Prepopulating Current Year Workpapers with Prior Year Conclusions: Effects on Auditors’ Inferred Strategies and Risk Assessment Accuracy

Sarah Bonner
University of Southern California

Tracie Majors
University of Southern California

Stacey Ritter
University of Southern California

October 17, 2016

This study was supported by a Center for Audit Quality and Auditing Section of the American Accounting Association Access to Audit Personnel Award. We thank Margot Cella and Tom Payne of the CAQ for facilitating access to participants, and participants for giving their time. We thank Taylor Reis for research assistance, and Joseph De La Torre, Sharon Kim, Taylor Reis, McKenzie Storey, Demetrio Tacad, Jr., and Jason Wechter for assistance with early versions of the instrument, and we thank Jeff Johanns, Allison Kays, Lori Smith, and Fiona Wang for assistance with the risk assessment task. We thank Tim Bauer, Tim Brown, Deni Cikurel, David Erkens, Kirsten Fanning, Brent Garza, Kamber Hetrick, Devin Williams, and Amanda Winn, as well as workshop participants at University of Illinois at Urbana-Champaign, for helpful comments.
ABSTRACT

We conduct an experiment examining the impact of prepopulation (the automatic copying over of prior year audit conclusions into current year workpapers) on auditors’ accuracy at risk assessment. Integrating psychology theory on default options with key features of the audit environment, we develop predictions that prepopulation, compared to leaving current year workpapers blank, harms auditors’ accuracy at assessing risks that have changed since the prior year. Process testing reveals this result occurs because prepopulation prompts auditors to infer a “don’t change” goal-related strategy, as well as an “efficiency now” strategy (for decreasing risks) and an “efficiency later” strategy (for increasing risks). Professional guidance admonishing auditors to not overrely on prior year conclusions reduces the effect of prepopulation on the efficiency-related strategies, but does not alter its effects on the “don’t change” strategy, or overall accuracy. Further, prepopulation generally continues to have a negative effect on accuracy for auditors with high professional identity, and for those who are most experienced, most motivated, and least depleted. Results are robust to alternative process explanations. These findings should be of interest to audit firms and regulators.

**JEL codes:** M40, M42

**Keywords:** Prepopulation, default options, inferred strategies, audit workpapers, risk assessment
1. Introduction

A critical input to audit quality is auditors’ accuracy at risk assessment, given that risk assessment affects the scope of substantive testing which, in turn, affects the detection of material misstatements if they exist (Allen et al. [2006]). Risk assessment accuracy also can affect audit efficiency; if auditors assess risks too high, they can plan too much substantive testing. Both regulators and firms have recognized that a possible impediment to risk assessment accuracy is the failure to recognize, or be responsive to, changes in client conditions from the prior year (KPMG [2011]; PCAOB [2012c]; CAQ [2014]). In this study, we examine the effects of a factor that we posit decreases auditors’ accuracy at assessing client risks that have changed: the “prepopulation,” or automatic copying over, of last year’s conclusions into the current year’s workpapers.¹

Auditors accessing prior year evidence and conclusions via prepopulated workpapers face an implicit “default option” whereby if they do not take action, prior year results become current year results. By contrast, auditors viewing workpapers that are not prepopulated (i.e., are blank) do not face such a default option; instead, they access prior year results via other means (e.g., in a separate tab), and must fill in current year results. An extensive literature shows the profound impact of defaults on individuals’ choices, specifically that more people choose an option when it is presented as the default than when it is an alternative, or when there is no default. For example, studies show that more people are willing to be organ donors when donation is the default (e.g., McKenzie et al. [2006]; Johnson and Goldstein [2003], [2004]). One key

¹ In support of there being variation in whether workpapers are prepopulated, 21 percent of our participants have experienced workpapers that are all prepopulated; 28 percent have experienced workpapers that are never prepopulated; and 50 percent have experienced a mix. For the auditors indicating a mix, about 60 percent of their workpapers are prepopulated. Responses do not differ by audit firm.
explanation for these effects is that people typically infer: (1) that policymakers select defaults to achieve specific goal(s) and (2) the decision strategies they should employ to meet those goals (e.g., McKenzie et al. [2006]; Tannenbaum and Ditto [2014]).

We predict that prepopulation will cause auditors to infer three goal-related strategies that will decrease their accuracy at assessing current year risks that exhibit changes from the prior year.2 First, based on the psychology finding that people infer the goal and strategy of sticking with the default (e.g., McKenzie et al. [2006]), we expect auditors facing prepopulated workpapers to be more likely than those facing non-prepopulated workpapers to infer a “don’t change from prior year” (hereafter, “don’t change”) strategy;3 this strategy clearly will reduce their accuracy at assessing risks that have changed. Second, due to their knowledge of the audit environment, we expect auditors facing prepopulated workpapers to be more likely to infer two strategies related to an efficiency goal, i.e., that efficiency is relatively more important than effectiveness.4 The first – an “efficiency now” strategy – entails exerting less effort on the risk assessment task itself. This strategy likely leads to decreased accuracy because, with reduced effort, auditors can miss evidence that suggests assessments be changed. The second – an “efficiency later” strategy – reflects auditors anticipating relatively more regret about making risk assessments that would compromise the efficiency of later substantive testing. Because making risk assessments that are higher than last year’s decreases efficiency, this strategy, like the other strategies, should reduce auditors’

2 While not our primary focus, we also examine whether prepopulation improves auditors’ accuracy at assessing risks that remain unchanged from the prior year.
3 This strategy may explain the finding that auditors make few changes in substantive tests from year to year, dubbed the “same as last year” (SALY) effect (e.g., Bedard [1989]; Mock and Wright [1999]).
4 All auditors receive information that the workpaper setup has been chosen to strike a balance between efficiency and effectiveness. However, both prepopulated and non-prepopulated groups may perceive that efficiency has more absolute importance than effectiveness (or vice-versa). Our expectation is that auditors with prepopulated workpapers will infer that the “balance” tilts more toward efficiency.
accuracy for increasing risks. By contrast, the “efficiency later” strategy creates a conflict for auditors when making decisions about decreasing risks. Specifically, while it suggests making risk assessments that are lower than last year’s (because this increases efficiency later), the “don’t change” strategy suggests not changing. Based on the strength of default effects observed in the prior literature, we expect auditors to prioritize the “don’t change” strategy, thereby reducing overall accuracy for decreasing risks as well.

We also examine if PCAOB guidance admonishing auditors not to overrely on prior year conclusions can decrease any negative effects of prepopulation on risk assessment accuracy. We examine two forms of guidance – a task-specific version that is targeted toward the risk assessment task, and a general version that relates to the issue audit-wide. While theoretically this guidance should lead all auditors to think carefully about changes from the prior year, it is unclear whether such careful thought is sufficient to significantly weaken what may be strong effects of prepopulation on auditors’ inferences about their firm’s goals and the strategies they should use to achieve those goals. As such, we do not make formal hypotheses about the effects of this guidance.

We examine our hypotheses and research question using an experiment, in which we assign 117 staff auditors from two firms to one of six conditions reflecting the combination of prepopulation (versus non-prepopulation) and three forms of guidance: none, task-specific, or general. The auditors receive information about the client for the current year along with prior year workpapers showing last year’s numerical risk ratings and supporting evidence, and either prepopulated (i.e., containing the prior year’s risk

---

5 We use an experiment as it allows us to focus in a very detailed way on the cognitive mechanisms by which prepopulation of workpapers affects auditors’ accuracy. Understanding these mechanisms ultimately is critical for suggesting possible remedies for any negative effects of prepopulation, as well as, if a remedy is not ultimately effective, understanding the underlying reason why. (Bonner [2008]).
ratings and evidence) or non-prepopulated (i.e., blank) current year workpapers; they then make risk ratings for the current year. The case contains evidence about 19 risk factors, eight of which have increased, six of which have decreased, and five of which have not changed. We measure auditors’ risk assessment accuracy for the three types of risk factors separately based on whether auditors’ current year ratings are directionally accurate. We measure the “don’t change” strategy using the average number of times auditors make current year ratings that are the same as prior year ratings for risk factors other than those evaluated in the dependent variable.\textsuperscript{6} We measure the “efficiency now” strategy using time spent on the risk assessment task, and the “efficiency later” strategy using post-experimental questions reflecting anticipated regret about the effects on efficiency and effectiveness of increasing or decreasing risk ratings from the prior year.\textsuperscript{7}

As predicted, we find that auditors with prepopulated workpapers are less accurate at making changes to risk ratings when changes are warranted.\textsuperscript{8} Process testing reveals that, for increasing risks, decreased accuracy occurs due to these auditors being more likely to employ both the “don’t change” and “efficiency later” strategies. While prepopulation does invoke an “efficiency now” strategy, the other two strategies drive the effect. For decreasing risks, process testing reveals that auditors appear to prioritize the “don’t change” (and “efficiency now”) strategies over the “efficiency later” strategy, and, overall, prepopulation reduces auditors’ accuracy. Paradoxically then, providing prepopulated workpapers to promote audit efficiency could make it less likely that a firm can achieve this goal because auditors do not take advantage of decreasing risks to reduce

\textsuperscript{6} For example, for increasing risk factors, we calculate the average number of times auditors make current year ratings that are the same as prior year ratings for decreasing risk factors and no-change risk factors.
\textsuperscript{7} We examine the effects of prepopulation on the inferred goals in two validation studies.
\textsuperscript{8} When risks do not change from the prior year, we observe better accuracy in the prepopulated condition.
later substantive testing. Results are robust to alternative explanations, including effort, cognitive load, and salience of last year’s ratings that could cause anchoring.

With respect to our research question, while general guidance has little effect, guidance specific to risk assessment does attenuate the effect of prepopulation on the “efficiency now” and “efficiency later” strategies. However, these improvements do not flow through to affect overall accuracy, because guidance does not reduce the effect of prepopulation on the “don’t change” strategy, and this strategy continues to have a negative effect on accuracy. Overall, then, guidance does not reduce the negative effects of prepopulation on auditors’ accuracy at identifying changes in risk from the prior year.

