control for a significant threat to the internal validity of archival analyses.

We also extend prior work on motivated reasoning in audit contexts and we propose interventions to help auditors adopt neutral goals in the presence of client pressures when they might otherwise adopt directional goals. In addition to strong AC effectiveness, we also find higher auditor professional identification can significantly reduce auditors' adoption of directional goals in the presence of client pressures, which in turn improves auditor judgment quality. Thus, generalizing the results of our study, we expect these two factors (strong AC effectiveness and/or auditor professional identification) can help mitigate harmful effects of client pressure on auditors' decision processing and judgment quality by reducing directional goals.

Finally, we provide evidence relevant to recent calls for enhancements in the structure and function of ACs (PCAOB [2012]; CAQ [2016]). A large proportion of extant AC research was conducted on data from periods prior to the mandated requirements for AC-member independence and expertise included in SOX. Further, because archival AC-effectiveness research is susceptible to endogeneity concerns, DeFond and Zhang (2014) call for additional research to gain a better understanding as to how audit committee effectiveness affects financial reporting quality. Similar to Brown-Liburd and Wright (2011), we answer these calls for research by examining characteristics of strong audit committees that cannot be examined with archival data sets, including more active involvement in their oversight responsibilities and in resolving accounting issues.

APPENDIX

Panel A: Flow of Experimental Task



Panel B: Tax Specialist Memo Excerpt with Sensitivity Analysis

Adjustments to valuation allowance with varying assumptions for the annual growth rate (8%) and for the anticipated pre-tax book income for 2017			
	Assumptions for anticipated pre-tax book income for 2017		
Assumptions for Annual Growth Rate	\$64.9 million (Limelight's estimate)	\$55.6 million (2016 pre-tax income adjusted*)	\$50.3 million (2016 pre-tax income)
8%	0	0	0
7%	0	0	1,635,227
6%	0	0	4,766,186
5%	0	0	7,816,809
4%	0	321,909	10,788,822
3%	0	3,522,800	13,683,925

Notes:
 Limelight projects pre-tax book income of \$64.9 million for 2017 and an annual growth rate of 8% for each of the years 2018-2021.
 * \$55.6 million represents the actual 2016 pre-tax income of \$50.3 million adjusted by \$5.3 million for a one-time expense for the write-down of investments that occurred in 2016.

This table illustrates the sensitivity analysis included in the tax specialists' memo highlighting the significant assumptions made by management in their analysis and raises concerns about the reasonableness of management's conclusions. Note that materiality in the case is set at \$2.5 million.

Panel C: Supplemental, Optional Evidence Items

Supplemental Information (Optional)

Please note: Additional information about Limelight and its current operating environment can be obtained below in each of the links. The information in the links includes representations from Limelight's management that relates to characteristics affecting the viability of management's projections. Please click on any links to obtain the supplemental details at your discretion (i.e., reading this supplemental information is not required).

<u>Volatile economic year</u>	<u>Stable customer base</u>
<u>Growing consumer demand</u>	<u>Market uncertainty for existing products</u>
<u>2016 operating results below expectations</u>	<u>Extensive experience of company management</u>

This table illustrates the six optional evidence items that include representations from management related to the characteristics affecting the viability of management's projections. Three links have titles and contain information that supports management's projections and three links contain information that refutes management's projections.

Panel D: Released versus Drafted Earnings Announcement Manipulation

EX-99.1 2 a012-1816_1ex99d1.htm EX-99.1

Exhibit 99.1

LIMELIGHT

FOR IMMEDIATE RELEASE

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LIMELIGHT, INC. REPORTS FOURTH QUARTER AND 2016 OPERATING RESULTS

San Jose, CA, February 13, 2017 – Limelight, Inc., the world's leading supplier of light sources used by chipmakers to create advanced semiconductor chips, today announced operating results for the fourth quarter and year ended December 31, 2016.

For the fourth quarter of 2016:

- Net income totaled \$3,984,000, equal to \$0.13 per share (diluted), compared to net income of \$21,437,000 equal to \$0.67 per share (diluted) in the fourth quarter of 2015 and net income of \$5,331,000, equal to \$0.18 per share (diluted) in the third quarter of 2016.
- Revenue totaled \$100,448,000 compared to revenue of \$139,922,000 in the fourth quarter of 2016, and revenue of \$110,619,000 in the third quarter of 2016.

