The Role of Valuation Specialists in Audits of Fair Values and Potential for Change under Amended PCAOB Standards

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Abstract:

The PCAOB recently implemented amended auditing standards on the use of valuation specialists on fair value audits. Using data from interviews with 42 audit and valuation partners and managers, we describe the role of valuation specialists in audits of fair values and the problems that arise in these audits under the original guidance, and we evaluate whether the amended guidance will lead to changes in practice that mitigate the problems. We find that specialists are more involved in fieldwork relative to planning and completion, in which they play a more limited role. While the amended standards change certain requirements around communication with specialists and reviewing their work, specialists' limited role in making overall conclusions relative to auditors will continue. Our analysis suggests that the changes in the amended standards are unlikely to meaningfully change practice. We expect little change because the amended standards will not increase specialists' responsibility for outcomes or provide additional guidance to specialists, they will not require auditors of fair values to acquire valuation knowledge, and they cannot reduce the inherent uncertainty in the audit setting surrounding fair values. These issues underlie many of the problems in this area.

Key Words: Accounting estimates, Auditing, Fair value, Specialist

JEL Descriptors: M40, M41, M42

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I. INTRODUCTION

The use of auditor-employed valuation specialists[1] in audits of fair values has increased in frequency and significance (PCAOB 2018; Glover, Taylor, and Wu 2017). The PCAOB recently implemented amended standards related to the use of specialists to address this change, though some key aspects remain the same (PCAOB 2018). Researchers and standard setters lack insight into valuation specialists' role throughout the entire audit process (Cannon and Bedard 2017), as both the original and amended standards do not specify specialists' role across all stages of the audit. Problems related to the use of specialists imply that there are opportunities to improve practice in this area (PCAOB 2010a, 2018; Martin, Rich, and Wilks 2006; Griffith, Hammersley, and Kadous 2015). A comprehensive understanding of valuation specialists' role throughout the audit process provides a basis for addressing problems and improving practice.

This paper has two goals. First, we describe the role of valuation specialists throughout the process of auditing fair values under the original guidance and identify associated problems. Prior research suggesting a division of labor between auditors and specialists and the auditing standards' requirement that auditors make the overall conclusions imply that auditors must compile both groups' work into a coherent audit judgment (e.g., Griffith 2020; Boritz, Kochetova-Kozloski, and Wong 2020). Yet, the lack of clarity into specialists' role throughout the audit process makes it difficult to understand why and how auditors use specialists and their work to form overall judgments. This lack of clarity is due in part to weaknesses in the original

[1] "Auditor-employed valuation specialists" are professionals with finance and valuation expertise who are employed by the same firm as the auditors that they assist. We refer to these professionals as valuation specialists or simply specialists. This term excludes firms' national-level pricing desks (e.g., PCAOB 2014).

guidance. The most relevant guidance for the use of auditor-employed valuation specialists did not apply to these specialists, nor did it specifically address *valuation* specialists (PCAOB 2003). The applicable guidance did not address auditor-employed specialists at all (PCAOB 2010b, 2010c). Consequently, auditors could either apply a more relevant, but precluded standard, or follow a standard that provided no guidance on the use of specialists. We describe specialists' role throughout the audit process as it occurs in practice, which is not provided by auditing standards, and where specialists' role might contribute to problems.

Second, we use this descriptive evidence as a baseline to inform expectations about whether practice will improve in response to the amended standards. The PCAOB amended the original standards to address problems identified by regulators as well as by auditors, valuation specialists, investors, and researchers (PCAOB 2015, 2018; Joe, Janvrin, Barr-Pulliam, Mason, Pitman, Rezaee, Sanderson, and Wu 2015). We use the original and amended PCAOB guidance to examine whether and how practice might change and problems might be mitigated under the amended standards. These expectations can inform researchers, regulators, and audit firms as they implement the new standards and/or evaluate effects on audit outcomes.

To achieve our first goal, we analyze data from 42 interviews with audit and valuation partners and managers who have worked extensively on audits of Level 2 and 3 fair values. Auditors described specialists' role in planning, fieldwork, and completion of the audit of a fair value, as well as problems they have encountered. Specialists also described their role in fair value audits and associated problems, which triangulate the auditors' accounts. From these data we develop a comprehensive description of specialists' role throughout the audit process that situates problems throughout the planning, fieldwork, and completion stages of the audit process.

To achieve our second goal, we identify the major changes in the auditing standards and compare them to the practices and problems described by auditors and specialists. These changes include the addition, revision, and removal of aspects of the original guidance. We evaluate whether practice under the original guidance satisfies the requirements of the amended standards, and if not, how practice might change to achieve compliance. We also evaluate whether expected changes in practice can potentially mitigate problems that occur in fair value audits involving specialists, thereby providing insight into whether practice is likely to improve under the amended standards.

Interviewees' descriptions of specialists' role throughout the audit process indicate that their role is greatest during fieldwork. Our analysis of the original and amended standards suggests this is unlikely to change. Specialists gather and evaluate evidence for many of the most important and difficult to audit elements of fair values during fieldwork, yet specialists are lightly involved in the completion of the audit that involves combining specialists' work with the other audit work. Moreover, auditors make the overall conclusions about fair values, which are among the most significant and risky conclusions on the audit (Christensen, Glover, and Wood 2012). Given that disagreements can arise between auditors and specialists, overall conclusions incorporating specialists' work are not necessarily straightforward. Auditors also reported performing several procedures while completing the audit that effectively change specialists' work. Examples include editing specialists' memos or deciding whether and how to address open items in specialists' work. Specialists corroborate these behaviors. These findings imply that auditors could use valuation specialists more effectively and efficiently in the fair value setting. Under the amended standards, auditors retain responsibility for overall conclusions and become formally responsible for assigning procedures to auditors versus specialists (which they already do), so these practices are likely to continue.

Interviewees' descriptions indicate that problems occur throughout the audit process, but a greater variety and prevalence of problems seem to occur during fieldwork and completion of the audit. Many problems during planning and fieldwork relate to differences in access to and understanding of information by clients, specialists, and auditors. Many of these problems recur as auditors and specialists complete the audit, and problems related to the uncertainty inherent in fair values also arise during completion. The amended standards formally require communication between auditors and specialists, so problems related to planning, coordination during fieldwork, and completing documentation may abate. The amended standards do not address fair value auditors' lack of valuation knowledge, increase specialists' responsibilities, or provide guidance for specialists, so problems related to differences in auditors' and specialists' knowledge that occur during fieldwork and completion will likely persist. Finally, the amended standards cannot reduce the uncertainty inherent in fair values and they do not provide guidance about how to deal with its effects, so problems related to the uncertainty in the fair value setting will likely persist.

This study makes three contributions. First, we provide a comprehensive examination of the role of valuation specialists across all stages of audits of fair values, incorporating the perspectives of both auditors and specialists. While previous studies reported on parts of this process relevant to their research questions (Canon and Bedard 2017; Glover et al. 2017, 2019; Griffith 2020; Griffith et al. 2015), this has produced a literature with an incomplete and piecemeal description across several papers, told from many perspectives. We expand and consolidate this literature.

Second, we identify which types of problems are more likely to remain and why under the amended guidance. Our description of specialists' role and associated problems under the original PCAOB guidance highlights areas that could benefit from additional or more specific guidance. Most importantly, we find that under the original guidance, auditors could change their specialists' work, and the amended guidance seems unlikely to curtail this because it does not directly address this behavior or remove the conditions that allow it. Researchers can examine the consequences of auditor practices on audit outcomes and explore solutions to the problems auditors and specialists identified in light of the amended guidance. Our descriptive evidence about the practices under the original guidance will serve as an important baseline for evaluating whether changes occurred in response to the amended guidance and whether those changes improved audit outcomes. Researchers, audit firms, and standard setters might focus on potentially problematic practices still allowed by the amended standards.

Third, this study's findings provide insight into auditors' use of non-valuation specialists. Auditors rely on accounting specialists such as IT and tax specialists who are treated the same as core audit team members under the amended standards, despite these specialists' clearly different roles in the audit (e.g., Bauer and Estep 2019). As a result, auditors have little guidance for using accounting specialists. Our study finds that auditors develop some practices that could undermine specialists' contributions when they lack guidance for using valuation specialists; the same might be true for auditors' use of accounting specialists. Auditors also rely on an array of other non-accounting specialists covered by the amended standards, including actuaries and petroleum engineers (PCAOB 2017). As the same standards apply to all non-accounting specialists, understanding potential changes in auditors' use of valuation specialists will also inform our expectations for changes in auditors' use of these other non-accounting specialists.

Section 2 provides background on auditors' use of specialists. Section 3 explains our method. Section 4 describes the role of specialists and related problems in each stage of the audit and considers the potential for change under the amended standards. Section 5 concludes.

II. BACKGROUND

Prior Research on Auditors' Use of Specialists

Auditors primarily use two types of specialists to assist on engagements: technical accounting specialists with expertise in accounting and auditing (e.g., Danos, Eichenseher, and Holt 1989; Salterio 1996; Salterio and Denham 1997), and non-accounting specialists to audit accounts, transactions, processes, or controls requiring specialized knowledge outside of accounting (Hux 2017). Valuation specialists are among the most commonly used non-accounting specialists (Hux 2017). Yet, auditor-employed valuation specialists' primary role is to produce fair values for use by non-audit clients, rather than to assist auditors in evaluating fair values (Barr-Pulliam, Joe, Mason, and Sanderson 2020a). Further, valuation specialists are not organized into a profession to the same extent as auditors (Barr-Pulliam, Mason, and Sanderson 2020b), and they do not strive for control when their work overlaps with auditors even when auditors do (Griffith 2020). Auditors' lack of valuation knowledge contributes to their reliance on specialists, especially for more challenging estimates (Griffith et al. 2015). Auditors' use of valuation specialists is associated with higher risk estimates, whether clients use specialists, and with a greater likelihood of auditor proposed adjustments (Cannon and Bedard 2017). Valuation specialists are critical to proposing adjustments to estimates, possibly because they are disproportionately involved when developing independent estimates, rather than testing management's estimation process (Glover et al. 2017).

The specialist literature has yet to address some important unanswered research questions. The literature describes specialists' involvement in different parts of fair value audits (Griffith et al. 2015; Cannon and Bedard 2017; Glover et al. 2017; Griffith 2020). It does not assemble these parts into a cohesive description of the entire process that allows for comparison against auditing standards or other benchmarks. The literature also identifies some problems arising from auditors' use of specialists (Griffith et al. 2015; Hux 2017). However, it does not consider how valuation specialists' role throughout the audit process contributes to these problems.

Auditing Standards Regarding the Use of Valuation Specialists

The PCAOB implemented amended standards for the use of specialists, effective for audits of fiscal years ending on or after December 15, 2020, out of concern that specialists' work was not being properly overseen or evaluated and that this could lead to an increased risk of undetected material misstatement (PCAOB 2015; SEC 2019).[2] Specialist use has grown as financial reporting frameworks increasingly require estimation of increasingly complex transactions (PCAOB 2015, 2017). However, auditing standards in this area were last revised in 1994, despite the PCAOB's acknowledgment of the need for revision in 2010 (PCAOB 2010a).

The PCAOB's primary goal in revising the standards was to clearly align and distinguish among the auditor's and the client's specialists, based on their roles (PCAOB 2017, 2015). The original standards differentiated specialists on expertise and employment.[3] Regarding expertise,

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[2] The amendments affect AS 1210, "Using the Work of a Specialist," as well as AS 1105, 1201, 2101, 2110, and 2505 as they relate to using the work of a specialist.

[3] The U.S. auditing standards are substantively the same as the analogous international standards, with one important exception. The International Standard on Auditing (ISA) 620, "Using the Work of an Auditor's Expert," cover auditor-employed non-accounting specialists while the U.S. standards do not (International Federation of Accountants (IFAC) 2009; PCAOB 2003). We use the U.S. standards as a framework because the auditors and specialists interviewed practice in the U.S. and most of their clients follow U.S. accounting and auditing standards.

all types of non-accounting specialists were covered by AS 1210, "Using the Work of a Specialist" (PCAOB 2003). [4] Regarding employment, auditor-engaged specialists were covered by AS 1210, while auditor-employed specialists were covered by AS 1201, "Supervision of the Audit Engagement," which did not provide guidance specific to non-accounting specialists (PCAOB 2010b). The PCAOB's revision goal included aligning the requirements for oversight and use of the work of auditor-employed and auditor-engaged specialists, since these groups perform the same role (PCAOB 2015). The original guidance required different oversight and supervision of auditor-employed and auditor-engaged specialists. This goal also included distinguishing the roles and requirements for auditor-engaged specialists from those of company specialists, who have significantly different roles and create different risks yet were treated the same under the original standards (PCAOB 2017). Finally, the PCAOB wanted to increase the requirements for evaluating the work performed by company specialists, including requiring evaluation of their method and assumptions (PCAOB 2018). Overall, the PCAOB believed that these changes would prompt auditors to allocate appropriate attention to the work of company specialists, improve auditors' coordination with their own specialists, and promote effective evaluation of the evidence obtained from all specialists (PCAOB 2017).