By identifying how an institutional feature of the audit environment – whether firms prepopulate or do not prepopulate current year workpapers – can create goal-related strategies, this study responds to recent calls for research on auditors’ goals and resulting strategies (Griffith, Kadous, and Young [2016]). Specifically, we show that “don’t change,” “efficiency now,” and “efficiency later” goal-related decision strategies can be invoked by the default options created by differential forms of workpaper access, and that these strategies lead to decreased risk assessment accuracy when risks have changed. We also examine the impact of competing strategies. In particular, for decreasing risks, we develop theory that the “don’t change” and “efficiency later” strategies compete, and show that auditors appear to prioritize the “don’t change” strategy. Finally, we examine an intervention that seeks to reduce the effect of prepopulation on inferred strategies: guidance to avoid overrelying on prior year conclusions. While task-specific guidance does reduce the effect of prepopulation on the “efficiency now” and “efficiency later” strategies, it does not alter the effect of prepopulation on the “don’t change” strategy.
Our study also contributes to the psychology literature on default options. Those studies use simple settings, in which policymakers have one goal (e.g., increasing organ donation), and recipients of default options can easily infer the appropriate goal-related strategy (e.g., donate). By contrast, in the audit setting, firms have multiple (and sometimes competing) goals; thus, recipients of default options must draw richer and more complex inferences when choosing goal-related strategies to employ.

Our findings have practical implications for audit firms as well. First, our evidence that prepopulation, which varies within firms, can affect both effectiveness at risk assessment, as well as overall audit efficiency, suggests, at a minimum, a need for standardization. As “choice architects” (Thaler and Sunstein [2008]), audit firms often choose firm-wide workpaper (and, more generally, support system) defaults to promote standardization (Dowling and Leech [2007]). Second, be they firm-wide or audit-specific, default choices such as prepopulation reflect multiple goals. Even if auditors appropriately infer goal-related strategies, they may not fully understand how the firm (or engagement team) made tradeoffs among the goals and, thus, place inordinate weight on some inferred strategies, e.g., not changing. Further, the inferred strategies may have unintended consequences, as illustrated by the results for decreasing risks. Finally, our findings suggest that, in cases where auditors need to be sensitive to changes in risks, a solution may be to use non-prepopulated workpapers, unless another intervention that can reduce the effect of prepopulation on the “don’t change” strategy can be identified.

The rest of the paper is organized as follows. Section 2 provides background information and develops our hypotheses. Sections 3 and 4, respectively, describe the design and results of the experiment. Section 5 concludes.
2. Background and Hypothesis Development

2.1 BACKGROUND

Accurate risk assessment is important to audit quality, as risk assessment affects the scope of substantive testing, which affects auditors’ ability to detect any material misstatements that exist (Allen et al. [2006]; Knechel et al. [2013]). The importance of risk assessment to audit quality is underscored by inspection results citing deficiencies in this area (Church and Shefchik [2012]), and the issuance of several practice alerts cautioning auditors to consider changes in risks (e.g., PCAOB [2008], [2011a, b]).

Inaccurate risk assessment also can affect efficiency; if risks are assessed too high, the auditor can do too much substantive testing. Numerous factors, including elements of decision support systems, can affect risk assessment accuracy (Allen et al. [2006]). For example, Bedard and Graham [2002] find that auditors with a decision aid focused on the negative consequences of risks list more risks than those with a positively focused aid.

While prior research shows that auditors tend to make few changes to substantive tests from year to year (Bedard [1989]; Mock and Wright [1999]; Wright 1988), it is not clear whether this tendency is driven by not changing risk assessments from the prior year or, instead, not being responsive to assessed changes in risks. We directly examine auditors’ accuracy at identifying whether risks have increased, decreased, or are unchanged from prior year, and predict that an important factor that may reduce this directional accuracy when risks change is the default option created by prepopulation of workpapers with prior year conclusions. To our knowledge, no prior research has

---

9 Further, the PCAOB has criticized firms for failing to update risk assessments (PCAOB [2012a]), as well as for inappropriate reliance on prior year conclusions in other areas (PCAOB [2012b], [2013A], [2015b]), sometimes despite “significant adverse changes in the economic environment” (PCAOB [2015b], 10).

10 Allen et al. [2006] conclude that the relation between assessed risks and substantive testing has increased over time, particularly after the advent of SOX. For a recent study, see Ruhnke and Schmidt [2014].
examined the effects of workpaper default options with regard to prior year conclusions, a factor that varies in practice. Any threat to audit quality created by prepopulation is of particular importance in the area of risk assessment, given that auditors are encouraged by professional standards to refer to prior year conclusions (PCAOB [2010a]).

2.2 THEORY AND HYPOTHESIS DEVELOPMENT

We begin by discussing theory about default options, which underlies our hypotheses about the impact of prepopulating workpapers. Next, we outline our expectations about goal-related strategies auditors will infer when viewing workpapers with or without default options (i.e., those that are prepopulated versus not). Finally, we provide specific hypotheses about the effects of prepopulation on accuracy at assessing risks that have increased, decreased, or not changed from the prior year.

2.2.1. Theory on Default Options

Default options appear in a variety of forms and are created by a variety of parties. For example, some countries have passed laws specifying that a person becomes an organ donor at death, unless she has indicated to the contrary (called an “opt-out” default) (Johnson and Goldstein [2003]). Other countries’ laws make the default that the person does not become an organ donor at death (called an “opt-in” default). Literature in psychology shows consistent, large effects of such opt-in, opt-out default options on individuals’ choices, specifically that people are more likely to choose a particular option when it is presented as the default (and people have to opt out) as opposed to as an alternative (where people have to opt in) (e.g., McKenzie et al. [2006]).

---

11 The notion that default options affect individuals’ decisions goes against the classical economics view that people have well-developed preferences that are unaffected by transient environmental factors, such as whether an option is presented as a default (Friedman [1953]). Instead, default option effects are consistent with the notion that people construct preferences in response to environmental stimuli (e.g., Payne et al.)
Because prepopulated audit workpapers present prior year conclusions as the default for current year conclusions, whereas non-prepopulated workpapers present no default, research examining whether people are more likely to choose an option when it is the default versus when there is no default is more relevant to our study. Some of these studies find default option effects, while others do not. For example, Madrian and Shea [2001] show that employees who receive a default contribution rate for a retirement plan more often select that rate than employees who do not receive such a default option. Brown and Krishna [2004] show that consumers more frequently choose a product attribute when it is presented as a default, compared to when there is no default presented. However, Johnson and Goldstein [2003] and Kressel et al. [2007] find no differences in, respectively, organ donation and the choice to administer life-sustaining treatments, depending on whether people receive these choices as the default or receive no default. These settings differ from the retirement and consumer settings as to whether social norms are invoked, and norms play a role in default effects (Everett et al. [2015]). The audit setting likely more directly parallels the retirement plan and consumer settings.

While psychology research provides evidence that default option effects occur frequently, evidence on the mechanisms underlying these effects presents muddier conclusions. One proposed mechanism is the effort involved in changing from the default (Johnson and Goldstein [2003], McKenzie et al. [2006], Dinner et al. [2011]). For example, to opt in for organ donation when not donating is the default, people may have to fill out forms (Johnson and Goldstein [2003]). A second mechanism is reference dependence (e.g., Johnson and Goldstein [2003]; McKenzie et al. [2006], Dinner et al. [1992]). Evidence on default effects strongly suggests such preference construction, given their appearance in consequential contexts like retirement savings.
Specifically, defaults can serve as either anchors or the status quo (or both). If they serve as anchors, people tend to first evaluate the hypothesis that the anchor is correct and recruit supporting evidence when so doing (e.g., Chapman and Johnson [1999]). Assuming the availability of sufficient supporting evidence, default options can affect ultimate choices through this process (Dinner et al. [2011]). Defaults also often are the status quo, and people generally prefer the status quo (as compared to change) because it serves as a reference point from which a change involves some gains and some losses. Because the losses typically loom larger, people tend to stick with the status quo (Ritov and Baron [1992], Schweitzer [1994]). In our setting, given that all auditors view prior year results (irrespective of whether workpapers are prepopulated), and are thus exposed to the same anchor/status quo, it seems unlikely that reference dependence would be a substantial mechanism underlying any default effects we observe in this study.12

The mechanism we focus on is the conscious, specific inferences people draw from the chosen default option (Johnson and Goldstein [2003]. McKenzie et al. [2006], Tannenbaum and Ditto [2014]). Individuals tend to infer: (1) that default options have been deliberately selected to achieve specific goals, and (2) the specific goal-related strategies they should employ. These inferences are consistent with the broader literature on how people make sense of others’ actions, i.e., they try to infer the goals underlying those actions (Heider [1958], Moskowitz and Grant [2009]). For example, people faced with an organ donation default infer that policymakers’ goal is to get more people to be donors and that, therefore, their strategy should be to stick with organ donation as their

12 It is conceivable, however, that the prior year rating is a more salient anchor or status quo in the prepopulated condition. We consider this alternative explanation in additional analyses.
choice (McKenzie et al. [2006]); Ebeling and Lotz [2015] observe that an opt-out default prompts more people to adopt a “save the environment” goal and prefer a “green” energy contract. More generally, defaults are viewed as “carriers of meaning”; for example, consumers view defaults as providing relevant information about product value, as well as the relative value of alternative products (Brown and Krishna [2004]). We expect auditors to view prepopulated and non-prepopulated workpapers as carrying meaning, specifically that they will infer from these forms of workpaper access certain goals that they are meant to achieve and strategies that will achieve those goals.

2.2.2. Effects of Prepopulation on Auditors’ Inferred Strategies

When assessing risks, we hypothesize that auditors facing prepopulated current year workpapers will be more likely than those facing non-prepopulated workpapers to infer three specific goal-related strategies that will, in turn, affect their accuracy at risk assessment (as discussed in the next section). Figure 1 illustrates our theoretical model.

First, as shown in Link 1, we expect that auditors viewing prepopulated workpapers will be more likely than those with non-prepopulated workpapers to infer a “don’t change” goal-related strategy (i.e., to minimize changes from prior year). While auditors generally may stick to prior year results, we expect prepopulation’s making prior year results the default option acts as an explicit endorsement of a “don’t change” strategy (Everett et al. [2015]), suggesting that it is more valued than the alternate option of changing the prior year judgment (Brown and Krishna [2004]). A “don’t change” strategy is consistent with auditors anticipating more regret were they to make changes from last year and be inaccurate in so doing than were they to make no changes from last year.