TO BE RELEASED ON MARCH XX, 2017 (DATE OF 10-K FILING)

LIMELIGHT, INC. REPORTS FOURTH QUARTER AND 2016 OPERATING RESULTS

San Jose, CA, March XX, 2017 – Limelight, Inc., the world's leading supplier of light sources used by chipmakers to create advanced semiconductor chips, today announced operating results for the fourth quarter and year ended December 31, 2016.

For the fourth quarter of 2016:

- Net income totaled \$3,984,000, equal to \$0.13 per share (diluted), compared to net income of \$21,437,000 equal to \$0.67 per share (diluted) in the fourth quarter of 2015 and net income of \$5,331,000, equal to \$0.18 per share (diluted) in the third quarter of 2016.
- Revenue totaled \$100,448,000 compared to revenue of \$139,922,000 in the fourth quarter of 2016, and revenue of \$110,619,000 in the third quarter of 2016.

These figures illustrate our manipulation of the timing of the annual earnings announcement. The first figure is an excerpt from the Released condition whereby participants were informed that the annual earnings announcement (unaudited) was released and filed with the SEC approximately 16 days ago and

the second figure is an excerpt from the Drafted condition whereby participants were informed that the annual earnings announcement was anticipated to be released in March concurrent with the 10-K filing (in approximately 14 days). The content in the earnings announcement across both conditions was held constant.

Panel E: AC Strong versus Moderate AC Effectiveness Manipulation

Strong conditions: The audit committee is composed of three individuals, who are all independent. Two of the members are CPAs with extensive experience in public accounting and qualify as financial experts as defined by the SEC, and the third member is financially literate. You have been very impressed with the audit committee's high level of diligence in representing shareholders' interest. They meet frequently and are actively involved in the resolution of key accounting and disclosure issues. The audit committee members are proactive, ask probing questions, and debate the appropriate accounting treatment regarding key transactions and issues.

Moderate conditions: The audit committee is composed of three individuals, who are all independent. Only one of the members qualifies as a financial expert as defined by the SEC as he is viewed as a supervisory financial expert. The other two members are financially literate. None of the members have direct accounting or financial reporting experience. Your experience with the audit committee is that they meet infrequently and are somewhat involved in the resolution of key accounting and disclosure issues. The audit committee members are reactive; they follow discussions of the issues during meetings but they do not ask too many questions regarding the issues.

This panel displays the experimental manipulation of the audit committee effectiveness which were included in the "Case Instructions and Background" section of the experimental materials. Participants were first introduced to the accounting issue and potential adjustment. They were then informed that per audit firm guidance, their audit team is required to discuss the significant accounting estimate with the audit committee. Following, they received one of the two audit committee descriptions above.

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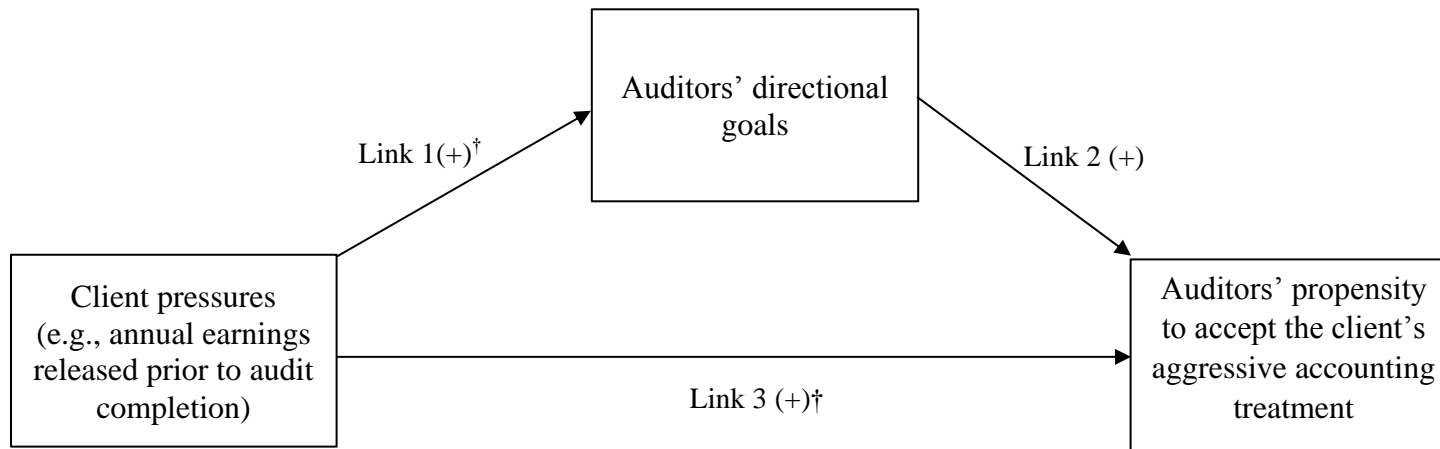
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FIGURE 1
*Hypothesized Model**

