How Does Management Voluntary Disclosure Behavior Influence Auditors’ Judgments?

Sean M. Hillison*
Pamplin College of Business
Virginia Tech
shillis@vt.edu

Kamber D. Vittori
D’Amore-McKim School of Business
Northeastern University
k.vittori@northeastern.edu

December 2023

* Corresponding author

Accepted by Haresh Sapra. This paper benefited from thoughtful comments from an anonymous associate editor and two anonymous reviewers. We thank Tim Bauer, Sudip Bhattacharjee, Joe Brazel, Tim Brown, Mary Kate Dodgson, Christine Earley, Cassandra Estep, Ryan Guggenmos, Curtis Mullis, Mark Peecher, Jeff Pittman, Karneisha Wolfe, Dan Zhou, practitioner members of the Center for Audit Quality’s Research Advisory Board, and workshop participants at the 2020 Accounting, Behavior and Organizations Conference, the 2021 Auditing Section Midyear Meeting, and Northeastern University for their helpful comments. We are also grateful to the professional auditors who participated in this study.

Electronic copy available at: https://ssrn.com/abstract=4660969
How Does Management Voluntary Disclosure Behavior Influence Auditors’ Judgments?

ABSTRACT

Forward-looking information, often used by auditors to evaluate complex estimates and form conclusions about going-concern audit report modifications, is commonly disclosed voluntarily by U.S. public companies. We experimentally examine how this disclosure behavior affects auditors’ skepticism towards such information. Prior research has shown that investors and analysts frequently interpret voluntarily disclosed forward-looking information as credible. We demonstrate that auditors, in contrast, exhibit greater skepticism towards forecasted information that has been voluntarily disclosed (versus mandatorily disclosed or held privately) because of their reduced trust in management, even when the forecasts align with prior year trends (versus being more optimistic). Our results suggest that a manager’s decision to disclose, rather than the disclosure content itself, leads to increased auditor skepticism. Our findings have implications not only for audit outcomes but also for manager disclosure behavior, as increased auditor scrutiny could discourage future voluntary disclosure.

Keywords: voluntary disclosure; forward-looking information; source credibility; professional skepticism

JEL Classification: D80; D91; G10; G32; M40; M41; M42; M48
1. Introduction

In this study, we examine how the voluntary disclosure of forward-looking information influences auditors’ skepticism towards such information. Auditors rely on forward-looking information provided by management as evidence when they assess complex estimates and reach conclusions about going-concern audit report modifications (Feng and Li [2014], Joe, Vandervelde, and Wu [2017], Griffith [2018], Boritz and Timoshenko [2022]). While prior research suggests that investors and analysts frequently view voluntarily disclosed forward-looking information as credible and rely on such information for investing decisions (Healy and Palepu [2001], Hirst, Koonce, and Venkataraman [2008]), we provide theory and experimental evidence demonstrating that auditors, in contrast, view voluntarily disclosed forward-looking information as less credible than either mandatorily disclosed or privately held information and require more testing of such information before relying on it for audit decisions.

We focus on voluntary disclosure of forward-looking information for three reasons. One, voluntary disclosure of forward-looking information is common, with approximately 40 percent of U.S. public companies having voluntarily released revenue and earnings projections between 2004 and 2014 (Bozanic, Roulstone, and Van Burskirk [2018]). This behavior is likely to increase as regulators, such as the Securities and Exchange Commission (SEC), continue to encourage more robust voluntary disclosure of forward-looking information (SEC [2020a, 2020b]). Two, voluntary disclosure of forward-looking information can influence audit outcomes. If auditors take an investor view, they may perceive voluntary disclosure as a cue of management credibility and reduce the amount of required testing of the information. If auditors take a skeptical view, they may question management’s motives and challenge the information to a greater degree. Three, auditor behavior can influence future manager disclosure choice. Due to the strategic nature of the
relationship between auditors and clients (Zimbelman and Waller [1999], Hoffman and Zimbelman [2009], Bowlin [2011]), managers are less likely to disclose forward-looking information willingly if auditors take a skeptical view. That is, managers may refrain from voluntarily disclosing information if they know auditors will challenge it to a greater extent.

We predict that voluntary disclosure of forward-looking information influences auditors’ judgments through their perceptions of management trustworthiness, a component of source credibility (Mercer [2004], Pornpitakpan [2004], Maksymov [2015]). Since forward-looking information is inherently difficult to evaluate, auditors are apt to draw information from cues (e.g., perceptions of the source) when using such information for audit evidence. Prior research suggests that some managers use disclosure practices strategically (Aboody and Kasznik [2000], Lang and Lundholm [2000], Rogers and Stocken [2005]), so auditors may be skeptical of such behavior. Skepticism, after all, is a cornerstone of the audit function (Deloitte [2022], PwC [2022], EY [2023], KPMG [2023]), and auditors are trained to develop mindsets alert to management bias and to any information that brings into question the reliability of evidence (Nelson [2009], PCAOB [2010], IAASB [2012], Quadackers, Groot, and Wright [2014], Nolder and Kadous [2018]). As such, we posit that voluntary disclosure causes auditors to question management’s motives, adversely affecting their perceived credibility. Source credibility theory also suggests that voluntary disclosure likely matters little to auditors when they already doubt the source’s credibility (Hirst [1994]). Therefore, as a setting-relevant test of theory, we interact disclosure behavior with forecast optimism. We expect voluntary disclosure to exert a greater influence on auditors’ skepticism when forecasted information is trend consistent and to have less influence when forecasted information is optimistic where auditors already doubt the source’s credibility.
We conduct an experiment with 132 Big 4 auditors at the senior associate level. They complete an audit task exemplifying a real-world auditor-client situation involving the evaluation of projected financial information in a goodwill impairment test. We employ a 3 x 2 between-participants design where we manipulate disclosure of forward-looking information (voluntary disclosure versus mandated disclosure versus no disclosure) and forecast optimism (lower: consistent with prior periods versus higher: higher than prior periods). Our experimental design isolates the effect of managers’ choice to disclose from the effect of publicly disclosing information by comparing voluntary disclosure to both a condition where the information is held privately and a hypothetical condition of regulator-mandated disclosure. In all conditions, the information content provided to auditors in support of the projected financial information is held constant. We measure auditors’ skeptical beliefs about the forward-looking information.

Consistent with our predictions, we find that voluntary disclosure (relative to mandated or no disclosure) exerts a greater effect on auditors’ skepticism when the forward-looking information is consistent with prior periods than when the information is more optimistic. Specifically, auditors are less likely to challenge forward-looking information when it is mandatorily disclosed or held privately and contains lower optimism, and they are more likely to challenge the information when it is either voluntarily disclosed or contains higher optimism. At first glance, our findings seem reassuring, demonstrating that auditors hold greater skeptical beliefs when forward-looking information is more optimistic, yet auditors also exhibit greater skepticism when managers voluntarily disclose information that is in line with prior periods. This skepticism could well be a double-edged sword: while investors may benefit from information being subjected to greater auditor scrutiny, that skepticism could discourage future voluntary disclosure behavior.
We also perform additional analyses to support our theory related to source credibility. Using Structural Equation Modeling (SEM), we find the joint effect of voluntary disclosure and forecast optimism on auditors’ skepticism is mediated by auditor perceptions of management trustworthiness, a component of source credibility. Our model also examines the association between skeptical beliefs and skeptical actions (Nelson [2009], Quadackers et al. [2014], Nolder and Kadous [2018]). As expected, we find that auditors’ skeptical beliefs are indeed positively related to skeptical actions.