The original standard, AS 1210, provided limited guidance to auditors in deciding if a specialist was needed and evaluating the specialist's work. Appendix A summarizes the original guidance ("AS 1210O") and amended guidance ("AS 1201A"). The original guidance did not contemplate what valuation specialists actually do, how auditors interact with specialists, or how auditors incorporate specialists' work into the broader context of the audit to make their

[4] The original guidance in AS 1210 covers auditor-engaged, company-employed and company-engaged specialists. Auditors' use of company specialists is excluded from the scope of this paper.

judgments. The difficulty in mapping the original guidance to the realities of practice created ambiguity about how auditors should apply the guidance when using auditor-employed valuation specialists. This also made it likely that auditors developed some practices not contemplated by auditing standards. To understand practice under the original standards and to evaluate the amended standards' possible effects, we examine two research questions:

> **RQ1:** How will the amended auditing standards affect auditors' practices related to specialists throughout the process of auditing fair values?

> **RQ2:** How will the amended auditing standards affect the problems that auditors and specialists encounter throughout the process of auditing fair values?

The amended guidance includes several changes related to the PCAOB's goals for improving auditors' use of their own specialists. AS 1201A resolves the ambiguity about which standard—AS 1210 or AS 1201—to apply when using auditor-employed valuation specialists. The amended guidance also makes six key changes to the original guidance. First, AS 1201A removes guidance about when to involve a valuation specialist on an engagement. Second, auditors may assign audit procedures to auditors and specialists as they believe appropriate, in contrast to prior requirements that specialists were responsible for evaluating all assumptions. Third, auditors must clarify the steps that specialists are responsible for, document their understanding with specialists, and ensure that specialists have fulfilled their responsibilities during the review process. Fourth, auditors must inform specialists about matters that could affect their work. Fifth, auditors may tailor the extent of their review of specialists' work based on risk and the significance of the specialists' work. Finally, auditors must review specialists' work for limitations and inconsistencies with other parts of the audit. Our research questions consider the potential effects of these changes.

III. METHOD

We take a positivist approach to address our research questions. This approach aims to develop an objective description of current practice that can be compared to the original and amended auditing standards to understand the degree to which behavior in practice aligns with normative behavior per the standards (Malsch and Salterio 2016). We use our data-based description to predict whether the amended standards regulating specialist use will meaningfully change practice and mitigate problems in audits of fair values using specialists.

One author interviewed 28 auditors and 14 auditor-employed specialists with extensive experience working together on audits of fair values from the Big 4 firms and three national firms.[5] We chose these interviewees because of their deep knowledge and involvement in our context of interest (e.g., Miles and Huberman 1994). We used semi-structured interviews because they are well-suited for collecting the data needed when the goal of a study is to describe unknown practices or contexts (Lillis 1999; Miles and Huberman 1994). Including both auditors and specialists enhances the trustworthiness of the data (Malsch and Salterio 2016).

We identified interviewees through contacts at the seven firms, who solicited audit and valuation partners and managers willing to discuss their experiences.[6] As shown in Table 1, these auditors and specialists have extensive experience on a variety of fair values. As shown in Table 2, these auditors and specialists represent several cities and areas of practice.

[5] Griffith (2020) analyzed a subset of data from these interviews. The current study and Griffith (2020) take different approaches to achieve different objectives. Using a constructivist approach (e.g., Power and Gendron 2015), Griffith (2020) focuses on trust and competition between auditors and specialists, and the implications of these forces. In the current paper, we use a positivist approach (e.g., Power and Gendron 2015) to analyze the full interview data set that includes problems reported by interviewees, which were not reported in Griffith (2020). The current paper focuses on understanding common practices and problems that exist under the original guidance for using specialists so that we can predict whether and how the amended guidance will meaningfully change practice. We also provide a systematic and complete process description based on the interviews that is not included in Griffith (2020).

[6] This purposive, non-random sample is typical and appropriate in qualitative studies (Miles and Huberman 1994).

[Insert Tables 1 and 2 here]

We interviewed auditors and specialists until additional interviews provided no incremental information (i.e., "saturation," Lincoln and Guba 1985; Morse 1995, 2000). Our sample size of 28 auditors is consistent with contemporary accounting interview studies (e.g., Clune, Hermanson, Tompkins, and Ye 2014; Griffith et al. 2015; Westermann, Bedard, and Earley 2015). Saturation occurred after only 14 specialist interviews because their views focused on a subset of the issues auditors described.

We developed separate interview scripts for auditors and specialists. Discussions with three auditors and two valuation specialists from three Big 4 firms informed the auditor interview script.[7] These discussions indicated that auditors primarily use auditor-employed specialists on audits of Level 2 and 3 fair values, and that auditors at least loosely follow AS 1210O in these audits.[8] With this information in mind, we created a conceptual framework for specialists' role throughout the fair value audit process from which we developed the auditor script (Miles and Huberman 1994). The auditors' accounts and a discussion with a valuation specialist at a Big 4 firm, both of which suggested that specialists have more insight into the later stages of the audit process, informed the specialist script. Specialists' accounts provide data that may challenge or corroborate auditors' accounts (Malsch and Salterio 2016).

We conducted the auditor (specialist) interviews by phone in May and June 2012 (September and October 2015). The interviews lasted 25 to 81 (17 to 36) minutes, with an

[7] The interview scripts for auditors and specialists appear in Appendix B.
[8] Table 2, Panel C shows that most auditors use auditor-employed specialists. The two auditors who reported using only auditor-engaged specialists work for a substantially smaller national firm. All specialists interviewed described their experiences as auditor-employed specialists. Thus, the interview data primarily describe the role of auditor-*employed* specialists in audits of fair values. The data do not suggest meaningful differences in auditors' practices regarding auditor-employed versus auditor-engaged specialists as they pertain to this study.

average of 46 (26) minutes. The interviewer established rapport by describing the study's purpose and its potential benefit to interviewees' firms and professions and encouraged candid responses by ensuring anonymity (Huber and Power 1985; Miles and Huberman 1994). Interviewees recalled their most recent experience working with a valuation specialist (audit team) on a Level 2 or 3 fair value to minimize biased recall of salient positive or negative experiences and recall errors (Huber and Power 1985). Then the interviewer followed the interview script but allowed interviewees to elaborate as they wished to avoid influencing their responses (Huber and Power 1985; Lillis 1999). The interviews were recorded and professionally transcribed.[9] The interviewer reviewed the transcripts for accuracy and grouped the responses in each transcript into the topics covered by the script.

We developed a coding scheme for each topic in the auditor interview script by creating a "start list" of coding categories based on AS 1210, and we expanded upon these based on the interviews. Since the interviews cover areas lacking guidance from auditing standards, the coding schemes evolved during the coding process to capture details that emerged from the interviews (Miles and Huberman 1994). An independent coder and one author separately coded auditors' responses and met to reconcile differences. We followed similar procedures to code the specialist interviews, except we based the start list of topics on auditors' accounts.[10] We use the reconciled coding in our analysis.

IV. PROCESS ANALYSIS

[9] One auditor and three specialists declined to be recorded. The transcripts for these interviews are based on the interviewer's notes which she reviewed for accuracy with the interviewees prior to concluding the interviews.

[10] The independent auditor coder had three years of auditing experience and was unaware of the purpose of the study. Initial inter-rater agreement across the coding schemes was 88.2 percent (ranging from 85.9 to 93.1 percent) and Cohen's kappa ranged from 0.83 to 0.91 (all $p < 0.01$). The independent specialist coder had four years of auditing experience and was unaware of the purpose of the study. Initial inter-rater agreement across the coding schemes was 86.3 percent (ranging from 83.3 to 89.7 percent) and Cohen's kappa ranged from 0.77 to 0.85 (all $p < 0.01$). For all coding, we resolved differences through discussion until we reached agreement.

In this section, we describe the role of specialists across the planning, fieldwork, and completion stages of the audit. Within these stages, we focus on six key areas that together provide a comprehensive view of specialists' role. These areas include: deciding to use a specialist during planning; gathering evidence, evaluating evidence, and evidence gathering, interacting and communicating during fieldwork; and reviewing and performing other final procedures during completion. We represent each area in a figure with procedures and practices reported by interviewees shown as circles that vary in size based on the relative number of interviewees who mention each one. Finally, we indicate which of the procedures and practices were required by AS 1210O and which are required under AS 1201A. For each area, we explain the practices and procedures, related changes to the auditing standards, and whether the requirements in AS 1201A are likely to change auditors' practices and mitigate the problems interviewees identified.

Planning

Figure 1 shows that auditors considered account, specialist, audit team, and client characteristics in addition to firm policy, specialist input, and budget concerns when deciding whether and how to use specialists.[11] All auditors discussed account characteristics such as materiality, account-specific risk, complexity of the valuation model used, and the level of fair value inputs (i.e., Level 1, 2, or 3). Griffith et al.'s (2015) interviewees also identified the model as one factor in whether to use a specialist.[12] Cannon and Bedard's (2017) interviewees, who

[11] Here and throughout the paper, we attribute quotations to interviewees using the identifiers shown in Table 1 to provide information about the speaker while protecting anonymity.
[12] For ease of exposition, we use the following convention to describe proportions of interviewees: "a few" refers to at least 10 percent of auditors or specialists, "some" refers to at least 25 percent of auditors or specialists, "many" refers to at least 50 percent of auditors or specialists, "most" refers to at least 75 percent of auditors or 70 percent of specialists, and "almost all" refers to at least 90 percent of auditors or 85 percent of specialists.

described factors related to audits of challenging fair values, report that inherent and control risk are positively associated with specialist use. Griffith (2020) reports that auditors view the use of specialists as the default for fair values because of their discomfort without a specialist. Auditors also focused on the subjectivity of fair values. As one auditor (P14) put it, he uses a specialist ". . . where there's judgment required and grey areas, because fair value is an art more than a formal science."

[Insert Figure 1 here]

Many auditors considered characteristics of the available specialists including their expertise in a specific industry and prior experience with the client or audit team. One auditor (P7) explained the depth of specialists' expertise:

> I think I'm pretty good at dealing with these things from doing it a number of years but they can always help me learn something or make sure I'm not missing something, because that's all they do, twelve months a year—look at valuations. . . that's what they do twelve months of the year and I do that among a thousand other things for my audit clients.

Specialists have a broader perspective on the variety, frequency, and nuances of different valuation methods, and they are trained to view fair values in a market context by considering the client's method and assumptions in light of industry norms and economic conditions.

Many auditors described audit team characteristics that affect specialist use. Auditors' knowledge of a particular client's plans or intentions, auditors' technical accounting expertise, and auditors' valuation experience or finance background all increase their ability to audit fair values—but auditors indicated that their audit teams rarely possess the necessary combination of skills and experience to forego using a specialist. As Griffith et al. (2015) note, auditors typically enlist specialists' help because they lack valuation knowledge.

All auditors considered client characteristics. Auditors consider the client's sophistication and history of inaccuracy or bias in fair values and are more likely to involve specialists when they expect clients to have trouble with fair values. One auditor (P9) stated that he is more likely to use a specialist when clients "don't have the expertise" to develop reliable fair values. Relatedly, clients' use of third party valuation preparers also influences whether and how extensively auditors use specialists, consistent with what Cannon and Bedard (2017) reported for challenging fair values. A few auditors were more likely to use a specialist when the client did *not* use a third party, but some auditors noted that when a fair value is complex enough that the client needs a third party, the audit team needs a specialist. Anticipated challenges due to client limitations often drives specialist use (Glover et al. 2017; Griffith 2020).

Many auditors also used audit firm guidelines and decision aids to decide whether to use a specialist. Auditors from five of the six larger firms represented described guidelines such as materiality thresholds and certain types of fair values that require the use of a specialist. Auditors from one firm listed four bright-line criteria used on audits of "hard-to-value" financial instruments (a subset of Level 2 and 3 fair values). These auditors must use specialists if: a 50 percent reduction in the carrying value would reduce pre-tax income by more than materiality; the client makes a market in these instruments; the client holds a portfolio of investments comprised of at least 20 percent of these instruments; or the client sponsors a defined benefit plan whose plan assets contain at least 20 percent of these instruments. Such guidelines standardize the decision to use a specialist and in some cases require it (Griffith 2020).

Some auditors obtained specialists' own input about using a specialist. An auditor (M3) explained his specialist's involvement in planning the audit of a portfolio:

> We [auditors] establish what the roles are. We look at what our audit team's base procedures are, then at planning the valuation specialist will kick in with whatever he's hearing in the marketplace that he thinks is applicable to our client and the investment funds that they have.

Specialists understand the newest valuation approaches and typical versus atypical approaches for a given estimate. Griffith (2020) also notes that specialists make auditors aware of pitfalls or unique techniques clients use. Specialists know which fair values are likely to have observable inputs and therefore are more straightforward to audit. Thus, specialists' input at this point helps auditors understand the extent and difficulty of the audit work required, which influences the decision to use a specialist. While specialists might be uniquely suited to help auditors evaluate many of the factors that influence planning decisions, less than half of auditors reported leveraging specialists' expertise at this stage.

As we note in Figure 1, AS 1210O suggests that auditors consider the account, specialist, and audit team characteristics whereas AS 1201A does not provide guidance about when to involve a specialist. Client characteristics, firm policies, or specialist inputs are not covered by either set of guidance. In the absence of pressure to change current practice (Griffith et al. 2015), we do not expect auditors to change their practices under the amended guidance. Auditors report following AS 1210O when deciding to use a specialist, in some cases following firm methodologies and decision aids to determine the use of a specialist. AS 1201A does not preclude these practices.