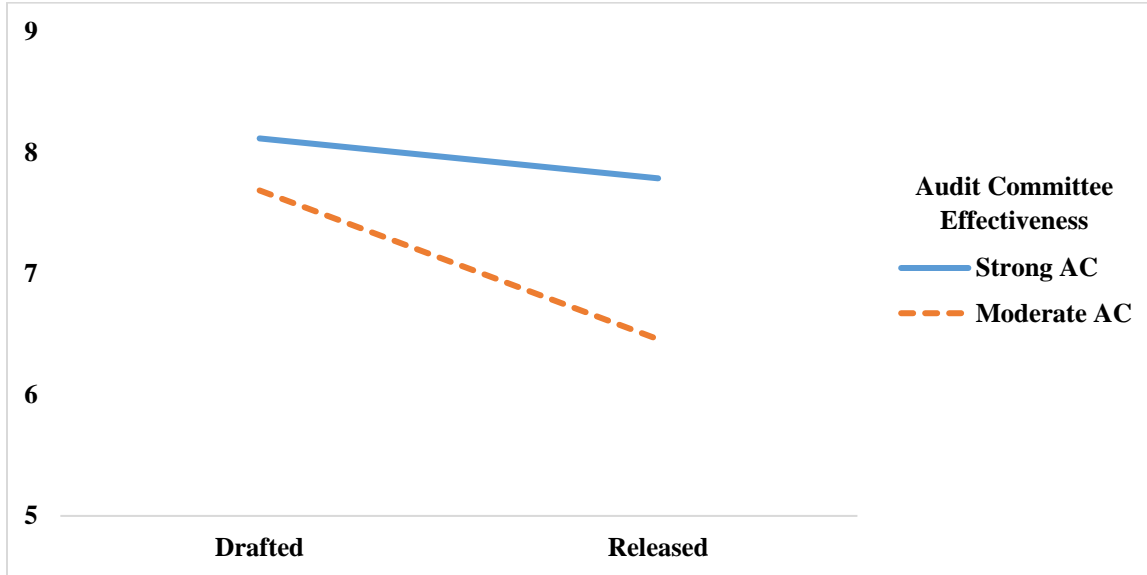


* Figure 1 illustrates our process-based model of how released earnings prior to audit completion influences auditors' propensity to accept the client's aggressive accounting treatment (we test with two dependent measures including auditors' likelihood of recommending year-end audit adjustments and auditors' assessments about the reasonableness of the client's account balance). The parenthetical comment next to each link represents the expected coefficient sign.

† The strength of link 1 is hypothesized to be moderated by AC effectiveness such that the positive effect of client pressures on auditors' directional goals and auditors' propensity to accept the client's aggressive accounting treatment will be mitigated with strong versus moderate AC effectiveness.