Ours is one of only a few studies to examine the influence of disclosure on auditor judgments (Libby, Rennekamp, and Seybert [2015]). Griffin [2014] finds that voluntary disclosure of supplemental information about the imprecision of an accounting estimate invokes moral licensing, reducing auditors’ likelihood of requiring an estimate adjustment. Similarly, Bhaskar, Hopkins, and Schroeder [2019] demonstrate that pre-release earnings announcements make auditors more hesitant to oppose aggressive accounting and less likely to require an accounting adjustment. Unlike Griffin [2014] and Bhaskar et al. [2019], who examine disclosure of historical information, we do not find a similar hesitance towards skepticism when the information disclosed is forward-looking. In our study, auditors appear attuned to the opportunity for manager bias to occur in forward-looking disclosures and more willing to pursue revisions to disclosed forward-looking information. We extend this stream of research by showing disclosure behavior conveys information to auditors such that they become more skeptical of voluntarily disclosed forward-looking information due to lower perceptions of management trustworthiness. Overall, our findings suggest that auditor response to management voluntary disclosure behavior is more complex than what is currently documented.
Our study also fills an important gap in the broader voluntary disclosure literature. Prior research has largely focused on investor or analyst judgments of voluntarily disclosed forward-looking information (Hirst et al. [2008]), wherein the findings suggest that these users perceive information provided by managers to be credible because releasing biased information could be costly to managers. Yet auditors use the same forward-looking information to form going-concern audit report modifications (Feng and Li [2014]), to evaluate complex estimates (Griffith [2018], Boritz and Timoshenko [2022]), and to develop audit procedures (Ball, Jayaraman, and Shivakumar [2012], Krishnan, Pevzner, and Sengupta [2012]). Complementing this research, we show that auditors are more skeptical of voluntarily disclosed forward-looking information even when the forecasts are consistent with prior years. While some may believe that voluntary disclosure should not affect auditors’ evaluation of forecasts because it provides no new information content to them, our study reveals that these decisions do indeed convey information to the auditor, namely, that managers’ choice to disclose reflects on their trustworthiness.

Finally, our study has implications for managers and policymakers. Increased auditor scrutiny of voluntary disclosure may discourage future reporting. If so, the SEC’s recent call for U.S. companies to provide more robust forward-looking disclosures may encounter challenges.

2. Background and Hypothesis Development

2.1 BACKGROUND

2.1.1 Voluntary Disclosure and Forward-looking Information. Managers make voluntary disclosures when they choose to report information to the public that is not mandated by reporting regulations. A typical proxy for voluntary disclosure is forward-looking information, such as revenue or earnings forecasts (Healy and Palepu [2001]), and most forward-looking information is disclosed in conjunction with quarterly earnings announcements (Rogers and Van Buskirk
Prior research suggests that managers choose to voluntarily disclose forward-looking information to reduce information asymmetry, prevent undervaluation of stock, avoid litigation, and/or signal talent (Healy and Palepu [2001], Graham, Harvey, and Rajgopal [2005]). Analyst coverage, disclosure pre-commitment, managerial incentives, historical accuracy, and manager overconfidence also play a role in disclosure choice (Hirst et al. [2008], Libby and Rennekamp [2012], Hribar and Yang [2016]).

Auditing forward-looking information poses difficulties because of the inherent subjectivity in creating forecasts (Joe et al. [2017]). In fact, managers have been observed to act opportunistically both in shaping the assumptions within complex estimate models and in their disclosure practices. For example, prior research has uncovered instances where managers exploit the subjectivity of fair value model inputs, such as forecasts and discount rates, to engage in biased reporting when forming complex estimate models (Hilton and O’Brien [2009], Choudhary [2011], Li and Sloan [2011], Ramanna and Watts [2012], Bratten et al. [2013], Joe et al. [2017]). Similarly, disclosure practices are often strategic in nature. Despite managers’ claims of disclosing forward-looking information to provide useful knowledge to investors and creditors (Graham et al. [2005]), prior research suggests that some managers do so for self-interested motives, such as boosting equity-based compensation (Aboody and Kasznik [2000]). Other studies reveal evidence of strategic bias, with managers releasing optimistic disclosures around the time of equity offerings (Lang and Lundholm [2000]) or when bias is more difficult to detect (Rogers and Stocken [2005]). Conversely, managers intentionally release pessimistic forecasts when they aim to walk down analyst expectations (Matsumoto [2002], Bergman and Roychowdhury [2008]). Overall, the presence of management bias in discretionary inputs for complex estimates and disclosures poses a challenge for auditors.
2.1.2 Auditor Reactions to Voluntary Disclosure. There is limited research on how voluntary disclosure of forward-looking information influences auditors’ judgments (Libby et al. [2015]). Feng and Li [2014] find that auditors rely on management forecasts when issuing going-concern report modifications, but they tend to underweight forecasts that appear to be less credible. Moreover, Ball et al. [2012] and Krishnan et al. [2012] both provide evidence of a positive relation between voluntary disclosure of earnings forecasts and audit fees. Krishnan et al. [2012] attribute this fee increase to heightened business risk, while Ball et al. [2012] attribute it to management signaling their commitment to independent verification. In a series of studies, Danos and Imhoff [1982a, 1982b, 1983] find that auditors’ assessments of forecast reasonableness in review engagements are primarily influenced by factors such as management’s integrity [1982a], their track record in forecasting [1982b, 1983], and reward structure related to forecast accuracy [1983]. While these studies collectively demonstrate that management’s forecasts impact auditor judgments, they cannot distinguish between the effect of the information included in the disclosure and the act of having disclosed that information. Our study thus focuses on how the disclosure action itself influences auditors’ judgments while holding the disclosed information constant.

Two experimental studies have examined how auditors respond to voluntarily disclosed historical information. Griffin [2014] and Bhaskar et al. [2019] find that auditors are less likely to require an audit adjustment when supplemental information about an accounting estimate is voluntarily disclosed or when management voluntarily releases earnings prior to the completion of the audit, respectively. While these studies offer valuable insights into how voluntary disclosure of current or historical information can impact auditor judgments, our research focuses on forward-looking information. An important difference between historical versus forward-looking information.
information is that the latter is more likely to cause auditors to rely on cues external to the information (e.g., source credibility) to support their judgments.