The lack of continuing guidance about how to decide whether to involve a specialist is unlikely to improve the coordination problems most auditors and specialists reported. One specialist (P2) explained:

> [A] big issue I see is when they [the audit team] didn't realize that they needed this estimate for the audits. . . where they said, "Whoops, I didn't even know that had to be

> valued in the first place." And then we end up with a very compressed timeline and that's very stressful for everyone.

Another specialist (P3) said these time crunches are problematic because they "limit the amount of work that we can do and sometimes that causes a concern. You never want to be limited on doing an appropriate number of procedures." Griffith et al. (2015) also identify coordination between auditors and specialists as problematic; our interviewees linked coordination issues specifically to timing. Time pressure contributes to coordination issues as specialists work on many audit engagements at year-end; short reporting windows intensify the pressure. Auditors struggle to address this issue because the PCAOB prefers the work related to higher-risk fair values be done at year-end rather than at interim. Coordination problems can result in specialists lacking access to critical information if auditors fail to send and receive specialists' work in a timely manner, coordinate who is doing what between the two parties, or inform specialists about clients' background and current issues.

To the extent that coordination problems between auditors and specialists stem from specialists' exclusion from planning decisions, we also do not expect coordination to improve in response to the change in guidance. Fewer than half of the auditor interviewees report using specialists' input during planning; AS 1201A does not contemplate specialist involvement in planning and so it is unlikely to increase.

Fieldwork

Evidence Gathering

Figure 2 shows the evidence-gathering procedures of auditors and specialists in fair value audits. These include planning the audit approach, testing controls, checking mathematical accuracy of models, testing data, and gathering evidence about the client's expertise, methods, and valuation assumptions. Responsibility for each procedure aligns with the extent of valuation expertise required to perform it.

[Insert Figure 2 here]

Auditors primarily plan the audit approach. However, auditors sometimes involve specialists when planning requires more valuation knowledge. While Griffith et al. (2015) find that specialists are rarely involved in this procedure, an auditor (P9) explained why he involves specialists in planning the approach to an insurance client's Level 2 and 3 investments:

> We get the specialists involved during planning, so the specialists help us evaluate changes to the portfolio, how we should be bifurcating the portfolio between different classes of securities. They help us make initial decisions on just inherent risk relative to those classifications.

Auditors must understand where the risks reside within clients' fair values to plan an effective audit. Specialists have unique insight into these risks. Yet, auditors infrequently involve specialists in planning.

Next, auditors and specialists perform several straightforward procedures. Auditors typically test controls related to generating the fair value and test objective data inputs to the valuation, while specialists examine the client's expertise and the mathematical accuracy of the client's model. Auditors test controls and data every time they audit an account balance (even non-fair values), so they have expertise in testing controls and data relative to specialists. Griffith et al. (2015) and Cannon and Bedard (2017) similarly find that specialists are rarely involved in testing data. In contrast, specialists' expertise in valuation allows them to assess client expertise and mathematical accuracy of models more effectively than auditors.

Specialists primarily gather evidence related to two of the most critical and difficult-to-audit components of complex estimates—the valuation method and the key assumptions (Griffith et al. 2015; Cannon and Bedard 2017). Specialists tend to gather evidence used to evaluate the client's method because they understand the details of valuation models better than auditors and they have a "better understanding of when certain models are appropriate and when they're not" (auditor M6), so they are alert to unusual methods. This is why specialists tend to examine models on audits of the most challenging fair values (Cannon and Bedard 2017) and models used by third party pricing services (Glover et al. 2017).

Though all auditors described both auditors and specialists gathering evidence related to assumptions, the two groups divide responsibility according to their respective skill sets. Consistent with auditors delegating evidence gathering for valuation-related elements to specialists (Griffith et al. 2015), specialists tend to focus on those assumptions requiring greater valuation and market condition knowledge. Glover et al. (2017) identify the weighted average cost of capital (WACC) and discount rate as examples of assumptions specialists test; other examples noted by interviewees include assumptions about industry benchmarks, market comparables, and industry-wide conditions. Auditing these assumptions requires knowledge outside auditors' typical skill set and these assumptions can significantly impact the fair value.

Auditors tend to focus on assumptions about clients' projected financial information such as forecasted revenues, expenses, and cash flows, consistent with evidence Glover et al. (2017) document. These assumptions can also significantly impact the fair value. The evidence related to these assumptions often includes client-specific information (Griffith et al. 2015; Glover et al. 2017). An auditor (M5) explained that ". . . the audit team probably understand[s] what's going on from the company's standpoint more than the fair value specialist." A specialist (P1) concurred that, "Ultimately the audit team knows the client and industry better. For example, the auditor understands the sources of the client's projected financial information, the controls, et cetera." Despite auditors' advantage in client-specific information, they still identified specialists as responsible for examining clients' financial projections one-third of the time, consistent with other evidence that specialists test all types of assumptions (Cannon and Bedard 2017).

As we note in Figure 2, AS 1210O provides guidance over testing methods and assumptions, and AS 1210A adds guidance over testing data. More than half of the procedures described by auditors are contemplated by neither set of guidance. AS 1201A allows auditors to assign audit procedures to auditors and specialists as they believe appropriate. While AS 1210O requires specialists to test *all* assumptions (PCAOB 2003), auditors described assigning some assumptions to auditors and others to specialists. Thus, auditors are unlikely to change these assignments under the amended standards, which allow the discretion that auditors already seem to exercise.

As it appears that auditors' practices for assigning responsibilities under 1210O will also satisfy 1201A, the problems caused by uncertainty about the respective responsibilities of auditors and specialists reported by some auditors and a few specialists seem likely to continue. When this uncertainty exists, auditors and specialists avoid procedures that each party believes are the other's responsibility or are outside of their own areas of expertise. Avoidance can cause issues to slip through the cracks until the last minute, when auditors have less capacity to address them. Reluctance to take ownership occurs on both sides, as an auditor (M1) explained: "It's easy to think, 'I've involved a specialist so they have resolved all of these issues,' but the truth is that's why the auditor is responsible."

In addition, AS 1201A continues to omit specific guidance for valuation specialists to follow when helping with audits of fair values. Some specialists, but no auditors, cited a lack of guidance from firms and regulators as a problem they face in audits of fair values, because there is very little standardization in valuation practice across specialists or clients' third party preparers. One specialist (P3) expressed his belief that standardization is inevitable:

> We are trying to prepare the industry for this significant mindset change, that the work product that we deliver as part of an audit, it's an auditable work product. The assumptions that we make have to be well documented and well supported, and that not only do we have to use our own good professional judgment in coming to these conclusions but we also have to be prepared to support them with evidence as opposed to just good thought.

Another specialist (P1) noted that a "big problem is that clients hire bad third parties," and "this is why the valuation industry needs industry standards." Further, some specialists, but no auditors, cited concerns about not knowing what would meet PCAOB or other inspectors' expectations in the valuation context. Specialists struggle to perform and document audit procedures in a manner that satisfies both PCAOB inspectors and valuation industry norms. A lack of new guidance for valuation specialists suggests that the variability in the type and quality of work performed by specialists is likely to continue. Specialists' resulting concerns about how to conduct work that can survive a PCAOB inspection only adds to auditors' concerns that a lack of guidance contributes to PCAOB inspection deficiencies (Glover et al. 2019).

Evidence Evaluation

Figure 3 shows that specialists conclude on the pieces of the fair value that they test, while auditors conclude on any assumptions they tested and on the fair value as a whole, corroborating Griffith et al. (2015). Specialists generally conclude on components of financial statement balances, methods, and individual assumptions they test, but not on the balances that appear in the financial statements. Griffith (2020) reports these results as examples of auditors defending their jurisdictional claim to audits of fair values.

[Insert Figure 3 here]

Auditors and specialists described specialists' conclusions as limited in scope, to be used as inputs into overall conclusions. Specialists make conclusions about the components of account balances and valuation-related inputs and assumptions that they tested. For example, specialists conclude on individual securities that they test as part of a sample from a portfolio investment, but they will not extrapolate the results to conclude on the entire portfolio that comprises the account balance in the financial statements. Regarding model assumptions, an auditor (P8) explained, "The valuation guys don't do a conclusion on the overall, "yes, goodwill's not impaired" or whatever. They will conclude on specific inputs that they were asked to look at." Other auditors gave examples of specialists concluding that "these five companies seem to do something similar to what this business is" (P4), that any discount rate within a wide range is reasonable (M4), or that the client uses a market comparable commonly used in the industry (P8). Griffith (2020) also notes that these conclusions require specialists' valuation knowledge.

Auditors identified themselves as primarily responsible for concluding on whether account balances containing fair values are materially misstated. An auditor (P8) described a situation where the specialist's assumption differed from a client's, so the auditor had to evaluate the impact of the difference to conclude on the estimate:

> They [specialists] might say on a market multiple or even a WACC [weighted average cost of capital], that the company used ten percent. Well, based on our recalculation we came up with 12 percent. And they'll just leave it at that. Just looking at that you don't know if that would cause a problem.

Auditors conclude whether account balances are misstated because they understand materiality and how "to put together all the pieces to get to the whole" (auditor P7). Auditors also consider potential management bias that would not be evident to specialists with limited insight into the rest of the audit. Specialists "don't reach full valuation conclusions because there are certain things that the audit team has done" (auditor M8), and specialists do not want to be responsible for conclusions based partially on work done by auditors. Specialists also strongly conveyed that auditors, not specialists, are ultimately responsible with statements such as, "We just give them the info they need and we don't make any judgment calls" (specialist M4) and, "Basically, we'll give the audit team the numbers and they tell us if it's going to be an issue" (specialist P6). Griffith (2020) notes that specialists may conclude that a discount rate is at the low end of a reasonable range, but leave it to the auditor to determine whether this indicates bias or requires further testing to determine whether it materially impacts the fair value.

Figure 3 shows that AS 1210O and AS 1201A cover the same practices and the guidance does not differ meaningfully. This suggests that auditors will not perceive a need to change practices that developed under AS 1210O as it appears that these practices will also satisfy AS 1201A. Further, the problems that occur in this stage are unlikely to abate in the absence of changes in standards. Many auditors and specialists identified problems getting information from clients and clients' third party valuation preparers, a problem also reported by Cannon and Bedard's (2017) auditors. These problems typically occur when clients and/or third parties do not share all the information they used to generate fair values. This interferes with specialists' ability to conclude on the valuation-related elements of fair values. Various circumstances impede this information flow. Some clients lack the expertise to get complete or up-to-date information to auditors and specialists. One auditor noted (M11) that some third parties do not readily share proprietary models or respond to auditor and specialist requests because they "have the smallest stake out of all the parties involved." One specialist (P6) explained that these issues are exacerbated when clients do not use:

> . . .Qualified appraisers [i.e., third parties], ones that we don't need to coach through the process because they aren't familiar with the accounting standard or they don't have experience in a complex technique that they need to employ or things like that.

More specialists than auditors were concerned with the quality of clients' third party preparers, possibly reflecting specialists' greater familiarity with these third parties and ability to evaluate their competence.

Interaction and Communication

Figure 4 summarizes how interviewees described interactions between auditors and specialists during fieldwork. Most auditors and specialists described extensive interaction between the two groups during fieldwork for auditors to check in with specialists and to coordinate responsibilities between the two groups. Auditors strive for "constant, early, and often communication with the valuation experts" (M6). One auditor (M4) stated, "It's a best practice to keep a pretty close rein on my specialists so that they focus on what's important and don't spend time in the weeds, per se," which conveys some degree of auditor influence on specialists' results. Frequent communication ensures that work proceeds smoothly and limits "surprises" such as issues identified by the specialist that require additional work by the audit team to resolve. Auditors described interactions with specialists as the main mechanism used to understand respective responsibilities and to monitor specialists' progress.

However, many specialists also described limited interaction with auditors at other times, particularly toward the end of the audit. Griffith (2020) reports that specialists hand off their work to auditors without much subsequent interaction, while Griffith et al. (2015) report that coordination issues can limit access to and interaction with specialists.

[Insert Figure 4 here]

Almost all auditors described filtering information from clients and third parties to specialists. One auditor (P2) explained, "We don't necessarily load [specialists] up with a whole bunch of detail on what we've looked at," while another (P7) recalled that he only sent the client's valuation report to the specialist "after I went through a few drafts." Auditors also filter specialists' request of the client: "I would filter it as much as I can and make sure the questions are appropriate to go to the client" (auditor M5). In the auditors' view, appropriate questions are those that auditors cannot answer themselves or those that do not dwell on issues they view as immaterial, because auditors try to minimize clients' time spent answering questions. Griffith (2020) also reports that auditors report screening specialists' questions to exercise restraint.

Corroborating this, almost all specialists described auditors as liaisons between themselves and clients. Auditors minimize specialist client contact or ensure that they are present during specialist contact with the client (Griffith 2020). Though efficiency concerns motivate auditors to act as intermediaries, this necessitates that auditors judge which information is important enough to share with specialists and which information should be relayed to clients or third parties. If auditors lack sufficient valuation knowledge to fully understand the implications of the information in question (e.g., Martin et al. 2006, Griffith et al. 2015), they may dismiss, misinterpret, or misconstrue information needed by or from specialists.

Almost all specialists stated that their interaction with the audit team is dictated by relatively strict adherence to clearly defined processes and responsibilities, which were established early in the audit. Griffith (2020) describes specialists as acknowledging and accepting these responsibilities to show that they merit auditors' trust.