Because prepopulation (non-prepopulation) also may cause auditors to infer that client risks actually change little (a lot) from the prior year, we measure auditors’ beliefs about this factor.
year and be inaccurate. For example, auditors may have more concern about justifying an incorrect change from last year than about justifying an incorrect failure to change.

[Insert Figure 1 about here]

Second, we expect auditors with prepopulated workpapers to be more likely to infer two strategies related to an efficiency goal (Links 2 and 3). We expect them to infer that these strategies are appropriate because prepopulation suggests that the firm prioritizes engagement profitability, for example, via budgeting fewer audit hours than used last year; thus, auditors viewing prepopulated workpapers are likely to employ strategies tilted more toward efficiency than effectiveness. First, auditors viewing prepopulated workpapers are more likely to infer the goal-related strategy of “efficiency now,” i.e., that they are to complete this year’s audit work (including the risk assessment task) with less effort, than their non-prepopulated counterparts. Second, auditors viewing prepopulated workpapers are more likely to infer an “efficiency later” strategy, which entails making risk assessments that result in relatively less work during the substantive testing phase of the audit. We expect auditors under prepopulation to be more likely to infer this strategy because they anticipate relatively larger regret related to compromising efficiency via their current year risk assessments than to compromising effectiveness.

2.2.3 Effects of Inferred Strategies on Accuracy Based on the Nature of the Risk Change

In this section, we develop hypotheses for the effects of the inferred strategies that result from prepopulation on, respectively, accuracy at assessing risk factors that have

---

14 In general, people prefer not to make changes because they anticipate larger regret for an adverse outcome caused by action than for an adverse outcome caused by inaction (Roese and Summerville [2005], Loomes and Sugden [2015]). Auditors’ sticking with prior year substantive tests (the SALY effect) is consistent with this. However, this tendency introduces tension for our prediction, as it is possible that this effect is so strong that default options may not have a significant incremental effect.
increased, decreased, and not changed from the prior year. Although we do not state formal hypotheses about the effects of prepopulation on the strategies, we provide evidence of them in the results section.

For risk factors that have increased since the prior year, an inferred “don’t change” strategy should prompt auditors viewing prepopulated workpapers to be less accurate in their current year judgments (Link 4). The inferred “efficiency now” strategy (i.e., to complete the risk assessment more quickly) may cause auditors to miss evidence suggestive of increased risks, so we expect this strategy will reduce auditors’ accuracy as well (Link 5). Finally, the inferred “efficiency later” strategy is reflective of auditors experiencing higher anticipated relative regret at moving up from the default of last year’s rating because doing so would decrease the efficiency of the current year audit (i.e., it would trigger more substantive testing). This strategy also should reduce auditors’ accuracy for increasing risk factors (Link 6). Stated formally:

H1: Prepopulation will have a negative effect on auditors’ accuracy at revising risk ratings upward for risks that have increased.

For risk factors that have decreased since the prior year, auditors inferring a “don’t change” strategy should be less accurate at risk assessment, similar to the prediction above (Link 4). Also similar to the above, auditors striving for “efficiency now” are likely to miss evidence suggesting that risks have decreased and, thus, be less accurate (Link 5). Auditors striving to achieve “efficiency later,” however, could be more accurate for decreasing risks because they would be more likely to revise risk ratings downward from the prior year to reduce substantive testing (Link 6). Overall, then, there are competing strategies among which auditors must choose for decreasing risks. We expect prepopulation overall to reduce accuracy because we expect auditors to prioritize a
“don’t change” strategy. This expectation is motivated by research on the strength of default effects, as well as research showing a “same as last year” effect. Stated formally:

\[ \text{H2: Prepopulation will have a negative effect on auditors’ accuracy at revising risk ratings downward for risks that have decreased.} \]

For risk factors that are *unchanged* from prior year, however, a “don’t change” strategy should lead auditors with prepopulated workpapers to be more accurate (Link 4). However, an “efficiency now” strategy may lead auditors to miss evidence indicating that risks have not changed, resulting in less accuracy (Link 5). Striving for efficiency later also could prompt auditors to (incorrectly) decrease risk assessments for unchanged risk factors, which would reduce accuracy (Link 6). Similar to with decreasing risks, however, we expect the “don’t change” strategy will be prioritized. Stated formally:

\[ \text{H3: Prepopulation will have a positive effect on auditors’ accuracy at leaving unchanged risk ratings for risks that have not changed.} \]

2.3 EFFECTS OF PROFESSIONAL GUIDANCE RELATED TO PRIOR YEAR WORKPAPERS

Because we expect that prepopulation of workpapers will have a negative effect on auditors’ accuracy at changing risk ratings from the prior year when warranted, by invoking goal-related strategies, we also examine the effects of an intervention that could potentially weaken the effect of prepopulation on these strategies (i.e., Links 1, 2, and 3 in Figure 1). Specifically, we examine the effects of professional guidance from the PCAOB suggesting that inappropriate reliance on prior year workpapers can reduce skepticism and, therefore, audit quality.\(^{15}\) While there are a number of possible remedies one could envision for the effects of prepopulation, we begin with this professional guidance given that it already exists in practice, and also because having guidance

\[^{15}\text{Similar to this, Brown and Krishna [2004] examine whether inducing skepticism in consumers by reminding them that marketers have profit goals reduces the effects of default options set by marketers.}\]
provided as part of audit tasks feels “natural” to auditors. Moreover, professional guidance from the PCAOB is an important element of the audit environment.

However, for the following reasons, we examine whether this professional guidance will reduce the negative effects of prepopulation as a research question. First, in the area of risk assessments, there is other guidance – the risk assessment standards (PCAOB [2010a]) – that specifically suggests the importance and acceptable use of prior year conclusions for assessing this year’s risks. The additional PCAOB guidance may appear to conflict with the professional standards, and it seems likely that auditors will give more weight to the standards, irrespective of whether workpapers are prepopulated. Second, the proposed effects of prepopulation on inferred strategies relate to the goals auditors’ employers want to achieve; these goals likely are perceived as immediate and pressing. Therefore, it is possible that the guidance intervention is not strong enough to reduce prepopulation’s negative effects on risk assessment accuracy.

3. Method

3.1 Participants

Participants in the experiment were 117 staff auditors from two firms. These auditors had an average of 12 months of experience, with a range of 1.5 – 60 months of experience, and completed the study in a firm training session. As discussed later, participants complete an audit risk assessment task in the study.\(^{16}\)

3.2 Design

We utilize a 2 x 3 between-participants design. The first manipulated factor is whether current year workpapers are prepopulated with prior year risk ratings and

\(^{16}\) Bhaskar et al. [2016], who developed the task initially, confirmed that the task was appropriate for audit staff through discussions with two senior managers at a Big Four firm. The task (as adapted for the current study) also was reviewed for appropriateness by the CAQ participating firms.
descriptions of evidence supporting those ratings. In the prepopulated condition, participants view a current year workpaper that has last year’s ratings and evidence filled in to the spaces for this year’s ratings and evidence. In this condition, if auditors wish to make changes from the prior year’s risk assessments, they must delete the prior year’s information and fill in new information. In the non-prepopulated condition, participants view a current year workpaper that has blank spaces for risk ratings and supporting evidence. All participants receive the completed workpaper with the prior year’s risk assessments in a separate file that they view on their screens next to the current year’s workpaper; they are not able to cut and paste from that prior year file.17

In addition to the workpapers being accessed as described above, the prepopulation manipulation entails telling participants either that their firm had copied over or not copied over the prior year risk ratings and evidence into the current year’s workpaper. All participants also are told: “This is consistent with your firm’s policy on how auditors should access prior year workpapers. Senior leadership in the audit quality group at your firm chose this policy because they believe it strikes the right balance between audit effectiveness and efficiency in performing the audit.” We chose this language to ensure that participants’ inferences about goals and strategies were focused on the issues of effectiveness and efficiency.18 We included language regarding the

---

17 We chose not to allow cutting and pasting in the non-prepopulated condition because we wanted to cleanly examine the effects of workpaper access when provided by a policymaker rather than when self-selected by the individual auditor. Note also that, although it was not necessary for them to view this file, the prepopulated participants had access to the separate prior year file.

18 Tannenbaum and Ditto (2014) show that people tend to infer more intent on the part of policymakers when an option is presented as a default rather than when there is no default. Our instructions to participants in both conditions make it clear that the choice of workpaper access was intentional, to hold this constant across conditions. Further, in the validation study referred to in footnote 24, we allowed participants to select a “no information about intent” option in our questions about goals. There were no differences between conditions with regard to participants choosing this option (smallest $p = .226$).
choice being made at the firm level to reduce variation in participants’ inferences that the choice was made at the firm level versus the engagement level.

The second manipulated factor is guidance related to reliance on prior year work. All participants receive paragraphs 3-7 from PCAOB Auditing Standard 2110 (“Identifying and Assessing Risks of Material Misstatement”) in order to be consistent with practice. Participants then receive one of three types of guidance in addition to this excerpt: no guidance (i.e., a control condition), task-specific guidance, or general guidance. Both guidance conditions focus on how inappropriate reliance on prior year workpapers can reduce skepticism and audit quality. Specifically, the guidance conveys that it is not sufficient for auditors to rely on their industry knowledge or information from prior audits. The task-specific guidance also contains excerpts from PCAOB documents that discuss the importance of, and what it means to apply, skepticism in risk assessment (PCAOB [2012c]; PCAOB [2015a]). This guidance is shown in panel 1 of Appendix A. The general guidance discusses the importance of, and what it means to, apply, professional skepticism in general (PCAOB [2012c]; PCAOB [2013b]). This guidance is shown in panel 2 of Appendix A.