While little research exists on how auditors perceive the credibility of disclosed forward-looking information, the views of investors and analysts on such information have been widely studied. For example, many studies find that the market reacts to earnings forecasts similarly to how it reacts to earnings announcements and audited information (Patell [1976], Penman [1980], Ajinkya and Gift [1984], Waymire [1984]). Likewise, analysts tend to adjust their forecasts in response to manager disclosures (Waymire [1986], Cotter, Tuna, and Wysocki [2006]). Although forecast and forecaster characteristics such as news valence and reputation affect the degree to which investors and analysts rely on management’s earnings forecasts (Hirst et al. [2008]), a persistent finding from this literature is that investors and analysts find voluntarily disclosed management earnings forecasts to be credible on average and use this information to make investing decisions (Healy and Palepu [2001]). Specifically, prior research finds that bad news is typically credible to investors, whereas the credibility of good news is conditional on other factors, such as reputation (Hirst et al. [2008]). While this literature provides a starting point to understand how auditors may interpret voluntarily disclosed forward-looking information, key institutional attributes distinguish auditors from investors and analysts, and in our context of a neutral news setting, those distinctions may lead auditors to interpret disclosure behavior differently.

One critical institutional distinction between auditors and investors and analysts is that auditors hold professional skepticism as a tenet of their occupational role, and they are trained to apply it when evaluating audit evidence. Accounting firms and regulators are unanimous on this point. EY [2023] refers to professional skepticism as a “cornerstone” of its audit culture; likewise PwC [2022] and Deloitte [2022] emphasize the importance of “skeptical mindsets,” and KPMG
[2023] notes a “daily commitment” to exhibiting skepticism. Audit standards promote a skeptical mindset as well (Nelson [2009], Quadackers et al. [2014], Nolder and Kadous [2018]). Auditors are expected to exercise due professional care by approaching their work with a “questioning mind and critical assessment of audit evidence” (PCAOB [2022a]) when responding to the risk of material misstatement (PCAOB [2022b]) and assessing fraud risks (PCAOB [2022c]). Skepticism is also underscored in the standard on auditing estimates (PCAOB [2018b]). In short, auditors’ ingrained mindset of skepticism conditions them to examine information differently than investors do. Indeed, prior research shows that auditors follow heuristics that are different from general human decision-making because they often focus more on negative information (Smith and Kida [1991]), demonstrating that auditors often process information differently than others.

Another important institutional difference is that auditors have access to forward-looking information regardless of management’s choice to disclosure. That is, auditors obtain and evaluate all private information necessary to support their opinions, whereas investors and analysts have access only to publicly disclosed information. Even though investors and analysts find earnings forecast disclosures to be informative on average, we do not know if their response owes to the act of voluntary disclosure per se or to the content of the disclosure (which would otherwise be unknown) since both features are confounded in this setting. Therefore, the extensive literature on investors’ and analysts’ reactions to voluntary disclosed forward-looking information may not generalize to auditors given the institutional differences between the groups.

2.2 HYPOTHESIS DEVELOPMENT

Source credibility is defined as the combined effect of a communicator’s trustworthiness and competence (Giffin [1967], Goodwin [1999], Mercer [2004], Pornpitakpan [2004]). Trustworthiness often refers to a source’s independence or lack of bias (e.g., client versus
independent expert in Joyce and Biddle [1981], Reimers and Fennema [1999], and Griffith [2018] or audit team member in Hirst [1994]), while competence is often operationalized as expertise or specialization (Birnbaum and Stegner [1979], Rebele, Heintz, and Briden [1988], Hirst [1994]). Auditors are typically more skeptical of audit evidence when they consider its source to be less credible (Joyce and Biddle [1981], Rebele et al. [1988], Hirst [1994], Goodwin [1999]). Lower source credibility alters auditors’ cognitive processing of information, leading them to elaborate more (i.e., engage in more careful thinking, according to Goodwin [1999]), which can manifest itself in increased skepticism (Griffith [2018]).

Prior research suggests that auditors’ perceptions of source credibility are complex. For example, auditors appear to demonstrate sensitivity to differences in source credibility in some forms (e.g., client versus audit team in Hirst [1994]) but not in others (e.g., client versus independent credit agency in Joyce and Biddle [1981]). Because prior research suggests that judgments of source credibility affect skepticism, it is important to further examine its influence on auditors in a setting where they must rely on professional judgment and are prone to use qualitative cues (Joe et al. [2017], Griffith [2018], PCAOB [2018b]). One such setting is accounting estimates (e.g., evaluating goodwill for impairment) where auditors face the challenge of evaluating subjective, forward-looking information, rather than verifying historical values (Griffith, Hammersley, and Kadous [2015], Boritz and Timoshenko [2022]).

Importantly, prior research suggests that auditing forward-looking information can make auditors susceptible to management’s influence (Griffith et al. [2015], Kachelmeier and Van Landuyt [2017]), especially when they believe management is credible. For example, Anderson, Kadous, and Koonce [2004] find that auditors tend to rely more on credible managers’ assertions regardless of the sufficiency of managers’ explanations. Similarly, Griffith [2018] finds that
auditors do not scrutinize audit evidence as deeply when it comes from a source they believe to be credible. Collectively, this research suggests that auditors tend to rely on cues, such as manager credibility, when evaluating subjective audit evidence.

Given that auditors are trained to cultivate a skeptical mindset (Nolder and Kadous [2018]) and that maintaining a skeptical mindset is central to the audit function (Deloitte [2022], PwC [2022], EY [2023], KPMG [2023]), auditors will likely attend to the opportunistic reasons why managers might voluntarily disclose forward-looking information. Since some managers use voluntary disclosure strategically (Aboody and Kasznik [2000], Lang and Lundholm [2000], Rogers and Stocken [2005]), we expect that auditors, who have developed mindsets that are alert for management bias (Nelson [2009], PCAOB [2010], IAASB [2012], Quadackers et al. [2014], Nolder and Kadous [2018]), will interpret voluntary disclosure as cause to doubt management’s trustworthiness, thereby increasing their skeptical beliefs about the information.

Because auditors incorporate both qualitative factors (e.g., Griffith [2018]) and quantitative factors (e.g., Danos and Imhoff [1982a, 1982b]) to gain comfort over unobservable forward-looking information, such information that contains higher optimism likely causes auditors to question management trustworthiness regardless of voluntary disclosure. This expectation is key to determining whether voluntary disclosure influences auditors’ judgments through the theory of source credibility. Prior research in accounting has revealed that source credibility is often not additive but is rather interactive in nature (Hirst [1994], Goodwin [1999], Hirst, Koonce, and Miller [1999]). As an example, Hirst [1994] manipulates two components of source credibility and finds that auditors are most sensitive to information coming from a more competent, objective source but finds no difference among the three other conditions that include at least one less credible feature. If voluntary disclosure affects auditor perceptions of management
trustworthiness, theory suggests that it should have a larger effect on auditor skepticism when management’s trust has not been otherwise impaired. Said differently, if auditors already have credibility concerns owing to a forecast’s optimism, then voluntary disclosure likely triggers little, if any, additional skepticism.