Many auditors described specialists adding caveats to their work to direct auditors' attention to items that specialists believe are important for auditors to consider before concluding on the fair value. This is a main mechanism by which specialists give direct suggestions to auditors during fieldwork (Griffith 2020). Auditors described three types of caveats: recommended changes to the client's process, valuation inputs the specialist did not test because the auditor planned to, and reservations about specific inputs based on the specialist's testing. For example, a specialist might recommend that a client institute a look-back analysis of past estimate accuracy to improve their process. Or, a specialist might note that s/he expects the auditor to verify the accuracy of prior year revenues in a discounted cash flow model. Finally, a specialist might point out that the client's growth rate remains steady at three percent per year for five years, then jumps up to 20 percent, or that while the client's weighted average cost of capital of nine percent falls just outside the specialist's acceptable range of ten to 12 percent, the discount rate based on this input still appears reasonable.

Auditors described caveats as a clear but passive method of communication from specialists. One auditor (M12) explained his specialist's caveats as serving two purposes:

> One, to identify that the valuation expert did not do anything with it. And two, to identify to the auditor that they need to do something with it. Those are very explicitly pointed out to the auditor; it's very clear.

Despite auditor assertions that caveats are "really the key" to understanding what auditors need to do after specialists finish their testing, others conveyed that specialists use caveats to minimize their responsibility. Thus, caveats' impact on audit outcomes is unclear from this evidence.

We note in Figure 4 that the previous standards did not provide any guidance about auditor and specialist interactions during fieldwork and AS 1201A adds guidance requiring greater clarification of the responsibilities of specialists versus auditors and requires auditors to inform specialists about matters that could affect their work. More than half of the practices described by interviewees are not contemplated by either set of guidance, and AS 1201A allows auditors to set the expectations for communication as they believe appropriate. Thus, these practices likely will only change if auditors set different communication expectations.

AS 1201A requires auditors to communicate clearly to specialists the steps that they are responsible for and document their understanding with specialists. While these changes have the potential to reduce confusion about responsibilities that can lead to issues slipping through the cracks, we do not expect significant change regarding auditor-specialist interactions on engagements where high interaction is already the norm. Most auditors and specialists already report extensive interaction and the standard does not specify what these interactions should look like, so auditors may view their current practices as in compliance with the new requirements. However, auditors on engagements with more limited interaction with specialists may increase their interactions with specialists due to the new guidance.

AS 1201A also requires auditors to inform specialists about matters that could affect their work. However, understanding everything that specialists will deem relevant to their work is difficult for auditors because they lack the well-developed valuation knowledge specialists possess (Martin et al. 2006; Griffith et al. 2015). Many auditors and specialists identified problems pertaining to differences in auditors' and specialists' perspectives, which develop from different educational and work experiences. An auditor (M3) said, "They're just not going to speak the same language." When the two parties do not understand whether or why issues identified by the other might be critical audit concerns, poor judgments, time crunches, and inefficiencies (e.g., "over-auditing" in auditor P2's words) may result if specialists and auditors focus on the wrong areas from a risk-based perspective. For example, a specialist (P6) noted:

> . . .There are some auditors out there who. . . think they can handle parts of their review, but then in concurring review it comes back that, "No, you should have engaged a valuation specialist in this process." We get called in at the tail end, when they're trying

> to issue and have to review because the auditor either didn't know what they needed us to do, or in most cases I would say the auditors know what they need to do but just think they can do it themselves or within their audit team.

Problems related to differences in perspectives between auditors and specialists are often due to different access to information. AS 1201A's requirement to share relevant information with specialists will only alleviate these problems to the extent that auditors correctly judge what information is relevant to specialists' work.

The new requirement to share relevant client information with specialists also is unlikely to reduce auditor filtering of information from clients to specialists, which is not precluded by the amended standards, because auditors must still judge which information is relevant to specialists. AS 1201A does not suggest how auditors should determine what information about clients' background and current issues might be relevant. Again, because auditors and specialists already report extensive interaction, auditors will likely not perceive a need to change to comply with the new requirements in the absence of more specific guidelines for when and how to do so.

Completion

Reviewing Specialists' Work

As shown in Figure 5, when reviewing specialists' work, many auditors obtain an understanding of the work and evaluate its sufficiency, and some auditors evaluate its consistency with other audit information and ensure that auditors' and specialists' responsibilities have been fulfilled. One auditor (P8) described reviewing specialists' work for understanding as "just making sure that it makes sense." Another auditor (M6) reported:

> . . . Talking to [specialists], making sure that they give me a good understanding of the procedures they're doing and why they're relevant and appropriate. . . Obviously you rely on the expertise of the valuation specialist to a certain extent.

While auditors must understand specialists' work to make good judgments about fair values, auditors were not specific about how they obtain this understanding. Moreover, auditors are comfortable with their less detailed approach to reviewing specialists' work, despite its divergence from the approach taken to reviewing work prepared by audit team members (Griffith 2020). Auditors' lack of valuation knowledge (Martin et al. 2006; Griffith et al. 2015) likely contributes to the high-level style of review described.

[Insert Figure 5 here]

Auditors expressed relatively more certainty around evaluating the sufficiency of specialists' work as audit evidence and the consistency of specialists' work with the rest of the audit. Regarding sufficiency, auditors ensure specialists' documentation is adequate for possible PCAOB inspection. Regarding consistency, auditors "make sure that there's nothing in that memo that contradicts other statements that we're making in the [audit] file" (auditor M5). Auditors appear to use the audit team's work as a reference point and compare the specialist's work to it for consistency, which Griffith (2020) interprets as auditors prioritizing their views over specialists' views. Auditors described most of their review for consistency as mechanical ticking and tying between the specialist's memo, other audit work papers, and the trial balance. However, reconciling judgment-based inconsistencies such as when the specialist and the auditor disagree on the client's future growth prospects is "probably one of the most time-consuming parts of interacting with a specialist" (auditor M4).

Some auditors reported ensuring the fulfillment of respective responsibilities on both sides. Auditors, rather than specialists, do this because "it's still audit's responsibility to make sure what's in the file is comprehensive" (auditor P8). This review entails revisiting the planned division of procedures (i.e., Figure 2), because neither side wants to own procedures not assigned to them. An auditor (M10) explained his approach:

> . . .We go through and say okay, this is what we've outlined in our planning memo for what the audit team is going to do and what the valuation team is going to do. Based on that, we actually go back through and say okay, based on the memo that we got from the valuation group, did they actually do what we told them to do in our planning procedures? Did they document that? Did they actually do what we told them to do? And same with the audit team: we've said that we're going to do this, have we documented in our audit files that we have actually done this?

In contrast to the descriptions above, some auditors reported relying on specialists' work without extensive review. Griffith (2020) concludes that this reliance demonstrates the trust that auditors have in specialists and their work. Auditors cited insufficient expertise and wide ranges surrounding many estimates that render their reviews too imprecise to be useful as reasons for such limited review of specialists' work.

As shown in Figure 5, AS 1210O and AS 1201A focus on different parts of auditors' review of specialists' work. AS 1210O contemplates auditors' review for general understanding and for sufficiency of evidence. Perhaps reflecting challenges related to disconnects between auditors' and specialists' work (e.g., PCAOB 2017), AS 1210A adds formal guidance on reviewing specialists' work for consistency with the rest of the audit and to ensure that each side has fulfilled its responsibilities, but no longer contemplates how auditors review specialists' work for general understanding. Less than half of auditors reported reviewing for consistency between specialists' and auditors' work or reviewing for fulfillment of responsibilities, so these practices might increase once they are specifically required. However, though AS 1201A requires that auditors review specialists' work for limitations and inconsistencies with other parts of the audit, it does not explain how auditors should resolve these issues. As a result, auditors are not prevented from prioritizing the audit team's view when resolving these issues.

[Insert Figure 5 here]

AS 1201A also allows auditors to tailor the extent of their review of specialists' work based on the riskiness of the fair value and the significance of specialists' work to the overall conclusion. Auditors' descriptions of their review suggest they already do this. While the 10 auditors who reported minimal or no review of specialists' work seem to be out of step with AS 1210O's review requirements, they might justify such behavior as consistent with AS 1201A's risk-based review provisions. In addition, risk-based review might enable auditors to ignore or minimize the importance of caveats in specialists' work, despite AS 1201A's requirement to review specialists' work for limitations and inconsistencies (discussed above) that would seem to preclude this behavior.

AS 1201A's new focus on fulfillment of responsibilities may reduce the problems arising from reluctance to take ownership that occur on both sides when there is uncertainty about responsibilities, reported by some auditors and a few specialists. An auditor (M1) explained: "It's easy to think, 'I've involved a specialist so they have resolved all of these issues,' but the truth is that's why the auditor is responsible." Specialists hesitate to make judgment-based conclusions and prefer to base their conclusions solely on data obtained through research or independent sources without considering relevant client information (such as plans for future operations). Thus, inappropriate judgments can occur if auditors assume they do not need to follow up on specialists' work because that work is not their responsibility, or if auditors and specialists fail to address issues that they each believe exceed their responsibility. A final review focused specifically on each side's responsibilities could preclude such inappropriate judgments.

AS 1201A does not change AS 1210O's requirement for auditors to review specialists' work for sufficiency of evidence, so the problems related to uncertainty about what constitutes sufficient evidence from specialists, reported by some auditors but only one specialist, are likely to continue. The increasing complexity of fair values and related disclosures, combined with increasing PCAOB and firm requirements in response to changing markets, contribute to the uncertainty (Bratten, Gaynor, McDaniel, Montague, and Sierra 2013). Compounding these factors, auditors do not get frequent enough exposure to all types of fair values and their markets to be sure that evidence is sufficient. An auditor (P1) described his uncertainty:

> When your [audited] estimates [from the prior year] differ from your actual it makes you step back and say, "Okay, what do we need to potentially do different to get a better estimate? Or is there a way to get a better estimate? Or are we in this arena where this market changes so rapidly, and the company's need for cash or to liquidate these items changes so rapidly, that we just have to assume every year that we would expect some difference between estimate and actual and a revised estimate, or actually there would be a different financial estimate upon liquidating those assets?" So that's always a point that sort of makes you pause and go, "Okay, are we doing enough?"

Auditors who are not up to date on the complex, evolving regulatory and firm requirements are more likely to make inappropriate judgments. This lack of mastery contributes to auditors' difficulty in determining whether specialists have provided sufficient audit evidence. In the absence of new or changed guidance, auditors' practices in this area are unlikely to change and uncertainty about sufficiency of evidence is likely to persist.

Finally, AS 1201A's removal of guidance on reviewing specialists' work for general understanding may exacerbate problems caused by the acceptability of multiple points of view in valuation, which some auditors and a few specialists reported. One specialist (P2) explained that:

> Ultimately, valuation is a matter of judgement. And that's one thing that I think a lot of audit teams and, frankly, the PCAOB, are not really very comfortable with. You can still get to a reasonable answer, but you need to make sure that you're considering all the information that's relevant and you also need to accept that there isn't just one true answer.

Given that auditors already took a high-level approach to understanding specialists' work under AS 1210O, the removal of the requirement to review for understanding does not encourage or help auditors perform more detailed reviews that might help them reconcile so many points of view. In addition, clients may exploit the array of acceptable points of view to convince auditors to accept a less appropriate point of view than that held by the auditor's specialist. If auditors do not understand their specialists' point of view at a detailed level, clients might more easily persuade auditors to sign off on biased fair values.

Other Completion Procedures

Figure 6 presents additional procedures necessary to complete the audit of a fair value. While auditors perform most of these procedures, specialists are also involved. All but one of these procedures have to do with resolving disagreements (between auditors and specialists, or specialists and clients) or completing documentation (of audit evidence, testing, and conclusions). The remaining procedure relates to auditors' communication of performance improvement observations to clients.

Most auditors described editing and finalizing specialists' work as part of their documentation completion. Auditors clarify language and explanations, delete extraneous information, and add references to audit work when needed (e.g., to the audit work on revenue projections used but not evaluated by the specialist). An auditor (M1) explained:

> We would look at the memo and edit it. We would ensure that the conclusions and their documentation are exactly the same as what our conclusions are, because there should be no differences between their conclusions and our conclusions.

Auditors do this because "the specialist doesn't have the perspective of the file as a whole that we would have, so we want to make sure that those work papers fit into the rest of the work papers" (auditor M5). For similar reasons, auditors delete extraneous information when it contradicts what the audit team has documented elsewhere or when auditors believe specialists documented "something that alludes to an internal control problem or some sort of hidden comment in there that, from an audit standpoint, wouldn't be acceptable" (auditor M11). For example, an auditor (M9) reported deleting information related to the specialist's testing of the weighted average cost of capital because it was not "consistent with what we're [the audit team] saying in general about the knowledge of the business and the way the business is working." The inspection process fosters auditors' emphasis on documentation (Glover et al. 2019), which motivates audit teams' changes to specialists' work. Alternatively, auditors' changes to specialists' work might be part of auditors' professional jurisdictional defense (Griffith 2020).