3.3 TASK, DEPENDENT VARIABLES, AND PROCESS MEASURES

All participants complete the risk assessment task. They are instructed to read background information about an audit client, and assume they are in a staff role on the client. Prior to assessing risks, participants read the manipulated guidance information. They then view sample risk ratings and evidence for three risk factors – two that have ratings differing from prior year and one with the same rating as prior year. Next,

---

Note that such guidance may lead auditors to place inappropriate weight on prior year results per se, but this “baseline” inappropriate weight should not differ across conditions as all auditors have access to prior year workpapers and also to this standard.
participants read the manipulated information regarding the prepopulation of workpapers. The risk assessment task then entails selecting a numerical rating from 1 (low risk) to 5 (high risk), and typing descriptive evidence to support the rating for 19 different inherent and control risk factors. An example of the risk factors is shown in Appendix B.

We measure participants’ accuracy at risk assessment using their numerical risk ratings. Because our theory differs for risk factors that increase, decrease, and do not change, we employ three primary dependent variables – number of correct increases, decreases, and no change answers. We determine correctness based on whether the participant moved in the right direction for increases (up from last year’s rating) and decreases (down from last year’s rating), or did not move in the case of no-change factors.\(^{20}\) In total, there are eight risk factors involving increases from the prior year, six risk factors involving decreases, and five no-change factors.

Next, we describe our process measures. Recall that we predict that prepopulation leads auditors to infer goal-related strategies of “don’t change” (from prior year), be efficient now (i.e., invest little effort in the risk assessment task), and be efficient later (i.e., make risk assessments that are consistent with achieving more efficiency vis à vis effectiveness).\(^{21}\) To measure the “don’t change” strategy, we utilize the number of times

\(^{20}\) We validated our accuracy measure with four persons with auditing experience.

\(^{21}\) We validated these inferences with two validation studies. First, we asked 26 Masters of Accounting students who completed the risk assessment task the following post-experimental question: “Why do you think your firm selected this workpaper structure?” Note, in this study, we did not mention that the firm considered efficiency and effectiveness in choosing the structure. Participants with prepopulated, versus non-prepopulated workpapers, were more likely to mention goals of: efficiency (85 versus 8 percent) and avoiding making too many changes (31 versus 8 percent). They were less likely to mention goals of effectiveness (0 versus 77 percent) and avoiding making too few changes (8 versus 31 percent). In our second study, 44 Masters of Accounting students viewed either prepopulated or non-prepopulated workpapers, but did not do the risk assessment task. They then answered questions to measure their inferences about goals. Participants with prepopulated workpapers were more likely to report that the workpaper structure implies staff ought to make few (compared to many) changes from the prior year (one-tailed \(p = 0.018\)). When asked: “if you were in charge of setting up workpapers at your firm, and wanted to have audit staff make few (many) changes from the prior year audit,” participants tended to choose
auditors selected a current year risk assessment that was the same as the prior year risk assessment. We then create a measure of this strategy (Don’t Change) for a given type of risk factor (increase, decrease, no change) by averaging the measure for the other types of risk factors. For example, for increasing risk factors, we measure Don’t Change by averaging the number of times auditors selected not to deviate from the prior year risk assessment for decreasing risk factors and no change risk factors. Higher values of this measure indicate a stronger tendency toward a “don’t change” strategy.

We measure the two strategies related to an efficiency goal as follows. First, we measure the “efficiency now” strategy using the amount of time participants spend on the risk assessment task. Second, we measure the “efficiency later” strategy using questions related to anticipated relative regret about compromising audit efficiency versus audit effectiveness. Specifically, we ask participants on Likert scales from 1-7, where 1 is “Strongly Disagree” and 7 is “Strongly Agree”: (1) with respect to increasing (decreasing) risk factors, the extent to which they worried about what would happen to audit efficiency if they increased (did not decrease) the risk rating and (2) with respect to increasing (decreasing) risk factors, the extent to which they worried about what would happen to audit effectiveness if they did not increase (decreased) the risk rating. We then subtract the effectiveness measure from the efficiency measure to arrive at two “efficiency later” strategy measures: one for increasing risk factors and one for prepopulation (non-prepopulation) (both one-tailed p < 0.001), irrespective of the structure they had seen. Participants viewing prepopulated workpapers also reported greater agreement with the statement that the workpaper setup was done to promote efficiency in the audit (one-tailed p < 0.004).

We measure Don’t Change for the other types of risk factors because the extent to which participants select prior year risk assessments in the current year for a particular type of risk factor will be mechanically associated with the dependent variable of accuracy on that type of risk factor.

We cannot measure the “efficiency later” strategy directly because it would be mechanically related to our dependent variables. Instead, we measure the mediator that links the efficiency goal to this strategy.
decreasing risk factors. For no change risk factors, we develop a composite score by averaging participants’ measures for increase and decrease risk factors.24

We also use post-experimental questions to measure three factors other than our key process variables that may be affected by the prepopulation manipulation: (1) participants’ views about other goals firms may have for prepopulating workpapers, (2) participants’ views that the workpaper setup reflects the fact that clients risks change little (a lot) from year to year, and (3) cognitive load, as non-prepopulated workpapers likely cause greater cognitive load due to auditors having to go back and forth from the prior year to the current year (Clark et al. [2006]). Participants also respond to manipulation checks and questions designed to capture noise (and possible moderator) variables, e.g., depletion (Baumeister et al. [1998]), motivation, and work experience.

4. Results

4.1 MANIPULATION CHECKS

To ensure that participants attended to the prepopulation manipulation, we ask participants whether the prior year’s numerical risk ratings and evidence documentation were automatically copied over into the current year workpapers. Seventy-six percent of participants answered this question correctly, with a statistically significant association between the condition and participants’ responses ($\chi^2(1) = 31.96; p < 0.001$). To ensure that participants attended to the guidance manipulation, we ask participants whether they viewed PCAOB Auditing Standard 2110 or PCAOB Auditing Standard 2110 and

---

24 In support of the efficiency now and efficiency later strategies arising from an efficiency goal, the two strategies are moderately correlated (-0.34, -0.27, and -0.35 for increasing, decreasing, and no change risk factors; largest one-tailed $p = 0.047$). In support of divergent validity, the “don’t change” strategy, for increasing and decreasing risk factors, is uncorrelated with either efficiency strategy (two-tailed $p$-values > 0.205). For no change risk factors, the “don’t change” strategy is marginally correlated with efficiency now (-0.30; two-tailed $p = 0.067$) and uncorrelated with efficiency later (0.25; two-tailed $p = 0.130$).
Selected Guidance from PCAOB Documents (the intervention). Sixty-eight percent of participants answered this question correctly, with a statistically significant association between the condition and participants’ responses ($\chi^2(2) = 14.33; p = 0.001$).25

4.2 TESTS OF HYPOTHESES

Our primary tests of hypotheses examine whether prepopulation of workpapers has a negative effect on auditors’ accuracy at risk assessment for increasing risk factors (H1) and decreasing risk factors (H2), and a positive effect on accuracy for risk factors that are unchanged (H3). To test hypotheses, we conduct an Analysis of Variance (ANOVA) for each dependent variable using a dichotomous independent variable indicating whether or not participants’ workpapers are prepopulated.26 The dependent variable is participants’ accuracy at risk assessment (i.e., for each type of risk factor, a count of the number of times responses were directionally correct). Descriptive statistics and results for the Control sample (participants in our baseline condition who do not view additional guidance) are reported in Table 1, Panel B. While we also tabulate results for the effects of prepopulation (collapsing across guidance conditions) with all participants in Panel C of Table 1, we focus on the control sample in our initial analyses to provide baseline results about cognitive processes in the absence of guidance.27

H1 predicts that prepopulation of workpapers decreases auditors’ accuracy at assessing risks that have increased since the prior year. In support of H1, there is a negative effect of prepopulation on auditors’ accuracy for increasing risk factors ($F_{(1,37)} =$

25 Results for the primary tests of hypotheses are the same when including only participants who passed the manipulation checks. All analyses that follow include all participants.

26 Tests of assumptions show that the data do not meet the ANOVA assumptions of a normal distribution and homogeneity of variance. Thus, we also conduct nonparametric tests (i.e., Independent-Samples Median tests) on both the full sample and the control group. These tests reveal consistent results.

27 We revisit the entire sample in a later section in which we examine the impact of guidance.
28.28; one-tailed $p < 0.001$). H2 predicts that prepopulation of workpapers decreases auditors’ accuracy at assessing risks that have decreased since the prior year. Indeed, there is a negative effect of prepopulation on auditors’ accuracy for decreasing risk factors ($F_{(1,37)} = 5.72$; one-tailed $p = 0.011$). By contrast, H3 predicts that prepopulation of workpapers will increase auditors’ accuracy at assessing risks for risk factors that are unchanged from prior year. In support of H3, there is a positive effect of prepopulation on auditors’ accuracy for no change risk factors ($F_{(1,37)} = 10.63$; one-tailed $p = 0.001$).

4.3 TESTS OF THE PROCESS

Models illustrating the hypothesized processes and results are displayed in Figure 2 (for increasing risk factors), Figure 3 (for decreasing risk factors), and Figure 4 (for no change risk factors). We now discuss results for tests of each of these models. As mentioned earlier, we include participants in the Control condition in the process models.

4.3.1 Process Model for Increasing Risk Factors

In support of our theory that prepopulation leads auditors to infer “efficiency now” and “efficiency later” strategies, there is a negative relation between Prepopulation and Task Effort (Link 2: $t_{(37)} = -2.08$; one-tailed $p = 0.022$), and a positive relation between Prepopulation and Relative Regret about Efficiency for increasing risk factors (Link 3: $t_{(37)} = 2.44$; one-tailed $p = 0.009$). Prepopulation also triggers a “don’t change” strategy, as evidenced by a positive relation between Prepopulation and Don’t Change (Link 1: $t_{(37)} = 4.72$; one-tailed $p < 0.001$).

When we examine a regression model that includes all these potential mediators simultaneously as independent variables, and Risk Assessment Accuracy as the dependent
variable, we find that Relative Regret about Efficiency (Link 6) is negatively related to accuracy ($t_{(34)} = -2.12; \text{ one-tailed } p = 0.021$); Don’t Change also is negatively related to accuracy (Link 4) ($t_{(34)} = -4.79; \text{ one-tailed } p < 0.001$). Task Effort (Link 5) does not affect accuracy, however ($t_{(34)} = 0.66; \text{ one-tailed } p = 0.258$). When included in the model with these mediators, the direct effect of Prepopulation on Risk Assessment Accuracy (Link 7) becomes insignificant ($t_{(34)} = -1.22; \text{ one-tailed } p = 0.115$), suggestive of full mediation.