Voluntary disclosure includes two elements: (1) management’s decision to make information public (the voluntary element) and (2) the dissemination of that information to the public (the disclosure element). Our theoretical predictions hinge on the former element as we expect auditors to trust management less because they chose to make the information public, not because the information was made public. Therefore, to isolate the effect of the voluntary element from that of the disclosure element, we consider a hypothetical scenario where the disclosure of forward-looking information is required by regulations. We expect voluntary disclosure (versus mandated disclosure) of forward-looking information to have an interactive effect, increasing auditors’ skepticism when the forward-looking information is consistent with prior periods but having little to no influence on skepticism when the forward-looking information is relatively more optimistic. This hypothetical scenario of mandated disclosure provides us with a clean test of our theoretical predictions by controlling for potentially confounding aspects present in the real world when comparing voluntarily disclosed forward-looking information to privately held information. That is, voluntary and mandated disclosure both subject management’s forward-looking information to public scrutiny while private information does not.

Yet, we also consider a more practically relevant alternative. In an additional test, we compare the voluntary disclosure condition to a condition where the forward-looking information is shared only privately with the auditor (i.e., not publicly disclosed). This alternative, while it varies public scrutiny across conditions, importantly provides additional evidence with a direct
real-world application. Given that our theory for why auditors are skeptical of voluntary disclosure is based on distrust of management’s motives for disclosing the information, we expect our predictions for the voluntary versus mandated disclosure comparison to apply as well to a voluntary versus no disclosure condition where those motives are also absent. Accordingly, we predict the following (graphically represented in Figure 1, Panel A):

**Hypothesis:** Auditors will be more skeptical when forward-looking information is voluntarily disclosed than when it is mandatorily disclosed or not disclosed, and the effect will be stronger when the information is less optimistic.

This prediction holds considerable tension. One, auditors are expected to exhibit a high level of professional skepticism regardless of management disclosure behavior. Thus, voluntary disclosure may have little influence on how auditors evaluate assumptions used in complex estimates and going-concern evaluations. Two, despite the noted institutional differences between auditors and investors and analysts, auditors may perceive forward-looking information that is voluntarily disclosed and consistent with prior periods to be credible, like these other constituents do (Healy and Palepu [2001], Mercer [2004]). That is, auditors could weigh the potential market-related consequences for managers who fail to meet or beat earnings estimates and therefore may believe managers would not voluntarily disclose the information if they lacked the expertise to predict earnings accurately or the means to achieve their targets. Three, from an information economics perspective, voluntary disclosure of forward-looking information provides no new information to auditors. Auditors have access to private forecasts and evaluate forward-looking information regardless of its disclosure. Thus, some might reason that such disclosure of forward-looking information should have no influence on auditors’ judgments.
3. Research Method

3.1 PARTICIPANTS

Participants are 132 Big 4 audit seniors with a reported mean of 3.78 years of public accounting experience. Participants report, relative to their peers, having some experience with evaluating forward-looking information (M = 3.62 on a scale from 1 = “No Experience” to 7 = “Extensive Experience” with a midpoint of 4 = “Some Experience”). Overall, our participants have experience consistent with auditors who generally evaluate models and assumptions related to complex estimates (Griffith et al. [2015]).

3.2 DESIGN, PROCEDURE, AND EXPERIMENTAL MATERIALS

We conduct a 3 x 2 between-subjects experiment that manipulates disclosure at three levels (voluntary disclosure versus mandated disclosure versus no disclosure) and forecast optimism at two levels (lower: consistent with prior periods versus higher: higher than prior periods). The case was adapted from a Deloitte Trueblood real-world scenario related to auditors’ evaluation of a goodwill impairment-based complex estimate. The adapted experimental materials were reviewed by partners and representatives from a Big 4 audit firm for their applicability to practice. Participants assume the role of a senior auditor auditing a publicly traded client. The hypothetical client is an electronics manufacturer that sells products to third-party retailers in approximately 30 countries and has reporting units noted as the U.S., South America, Canada, and Other.

---

1 This study received institutional review board approval from the authors’ respective universities. One hundred twenty-nine auditors participated in-person during an accounting firm training event whereas six auditors participated online through the Qualtrics platform. Inferences remain unchanged if the six who participated online are excluded from analyses. We exclude three participants from analyses: one who did not complete the dependent measures, one who did not complete the post-test questionnaire, including manipulation checks, and one who failed both manipulation checks and had no experience evaluating projections.

2 Experience evaluating revenue projections did not differ by condition (F_{1,5} = 1.02, p = 0.407).
Participants evaluate the revenue projections used in a discounted cash flow analysis to support the value of the company’s U.S. reporting unit. The materials include background information about the client and the accounting issue. Participants first receive client background information that indicates they are planning to audit the current-year goodwill impairment analysis of their client. Participants then receive an email from their client’s CFO that contains two attachments: (1) a discounted cash flow analysis for the company’s U.S. reporting unit, which contains the forecast optimism manipulation, and (2) a memo from the CFO supporting projected revenues and expenses, which contains the disclosure manipulation. The discounted cash flow analysis provided to participants was in spreadsheet format and truncated to include only revenues for the prior three-year period and projections for each year of the five-year future period. This format for the discounted cash flow analysis was adapted from practice. The CFO’s memo, adapted from an actual goodwill impairment scenario, describes the performance of different products, the entity’s economic circumstances, and expectations for revenue growth to support the revenue projections. The memo also indicates the expected growth rate of the U.S. reporting unit. In all conditions participants are told that the growth rate of the U.S. unit is expected to be between three percent and six percent.³

3.3 DISCLOSURE MANIPULATION

We manipulate disclosure at three levels. The disclosure manipulation is part of the CFO’s memo description. In the Voluntary and Mandated Disclosure conditions, the CFO’s email indicates that the information contained in the memo was disclosed to investors in management’s

³ The average time spent on the task was approximately 16 minutes.
latest earnings call, while no such indication appears in the No Disclosure condition.\(^4\) The Mandated Disclosure condition further informed participants that regulations required the disclosure of forward-looking information used to support a goodwill impairment analysis and that the memo content was required to be disclosed under these regulations. Importantly, the information content of the CFO’s memo is identical across the experimental conditions.

### 3.4 FORECAST OPTIMISM MANIPULATION

We manipulate forecast optimism at two levels. The forecast optimism manipulation is embedded in the discounted cash flow analysis attached to the CFO’s email. In the Lower Optimism condition, the projected revenue growth is consistent with prior year trends at 3.0 percent for each year of the discrete five-year projected period, whereas in the Higher Optimism condition, the projected revenue growth is higher than prior year trends at 6.0 percent. In all conditions, the growth rates of revenue for the two prior years were 3.3 percent and 3.6 percent, respectively. This manipulation is meant to test theory related to source credibility.