Almost all auditors discussed resolving differences between specialists' findings and clients' assertions, consistent with the idea that auditors act as arbiters negotiating a mutually acceptable value between clients and specialists (Smith-Lacroix, Durocher, and Gendron 2012). Differences often arise because the specialist used a different approach or assumption than the client. The resolution process usually involves going back to the client for further explanation:

> Sometimes we have to go push on the client or the third party to provide us more information that would help us understand the judgments that they made. . . I'm always involved, or the audit representative's typically involved in those conversations to facilitate that, to make sure that the focus and the scope is appropriate. . . I've seen a lot of times where the specialist may spend hours trying to do their own independent research and/or get comfortable with the number but after going back to the client, a lot of times the client can provide that extra data to get us over the hump. (auditor M4)

After identifying the source of the difference, auditors must determine if the difference arose because the client used an unreasonable method, assumption, or input in developing the fair value, or whether the two parties simply used different approaches that are both acceptable. Auditors also consider whether the difference in inputs to the fair value causes a material difference in the fair value.

Most auditors described identifying and addressing limitations and follow-up items in specialists' work as another part of documentation completion. Two approaches emerged; they are not mutually exclusive. First, auditors scan specialists' memos for caveats "to make sure that there's nothing in there that [specialists] absolutely said they wouldn't or couldn't do" (M11). Second, auditors search for limitations or problems "buried" within specialists' memos. An auditor (P4) explained:

> Sometimes maybe there's something embedded in the memo, this particular factor or assumption appears out of range. And even though maybe they concluded overall it was okay, you still want to know some of those things. So I always encourage our folks, don't just get those things and stick them in the workpapers. Make sure you read them and know what's in them.

Other examples of potential "buried" items include instances where an item falls within the range deemed reasonable by the specialist but that range exceeds audit materiality, or evaluations of the client's method of estimating a fair value that suggest possible control deficiencies.

Once auditors identify these items, they must decide if the items warrant follow-up. For items involving contradictory evidence, one auditor (P8) considers whether the audit team is "still okay with the ultimate conclusion" despite the contradictory evidence. Regarding "something just left kind of wide open for passing to the audit team," this auditor considers "whether or not they [auditors] care" about the follow-up item. Griffith (2020) reports this behavior as evidence that auditors' completion procedures can change the meaning of specialists' work. Regarding caveats added by specialists, an auditor (P1) said, "Sometimes we might dispose of them by saying it's not material or we didn't feel that we needed to test it, or we're satisfied with the work done to date and just be done." Thus, specialists' caveats do not always lead auditors to perform additional procedures. Potential procedures include examining board minutes, budgets, and corporate strategy for information relevant to revenue projections;

performing sensitivity analyses on discount rates; or talking to clients or third parties. Auditors' responses depend on whether an item could cause a material misstatement.

Finally, many auditors document overall conclusions. When documenting overall conclusions, auditors consider all the evidence obtained throughout an audit, such as analytical procedures and tests of data performed by auditors, in tandem with the evidence supplied by specialists. Auditors document the overall conclusion because they are ultimately responsible for making this conclusion and because they are better equipped to produce documentation that meets firm and regulator expectations.

Some auditors also reported deciding whether to convey specialists' operational suggestions to the client (e.g., to use a different third party valuation preparer). Auditors have a better understanding of clients' situations and capabilities to implement changes, so they tend to convey only those suggestions that might be feasible. While this might be an effective relationship management strategy, it also results in auditors exerting more control over specialists (Griffith 2020).

Next, we discuss the areas in which specialists participate in completing the audit, which all pertain to resolving disagreements. Disagreements can arise between auditors and specialists, or between specialists and clients. For both types of disagreements, almost all specialists said they ultimately leave the decision to auditors, consistent with auditors' descriptions. Griffith (2020) also reports this finding and attributes it to specialists' unwillingness to take ownership over judgments that require an understanding of materiality and the impacts of audit adjustments on the financial statements. Yet, many specialists also described working with auditors to reach mutual agreement with the audit team and some specialists noted that they resolve differences with clients on their own, though even specialists who resolve differences on their own do so at the audit team's discretion (Griffith 2020). Thus, while specialists are involved in the resolution process, both auditors' and specialists' descriptions indicate that auditors make the final call when resolving differences.

Specialists' deference to auditors creates an opportunity for auditors to engage in the documentation procedures discussed above, some of which can alter the meaning of specialists' work. It is not clear how auditors' changes to specialists' documentation affect audit quality. Since auditors shared these freely, we conclude auditors believe these are appropriate actions. However, given concerns about auditors' lack of valuation knowledge, auditor removal of "extraneous" information from specialists' work may sometimes result from an under-recognition of the importance of that information and, thus, may result in a failure to incorporate it into auditors' judgments.

As shown in Figure 6, AS 1201A adds guidance over auditors' identification and disposition of follow-up items in specialists' work to AS 1210O's guidance over auditors' resolution of differences between clients and specialists, which AS 1201A retains. Despite the existing guidance over resolving specialist-client differences, the coordination challenges reported by most auditors and specialists negatively impact this process:

> Now you've got four cooks in the kitchen. You've got the client, you've got the audit team, you've got the audit team's internal support [i.e., specialist], you've got a third party valuation expert. You've got four parties involved trying to wrestle an issue down. (auditor P11)

Given that auditors experienced challenges in resolving differences under the original guidance, the lack of change to this part of the guidance suggests these challenges will likely continue.

AS 1201A now requires auditors to review specialists' work for limitations and inconsistencies with other parts of the audit, which should lead to the identification and disposition of limitations and follow-up items in specialists' work. AS 1201A does not specify how auditors should conduct this review, and auditors currently conduct a number of procedures that seem to incorporate the newly required steps in AS 1201A. For example, auditors already report identifying and addressing limitations and other follow-up items, disposing of specialists' caveats, and editing and finalizing specialists' work to ensure consistency with other audit work. While auditors will likely attend more to limitations and caveats to demonstrate compliance with the amended standards, AS 1201A leaves open the extent to which auditors must pursue the underlying issues. Moreover, because the standards now explicitly require "finalizing" behaviors, auditors might feel more justified in changing their specialists' work, whether those changes are appropriate or not. As a result, the influence of specialists' work and conclusions on auditors' overall judgments may not increase under the amended standards. The table below summarizes the problems identified by interviewees and the audit areas that these problems affect.

[Insert Table 3]

V. CONCLUSION

We used interview data from 42 very experienced auditors and valuation specialists to examine the role of valuation specialists in fair value audits and common problems in this setting. The resulting description provides a basis for understanding audit practice in this setting and understanding whether practice is likely to change in light of the amended standards. This description and analysis should be useful to researchers, practitioners, and standard setters who hope to maximize the benefits of specialists' involvement in fair value audits. For example, standard setters can consider current and expected future practices as they develop interpretations and practice alerts on the new standards or as they provide feedback to auditors through inspections. Researchers can design and study decision aids and other interventions for improving auditors' use of specialists bearing current and expected future practices in mind.

Our comparison of practices and problems reported by interviewees to the changes to the standards leads us to conclude that practice will not meaningfully change. Our conclusions are corroborated by public accounting firms, which described the effects of the new standard as being closely aligned with the prior requirements (PwC 2019) and noted that prior practices had already evolved beyond the standards' requirements (KPMG 2019). While the amended standards provide new guidance formally requiring communication and coordination between auditors and specialists that will likely make some improvements, the standards leave some problematic features of audits of fair values unaddressed. First, the amended standards do not address auditors' lack of valuation knowledge. While not every auditor needs to be an expert in valuation, our results suggest that at least those auditors reviewing specialists' work and interacting with specialists at key moments would benefit from greater valuation knowledge. Second, the standards do not increase specialists' responsibilities, which leaves intact the conditions that allow auditors to change specialists' work. Third, the standards do not provide guidance for specialists. Such guidance would help to reduce uncertainty both about responsibilities and what constitutes sufficient evidence. Finally, the amended standards cannot reduce the inherent uncertainty in the fair value environment that underlies many problems, nor do they provide guidance about how to deal with this uncertainty. Thus, we expect auditors and specialists to continue many of the practices and to encounter many of the same problems that occurred under the original guidance.

It is important to consider this study in light of the limitations imposed by research design tradeoffs. We interviewed a relatively small, non-random sample of auditors and valuation specialists. This sample size allowed for longer interviews suited to our goal of examining whether the practices and problems present under the original guidance would change under the amended guidance. These interviewees are not representative of all auditors and specialists across all levels at their firms. However, to the extent that they described what they believe are important aspects of specialists' involvement in auditing fair values and important problems in this setting, the insights gained from this study will be useful to researchers, standard setters, and practitioners interested in understanding and improving audits of fair values when specialists are involved.

APPENDIX A
Amendments Relating to the Auditor's Use of the Work of Specialists

Panel A: Summary of standards affected by amendments*

PCAOB Standard	Title	Paragraphs Amended
AS 1105	Audit Evidence	.08, .10, Appendix A (added)
AS 1201	Supervision of the Audit Engagement	.03, Appendix C (added)
AS 1210	Using the Work of a Specialist	Retitled and amended in its entirety
AS 2101	Audit Planning	.06
AS 2110	Identifying and Assessing Risks of Material Misstatement	.28A (added)
AS 2505	Inquiry of a Client's Lawyer Concerning Litigation, Claims, and Assessments	.08

*The above chart appears in Appendix 1 of PCAOB Release No. 2018-006 (PCAOB 2018, p. A1-1). The substantive changes that pertain to the auditor's use of auditor-employed specialists appear in Appendix C of AS 1201 (PCAOB 2018, p. A1-7).

Panel B: Comparison of Original and Amended Guidance for Using Auditor-Employed Valuation Specialists*

Stage of Audit	<u>**Original Guidance (*de facto* Guidance for Using Auditor-Employed Specialists):**</u> **AS 1210: Using the Work of a Specialist** **(see PCAOB 2003)**	<u>**Amended Guidance:**</u> **AS 1201 Appendix C: Supervision of the Work of Auditor-Employed Specialists** **(see PCAOB 2018, p. A1-7 – A1-10 for Appendix C)**
Scope and applicability	The standard applies when auditors use the work of a specialist who is engaged or employed by management (company's specialist), or who is engaged by the auditor (auditor-engaged specialist) (PCAOB 2003). Management may engage a specialist employed by the auditor's firm, but this is still classified as a company's specialist.	The standard applies when auditors use the work of a specialist who is employed by the auditor's firm (auditor-employed specialist) (PCAOB 2018).

	AS 1201 officially applies when auditors use the work of a specialist employed by the auditor's firm (auditor-employed specialist) (PCAOB 2003).	
Deciding to use a specialist	Use a specialist when the audit team lacks the "special skill or knowledge" to evaluate "complex or subjective matters" (PCAOB 2003, ¶6-7). Consider specialists' professional qualifications to decide whether they have the expertise necessary to serve in the capacity of specialist (PCAOB 2003). Consider the relationship of the specialist to the client to ensure that the specialist has sufficient objectivity to perform their role (PCAOB 2003). In summary, auditors should consider the expertise of the audit team, the inherent account characteristics, and the specialist's expertise and objectivity pertinent to the given situation.	Amended guidance does not state how to determine whether a specialist is needed.[13] Amended guidance does not state how to evaluate a specialist's qualifications and objectivity.[14] In summary, auditors should consider the same factors for involving a specialist that they consider for staffing an audit engagement team.
Using a specialist during audit testing	"The appropriateness and reasonableness of methods and assumptions used and their application are the responsibility of the specialist," but specific tasks or procedures to be performed by the specialist are not indicated (PCAOB 2003, ¶12).	Auditors must establish and document an understanding with the specialist regarding several elements of specialists' role in the audit. These include specialists' responsibilities, objectives and the nature of their work (e.g., testing management's process for developing an estimate, developing an

[13] AS 2101, "Audit Planning," notes that the auditor should determine during planning whether individuals with specialized skill or knowledge will be needed to assess risks, plan or perform audit procedures, or evaluate results (PCAOB 2010c).
[14] Because auditor-employed specialists are considered members of the audit engagement team, AS 2101, the general auditing standard on planning, applies, which requires consideration of independence and any specialized skill or knowledge required (PCAOB 2010c).