FIGURE 2
Summary of Results by Condition

Panel A: Effects on auditors' adjustment assessments



Panel B: Effects on auditors' reasonableness assessments

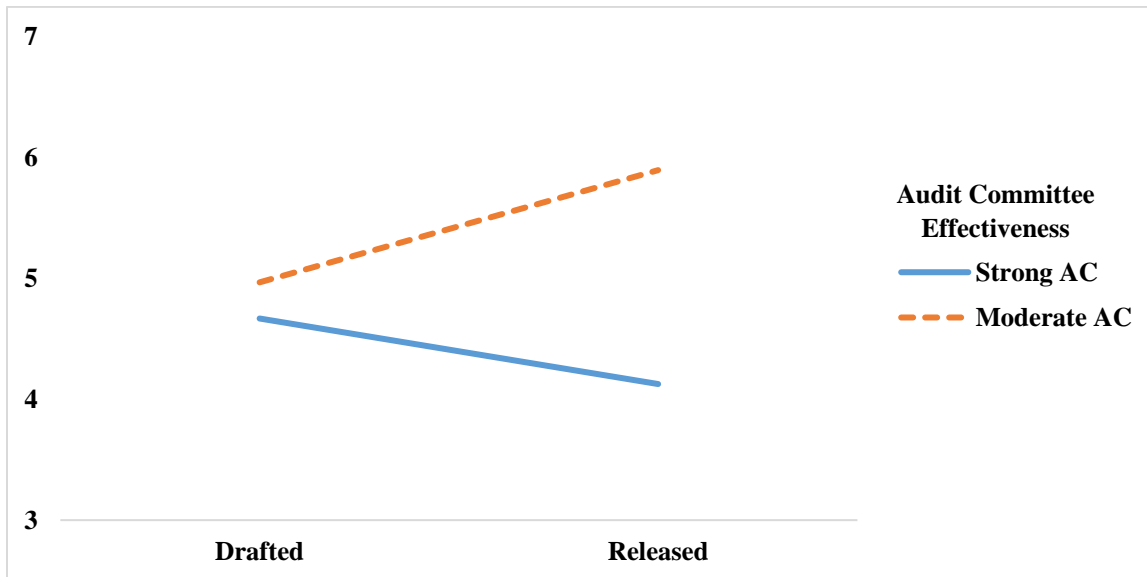


Figure 2 summarizes how released annual earnings and the strength of the AC effectiveness jointly influence auditors' propensity to accept the client's aggressive accounting treatment.

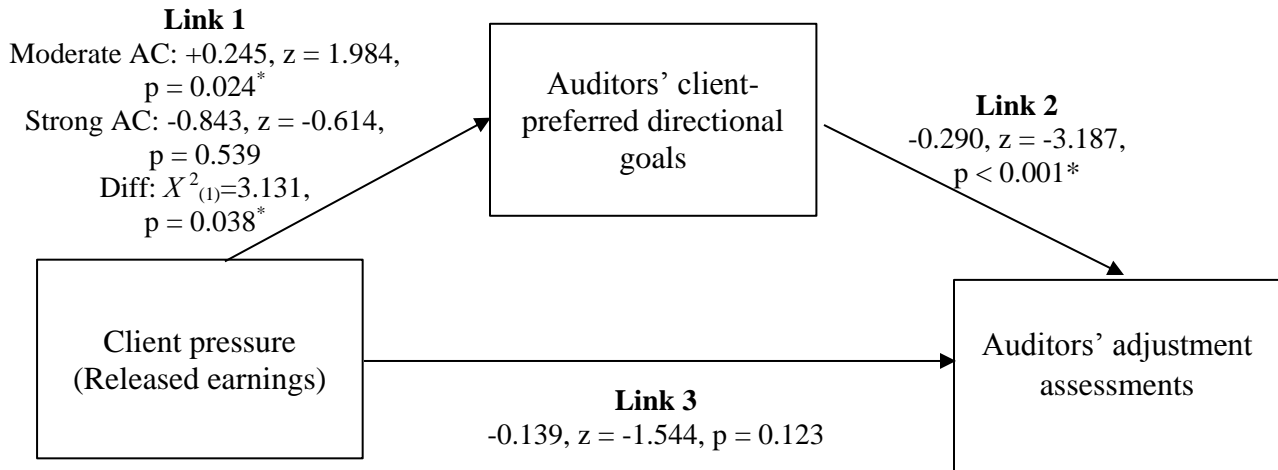
In Panel A, the dependent variable measures auditors' responses to "How likely is it that you would recommend an initial adjustment to the income tax provision as of December 31, 2016" on a scale from 1 (not at all likely) to 11 (extremely likely). In Panel B, the dependent variable measures auditors' responses to "Based on your evaluation, how likely is it that [the Company's] income tax provision balance as of December 31, 2016 is reasonable?"

The timing of the annual earnings announcement during the year-end audit was manipulated as released (it had already been released and filed with the SEC, *unaudited*, prior to the completion of the year-end audit) or drafted (it had been drafted but would not be released and filed with the SEC until the audit report date at the completion of the year-end audit). An excerpt of the manipulation is included in Panel D of the Appendix.