### 3.5 DEPENDENT, MEDIATING, AND OTHER VARIABLES

#### 3.5.1. Professional Skepticism: Skeptical Beliefs.

Our dependent variable is a composite measure of professional skepticism designed to capture participants’ skeptical judgments and beliefs (Nelson [2009], Quadackers et al. [2014], Nolder and Kadous [2018]). Using seven-point scales, we measure five components: reasonableness of the revenue projections, persuasiveness of the information to support projected revenue, the strength of audit evidence provided, the justifiability of the audit evidence to accounting firm regulators, and the extent to which the auditor

---

\(^4\) The timing of the latest earnings call was not made explicit in the experimental materials, although the materials were designed to suggest that the earnings call took place in the prior quarter, in a pre-audit setting. Most forward-looking statements, including management earnings forecasts, are issued in conjunction with quarterly earnings announcements (Rogers and Van Buskirk [2013], Bozanic et al. [2018]). The PCAOB recommends that auditors observe or read transcripts of earnings calls as part of an audit (PCAOB [2018a]).
is prepared to conclude that the projections are reasonable. The scales range from 1 = “Not Reasonable” to 7 = “Very Reasonable,” for example, and were reverse coded for presentation purposes so that higher values represent more skepticism. We average the ratings for a single measure of skeptical beliefs.5

3.5.2. Management Trustworthiness. We posit that auditors’ perceptions of management trustworthiness will mediate the joint relation of voluntary disclosure and forecast optimism on skeptical beliefs. Our proposed mediator, management trustworthiness, is a composite score from participants’ ratings of three items: (1) “I believe that Smith management is very trustworthy,” (2) “I believe that Smith management is very honest,” and (3) “How much trust do you have in the information provided by the CFO?” Responses range along seven-point scales from 1 = “Strongly Disagree” to 7 = “Strongly Agree” for the former two measures and from 1 = “No Trust” to 7 = “High Trust” for the latter measure.6

3.5.3. Professional Skepticism: Skeptical Actions. We expect our dependent variable, auditors’ skeptical beliefs, to be positively related to auditors’ skeptical actions. We measure skeptical actions by asking participants how much testing they would plan to perform to determine the reasonableness of the revenue projections on a seven-point scale from 1 = “Limited Testing” to 7 = “Extensive Testing.” We examine this relation through SEM in supplemental analyses.

4. Results

4.1 MANIPULATION CHECKS

We test our disclosure manipulation by asking participants to indicate whether the information provided to support management’s revenue projections was disclosed through an

---

5 We performed a reliability analysis of participants’ responses, which revealed a Cronbach’s alpha of 0.85. The alpha measure supports a high degree of internal consistency in the scale measures (Nunnally [1978]).

6 Analyses revealed a Cronbach’s alpha of 0.78, suggesting a high degree of internal consistency in the scale measures (Nunnally [1978]).
earnings call and whether they were informed that regulations required disclosure of forward-looking information used to support a goodwill impairment analysis. In response, 81 percent and 83 percent of participants, respectively, correctly answered the questions. We test our forecast optimism manipulation by asking participants to indicate how optimistic the revenue projections are on a seven-point scale from 1 = “Not Optimistic” to 7 = “Very Optimistic.” Results indicate that participants in the higher optimism condition (M = 5.58) perceived the forecast to be more optimistic than did participants in the lower optimism condition (M = 4.33; t130 = 4.89, p < 0.001), suggesting a successful manipulation of forecast optimism.

4.2 HYPOTHESIS TESTS

Our hypothesis predicts that auditors will be more skeptical when forward-looking information is voluntarily disclosed than when it is mandatorily disclosed or not disclosed, and the effect will be stronger when the information is less optimistic. As shown in Figure 1, Panel B, the observed pattern of means is visually consistent with our hypothesis. Table 1 presents the descriptive statistics (Panel A), an ANOVA model (Panel B), and simple effect comparisons (Panel C). All tests of directional predictions use one-tailed t-test p-values unless otherwise noted.

We find that our hypothesis is supported. The 3 x 2 ANOVA interaction term provides support at a p = 0.084 (F2,126 = 2.53) level, and the simple effect comparisons support the pattern of results implied by our hypothesis. Specifically, when forward-looking information is consistent with prior periods (i.e., has lower optimism), auditors are more skeptical of the information when it is voluntarily disclosed (M = 5.26) than when it is mandated to be disclosed (M = 4.58; t126 =

---

7 Given our directional expectations, we performed analyses to test each 2 (disclosure [voluntary versus mandated and voluntary versus no disclosure]) x 2 (forecast optimism) ANOVA model interaction separately (untabulated). Using the standard ANOVA contrast weights [1, -1, -1, 1], we find that the interaction of disclosure and forecast optimism is statistically significant for each model (disclosure [voluntary versus mandated] x forecast optimism: t84 = 2.09, p = 0.020, and disclosure [voluntary versus no disclosure] x forecast optimism: t85 = 1.90, p = 0.031).
2.48, p = 0.007) or not disclosed (M = 4.65; t_{126} = 2.29, p = 0.012). As expected, when the forward-looking information is consistent with prior periods, there is no statistical difference between the mandated disclosure (M = 4.58) and no disclosure conditions (M = 4.65; t_{126} = 0.24, p = 0.813, two-tailed). Furthermore, we find that when forward-looking information is mandated to be disclosed, auditors are more skeptical when the information is more optimistic (M = 5.53) than when it is less optimistic (M = 4.58; t_{126} = 3.46, p < 0.001). Similarly, we find that when forward-looking information is not disclosed, auditors are more skeptical when the information is more optimistic (M = 5.55) than when it is less optimistic (M = 4.65; t_{126} = 3.37, p < 0.001). In contrast, we find no effect of forecast optimism when the information is voluntarily disclosed (M_{Higher} = 5.45 vs. M_{Lower} = 5.26; t_{126} = 0.71, p = 0.477, two-tailed). Additional simple main effect comparisons reveal that auditors’ level of skeptical beliefs is not statistically different between conditions when the forward-looking information contains higher optimism (all p ≥ 0.691, two-tailed). Overall, our findings suggest that auditors are more skeptical when forward-looking information is voluntarily disclosed than when it is mandatorily disclosed or not disclosed, conditional on the level of forecast optimism.

4.3 SUPPLEMENTAL THEORY-CONSISTENT EVIDENCE

4.3.1. Examining the Theoretical Process. We posit that auditors’ perceptions of management trustworthiness, a component of source credibility, are integral to the relation between voluntary disclosure behavior and professional skepticism. We expect perceptions of management trustworthiness (see Table 2) to mediate the joint effect of voluntary disclosure and

---

8 We observe a similar pattern of overall results when a factor score is used in place of the average of the five skeptical beliefs measures for the dependent measure in our hypothesis. We also measure perceptions related to risk of material misstatement. While assessments of risk were relatively high (M = 5.16) on a seven-point scale ranging from 1 = “Low Risk” to 7 = High Risk,” with a midpoint of 4 = “Moderate Risk,” we find no differences across conditions (F_{1,5} = 1.27, p = 0.281).
forecast optimism on auditors’ skepticism. We also expect auditors’ skeptical beliefs to be positively associated with skeptical intentions or actions (Nelson [2009], Quadackers et al. [2014], Nolder and Kadous [2018]).