To provide a more formal test of the indirect effect, we use the Preacher and Hayes [2008] method to test the significance of the indirect effects of the potential mediators.\(^{28}\) The 90\% bias-corrected confidence interval for Relative Regret about Efficiency is (-1.06, -0.13) and, for Don’t Change, is (-2.92, -0.94), supporting the significance of these indirect effects. As above, the indirect effect of Task Effort is not significant. Comparisons of the indirect effects reveal that the “don’t change” strategy has a stronger indirect effect than the “efficiency later” strategy (0.47, 2.51). Overall, the process analysis shows that prepopulation of workpapers – by triggering a “don’t change” strategy, and imposing greater relative regret about compromising efficiency later in the audit due to increased risk assessments – reduces auditors’ accuracy for increasing risks.

4.3.2 Process Model for Decreasing Risk Factors

Recall that there were competing strategies for decreasing risk factors – an “efficiency” later strategy would increase auditors’ accuracy for decreasing risk factors (as correctly decreasing risks increases efficiency by reducing later substantive testing later), but “efficiency now” and “don’t change” strategies would reduce accuracy. We

---

\(^{28}\) The Preacher and Hayes [2008] method offers multiple advantages, including: greater robustness to violations of assumptions (e.g., a normal distribution), a direct test of the significance of indirect paths, and a single inferential test (Hayes [2013]).
expected auditors to prioritize the “don’t change” strategy and, consistent with our prediction, prepopulation harms auditors’ accuracy for decreasing risk factors.

Tests of the process for decreasing risk factors support the link between Prepopulation and Task Effort ($t_{(37)} = -2.08$; one-tailed $p = 0.022$). Note, however, that effort is measured across all risk factors, so it is not clear whether auditors spent less time on all types of risk factors or only some types. We also observe a positive relation between Prepopulation and Relative Regret About Efficiency for decreasing risk factors (Link 3: $t_{(37)} = 1.90$; one-tailed $p = 0.033$), and a positive relation between Prepopulation and Don’t Change (Link 1: $t_{(37)} = 5.71$; one-tailed $p < 0.001$).

A full model with all of these potential mediators as independent variables, and Decreasing Risk Accuracy as the dependent variable, reveals that Don’t Change (Link 4) is significant ($t_{(34)} = -2.93$; one-tailed $p = 0.003$), as is Task Effort (Link 5) ($t_{(34)} = 1.92$; one-tailed $p = 0.032$). Relative Regret about Efficiency (Link 6) is insignificant ($t_{(34)} = 0.12$; one-tailed $p = 0.453$). The Preacher and Hayes [2008] method confirms that Don’t Change has a significant indirect effect; the confidence interval is (-1.82, -0.48). We observe similar results for Task Effort; the confidence interval is (-0.62, -0.04). The indirect effect of Relative Regret about Efficiency is not significant. Finally, the direct effect of Prepopulation becomes insignificant (Link 7; one-tailed $p > 0.250$), suggesting that Don’t Change and Task Effort fully mediate the relationship between Prepopulation and Risk Assessment Accuracy for decreasing risks. Overall, the analysis supports our theory that auditors prioritize the “don’t change” strategy (as well as the “efficiency now”
strategy). Comparisons of the indirect effects reveal that the “don’t change” strategy has a significantly stronger indirect effect than the “efficiency now” strategy (0.20, 1.49).

4.3.3 Process Model for No-Change Risk Factors

Finally, we examine the process through which prepopulation improves accuracy for risk factors that are unchanged from the prior year (H3). Tests of the process here again show a negative link between Prepopulation and Task Effort ($t_{(37)} = -2.08$; one-tailed $p = 0.022$), and positive relations between, respectively, Prepopulation and Relative Regret About Efficiency (Link 3: $t_{(37)} = 2.51$; one-tailed $p = 0.008$), and Prepopulation and Don’t Change (Link 1: $t_{(37)} = 5.70$; one-tailed $p < 0.001$).

A full model with all of these potential mediators as independent variables, and No Change Risk Accuracy as the dependent variable, reveals that Don’t Change (Link 4) is a significant mediator ($t_{(34)} = 2.88$; one-tailed $p = 0.003$) as is Relative Regret about Efficiency (Link 6) ($t_{(34)} = -3.58$; two-tailed $p = 0.001$). Task Effort (Link 5) is insignificant ($t_{(34)} = 0.91$; one-tailed $p = 0.453$). The confidence interval for Don’t Change is (0.47, 1.86) and for Relative Regret About Efficiency is (-1.12, -0.23), which support the significance of these indirect paths. The confidence interval for Task Effort suggests it is insignificant. Even considering these mediators, there is still a direct effect of Prepopulation (Link 7; $t_{(37)} = 2.25$; one-tailed $p = 0.016$), suggesting partial mediation. Overall, the results support our theory that prepopulation’s triggering a “don’t change” strategy positively affects auditors’ accuracy for no change risk factors. While the “efficiency later” strategy causes auditors to be less accurate on no change risk factors, the “don’t change” strategy dominates. Consistent with this, comparisons of the indirect
effects reveal that the “don’t change” strategy has a significantly stronger effect than the “efficiency later” strategy (-2.55, -0.97).

4.4 RESEARCH QUESTION – EFFECTS OF GUIDANCE ON ACCURACY AND PROCESSES

We now examine if providing two forms of guidance related to inappropriate reliance on prior year audit results can attenuate the negative effects of prepopulation on auditors’ inferred strategies and accuracy at risk assessment. We run the same ANOVAs as used to test hypotheses about prepopulation, but also include a dichotomous variable indicating the presence or absence of guidance, as well as an interaction term. We conduct ANOVAs for two different samples: one sample with participants in the Control condition (i.e., no guidance) and participants in the General Guidance condition, and one sample with participants in the Control condition and participants in the Specific (to risk assessment) Guidance condition. Results are reported in Table 2, Panels A and B.

Guidance only has an impact on accuracy for decreasing risk factors. Contrary to guidance attenuating the negative effects of prepopulation, results indicate that there is a more pronounced negative effect of prepopulation on auditors’ accuracy at decreasing risk factors when general guidance is provided ($F_{(1,73)} = 5.55; \text{two-tailed } p = 0.020$). However, the interaction is driven by general guidance increasing accuracy in the non-prepopulated condition ($F_{(1,34)} = 12.92; \text{two-tailed } p = 0.001$), but having no effect in the prepopulated condition ($F_{(1,39)} = 0.08; \text{two-tailed } p < 0.500$). We reach similar inferences for specific guidance. These surprising results suggest that auditors likely were making unexpected inferences when interpreting the guidance in light of the workpaper structure.

---

Note that we run two separate 2 x 2 ANOVAs, as opposed to one 2 x 3 ANOVA, as we consider the construct the presence versus absence of guidance – and examine two different types of guidance. We do not have a theoretical reason to consider the guidance as two different categories, relative to the control condition.
We next turn to the impact of guidance on increasing risk factors. We rerun the process model for increasing risk factors incorporating guidance as a moderator – using the Preacher et al. [2007] moderated mediation method. While general guidance has no impact, there is an interaction between Prepopulation and Specific Guidance on Relative Regret About Efficiency ($t_{(75)} = -1.80$, one-tailed $p = 0.038$), suggesting that guidance attenuates prepopulation’s making auditors more concerned that increasing risk ratings (for risk factors they believe have increased since prior year) will compromise efficiency. There also is a moderating effect of Specific Guidance on the effect of Relative Regret About Efficiency (0.05, 0.77). While there is an indirect effect of Relative Regret About Efficiency in the Control condition (-0.74, -0.06), it is insignificant in the Specific Guidance condition (-0.24, 0.19). Further, Prepopulation and Specific Guidance interact to affect Task Effort ($t_{(75)} = -1.60$, one-tailed $p = 0.057$); providing the guidance attenuates auditors’ inference from prepopulation to invest less effort in assessing risks (i.e., “efficiency now” strategy). The indirect effect of Task Effort, however, is significant in both the Control (-0.71, -0.05) and Specific Guidance (-1.06, -0.17) conditions.

Overall, while specific guidance reduces auditors’ inferences from prepopulation to focus on “efficiency now” and “efficiency later” – even eliminating the second strategy as a path through which prepopulation harms auditors’ accuracy at increasing risks – there is still a negative overall effect of prepopulation on auditors’ accuracy at risk assessment, due to prepopulation continuing to trigger a “don’t change” strategy. Don’t Change is a mediator in both the Control and Specific Guidance conditions (confidence intervals of -2.64, -1.13; and -3.02, -1.41, respectively). Collectively, the results are

---

30 As before, reported results include 90% bias-corrected confidence intervals.
consistent with the process model results that the “don’t change” strategy has the strongest effect on accuracy.  

4.5 ADDITIONAL ANALYSES – ALTERNATIVE PROCESS EXPLANATIONS

In this section, we consider several alternative process explanations for our main findings, specifically effort, cognitive load, and salience of prior year results.

4.5.1 Effort

Prepopulation can reduce effort, as prior year risk ratings and evidence are already present in current year workpapers, whereas non-prepopulated workpapers are blank. To capture any differential effort between prepopulated and non-prepopulated workpapers, we use the time auditors spend typing evidence – calculated as the number of new words typed times an average typing rate of 40 words per minute (Ostrach 2012). Auditors in the Prepopulated condition spend less time typing than auditors in the Non-prepopulated condition ($p < 0.001$). However, inferences are unchanged when including typing time in process models. We conclude that auditors’ inferring the efficiency now strategy, where significant, drives prepopulation’s impact on risk assessment accuracy, as opposed to prepopulation simply enabling auditors to complete the task more quickly.