The strength of AC effectiveness was manipulated as strong (described as above average effectiveness such that it exceeds the minimum requirements) or moderate (described as average effectiveness such that it meets but does not exceed the minimum requirements). The manipulation is included in Panel E of the Appendix.

FIGURE 3
Hypothesized Process Model Results

Panel A: Effects on auditors' adjustment assessments



Panel B: Effects on auditors' reasonableness assessments

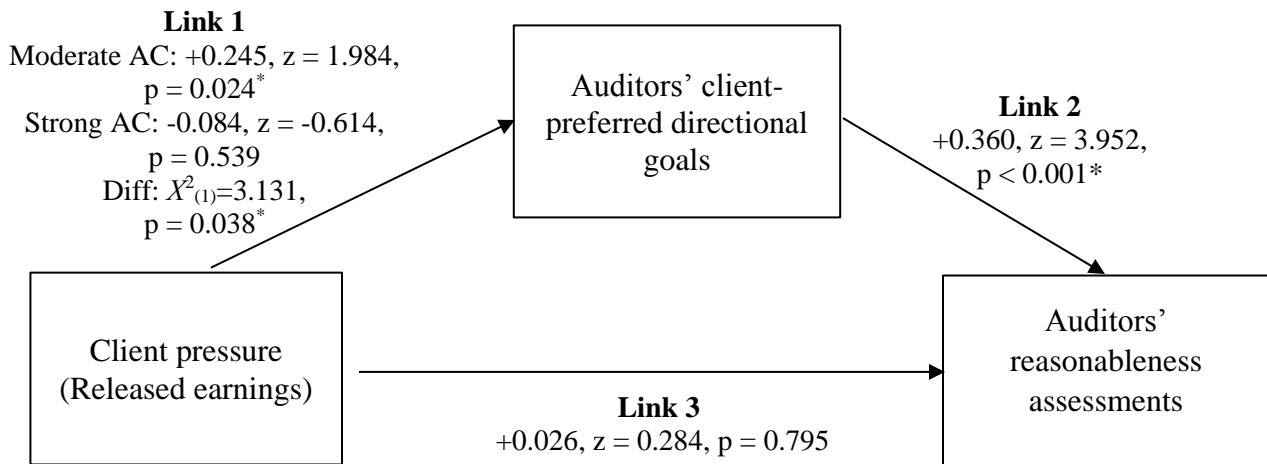


Figure 3 displays results from structural equations models (SEM) on how auditors' directional goals mediate the joint effects of released annual earnings and the strength of the AC effectiveness on auditors' propensity to accept the client's aggressive accounting.

The path analyses simultaneously tests the relationships among the variables. The standardized path coefficients and corresponding *p*-values are shown next to each path. * One-tailed *p*-value for directional predictions. All other *p*-values are two-tailed.

See Figure 2 for descriptions of the independent and dependent variables. Earnings released is coded as 1 for Released and 0 for Drafted. The AC strength is coded as 1 for Strong AC and 0 for Moderate AC.

Auditors' directional goals is a continuous variable and measures auditors' agreement with the following statements related to the goal "To build a justifiable case that Limelight's tax provision balance is reasonable and appropriate as of December 31, 2016 considering the current circumstances" on a scale from 1 "strongly disagree" to 5 "strongly agree" following Kadous et al. [2003, p. 767].

1. I thought this was a good goal to shoot for.
2. I was strongly committed to pursuing this goal.
3. It was hard to take this goal seriously. (R)
4. Quite frankly, I didn't care if I achieved this goal or not. (R)
5. It wouldn't have taken much to make me abandon this goal. (R)

TABLE 1

Post-experiment Survey of Responses Related to Auditors' Experience and Views on the Practice of Clients Releasing Annual Earnings Prior to the Audit Report Date