We perform a multicategorical mediation SEM analysis to test our mediation model, depicted in Figure 2 (Hayes and Preacher [2014]). The model appears to fit the data well ($\chi^2$/df = 12.18, $p = 0.35$; CFI = 0.974; and RMSEA = 0.040),\(^9\) and the standardized path coefficients are consistent with our expectations. As reported in Figure 2, Panel B, there is a statistically significant indirect effect for management trustworthiness comparing voluntary disclosure to mandated disclosure (Path 1) when forecast optimism is lower (the 80 percent confidence interval [CI] does not include zero; CI: 0.02–0.35).\(^{10}\) That is, voluntary disclosure causes auditors to perceive management to be less trustworthy ($a_1$ is negative and marginally significant: $p < 0.10$), which is associated with greater skeptical beliefs ($b_1$ is negative and significant: $p < 0.01$). Similarly, comparing voluntary disclosure to no disclosure when forecast optimism is lower (Path 2), we observe the same indirect effect for management trustworthiness (90 percent CI: 0.04–0.48), and auditors also perceive management to be less trustworthy ($a_2$ is negative and significant: $p < 0.05$).\(^{11}\) We also test and find that skeptical beliefs are associated with skeptical actions ($d_1$ is positive and significant: $p < 0.01$). This link suggests not only that voluntary disclosure and forecast optimism jointly influence auditors’ skeptical beliefs but also that they are associated with variation in the extent of required testing. When forecast optimism is higher (Figure 2, Panel C),

---

\(^9\) Typical benchmarks for goodness of fit are a $\chi^2$ goodness-of-fit test, a comparative fit index (CFI), and a root mean square error of approximation (RMSEA). A $\chi^2$ goodness-of-fit test is a statistical test of the null hypothesis that there is no better-fitting model available. Hence, an insignificant finding suggests a well-fitting model. A CFI over 0.95 indicates a good fit, and a RMSEA of less than 0.10 indicates a moderate fit (Browne and Cudeck [1993]).

\(^{10}\) Reflecting our directional expectations, an 80% confidence interval (i.e., bounded at 0.10 and 0.90) tests whether the one-tailed p-value is less than 0.10.

\(^{11}\) Reflecting our directional expectations, a 90% confidence interval (i.e., bounded at 0.05 and 0.95) tests whether the one-tailed p-value is less than 0.05.
the relation between voluntary disclosure and management trustworthiness is not statistically significant, nor are there observed indirect effects of voluntary disclosure on skepticism, compared to the mandated disclosure condition or the no disclosure condition (80 percent CI: -0.16–0.16 and 90 percent CI: -0.12–0.28, respectively).

In sum, our primary evidence from the hypothesis tests establish how theory related to source credibility drives the causal relation of voluntary disclosure and forecast optimism on auditors’ skeptical beliefs. Our supplemental SEM analysis provides additional evidence on the theoretical relation between our constructs of interest. We draw on recent guidance and an accompanying framework on process evidence provided by Asay et al. [2022] to consider our experimental design and interpretation of process evidence. While our mediation analysis is helpful at identifying the correlation of our mediator among our independent and dependent variables, there are validity threats to consider when interpreting our results. For example, we designed our study to measure management trustworthiness through direct questioning, which can be more susceptible to validity threats compared to less obtrusive methods, particularly when the measure is placed immediately after the dependent variable(s) in the instrument and is measured using a similar scale as the dependent variable(s), which we did in our study. Thus, our experimental design could lead to common method bias, where the measuring of our primary dependent variables affects our measure of management trustworthiness because of a carryover effect. While this is a concern, we have comfort that our mediator is not influenced by our dependent measures. First, the dependent and mediator measures were separated by a manual task that required participants to place experimental materials in one envelope while retrieving materials from another, creating separation between the two measures.12 Second, we also measured

---

12 Six auditors who participated through an online experimental administration did not complete the manual task.
perceptions of management competence at the same time and on a scale similar to the mediator measures. The competence measure produced different results than the mediator did (see section 4.3.2.), suggesting little, if any, carryover occurred between our dependent and mediator measures.

4.3.2. **Controlling for Confounding Factors.** We predict that the joint effect of voluntary disclosure and forecast optimism influences skeptical beliefs through perceptions of management trustworthiness. According to the psychology literature, however, trustworthiness is only one element of source credibility. Prior research has found that source expertise (or competence) can also play a key role in auditor assessments of management credibility (Rebele et al. [1988], Hirst [1994], Mercer [2004]). We expect voluntary disclosure of forward-looking information to affect auditor perceptions of management trustworthiness, provided that the information is less optimistic, but not to affect perceptions of management competence. Unlike investors or analysts, auditors are privy to management’s forward-looking information regardless of disclosure behavior. Therefore, we expect the joint influence of voluntary disclosure and forecast optimism to have little impact on perceptions of competence.

Given that competence is often confounded with perceptions of forecast optimism, we designed the experiment to capture and analyze perceptions of manager competence. Specifically, we examine the relation between voluntary disclosure and perceptions of management competence by asking participants in the post-experiment questionnaire whether they think management is competent at projecting revenue growth. As expected, management competence is perceived to be higher in the lower optimism condition (M = 3.68) than in the higher optimism condition (M = 3.18; t_{130} = 2.98, p = 0.002). We replicate our mediation analysis (Figure 2), replacing Management Trustworthiness with Competence (untabulated). As expected, the relation between Voluntary Disclosure and Competence (Link 1) is not significant regardless of optimism level for either
Voluntary versus Mandated Disclosure ($p > 0.72$) or Voluntary versus No Disclosure ($p > 0.34$). Thus, competence does not mediate the joint relation of voluntary disclosure and forecast optimism on skeptical beliefs. Moreover, tests of the hypothesis are robust at reported $p$-values when including competence as a covariate (untabulated). Overall, our results support theory maintaining that auditors’ perceptions of management trustworthiness, not competence, is what drives the interactive effect of voluntary disclosure and forecast optimism on auditors’ skeptical beliefs.\footnote{We also measure auditors’ perceptions of management credibility (by definition, credibility includes constructs of competence and trust), qualifications, and how knowledgeable management is about forecasting information. There are no main effects of optimism for any measure (all $p$-values $> 0.308$).}

5. Conclusion

In this study, we demonstrate that auditors are more likely to challenge forward-looking information that aligns with past trends when it is disclosed voluntarily, as opposed to when it is mandatorily disclosed or held privately. This heightened skepticism arises from a decreased level of trust in management. Manipulating forecast optimism and comparing the voluntary disclosure condition to both a mandatory disclosure and a no disclosure condition provide evidence suggesting that management’s decision to disclose, rather than public disclosure of the information, is the cause of increased auditor skepticism and decreased trust in management.

Our study is not without limitations which provide several opportunities for future research. For example, even though there are various formats of voluntary disclosure, we chose a quarterly earnings call as the disclosure medium, as firms frequently disclose or discuss forward-looking information during these events (Rogers and Van Buskirk [2013], Bozanic et al. [2018]). While we expect forward-looking information voluntarily disclosed through an earnings call can generalize to other disclosure contexts, such as a press release or management discussion and analysis in a Form 10-K, this may not be the case. Hence, future research could examine whether
different disclosure channels lead auditors to exhibit varying levels of professional skepticism. Relatedly, future research could explore how various attributes of forward-looking information impact auditor judgments. Our study examined forecast optimism as an important attribute of forward-looking information that moderates the effects of voluntary disclosure. Subsequent research might investigate whether management’s issuance of forecasts at different levels, such as those lower than prior year trends, influence perceived trustworthiness in the other direction, with auditors deeming the information more credible and thus needing less scrutiny.