4.5.2 Cognitive Load

Prepopulation of workpapers also is likely to ease cognitive load, as it prevents auditors from needing to go back and forth between prior and current year workpapers (Clark et al. [2006]). This issue has not arisen in previous studies’ simplified settings, but

---

31 While not our focus, we examine the role of guidance for no-change risk factors. General Guidance reduces the indirect effect of Relative Regret About Efficiency (one-tailed $p = 0.033$), and, thus, acts as a moderator (confidence interval of 0.01, 0.70); the indirect effect of Relative Regret About Efficiency is significant in the Control condition (confidence interval of -0.72, -0.06), but not in the General Guidance condition (confidence interval of -0.30, 0.06). We observe similar results with respect to Specific Guidance. However, Don’t Change still dominates, such that prepopulation continues to have a positive effect on auditors’ accuracy for no-change risks under guidance.
is an important factor in auditing that may drive firms to prepopulate. To measure cognitive load, we develop a composite measure of auditors’ agreement that it was easy to: (1) integrate current year and prior year information, and (2) remember prior year information when thinking about current year information.\footnote{These questions are asked on a Likert scale from 1 = “Strongly Disagree” to “7” = Strongly Agree. We reverse code these variables, such that higher values indicate greater cognitive load; the two questions show an acceptable Cronbach’s Alpha of 0.850 (Nunnally 1978), so we average their responses.} While prepopulation reduces cognitive load ($t(37) = -2.17$, one-tailed $p = 0.019$), the effects of prepopulation on auditors’ accuracy at risk assessment all hold when controlling for load (untabulated, all $p < 0.007$). We also find that the indirect effect of Cognitive Load is significant and positive in the process model for both increasing and decreasing risk factors. With the exception of the indirect effect of Task Effort becoming insignificant in the model for increasing risk factors, all other statistical inferences hold when including load.

4.5.3 Salience of Last Year’s Risk Ratings

We now consider the possibility that insufficient adjustment from a more salient anchor, as opposed to a conscious “don’t change” strategy, serves as a mediator for the effects of prepopulation (i.e., Park et al. [2000]). Theoretically, because our dependent variable is auditors’ directional accuracy, anchoring and insufficient adjustment in ratings should not be driving our results. Nevertheless, we examine this issue empirically. We find, first, that auditors in the prepopulated condition have a higher proportion of errors that come from sticking with the prior year rating (as compared to moving in the incorrect direction) than do auditors in the non-prepopulated condition, for both increasing and decreasing risk factors (both $p > 0.001$). Second, we find that, when auditors do respond correctly to the risk factor, auditors in the prepopulated condition move less from the prior year rating than those in the non-prepopulated condition, but
only for decreasing risk factors ($p = 0.024$). Rather than reflecting anchoring, this result likely reflects auditors’ resolution of the conflict between the “don't change” strategy and the “efficiency later” strategy. Moreover, the asymmetry in prepopulation’s effects on movement for increasing and decreasing risk factors is not consistent with anchoring and adjustment, which should operate irrespective of the direction of risk change.

4.6 ADDITIONAL ANALYSES -- BOUNDARY CONDITIONS

In this section, we examine the robustness to various individual differences and experiences of the finding that prepopulation negatively affects risk assessment accuracy.

4.6.1 General Experience and Experience with Prepopulated Workpapers

We first examine whether general experience (in months) and experience with prepopulated workpapers moderate the negative effects of prepopulation on accuracy, and find no significant interaction with either variable for increasing or decreasing risks (both $p > 0.500$). Process results also generally hold when including these two variables. One exception is that general experience attenuates auditors’ inference of “efficiency now” from prepopulation ($p = 0.044$). Further, for the process model for decreases, general experience attenuates the extent to which the “efficiency now” strategy reduces auditors’ accuracy for decreasing risks; this strategy is not a mechanism for auditors with high experience.\(^{33}\) Instead, for these auditors, the negative effect of prepopulation on accuracy for decreasing risks operates solely through the “don’t change” strategy.

4.6.2. Auditor Motivation

We next examine the possible moderating influence of motivation, using auditors’ agreement with the statement (on a Likert Scale from 1-7) that it was important to them

\(^{33}\) The Preacher and Hayes (2008) model estimates conditional, indirect effects for the moderating variable at one standard deviation below the mean, the mean, and one standard deviation above the mean. For simplicity, we refer to these as “low,” “moderate,” and “high” levels of the moderating variable.
to be accurate on the task. There is a marginally significant, negative interaction between motivation and prepopulation for increasing risks \((p = 0.064)\), and a significant interaction for decreasing risks \((p = 0.002)\), indicating that motivation attenuates the negative effects of prepopulation. Process results for increasing risks indicate that auditors who bring more motivation to the task are less likely to infer the “don’t change” strategy from prepopulation (both \(p < 0.030\)). Further, as motivation increases, the “don’t change” strategy has a less negative (but still significant) effect on accuracy. For decreasing risks, process results are unchanged, suggesting that motivation is operating through an unmeasured mediator. Further, at a high level of motivation, prepopulation ceases to have a negative effect on accuracy (likely through this unmeasured mediator). Overall, then, while highly motivated auditors continue to be significantly affected by prepopulation for increasing risks, they are not for decreasing risks.

4.6.3 Professional Identity

Next, we examine whether auditors’ professional identity attenuates the effects of prepopulation. We measure identity by asking them to select one of seven images of two overlapping circles (reflecting the self and the accounting profession), ranging from no overlap to nearly overlapping (Bauer [2015]). The interaction between prepopulation and professional identity on accuracy is insignificant for increasing and decreasing risks (both \(p > 0.500\)). However, process testing reveals a moderating effect of identity on the “don’t change” strategy for increasing risks \((p = 0.056)\) and decreasing risks \((p = 0.055)\), such that the effect of the “don’t change” strategy on accuracy is stronger for auditors lower in Identity; however, the effects of the “don’t change” strategy continue to be significant at low, medium, and high levels of Identity for both increasing and decreasing risks.
Overall, the relationship between prepopulation and accuracy is not moderated by professional identity in any noteworthy way.

4.6.4 Depletion

Finally, we examine depletion, a possible threat to audit quality (Hurley [2015]; Bhaskar et al. [2016]) that occurs when exerting self-regulation impairs performance (Baumeister et al. [1998]). We measure depletion as the hours auditors slept the previous night (Lanaj et al. [2014]). Lack of depletion does not reduce the overall negative effects of prepopulation. Process testing for increasing risks shows that, as participants are less depleted, the effect of the “don’t change” strategy on accuracy becomes weaker; however, the effect remains significant at low, medium, and high levels of depletion, suggesting that even the least depleted auditors are susceptible to inferring this strategy.

5. Conclusion

The fundamental nature of risk assessment, in concert with the PCAOB’s observation of numerous related deficiencies, is likely what prompted PCAOB chairman James Doty to comment “because risk assessment underlies the entire audit process, it is critical that audit firms address these findings of weakness in compliance with the risk assessment standards” (PCAOB [2015c]). Interestingly, previous PCAOB inspections suggested that some firms’ audit methodologies were not conducive to identifying and assessing risks. Our study identifies one potential element of these methodologies that could contribute to auditors’ difficulty in correctly identifying and assessing risks: prepopulation of audit workpapers. We report evidence from an experiment that auditors assessing risks with prepopulated workpapers are less accurate at identifying risks that have increased or decreased from the prior year. Process testing shows that prepopulation
prompts auditors to adopt a “don’t change” goal-related strategy, which flows through to reduce accuracy for both increasing and decreasing risks. For increasing risks, prepopulation also harms accuracy through triggering an “efficiency later” strategy, in which auditors make risk assessments that are more consistent with audit efficiency than effectiveness. For decreasing risks, the second negative effect of prepopulation instead occurs through an “efficiency now” strategy, in which auditors infer they are to complete their risk assessment more quickly.

Overall, our results suggest that audit firms face a complex tradeoff. Specifically, prepopulation may compromise audit effectiveness – by reducing auditors’ accuracy at identifying risks that have increased – and efficiency, by reducing auditors’ accuracy at identifying risks that could be decreased. Our findings that individual factors, such as professional identity, depletion, motivation, and auditor experience, while sometimes moderating the relationship between prepopulation and inferred strategies, generally do not reduce the negative effects of prepopulation on accuracy, suggest that most auditors will be affected by the inferences they draw from prepopulation. However, the “don’t change” strategy triggered by prepopulation does improve auditors’ accuracy at assessing risks that have not changed, such that it could, for example, be beneficial for clients where risks change infrequently. Prepopulation also reduces cognitive load, which may be particularly important during times like busy season. Audit firms may experience other benefits from prepopulation beyond those we examine herein, such as promoting consistency of documentation; future research can examine these other benefits.

We also find some evidence that an intervention, in the form of guidance not to over-rely on prior year results, does attenuate the relation between prepopulation and the
efficiency goal-related strategies; however, these changes in inferred strategies do not improve accuracy because the intervention does not alter the relation between prepopulation and the “don’t change” strategy. Future research could examine whether there are more powerful interventions that could move auditors away from a “don’t change” strategy. While our results suggest that a clear way of doing so would be to have auditors access only non-prepopulated workpapers, there may be other interventions that could preserve the benefits of prepopulation but also create a channel that leads people toward a path of not sticking to prior year (Gilovich and Griffin [2010]). Alternatively, firms could consider (consistently) using non-prepopulated workpapers in one part of the audit, but not in others. For example, non-prepopulated workpapers may be ideal for audit planning, since that work dictates the overall scope of the audit; by contrast, prepopulated workpapers may be more suitable for routine audit tests. Overall, our results suggest that with default option decisions in audit support systems, firms may be causing auditors to make (perhaps unintended) inferences. As such, firms likely would benefit from discussion about the specific goals they have in mind and how they want to lead auditors to achieve those goals using default options.