	<u>n</u>	<u>Percent</u>
1. What percent of your public company audit engagements have released annual earnings prior to your audit report date?		
0%	23	21.3%
1-20%	8	7.4%
21-40%	7	6.5%
41-60%	15	13.9%
61-80%	6	5.6%
81-100%	<u>49</u>	<u>45.4%</u>
Total	108	100.0%
	<u>Mean</u>	<u>Stdv.</u>
2. In these audits, approximately what percentage of the total hours are remaining, on average?	18.1%	17.4
3. In these audits, how likely is it that the engagement quality review partner has complete his/her review? (Scale from 1 "not at all" to 11 "to a great extent.")	6.0	3.2
4. In these audits, how likely is it that conclusions about significant accounting estimates might not yet be finalized? (Scale from 1 "not at all" to 11 "to a great extent.")	3.5	2.6
5. In these audits, how important is support from the audit committee when a potential adjustment arises after the annual earnings have been released? (Scale from 1 "not at all" to 11 "to a great extent.")	9.0	2.2

TABLE 2*Results of Auditors' Adjustment Assessments*

Panel A: Means (standard deviations)

Status of annual earnings announcement (EA) during the year-end audit:	Audit Committee (AC) Strength:		
	Moderate AC	Strong AC	Combined
Drafted	7.69 (2.14) <i>n</i> = 29	8.12 (2.50) <i>n</i> = 33	7.92 (2.33) <i>n</i> = 62
Released	6.46 (2.59) <i>n</i> = 28	7.79 (2.83) <i>n</i> = 24	7.08 (2.76) <i>n</i> = 52
Combined	7.09 (2.43) <i>n</i> = 57	7.98 (2.62) <i>n</i> = 57	

Panel B: Analysis of variance

Source	Sum of squares	<i>df</i>	Mean square	F-stat.	<i>p</i> -value
Released Earnings	17.007	1	17.007	2.701	0.103
AC Strength	21.762	1	21.762	3.456	0.066
Released Earnings × AC Strength	5.645	1	5.645	0.896	0.346
Error	692.645	110	6.297		

Panel C: Follow-up contrast tests

Planned contrast tests of H1:	<i>df</i>	F-stat.	<i>p</i> -value
- Released/Moderate AC (-3), Drafted/Moderate AC (+1), Released/Strong AC (+1), Drafted/Strong AC (+1)	1,110	6.577	0.012
Simple effects tests:	<i>df</i>	t-stat.	<i>p</i> -value
- Effect of released earnings with a moderate AC	55	-1.951	0.028*
- Effect of released earnings with a strong AC	55	-0.465	0.644
- Effect of AC strength if released earnings	50	1.766	0.042*
- Effect of AC strength if drafted earnings	60	0.725	0.471

Notes:

See Figure 2 for descriptions of the independent and dependent variables.

* One-tailed *p*-value for directional predictions. All other *p*-values are two-tailed.

TABLE 3
Results of Auditors' Reasonableness Assessments

Panel A: Means (standard deviations)

Status of annual earnings announcement (EA) during the year-end audit:	Audit Committee (AC) Strength:		
	Moderate AC	Strong AC	Combined
Drafted	4.97 (1.92) <i>n</i> = 29	4.67 (1.98) <i>n</i> = 33	4.81 (1.94) <i>n</i> = 62
Released	5.89 (2.36) <i>n</i> = 28	4.13 (2.13) <i>n</i> = 24	5.08 (2.41) <i>n</i> = 52
Combined	5.42 (2.18) <i>n</i> = 57	4.44 (2.04) <i>n</i> = 57	

Panel B: Analysis of variance

Source	Sum of squares	<i>df</i>	Mean square	F-stat.	<i>p</i> -value
Released Earnings	1.046	1	1.046	0.238	0.627
AC Strength	30.044	1	30.044	6.834	0.010
Released Earnings × AC Strength	15.179	1	15.179	3.453	0.066
Error	483.602	110	4.396		

Panel C: Follow-up contrast tests

Planned contrast tests of H1:	<i>df</i>	F-stat.	<i>p</i> -value
- Released/Moderate AC (+3), Drafted/Moderate AC (-1), Released/Strong AC (-1), Drafted/Strong AC (-1)	1,110	8.174	0.005
Simple effects tests:	<i>df</i>	t-stat.	<i>p</i> -value
- Effect of released earnings with a moderate AC	55	1.630	0.054*
- Effect of released earnings with a strong AC	55	-0.987	0.328
- Effect of AC strength if released earnings	50	-2.812	0.004*
- Effect of AC strength if drafted earnings	60	-0.602	0.549

Notes:

See Figure 2 for descriptions of the independent and dependent variables.

* One-tailed *p*-value for directional predictions. All other *p*-values are two-tailed.