	In summary, auditors are required to understand the methods and assumptions used by specialists, test the data provided to specialists, and evaluate whether specialists' results support clients' financial statement assertions (PCAOB 2003).	independent estimate). This also includes the extent of specialists' responsibility for testing data, evaluating methods and assumptions used, and providing a report of their work and conclusions to the audit team (PCAOB 2018). Specific tasks or procedures to be performed by the specialist are not indicated. Auditors should inform specialists about matters that could affect specialists' work. These matters include information about the client, including its environment, its process for developing the accounting estimate, whether specialists were used, requirements of the relevant financial reporting framework, possible accounting and auditing issues, and the need to apply professional skepticism (PCAOB 2018). Auditors should implement measures to ensure proper coordination between auditors and specialists (PCAOB 2018). These measures include ensuring compliance with AS 2501, "Auditing Accounting Estimates," if the auditor-employed specialist develops an independent estimate or tests management's process, and with AS 1105, "Using the Work of a Company's Specialist," if the client uses a company's specialist. In summary, the guidance suggests that auditors will determine responsibility for testing data, evaluating

		methods, and evaluating significant assumptions. Further, the guidance requires enhanced communication and coordination with specialists.
Using the work of a specialist to make audit conclusions	When reviewing specialists' work, auditors must understand the objectives and scope of the work, the methods or assumptions used by specialists, and whether specialists' findings support the related financial statement assertions (PCAOB 2003). Auditors do not have to perform any additional procedures if their review indicates that specialists' work supports the related financial statement assertions, but if a material difference exists between specialists' findings and the assertions, auditors must investigate the difference by "applying any additional procedures that might be appropriate" (PCAOB 2003, ¶13). No example procedures are specified. If this fails to resolve the issue, then auditors "should obtain the opinion of another specialist" unless they believe the issue cannot be resolved (PCAOB 2003, ¶13). In summary, the auditor must review the specialist's work for overall understanding and to ensure sufficient appropriate evidence has been obtained. Additional procedures are only required when specialists' findings are inconsistent with the relevant financial statement assertions.	Auditors determine the extent of review based on the significance of the specialist's work to the auditor's conclusion, the risk of material misstatement, and the knowledge, skill, and ability of the specialist (PCAOB 2018). When reviewing specialists' work, auditors should evaluate whether the specialist's work provides sufficient appropriate evidence (PCAOB 2018). This includes considering whether the specialist's work is consistent with the initial understanding between auditor and specialist (PCAOB 2018) and whether the conclusions are consistent with the work performed by the specialist, other audit evidence, and the auditor's understanding of the client and its environment (PCAOB 2018). If the specialist's work or conclusions contradict the financial statement assertions, or if the specialist's work does not provide sufficient appropriate audit evidence, auditors should perform additional procedures or request that the specialist do so (PCAOB 2018). Additional procedures are warranted when: the specialist's work was not performed in accordance with the auditor's instructions; the specialist's report contains restrictions, disclaimers, or limitations; the

		specialist's findings or conclusions are inconsistent with the underlying work, other audit evidence, or the auditor's understanding of the client and its environment; the specialist lacks a reasonable basis for the data or assumptions used; or the specialist used inappropriate methods (PCAOB 2018). In summary, the auditor must review the specialist's work to ensure sufficient appropriate evidence has been obtained. Additional procedures are required when specialists' findings are inconsistent with the relevant financial statement assertions or with the auditor's understanding and evidence from other parts of the audit, or when the specialist's report includes limitations, restrictions, or disclaimers.

*We summarize the original guidance from AS 1210, "Using the Work of a Specialist" (PCAOB 2003), because preliminary discussions with auditors indicated that they currently apply this standard, rather than AS 1201, "Supervision of the Audit Engagement" (PCAOB 2010c), when using auditor-employed specialists. Although AS 1210 refers auditors using auditor-employed specialists to AS 1201, we do not include guidance from AS 1201 under Original Guidance because it equates auditor-employed specialists with other audit team members and provides no incremental guidance about using these specialists. Auditors reported using the guidance in AS 1210 in absence of other specific guidance, making it the *de facto* original guidance about the use of auditor-employed specialists. However, the amended AS 1201 (PCAOB 2018) provides specific guidance for the use of auditor-employed specialists. Therefore, we summarize the amended guidance in AS 1201 above because we expect auditors will apply this guidance in the future.

APPENDIX B
Questions Included in Interview Scripts

Auditor Questions

1. Think about the **most recent time** you worked with a valuation specialist on a Level 2 or Level 3 fair value estimate. Describe the account/estimate.
    a. Type of account
    b. Level 2 or 3
    c. Risk level
    d. Client industry
    e. How client developed estimate, i.e., in-house or third party

2. Now, describe your experience working with the valuation specialist. I'm interested in learning about the entire process: how each step was done, when and in what order they were done, what information and documents were exchanged between the audit team and the specialist, and what level auditors were involved.
    a. Decide to use specialist or not and extent to which they will be used
        i. How/why
        ii. Information flow between auditor and specialist
        iii. Documents
        iv. When
        v. Who
    b. Auditor/specialist interaction
        i. How/why
        ii. Information flow between auditor and specialist
        iii. Documents
        iv. When
        v. Who
    c. Work received from specialist
        i. How/why
        ii. Information flow between auditor and specialist
        iii. Documents
        iv. When
        v. Who
    d. Evaluating the work of specialist
        i. How/why
        ii. Information flow between auditor and specialist
        iii. Documents
        iv. When
        v. Who
    e. Using work of specialist to make conclusions
        i. How/why
        ii. Information flow between auditor and specialist
        iii. Documents

            iv. When
            v. Who
        f. What happens when there are differences?
            i. Why happened
            ii. How resolved
        g. Specialist's recommendations
            i. Why followed (or not)

3. Did you notice your audit team having trouble anywhere throughout this process?
    a. Where did they seem to have trouble and what sort of problems were they having?
        i. Cause
        ii. Who
    b. What are some other common problems you've noticed on other engagements where you've used a valuation specialist for Level 2 or 3 fair values?
        i. Cause
        ii. Who

4. In the past year, how many different client engagements have you worked on?

5. How many of those engagements involved valuation specialist for issues related to Level 2 or 3 fair values?

6. How many of the valuation specialists were in-house vs. from an external firm?

7. For those that were in-house, were they at local, regional, or national office level?

8. Demographic information:
    a. Position and title (including special groups, etc.)
    b. Years of experience
    c. Primary client industry
    d. Firm
    e. Office location
    f. Date of interview
    g. Duration of interview

9. Final thoughts – any last impressions that we didn't cover?

Valuation Specialist Questions

1. Describe the deliverables that you provide to the audit team when you assist in an audit of a Level 2 or Level 3 fair value.
    a. What happens after you give them your work?
    b. How do they evaluate it?
    c. When is the last time you interact with the audit team and/or "see" your work?

2. Are there ever differences between your point of view and the auditor's? What happens if there are?
    a. How frequent is this?
    b. Why do differences in views arise?
    c. To what extent are you aware of the audit team's view as you begin your work, and throughout the process?
    d. If you and the audit team ultimately can't agree, what happens (i.e., who has the final say)?

3. What interaction do you have with the audit team to determine the final outcome of the audit (i.e., whether a financial statement balance is materially misstated)?

4. Did you notice yourself or anyone on the team (on either side) having trouble anywhere throughout the process?

5. So, overall, how would you describe your role in the audit process?

6. Background:
    a. Firm
    b. Office location
    c. Education
    d. Title
    e. Work experience
    f. Industry specialization
    g. In the past year, how many audit engagements have you worked on? What percentage of your total time (i.e., billable hours) was this?
    h. Date of interview
    i. Duration of interview

7. Final thoughts – any last impressions that we didn't cover?

References

Barr-Pulliam, D., J. R. Joe, S. A. Mason, and K. Sanderson. 2020a. The auditor-valuation specialist coopetitive alliance in the fair value audit of complex financial instruments. Working paper, University of Louisville, University of Delaware, DePaul University, and Bentley University.

Barr-Pulliam, D., S. A. Mason, and K. Sanderson. 2020b. Should I stay or should I go?: The joint effects of valuation specialists' domain knowledge and employer type on perceptions of organizational-professional conflict. Working paper, University of Louisville, DePaul University, and Bentley University.

Bauer, T. D., and C. R. Estep. 2019. One team or two? Investigating relationship quality between auditors and IT specialists: Implications for audit team identity and the audit process. *Contemporary Accounting Research* 36 (4): 2142-2177.

Boritz, J. E., N. Kochetova-Kozloski, L. A. Robinson, and C. Wong. 2020. Auditors' and specialists' views about the use of specialists during an audit. *Behavioral Research in Accounting* 32 (2): 15-40.

Bratten, B., L. M. Gaynor, L. McDaniel, N. R. Montague, and G. E. Sierra. 2013. The audit of fair values and other estimates: The effects of underlying environmental, task, and auditor-specific factors. *Auditing: A Journal of Practice & Theory* 32 (Supplement 1): 7-44.

Cannon, N. H., and J. C. Bedard. 2017. Auditing challenging fair value measurements: Evidence from the field. *The Accounting Review* 92 (4): 81–114.

Christensen, B. E., S. M. Glover, and D. A. Wood. 2012. Extreme estimation uncertainty in fair value estimates: The implications for audit assurance. *Auditing: A Journal of Practice & Theory* 31 (1): 127-146.

Clune, R., D. R. Hermanson, J. G. Tompkins, and Z. S. Ye. 2014. The nominating committee process: A qualitative examination of board independence and formalization. *Contemporary Accounting Research* 31 (3): 748-786.

Danos, P., J. W. Eichenseher, and D. L. Holt. 1989. Specialized knowledge and its communication in auditing. *Contemporary Accounting Research* 6 (1): 91-109.

Glover, S. M., M. H. Taylor, and Y. Wu. 2017. Current practices and challenges in auditing fair value measurements and complex estimates: Implications for auditing standards and the academy. *Auditing: A Journal of Practice & Theory* 36 (1): 63-84.

Glover, S.M., M. H. Taylor, and Y. J. Wu. 2019. Mind the gap: Why do experts have differences of opinion regarding the sufficiency of audit evidence supporting complex fair value measurements? *Contemporary Accounting Research* 36(3): 1417-1460.

Griffith, E. E. 2020. Auditors, specialists, and professional jurisdiction in audits of fair values. *Contemporary Accounting Research* 37 (1): 245-276.

Griffith, E. E., J. S. Hammersley, and K. Kadous. 2015. Audits of complex estimates as verification of management numbers: How institutional pressures shape practice. *Contemporary Accounting Research* 32 (3): 833-863.

Huber, G. P., and D. J. Power. 1985. Retrospective reports of strategic-level managers: Guidelines for increasing their accuracy. *Strategic Management Journal* 6 (2): 171-180.

Hux, C. T. 2017. Use of specialists on audit engagements: A research synthesis and directions for future research. *Journal of Accounting Literature* 39: 23-51.

International Federation of Accountants (IFAC). 2009. *International Standard on Auditing 620: Using the Work of an Auditor's Expert.* New York, NY: IFAC.

Joe, J. R., D. J. Janvrin, D. Barr-Pulliam, S. Mason, M. K. Pitman, A. Rezaee, K. Sanderson, and Y. Wu. 2015. The auditing standards committee of the Auditing Section of the American Accounting Association is pleased to provide comments on PCAOB Staff Consultation Paper No. 2015-01, The Auditor's Use of the Work of Specialists. *Current Issues in Auditing* 9 (2): C18-C37.

KPMG. 2019. SEC approves new PCAOB auditing standards. *Defining issues:* August 1. https://frv.kpmg.us/reference-library/2019/sec-approves-new-pcaob-auditing-standards.html Accessed May 24, 2021.

Lillis, A. M. 1999. A framework for the analysis of interview data from multiple research field sites. Accounting and Finance 39 (1): 79-105.

Lincoln, Y. S., and E. G. Guba. 1985. *Naturalistic Inquiry.* Newbury Park, CA: SAGE Publications Inc.

Malsch, B., and S. E. Salterio. 2016. "Doing good field research": Assessing the quality of audit field research. *Auditing: A Journal of Practice & Theory* 35 (1): 1-22.

Martin, R. D., J. S. Rich, and T. J. Wilks. 2006. Auditing fair value measurements: A synthesis of relevant research. *Accounting Horizons* 20 (3): 287-303.

Miles, M. B., and A. M. Huberman. 1994. *Qualitative Data Analysis: An Expanded Sourcebook*. Thousand Oaks, CA: SAGE Publications, Inc.

Morse, J. M. 1995. The significance of saturation. *Qualitative Health Research* 5 (2): 147-149.

Morse, J. M. 2000. Determining sample size. *Qualitative Health Research* 10 (1): 3-5.

Power, M. K, and Y. Gendron. 2015. Qualitative research in auditing: A methodological roadmap. *Auditing: A Journal of Practice & Theory* 34 (2): 147-165.

Public Company Accounting Oversight Board (PCAOB). 2003. *Auditing Standard (AS) 1210: Using the Work of a Specialist.* Washington, DC: PCAOB.

Public Company Accounting Oversight Board (PCAOB). 2010a. *Report on Observations of PCAOB Inspectors Related to Audit Risk Areas Affected by the Economic Crisis*. *PCAOB Release No. 2010-006*. Washington, DC: PCAOB.

Public Company Accounting Oversight Board (PCAOB). 2010b. *Auditing Standard (AS) 1201: Supervision of the Audit Engagement.* Washington, DC: PCAOB.

Public Company Accounting Oversight Board (PCAOB). 2010c. *Auditing Standard (AS) 2101: Audit Planning.* Washington, DC: PCAOB.

Public Company Accounting Oversight Board (PCAOB). 2014. *Staff Consultation Paper: Auditing Accounting Estimates and Fair Value Measurements. (August 19)*. Washington, DC: PCAOB.

Public Company Accounting Oversight Board (PCAOB). 2015. *Staff Consultation Paper: The Auditor's Use of the Work of Specialists. (May 28).* Washington, DC: PCAOB.

Public Company Accounting Oversight Board (PCAOB). 2017. *Proposed Amendments to Auditing Standards for Auditor's Use of the Work of Specialists. PCAOB Release No. 2017-003.* Washington, DC: PCAOB.

Public Company Accounting Oversight Board (PCAOB). 2018. *Amendments to Auditing Standards for Auditor's Use of the Work of Specialists. PCAOB Release No. 2018-006.* Washington, DC: PCAOB.

PwC. 2019. How the new audit standard on specialists may impact your audit. *In depth:* December 9. https://viewpoint.pwc.com/dt/us/en/pwc/in_depths/2019/IndepthUS2019-18/How-the-new-audit-standard-on-specialists-may-impact-your-audit-(US2019-18).html Accessed May 24, 2021.