Our study has several limitations that offer opportunities for future research. We inform auditors in our study that the audit firm chose to pre-populate, or not, for audit effectiveness and efficiency purposes. We expect our theory – of auditors inferring goal-related strategies from prepopulation – to generalize to settings in which auditors are aware that a party senior to them (e.g., an audit superior) made the workpaper choice, and future research could explicitly examine this question. Further, we utilize audit staff as participants; future research could examine if prepopulation has similar effects on the
goal-related strategies inferred by more experienced auditors. Although we use a specific type of risk assessment task, we believe that prepopulation’s triggering of “no change” and efficiency goal-related strategies would likely generalize to different types of audit tasks, such as fraud brainstorming, substantive testing, and tests of controls, so long as the workpapers are structured such that prior year evidence and conclusions can be prepopulated in current year workpapers. However, future research could test for effects of prepopulation for different types of audit tasks, as the nature of the task could play a role. For example, it is possible that the nature of a fraud brainstorming task could heighten auditor skepticism so much that prepopulation has less of an effect.
Panel 1: Task-Specific Guidance

Professional skepticism is essential to the performance of effective audits under Public Company Accounting Oversight Board standards. It is the responsibility of each individual auditor to appropriately apply professional skepticism throughout the audit, including in identifying and assessing the risks of material misstatement, performing tests of controls and substantive procedures to respond to the risks, and evaluating the results of the audit.

By its nature, risk assessment involves looking at internal and external factors to determine what can go wrong with the financial statements. When properly applied, the risk assessment approach set forth in PCAOB standards should focus auditors’ attention on those areas of the financial statements that are higher risk and thus most susceptible to misstatement. The evidence obtained from the required risk assessment procedures should provide a reasonable basis for the auditor’s risk assessments. It is not sufficient for auditors merely to rely on their perceived knowledge of the industry or information obtained from prior audits or other engagements for the company.

Certain circumstances can impede the appropriate application of professional skepticism in risk assessment. Audit firms and individual auditors should be alert for these circumstances and take appropriate measures to assure that professional skepticism is appropriately applied in risk assessment. For example, an inappropriate application of skepticism could be focusing more on risk factors that would support a lower risk of material misstatement rather than a critical assessment of all factors, including those they may indicate a higher risk of material misstatement exists. Inappropriate identification or assessment of risks of material misstatements can lead the auditor to overlook relevant risks, and to perform inadequate audit procedures to address these risks.\(^{34}\)

---

\(^{34}\) Panel 1 contains excerpts from PCAOB [2012c], except the bolded sentences, which are from PCAOB [2015a].
Panel 2: General Guidance

Professional skepticism is essential to the performance of effective audits under Public Company Accounting Oversight Board standards. It is the responsibility of each individual auditor to appropriately apply professional skepticism throughout the audit, including in identifying and assessing the risks of material misstatement, performing tests of controls and substantive procedures to respond to the risks, and evaluating the results of the audit.

Applying professional skepticism involves, among other things, considering what can go wrong with the financial statements, performing audit procedures to obtain sufficient appropriate audit evidence rather than merely obtaining the most readily available evidence, and critically evaluating all audit evidence. When properly applied, professional skepticism indicates that the auditor uses his or her knowledge, skills, and ability called for by the profession of public accounting to diligently perform the gathering and objective evaluation of evidence as a reasonable basis for the auditor’s opinion. Gathering and objectively evaluating audit evidence requires the auditor to consider the competency and sufficiency of the evidence; since evidence is gathered throughout the audit process, professional skepticism should be exercised throughout the audit process. It is not sufficient for auditors merely to rely on their perceived knowledge of the industry or information obtained from prior audits or other engagements for the company.

Certain circumstances can impede the appropriate application of professional skepticism. Audit firms and individual auditors should be alert for these circumstances and take appropriate measures to assure that professional skepticism is applied appropriately throughout all audits performed under PCAOB standards. If the audit is conducted without professional skepticism, the value of the audit is impaired.

---

35 Panel 2 contains excerpts from PCAOB [2012c], except the bolded sentences, which are from PCAOB [2013b].
### Example of the Risk Factors from the Risk Assessment Task

<table>
<thead>
<tr>
<th>1. Factors related to the Company’s business risk (business objectives and strategies)</th>
<th>Evidence for Risk Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Risk Rating</strong></td>
<td>Low</td>
</tr>
<tr>
<td>1. Evaluate the Company’s industry developments for possible risks. Consider demand, market capacity, and competition.</td>
<td></td>
</tr>
<tr>
<td>2. Are there any expected changes in the entity such as large acquisitions, reorganizations, or other unusual events?</td>
<td></td>
</tr>
<tr>
<td>3. Has the Company made any changes to its business model (e.g., new product offerings, initiatives, changes to stores)?</td>
<td></td>
</tr>
<tr>
<td>4. Has the Company expanded its operations into any new locations or competitive markets?</td>
<td></td>
</tr>
<tr>
<td>5. Have there been any significant changes in the IT environment?</td>
<td></td>
</tr>
<tr>
<td>6. Does the company engage in any highly complex transactions (e.g., use of derivatives)?</td>
<td></td>
</tr>
<tr>
<td>7. Evaluate the complexity of the Company’s revenue recognition policies.</td>
<td></td>
</tr>
</tbody>
</table>

Displayed above is one of the four workpaper screens that auditors use during the risk assessment task. Auditors in the **prepopulated** workpaper condition view this screen (i.e., the risk ratings and evidence from prior year are filled in the current year workpaper) and can edit the ratings and evidence. Auditors in the **non-prepopulated** workpaper condition view a different version of this screen, in which the risk ratings and evidence boxes are blank. Auditors in both experimental conditions have access to the prior year risk ratings and evidence in a separate file.
REFERENCES


PUBLIC COMPANY ACCOUNTING OVERSIGHT BOARD (PCAOB). Staff Audit Practice Alert No. 3: Audit Considerations in the Current Economic Environment, 2008.


PCAOB. Staff Audit Practice Alert No. 8: Audit Risks in Certain Emerging Markets, 2011a.

PCAOB. Staff Audit Practice Alert No. 9: Assessing and Responding to Risk in the Current Economic Environment, 2011b.


PCAOB. Report on 2011 Inspection of Ernst & Young LLP, 2012b.

PCAOB. Staff Audit Practice Alert No. 10: Maintaining and Applying Professional Skepticism in Audits, 2012c.


PCAOB. PCAOB Report Encourages Auditors to Take Action in Response to Risk Assessment Deficiencies Identified in Inspections, 2015c.


FIGURE 1
Theoretical Model for Prepopulation of Current Year Workpapers

This figure illustrates our theoretical model. Prepopulation is our manipulated variable, in which auditors are provided either prepopulated or non-prepopulated workpapers. Risk Assessment Accuracy is our dependent variable, which is auditors’ directional accuracy at assessing risks that have increased, decreased, or not changed since the prior year. Link 1, Link 2, and Link 3 illustrate the goal-related strategies that we expect auditors to infer from prepopulation of workpapers, and Link 4, Link 5, and Link 6 illustrate the predicted effect of these strategies on auditors’ risk assessment accuracy (separately for increasing, decreasing, and no change risk factors).
Mediators are accompanied by the 90% bootstrapped confidence intervals (Preacher and Hayes [2008]), and those with a † show significant indirect effects; all p-values are one-tailed for directional predictions. Results for Links 4 through 7 are reported with all independent variables in one regression model. We expect prepopulation of workpapers to trigger three goal-related strategies: “don’t change,” “efficiency now,” and “efficiency later.” We measure the “don’t change” strategy by the average number of times auditors stick to prior year for decreasing and no change risk factors (Link 1). We predict that Don’t Change will lead to less accuracy, as auditors must change risks to correctly increase these risk factors (Link 4). We measure the “efficiency now” strategy by Task Effort (measured by their time spent on the task – Link 2) and the “efficiency later” strategy by Relative Regret About Efficiency (measured by the difference between participants’ ratings on a Likert scale from 1-7 conveying, for risk factors they believe have increased in risk since prior year, their (1) concern that increasing the risk will compromise efficiency and (2) concern that not increasing the risk will compromise effectiveness – Link 3). We predict that greater Task Effort will lead to more accurate risk assessments (Link 5), measured by the number of times auditors accurately increase the risk. We expect greater Relative Regret About Efficiency to lead to less accurate risk assessments (Link 6), as increasing risks reduces efficiency.
FIGURE 3
Results of Process Model for Prepopulation of Current Year Workpapers on Decreasing Risk Factors

Mediators are accompanied by the 90% bootstrapped confidence intervals (Preacher and Hayes [2008]), and those with a † show significant indirect effects; all p-values are one-tailed for directional predictions. Results for Links 4 through 7 are reported with all independent variables in one regression model. We expect prepopulation of workpapers to trigger three goal-related strategies: “don’t change,” “efficiency now,” and “efficiency later.” We measure the “don’t change” strategy by the average number of times auditors stick to prior year for increasing and no change risk factors (Link 1). We predict that Don’t Change will lead to less accuracy, as auditors must take action to correctly decrease these risk factors (Link 4). We measure the “efficiency now” strategy by Task Effort (measured by their time spent on the task – Link 2) and the “efficiency later” strategy by Relative Regret About Efficiency (how we predict they will apply an “efficiency later” strategy, measured by the difference between participants’ ratings on a Likert scale from 1-7 conveying, for risk factors they believe have decreased in risk since prior year, their (1) concern that not decreasing the risk will compromise efficiency and (2) concern that decreasing the risk will compromise effectiveness – Link 3). We predict that greater Task Effort will lead to more accurate risk assessments (Link 5), measured by the number of times auditors accurately decrease the risk. We expect greater Relative Regret About Efficiency to lead to more accurate risk assessments (Link 6), as decreasing risks increases efficiency.
FIGURE 4
Results of Process Model for Prepopulation of Current Year Workpapers on No Change Risk Factors

Prepopulation of Workpapers → Don’t Change † (0.47, 1.86) → Link 1 (-) p < 0.001

Task Effort (-0.49, 0.06) → Link 2 (-) p = 0.022

Relative Regret about Efficiency † (-1.12, -0.23) → Link 3 (+) p = 0.008

Link 4 (+) p = 0.009

Accuracy – Leaving Risks Unchanged When Should

Link 5 (+) p = 0.452

Link 7 (+) p = 0.007

Link 6 (-) p = 0.007

Mediators are accompanied by the 90% bootstrapped confidence intervals (Preacher and Hayes [2008]), and those with a † show significant indirect effects; all p-values are one-tailed for directional predictions. Results for Links 4 through 7 are reported with all independent variables in one regression model. We expect prepopulation of workpapers to trigger three goal-related strategies: “don’t change,” “efficiency now,” and “efficiency later.” We measure the “don’t change” strategy by the average number of times auditors stick to prior year when making their current year assessments for increasing and decreasing risk factors (Link 1). We predict that greater Don’t Change will lead to greater accuracy, as auditors taking no action correctly leave these risk factors unchanged from prior year (Link 4). We measure the “efficiency now” strategy by Task Effort (measured by their time spent on the task – Link 2) and the “efficiency later” strategy by Relative Regret About Efficiency (how we predict they will apply an “efficiency later” strategy, measured by the average of these measures for increasing and decreasing risk factors, as described in Figures 1 and 2 – Link 3). We predict that greater Task Effort will lead to more accurate risk assessments (Link 5), measured by the number of times auditors accurately leave the risk unchanged. We expect greater Relative Regret About Efficiency to lead to less accurate risk assessments (Link 6), as efficiency can be best achieved by decreasing risks (i.e., changing them).
### TABLE 1
**Primary Tests of Hypotheses**