Our results could be sensitive to auditors’ baseline perceptions of management credibility. Auditors assess management credibility through the various stages of an audit, and it is an iterative process. For example, auditors evaluate management credibility during client acceptance procedures, client continuance procedures, and during audit planning and testing. These assessments may influence how auditors apply their skepticism when dealing with forward-looking disclosures. If auditors have accrued a high perception of management credibility, it may extend to how they interpret management’s decision to disclose forward-looking information. Given the sequential nature of the audit process, future research could explore how preexisting beliefs about client management influence auditors’ judgments regarding disclosure.

Importantly, future research might also examine contexts where voluntary disclosure could enhance the persuasiveness of forward-looking information to auditors. That is, it is possible that pressure or encouragement from the SEC to release forward-looking information, even without a mandate, might make auditors less inclined to question management motives. Another context to consider is when management’s choice to disclose aligns with the disclosure policies of peer firms, which may mitigate auditor concerns about management motives. Moreover, in the same context, while voluntary disclosure of forward-looking information is prevalent already (Rogers and Van
Buskirk [2013], Bozanic et al. [2018]), if it becomes even more widespread, then auditors might come to view manager disclosure as a response to market demand rather than as opportunistic behavior. In such a case, auditors may apply a level of skepticism closer to what they apply to information mandated for disclosure. Consequently, future research is needed to better understand the complexities surrounding the frequency of voluntary disclosure and how auditors attribute management behavior in such situations.

Despite these limitations, our study makes several contributions to the literature and to practice. Specifically, our study adds to our understanding of the role that voluntary disclosure plays within the context of an audit. While Ball et al. [2012], Krishnan et al. [2012], and Feng and Li [2014] have all shown that auditors use forward-looking information to support their opinions, these studies’ use of only public data prevents them from discerning whether the observed skepticism resulted from the nature of what was disclosed or from the act of disclosure itself. Our experimental methodology extends this research by drawing strong causal inferences that suggest management’s decision to disclose increases auditors’ skepticism by influencing their perceptions of management trustworthiness. Our study also yields findings distinctive from the experimental studies of Griffin [2014] and Bhaskar et al. [2019], which show that voluntary disclosure of supplemental information in financial statements and pre-release earnings announcements, respectively, make auditors more hesitant to oppose their client’s accounting treatment. Our study complements and extends these findings by showing that auditors respond differently to voluntary disclosure when it pertains to projections, as opposed to current-period or historical data. We find that auditors are more likely to question management’s motives when a disclosure concerns forward-looking information, which offers comparatively more latitude for manager bias.
REFERENCES


Electronic copy available at: https://ssrn.com/abstract=4660969


Figure 1 presents the predicted and observed pattern of means for participants’ skeptical beliefs. We predict that auditors will be more skeptical when forward-looking information is voluntarily disclosed than when it is mandatorily disclosed or not disclosed, and that the effect will be stronger when the information is less optimistic. Participants rate on seven-point scales the reasonableness of the projections and the persuasiveness, strength, justifiability, and extent to which they are prepared to conclude on the information provided to them to support management’s position (from 1 = “Not Reasonable” to 7 = “Very Reasonable,” for example). Skeptical Beliefs is the average of the five measures. Disclosure is whether the information provided to the auditor was voluntarily disclosed (Voluntary Disclosure), required to be disclosed by regulations (Mandated Disclosure), or not disclosed (No Disclosure). Forecast Optimism is whether the growth rate of the forward-looking information is higher than prior year trends (Higher) or consistent with prior year trends (Lower).
FIGURE 2
Mediation Path Model

Panel A: Expected Mediation Path Model

Figure 2, Panel A, illustrates our model of how voluntary disclosure influences auditors’ professional skepticism (both skeptical beliefs and skeptical actions). Panels B and C present the multicategorical SEM testing results on how perceptions of management trustworthiness mediate the joint effect of voluntary disclosure and forecast optimism on auditors’ skeptical beliefs and actions. Participants rate on seven-point scales the reasonableness of projections and the persuasiveness, strength, justifiability, and extent to which they are prepared to conclude on the information provided to them to support management’s position (from 1 = “Not Reasonable” to 7 = “Very Reasonable,” for example). Skeptical beliefs is the average of the five measures. Disclosure is whether the information provided to the auditor was voluntarily disclosed (Voluntary Disclosure), required to be disclosed by regulations (Mandated Disclosure), or not disclosed (No Disclosure). The analyses are partitioned on Forecast Optimism, where the growth rate of the forward-looking information is consistent with prior year trends (Lower, Panel B) or is higher than prior year trends (Higher, Panel C). Management Trustworthiness is a continuous variable and measures auditors’ perceptions of management, including “I believe that Smith management is very trustworthy,” “I believe that Smith management is very honest,” and “How much trust do you have in the information provided by the CFO?” The scales range from 1 = “Strongly Disagree” to 7 = “Strongly Agree” for the former two measures and 1 = “No Trust” to 7 = “High Trust” for the latter measure. Skeptical Actions is a continuous variable and measures “How much testing would you plan to perform to determine the reasonableness of the revenue projections...” on a seven-point scale (from 1 = “Limited Testing” to 7 = “Extensive Testing”). Reflecting our directional expectations, bolded coefficients note that the p-value is based on a one-tailed equivalent. Furthermore, in the Lower Optimism path model in Panel B, the indirect effect confidence intervals are bolded to indicate that a 90% confidence interval (i.e., bounded at 0.05 and 0.95) was used to test whether the one-tailed p-value is less than 0.05 and an 80% confidence interval (i.e., bounded at 0.10 and 0.90) was used to test whether the one-tailed p-value is less than 0.10.

We hypothesize the strength of Link 1 to be moderated by the level of forecast optimism.