TABLE 4
Results of Auditors' Directional Goals

Panel A: Means (standard deviations)

Status of annual earnings announcement (EA) during the year-end audit:	Audit Committee (AC) Strength:		
	Moderate AC	Strong AC	Combined
Drafted	12.00 (4.33) <i>n</i> = 29	13.38 (4.53) <i>n</i> = 29	12.69 (4.45) <i>n</i> = 58
Released	14.52 (5.75) <i>n</i> = 27	12.57 (5.27) <i>n</i> = 23	13.62 (5.57) <i>n</i> = 50
Combined	13.21 (5.18) <i>n</i> = 56	13.02 (4.84) <i>n</i> = 52	

Panel B: Analysis of variance

Source	Sum of squares	<i>df</i>	Mean square	F-stat.	<i>p</i> -value
Released Earnings	19.434	1	19.434	0.786	0.377
AC Strength	2.204	1	2.204	0.089	0.766
Released Earnings × AC Strength	74.299	1	74.299	3.005	0.086
Error	2571.221	104	24.723		

Panel C: Follow-up contrast tests

Planned contrast tests of H1:	<i>df</i>	F-stat.	<i>p</i> -value
- Released/Moderate AC (-3), Drafted/Moderate AC (+1), Released/Strong AC (+1), Drafted/Strong AC (+1)	1,104	2.857	0.094
Simple effects tests:	<i>df</i>	t-stat.	<i>p</i> -value
- Effect of released earnings with a moderate AC	54	1.860	0.034*
- Effect of released earnings with a strong AC	50	-0.599	0.552
- Effect of AC strength if released earnings	48	-1.244	0.110*
- Effect of AC strength if drafted earnings	56	1.185	0.241

Notes:

See Figure 2 for descriptions of the independent variables and See Figure 3 for a description of the dependent variable.

* One-tailed *p*-value for directional predictions. All other *p*-values are two-tailed.

TABLE 5*Results of Auditors' Adjustment Assessments by Level of Auditors' Professional Identification***Panel A: Means (standard deviations)**

Status of annual earnings announcement (EA) during the year-end audit:	Lower Professional Identification		Higher Professional Identification	
	Moderate AC	Strong AC	Moderate AC	Strong AC
Drafted	7.25 (2.18) <i>n</i> = 12	8.11 (2.70) <i>n</i> = 18	8.00 (2.12) <i>n</i> = 17	8.50 (2.07) <i>n</i> = 10
Released	6.00 (2.57) <i>n</i> = 14	8.40 (2.72) <i>n</i> = 10	7.31 (2.29) <i>n</i> = 13	7.31 (3.04) <i>n</i> = 13

Panel B: Contrast tests

Planned contrast tests of H1:	Lower Professional Identification			Higher Professional Identification		
	<i>df</i>	F-stat.	<i>P</i> -value	<i>df</i>	F-stat.	<i>P</i> -value
- Released/Moderate AC (-3), Drafted/Moderate AC (+1), Released/Strong AC (+1), Drafted/Strong AC (+1)	1,50	5.731	0.020	1,49	0.660	0.420
Simple effects tests:	<i>df</i>	t-stat.	<i>P</i> -value	<i>df</i>	t-stat.	<i>P</i> -value
- Effect of released earnings with a moderate AC	24	-1.324	0.099*	28	-0.856	0.200*
- Effect of released earnings with a strong AC	26	0.271	0.789	21	-1.063	0.300
- Effect of AC strength if released earnings	22	2.202	0.019*	24	0.000	0.500*
- Effect of AC strength if drafted earnings	28	0.922	0.365	25	0.597	0.556

Notes:

See Figure 2 for descriptions of the independent variables and See Figure 3 for a description of the dependent variable.

Auditors' professional identification is measured as auditors' agreement with the following statements on a scale from 1 "strongly disagree" to 5 "strongly agree" directly following Bamber and Iyer [2007] adapted from validated scales used in psychology (Mael and Ashforth [1992], Wan-Higgins et al. [1998]).

1. When someone criticizes my profession, it feels like a personal insult.
2. When I talk about my profession, I usually say "We" rather than "They."
3. I am very interested in what others think about my profession.
4. My profession's successes are my successes.
5. When someone praises my profession, it feels like a personal compliment.

* One-tailed p -value for directional predictions. All other p -values are two-tailed.