**Panel A – Descriptive Statistics**

*Dependent Variable: Count of Auditors’ Correct Response to the Risk Factor*

<table>
<thead>
<tr>
<th>Risk Type</th>
<th>Prepopulation</th>
<th></th>
<th></th>
<th>Non-Prepopulation</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Increasing Risk</td>
<td>Decreasing Risk</td>
<td>No Change Risk</td>
<td>Increasing Risk</td>
<td>Decreasing Risk</td>
<td>No Change Risk</td>
</tr>
<tr>
<td>No Guidance</td>
<td>3.25 (2.34)</td>
<td>1.75 (1.55)</td>
<td>4.15 (1.39)</td>
<td>6.47 (1.26)</td>
<td>2.74 (0.93)</td>
<td>2.47 (1.81)</td>
</tr>
<tr>
<td>(n = 20)</td>
<td></td>
<td></td>
<td></td>
<td>(n = 19)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Guidance</td>
<td>3.38 (2.73)</td>
<td>1.62 (1.40)</td>
<td>4.14 (1.24)</td>
<td>5.65 (1.32)</td>
<td>4.00 (1.17)</td>
<td>1.53 (1.33)</td>
</tr>
<tr>
<td>(n = 21)</td>
<td></td>
<td></td>
<td></td>
<td>(n = 17)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Specific Guidance</td>
<td>2.10 (2.27)</td>
<td>0.85 (1.04)</td>
<td>4.35 (1.14)</td>
<td>5.75 (1.52)</td>
<td>3.70 (0.80)</td>
<td>2.55 (1.93)</td>
</tr>
<tr>
<td>(n = 20)</td>
<td></td>
<td></td>
<td></td>
<td>(n = 20)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Collapsed Across Guidance</td>
<td>2.92 (2.49)</td>
<td>1.41 (1.38)</td>
<td>4.21 (1.24)</td>
<td>5.96 (1.40)</td>
<td>3.46 (1.09)</td>
<td>2.21 (1.76)</td>
</tr>
</tbody>
</table>
### Panel B: Tests of Hypotheses – Analysis of Variance (Control sample only)

<table>
<thead>
<tr>
<th>DV: Accuracy - Increasing Risks When Should (H1)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>101.26</td>
<td>101.26</td>
<td>28.28</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Error</td>
<td>37</td>
<td>132.49</td>
<td>3.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>38</td>
<td>233.74</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DV: Accuracy - Decreasing Risks When Should (H2)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>9.49</td>
<td>9.49</td>
<td>5.72</td>
<td>0.011</td>
</tr>
<tr>
<td>Error</td>
<td>37</td>
<td>61.43</td>
<td>1.66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>38</td>
<td>70.92</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DV: Accuracy – Leaving Risks Unchanged When Should (H3)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>27.38</td>
<td>27.38</td>
<td>10.63</td>
<td>0.001</td>
</tr>
<tr>
<td>Error</td>
<td>37</td>
<td>95.29</td>
<td>2.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>38</td>
<td>122.67</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Panel C: Tests of Hypotheses – Analysis of Variance (all participants)

<table>
<thead>
<tr>
<th>DV: Accuracy - Increasing Risks When Should (H1)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>270.93</td>
<td>270.93</td>
<td>65.11</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Error</td>
<td>115</td>
<td>478.52</td>
<td>4.161</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>116</td>
<td>749.45</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DV: Accuracy - Decreasing Risks When Should (H2)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>123.23</td>
<td>123.23</td>
<td>78.43</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Error</td>
<td>115</td>
<td>180.68</td>
<td>1.571</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>116</td>
<td>303.92</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DV: Accuracy – Leaving Risks Unchanged When Should (H3)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>116.65</td>
<td>116.65</td>
<td>51.27</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Error</td>
<td>115</td>
<td>261.66</td>
<td>2.275</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>116</td>
<td>378.31</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Panel A reports descriptive statistics. We manipulate, between-participants, whether audit workpapers are prepopulated with prior year risk assessments and evidence, compared to left blank (all auditors have access to view the prior year risk assessments and evidence in a separate file). We also manipulate, between-participants, whether participants view no guidance (No Guidance), general audit-related guidance (General Guidance), or guidance specific to risk assessment (Specific Guidance). The dependent variable is auditors’ accuracy at risk assessments. The dependent variable for H1 is auditors’ accuracy at assessing risk factors that have increased since the prior year (for eight total risk factors, the number of times auditors correctly increase the risk in the current year). The dependent variable for H2 is auditors’ accuracy at assessing risk factors that have decreased since the prior year (for six total risk factors, the number of times auditors correctly decrease the risk in the current year). The dependent variable for H3 is auditors’ accuracy at assessing risk factors that have not changed since the prior year (for five total risk factors, the number of times auditors correctly leave the risk unchanged in the current year). Panel B reports results of Analysis of Variance for effects of prepopulation for each dependent variable (in the No Guidance condition only). Panel C reports results of Analysis of Variance for effects of prepopulation for each dependent variable (for all participants, in all experimental conditions). All p-values are one-tailed for directional predictions.
### TABLE 2

*Primary Tests of Research Question*

#### Panel A: Analysis of Variance (Control versus General Guidance)

<table>
<thead>
<tr>
<th>DV: Accuracy - Increasing Risks When Should (H1)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>144.149</td>
<td>144.149</td>
<td>34.02</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Guidance</td>
<td>1</td>
<td>2.315</td>
<td>2.315</td>
<td>0.55</td>
<td>0.231</td>
</tr>
<tr>
<td>Prepopulation x Guidance</td>
<td>1</td>
<td>4.386</td>
<td>4.386</td>
<td>1.04</td>
<td>0.156</td>
</tr>
<tr>
<td>Error</td>
<td>73</td>
<td>309.322</td>
<td>4.237</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>76</td>
<td>462.312</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DV: Accuracy - Decreasing Risks When Should (H2)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>54.249</td>
<td>54.249</td>
<td>32.36</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Guidance</td>
<td>1</td>
<td>6.131</td>
<td>6.131</td>
<td>3.66</td>
<td>0.030</td>
</tr>
<tr>
<td>Prepopulation x Guidance</td>
<td>1</td>
<td>9.296</td>
<td>9.296</td>
<td>5.55</td>
<td>0.010</td>
</tr>
<tr>
<td>Error</td>
<td>73</td>
<td>122.387</td>
<td>1.677</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>76</td>
<td>189.091</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DV: Accuracy – Leaving Risks Unchanged When Should (H3)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>88.017</td>
<td>88.017</td>
<td>41.70</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Guidance</td>
<td>1</td>
<td>4.330</td>
<td>4.330</td>
<td>2.05</td>
<td>0.156*</td>
</tr>
<tr>
<td>Prepopulation x Guidance</td>
<td>1</td>
<td>4.200</td>
<td>4.200</td>
<td>5.55</td>
<td>0.163*</td>
</tr>
<tr>
<td>Error</td>
<td>73</td>
<td>154.094</td>
<td>2.111</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>76</td>
<td>248.130</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Panel B: Analysis of Variance (Control versus Specific Guidance)

<table>
<thead>
<tr>
<th>DV: Accuracy - Increasing Risks When Should (H1)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>233.170</td>
<td>233.170</td>
<td>63.82</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Guidance</td>
<td>1</td>
<td>17.325</td>
<td>17.325</td>
<td>4.74</td>
<td>0.017</td>
</tr>
<tr>
<td>Prepopulation x Guidance</td>
<td>1</td>
<td>0.897</td>
<td>0.897</td>
<td>0.25</td>
<td>0.311</td>
</tr>
<tr>
<td>Error</td>
<td>75</td>
<td>274.037</td>
<td>3.654</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>78</td>
<td>524.354</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DV: Accuracy - Decreasing Risks When Should (H2)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>72.651</td>
<td>72.651</td>
<td>57.85</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Guidance</td>
<td>1</td>
<td>0.020</td>
<td>0.020</td>
<td>0.02</td>
<td>0.451</td>
</tr>
<tr>
<td>Prepopulation x Guidance</td>
<td>1</td>
<td>17.131</td>
<td>17.131</td>
<td>13.64</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Error</td>
<td>75</td>
<td>94.184</td>
<td>1.256</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>78</td>
<td>184.937</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>DV: Accuracy – Leaving Risks Unchanged When Should (H3)</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prepopulation Condition</td>
<td>1</td>
<td>59.639</td>
<td>59.639</td>
<td>23.45</td>
<td>&lt; 0.001</td>
</tr>
<tr>
<td>Guidance</td>
<td>1</td>
<td>0.377</td>
<td>0.377</td>
<td>0.15</td>
<td>&gt; 0.500*</td>
</tr>
<tr>
<td>Prepopulation x Guidance</td>
<td>1</td>
<td>0.075</td>
<td>0.075</td>
<td>0.03</td>
<td>&gt; 0.500*</td>
</tr>
<tr>
<td>Error</td>
<td>75</td>
<td>190.787</td>
<td>2.544</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Corrected Total</td>
<td>78</td>
<td>250.835</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please see Table 1 for descriptions of independent variables and dependent variables. Panel A reports results of an Analysis of Variance for the effects of Prepopulation and providing General Guidance; Panel B reports results of an Analysis of Variance for the effects of Prepopulation and providing Specific Guidance. All p-values are one-tailed for directional predictions, except those with a *, which are two-tailed.