* *, **, *** indicate significant difference at p = 0.10, p = 0.05, and p = 0.01, respectively.
FIGURE 2 (Continued)
Mediation Path Model

Panel B: Observed Lower Optimism Multicategorical Mediation Path Model

Management Trustworthiness

\[ a_1 = -0.36^* \]
\[ a_2 = -0.46^{**} \]

Voluntary Disclosure
Path 1: Voluntary vs. Mandated
Path 2: Voluntary vs. No Disclosure

\[ c'_1 = +0.49^{**} \]
\[ c'_2 = +0.37 \]

Skeptical Beliefs

\[ b = -0.53^{***} \]
\[ d = +0.23^{***} \]

Skeptical Actions

Path 1: Voluntary vs. Mandated
Path 2: Voluntary vs. No Disclosure

Panel C: Observed Higher Optimism Multicategorical Mediation Path Model

Management Trustworthiness

\[ a_1 = 0.00 \]
\[ a_2 = -0.15 \]

Voluntary Disclosure
Path 1: Voluntary vs. Mandated
Path 2: Voluntary vs. No Disclosure

\[ c'_1 = -0.08 \]
\[ c'_2 = -0.18 \]

Skeptical Beliefs

\[ b = -0.53^{***} \]
\[ d = +0.23^{***} \]

Skeptical Actions

Path 1: Voluntary vs. Mandated
Path 2: Voluntary vs. No Disclosure

Indirect Effects:

<table>
<thead>
<tr>
<th>Path</th>
<th>Effect (80%CI)</th>
<th>Lower CI (LLCI)</th>
<th>Upper CI (ULCI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path 1</td>
<td>0.19</td>
<td>0.02</td>
<td>0.35</td>
</tr>
<tr>
<td>Path 2</td>
<td>0.24</td>
<td>0.04</td>
<td>0.48</td>
</tr>
</tbody>
</table>

Indirect Effects:

<table>
<thead>
<tr>
<th>Path</th>
<th>Effect (90%CI)</th>
<th>Lower CI (LLCI)</th>
<th>Upper CI (ULCI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Path 1</td>
<td>0.00</td>
<td>-0.16</td>
<td>0.16</td>
</tr>
<tr>
<td>Path 2</td>
<td>0.08</td>
<td>-0.12</td>
<td>0.28</td>
</tr>
</tbody>
</table>

Electronic copy available at: https://ssrn.com/abstract=4660969
**TABLE 1**  
Auditors’ Skeptical Beliefs about Forward-Looking Information

Panel A: Descriptive Statistics for Auditors’ Skeptical Beliefs about Forward-Looking Information

<table>
<thead>
<tr>
<th>Disclosure</th>
<th>Voluntary Disclosure</th>
<th>Mandated Disclosure</th>
<th>No Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (Standard deviation)</td>
<td>5.45 (0.81)</td>
<td>5.53 (0.86)</td>
<td>5.55 (0.69)</td>
</tr>
<tr>
<td>Sample size</td>
<td>22</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>Cell</td>
<td>A</td>
<td>B</td>
<td>C</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Disclosure</th>
<th>Voluntary Disclosure</th>
<th>Mandated Disclosure</th>
<th>No Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean (Standard deviation)</td>
<td>5.26 (0.80)</td>
<td>4.58 (0.93)</td>
<td>4.65 (1.19)</td>
</tr>
<tr>
<td>Sample size</td>
<td>23</td>
<td>20</td>
<td>22</td>
</tr>
<tr>
<td>Cell</td>
<td>D</td>
<td>E</td>
<td>F</td>
</tr>
</tbody>
</table>

Panel B: ANOVA Model

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>MS</th>
<th>F</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclosure</td>
<td>2</td>
<td>1.14</td>
<td>1.43</td>
<td>0.243</td>
</tr>
<tr>
<td>Forecast Optimism</td>
<td>1</td>
<td>15.29</td>
<td>19.16</td>
<td>&lt;0.001</td>
</tr>
<tr>
<td>Disclosure x Forecast Optimism</td>
<td>2</td>
<td>2.02</td>
<td>2.53</td>
<td>0.084</td>
</tr>
<tr>
<td>Error</td>
<td>126</td>
<td>0.80</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 1 presents results for auditors’ skeptical beliefs about forward-looking information. Participants rate on seven-point scales the reasonableness of projections and the persuasiveness, strength, justifiability, and extent to which they are prepared to conclude on the information provided to them to support management’s position (from 1 = “Not Reasonable” to 7 = “Very Reasonable,” for example). Skeptical Beliefs is the average of the five measures. Disclosure is whether the information provided to the auditor was voluntarily disclosed (Voluntary Disclosure), required to be disclosed by regulations (Mandated Disclosure), or not disclosed (No Disclosure). Forecast Optimism is whether the growth rate of the forward-looking information is higher than prior year trends (Higher) or consistent with prior year trends (Lower).

* Expectation is directional; p-value is based on a one-tailed equivalent.


TABLE 1 (Continued)
Auditors’ Skeptical Beliefs about Forward-Looking Information

Panel C: Simple Effect Comparisons

<table>
<thead>
<tr>
<th>Comparisons</th>
<th>Expectation</th>
<th>Mean Diff.</th>
<th>t</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Lower Optimism:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voluntary vs. Mandated Disclosure</td>
<td>D &gt; E</td>
<td>0.68</td>
<td>2.48</td>
<td>126</td>
<td>0.007*</td>
</tr>
<tr>
<td>Voluntary vs. No Disclosure</td>
<td>D &gt; F</td>
<td>0.61</td>
<td>2.29</td>
<td>126</td>
<td>0.012*</td>
</tr>
<tr>
<td>Mandated vs. No Disclosure</td>
<td>E ≈ F</td>
<td>0.07</td>
<td>0.24</td>
<td>126</td>
<td>0.813</td>
</tr>
<tr>
<td><strong>Mandated Disclosure:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher vs. Lower Optimism</td>
<td>B &gt; E</td>
<td>0.95</td>
<td>3.46</td>
<td>126</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td><strong>No Disclosure:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher vs. Lower Optimism</td>
<td>C &gt; F</td>
<td>0.91</td>
<td>3.37</td>
<td>126</td>
<td>&lt;0.001*</td>
</tr>
<tr>
<td><strong>Voluntary Disclosure:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Higher vs. Lower Optimism</td>
<td>A ≈ D</td>
<td>0.19</td>
<td>0.71</td>
<td>126</td>
<td>0.477</td>
</tr>
<tr>
<td><strong>Higher Optimism:</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Voluntary vs. Mandated Disclosure</td>
<td>A ≈ B</td>
<td>0.08</td>
<td>0.30</td>
<td>126</td>
<td>0.765</td>
</tr>
<tr>
<td>Voluntary vs. No Disclosure</td>
<td>A ≈ C</td>
<td>0.11</td>
<td>0.40</td>
<td>126</td>
<td>0.691</td>
</tr>
<tr>
<td>Mandated vs. No Disclosure</td>
<td>B ≈ C</td>
<td>0.03</td>
<td>0.10</td>
<td>126</td>
<td>0.918</td>
</tr>
</tbody>
</table>
Table 2 presents descriptive statistics for a proposed mediator of the joint relation between voluntary disclosure and forecast optimism on skeptical beliefs: management trustworthiness. Management Trustworthiness is a continuous variable and measures auditors’ perceptions of management, including “I believe that Smith management is very trustworthy,” “I believe that Smith management is very honest,” and “How much trust do you have in the information provided by the CFO?” The scales range from 1 = “Strongly Disagree” to 7 = “Strongly Agree” for the former two measures and 1 = “No Trust” to 7 = “High Trust” for the latter measure. Disclosure is whether the information provided to the auditor was voluntarily disclosed (Voluntary Disclosure), required to be disclosed by regulations (Mandated Disclosure), or not disclosed (No Disclosure). Forecast Optimism is whether the growth rate of the forward-looking information is higher than prior year trends (Higher) or consistent with prior year trends (Lower).