Salterio, S. 1996. The effects of precedents and client position on auditors' financial accounting policy judgment. *Accounting, Organizations, and Society* 21 (5): 467-486.

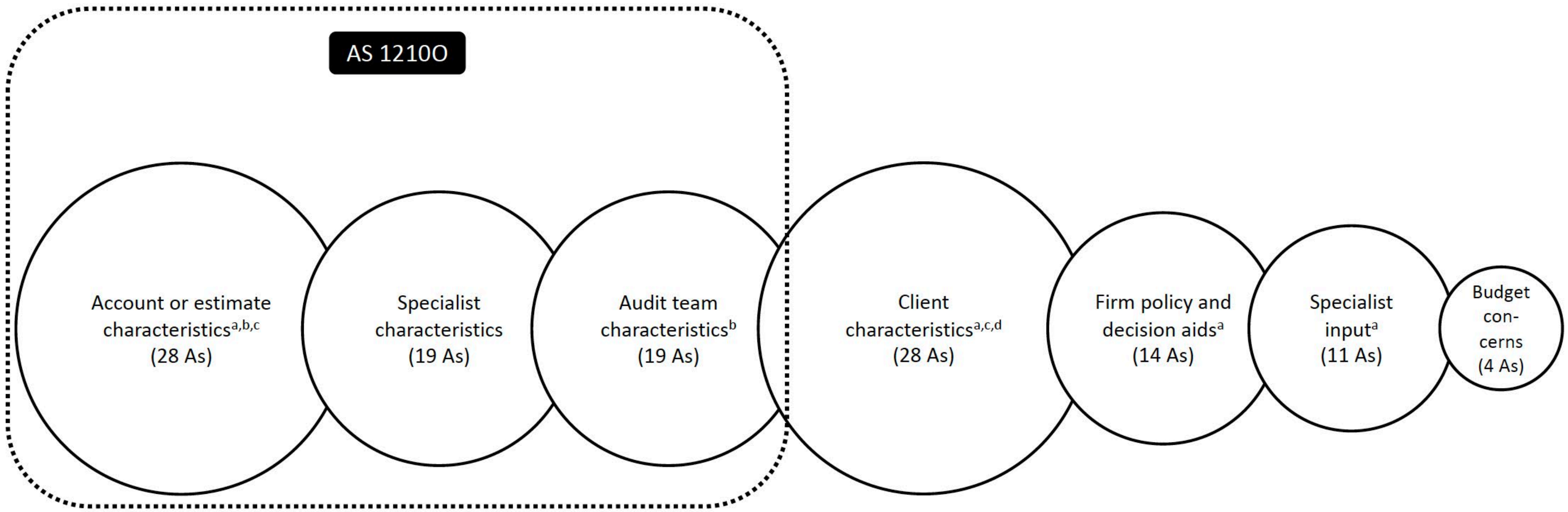
Salterio, S., and R. Denham. 1997. Accounting consultation units: An organizational memory analysis. *Contemporary Accounting Research* 14 (4): 669-691.

Securities and Exchange Commission (SEC). 2019. *Public Company Accounting Oversight Board; Order Granting Approval of Amendments to Auditing Standards for Auditor's Use of the Work of Specialists.* Washington, DC: SEC.

Smith-Lacroix, J. H., S. Durocher, and Y. Gendron. 2012. The erosion of jurisdiction: Auditing in a market value accounting regime. *Critical Perspectives on Accounting* 23 (1): 36-53

Westermann, K. D., J. C. Bedard, and C. E. Earley. 2015. Learning the "craft" of auditing: A dynamic view of auditors' on-the-job learning. *Contemporary Accounting Research* 32 (3): 864–896.

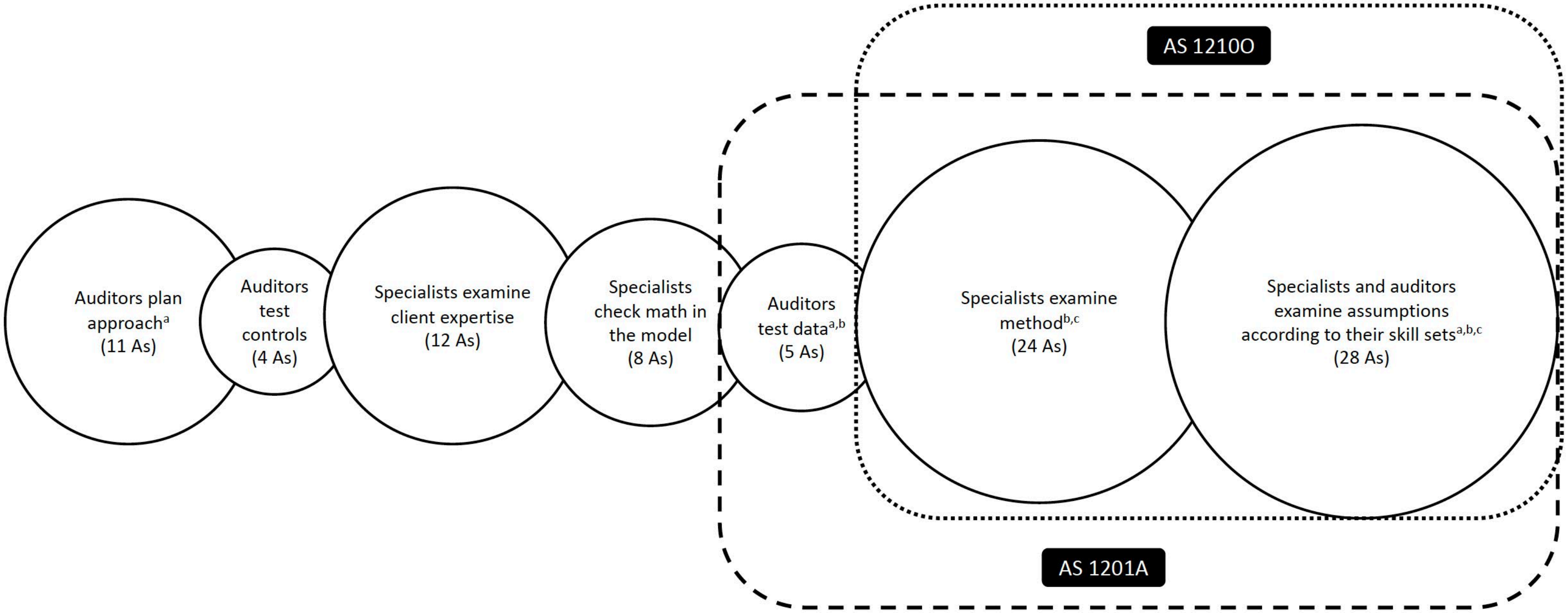
FIGURE 1: Factors Considered during Planning



Notes:
The size of the circles reflects the prominence of each item relative to the others based on the number of interviewees to discuss it (shown in parentheses, n = 28 auditors, denoted as A). Items addressed by the original or amended standards are overlaid to denote which standard(s) address them.

Superscripts in the figure denote prior research that reports a similar item that this study triangulates and/or expands upon. Papers are denoted as follows:
[a] Griffith (2020)
[b] Griffith et al. (2015)
[c] Cannon and Bedard (2017)
[d] Glover et al. (2017)

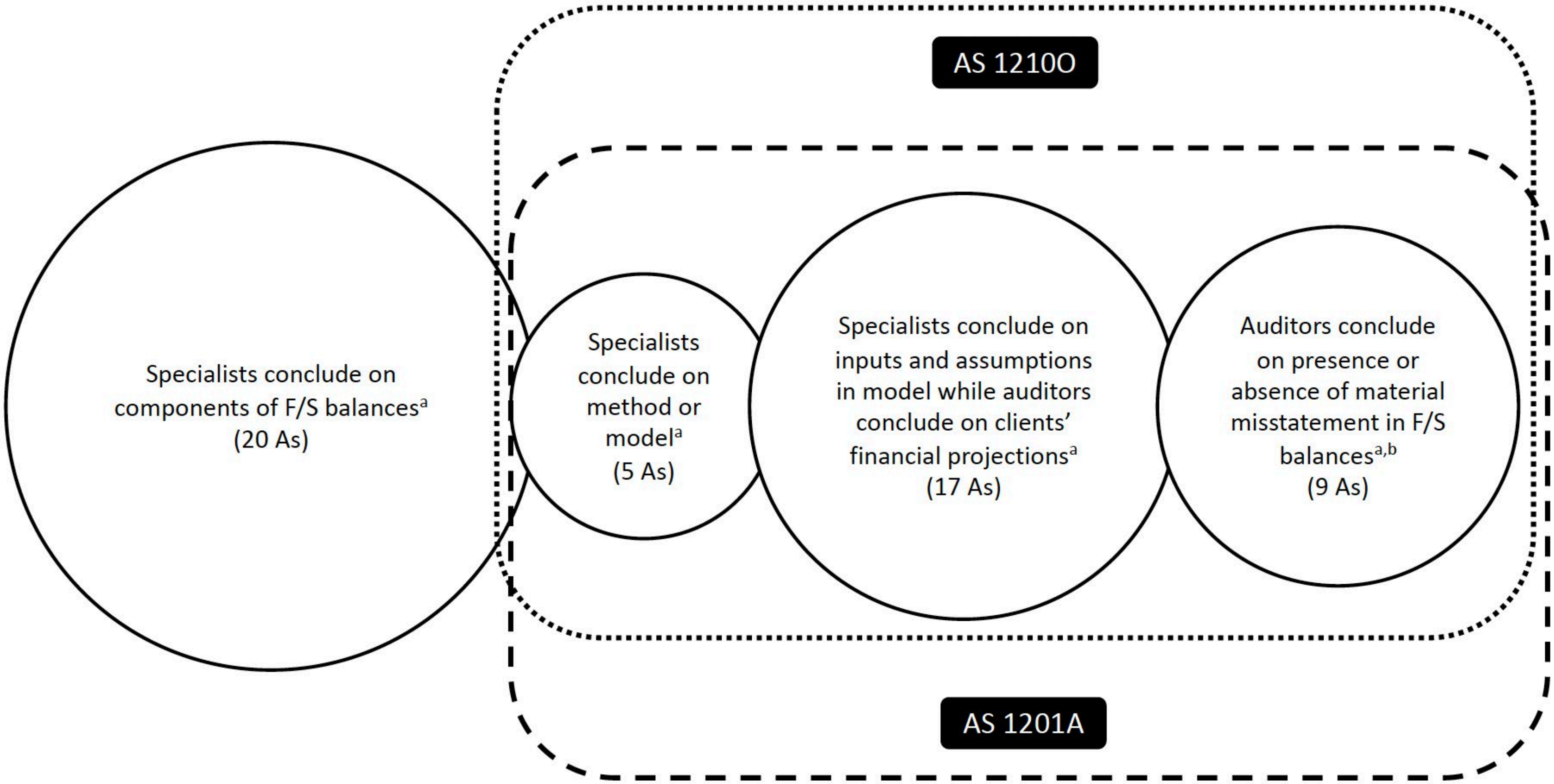
FIGURE 2: Evidence Gathering during Fieldwork



Notes:
The size of the circles reflects the prominence of each practice relative to the others based on the number of interviewees to discuss it (shown in parentheses, n = 28 auditors denoted as A). Practices addressed by the original or amended standards are overlaid to denote which standard(s) address them.

Superscripts in the figure denote prior research that reports a similar practice that this study triangulates and/or expands upon. Papers are denoted as follows:
[a] Griffith et al. (2015)
[b] Cannon and Bedard (2017)
[c] Glover et al. (2017)

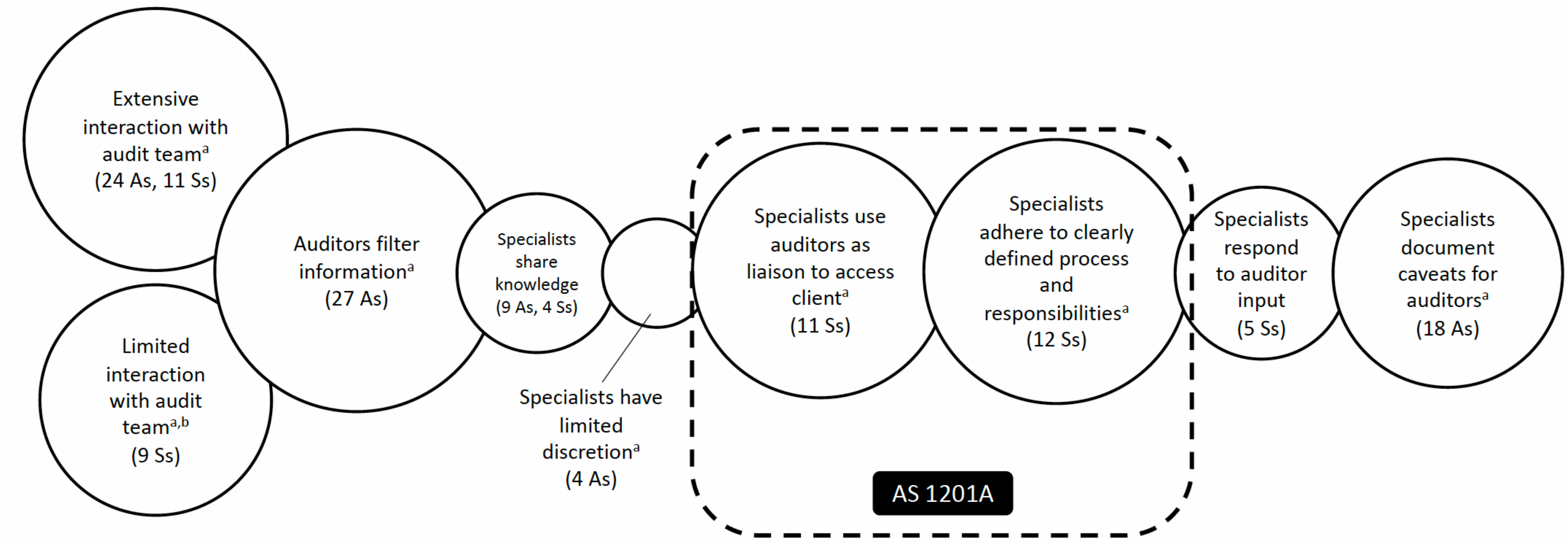
FIGURE 3: Evidence Evaluation during Fieldwork



Notes:
The size of the circles reflects the prominence of each practice relative to the others based on the number of interviewees to discuss it (shown in parentheses, n = 28 auditors denoted as A). Practices addressed by the original or amended standards are overlaid to denote which standard(s) address them.

Superscripts in the figure denote prior research that reports a similar practice that this study triangulates and/or expands upon. Papers are denoted as follows:
[a] Griffith (2020)
[b] Griffith et al. (2015)

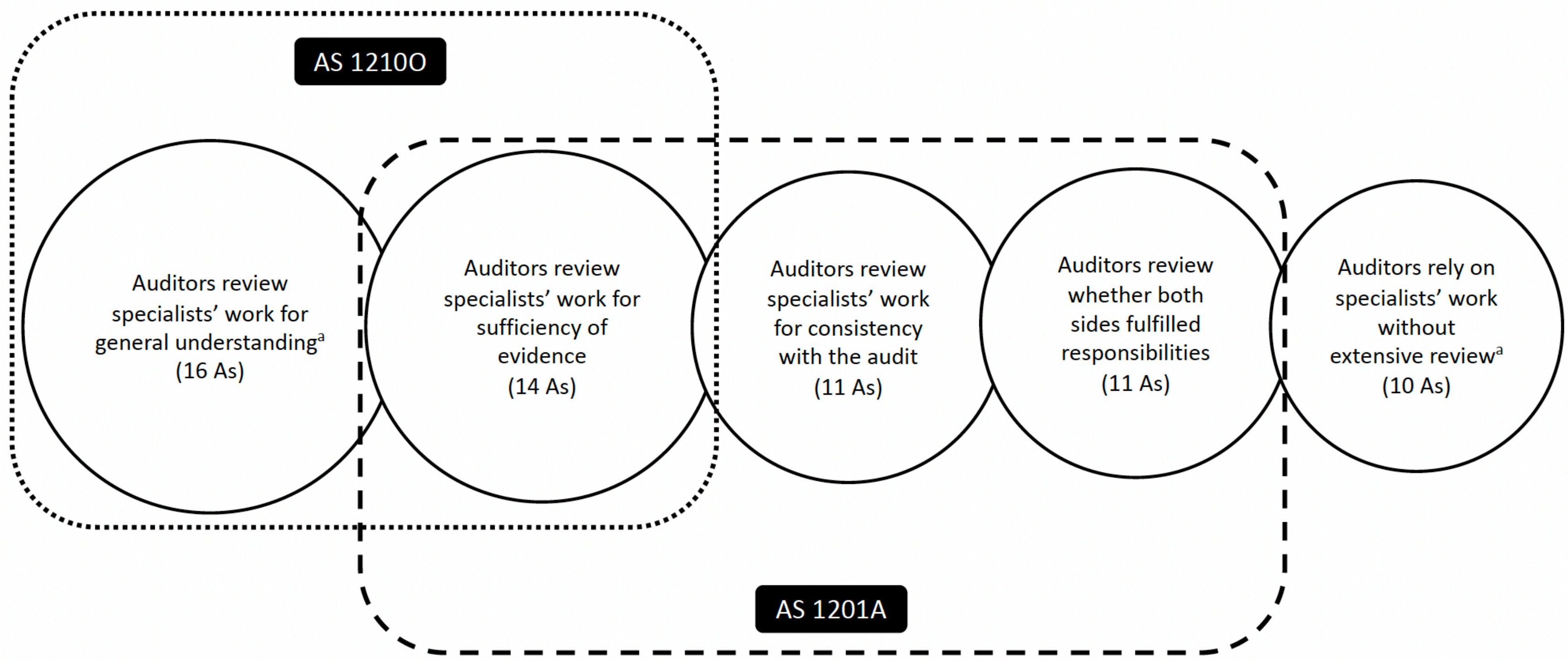
FIGURE 4: Interaction and Communication during Fieldwork



Notes:
The size of the circles reflects the prominence of each practice relative to the others based on the number of interviewees to discuss it (shown in parentheses, n = 28 auditors denoted as A, 14 specialists denoted as S). Practices addressed by the original or amended standards are overlaid to denote which standard(s) address them.

Superscripts in the figure denote prior research that reports a similar practice that this study triangulates and/or expands upon. Papers are denoted as follows:
[a] Griffith (2020)
[b] Griffith et al. (2015)

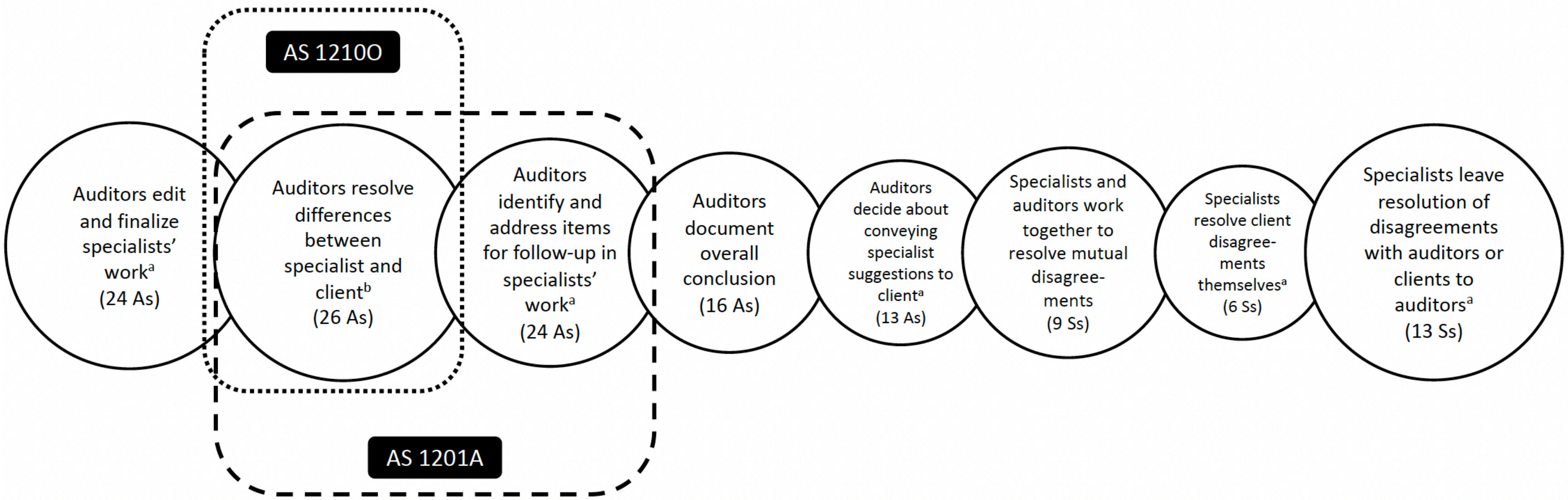
FIGURE 5: Review of Specialists' Work during Completion



Notes:
The size of the circles reflects the prominence of each practice relative to the others based on the number of interviewees to discuss it (shown in parentheses, n = 28 auditors denoted as A). Practices addressed by the original or amended standards are overlaid to denote which standard(s) address them.

Superscripts in the figure denote prior research that reports a similar practice that this study triangulates and/or expands upon. Papers are denoted as follows:
[a] Griffith (2020)

FIGURE 6: Other Completion Procedures



Notes:
The size of the circles reflects the prominence of each practice relative to the others based on the number of interviewees to discuss it (shown in parentheses, n = 28 auditors denoted as A, 14 specialists denoted as S). Practices addressed by the original or amended standards are overlaid to denote which standard(s) address them.

Superscripts in the figure denote prior research that reports a similar practice that this study triangulates and/or expands upon. Papers are denoted as follows:
[a] Griffith (2020)
[b] Smith-Lacroix et al. (2012)

TABLE 1
Individual interviewee details

Note: This table is reproduced from Griffith (2020), which uses the same data set to examine professional competition and the development of trust between auditors and specialists.

Panel A: Audit partners

ID	Rank[a]	Years of experience	Primary industry(ies)	Type of estimate discussed	% of engagements in past year that involved valuation specialist	Big 4 firm?
P1	Partner	20	Private companies	Auction rate securities	13%	Yes
P2	Partner	30	Non-profit; Higher education	Alternative investments	10	Yes
P3	Partner	25	Financial services	Portfolio securities	39	Yes
P4	Partner*	32	Financial services	Private equity investments	75	Yes
P5	Partner*	35	Insurance	Portfolio securities	100	Yes
P6	Partner	20	Non-profit; Health care	Alternative investments	60	Yes
P7	Partner	18	Financial services	Goodwill	100	Yes
P8	Partner	22	Real estate	Goodwill; Land impairment	80	Yes
P9	Partner	22	Insurance	Alternative investments	100	Yes
P10	Managing director*	17	Benefit plans; Consumer goods	Alternative investments	25	No
P11	Partner	12	Technology	Customer lists	67	No
P12	Partner*	30	Non-profit; Consumer goods	Goodwill; Franchise rights	25	No
P13	Partner*	19	Real estate	Real estate; Impairment	71	Yes
P14	Partner	15	Consumer goods; Manufacturing	Goodwill	40	Yes
P15	Partner*	27	Insurance; Financial services	Real estate	80	No

[a] Interviewees whose ranks are marked with an asterisk also have technical consultation responsibilities at the local, regional, or national level.

Panel B: Audit managers

ID	Rank[b]	Years of experience	Primary industry(ies)	Type of estimate discussed	% of engagements in past year that involved valuation specialist	Big 4 firm?
M1	Manager	5	Consumer goods	Trademark; Goodwill	60%	Yes
M2	Senior manager	13	Insurance	Alternative investments	17	Yes
M3	Manager	7	Non-profit; Manufacturing	Alternative investments	40	Yes
M4	Senior manager	12	Real estate	Real estate investments	60	Yes
M5	Senior manager	12	Technology	Goodwill	83	Yes
M6	Manager	7	Consumer goods	Goodwill; Land impairment	100	Yes
M7	Senior manager	10	Consumer goods; Manufacturing	Goodwill	80	No
M8	Senior manager*	9	Consumer goods	Trademark; Customer lists	80	No
M9	Manager	6	Technology; Manufacturing	Goodwill	42	No
M10	Manager	9	Benefit plans	Trademark	24	No
M11	Manager	7	Non-profit; Technology	Contingent liabilities	90	No
M12	Senior manager*	14	Consumer goods; Manufacturing	Real estate	50	Yes
M13	Senior manager	9	Financial services; Consumer goods; Manufacturing; Technology	Real estate; Allowance for loan losses	83	No

[b] Interviewees whose ranks are marked with an asterisk also have technical consultation responsibilities at the local, regional, or national level.

Panel C: Valuation partners/directors[c]

ID	Rank[d]	Years of experience	Primary industry(ies)	% of time in past year spent assisting audit teams[e]	CPA?	Audit experience (years)	Level of involvement with audit team	Big 4 firm?
P1	Partner*	17	Life sciences and biomedical technology; Consumer goods	35%	Yes	0.25	Regional	Yes
P2	Director*	8	Private equity	**	No	2	National	Yes
P3	Director*	30	Business combinations	38	Yes	2	National	Yes
P4	Partner*	29	Business combinations	**	Yes	0	National	Yes
P5	Director*	20	Financial services	**	Yes	1	Regional	No
P6	Director*	9	Consumer goods	50	No	0	National	No
P7	Director	10	Financial services	50	No	0	Local, regional	No
P8	Director	20	Business combinations	28	No	0	Local	Yes
P9	Director	14	Business combinations	30	No	0	Regional	Yes

[c] Director is a rank equivalent to partner in certain firms' valuation practices.
[d] Interviewees whose ranks are marked with an asterisk also have technical consultation responsibilities at the local, regional, or national level.
[e] Three interviewees, denoted with **, do not currently serve clients because of their regional or national leadership roles. Thus, they cannot provide meaningful responses about their percentage of time assisting audit teams in the past year.

Panel D: Valuation managers

ID	Rank[f]	Years of experience	Primary industry(ies)	% of time in past year spent assisting audit teams	CPA?	Audit experience (years)	Level of involvement with audit team	Big 4 firm?
M1	Manager*	6	Energy	28%	No	0	National	Yes
M2	Manager	8	Telecommunications; health care	50	No	0	Regional	No
M3	Senior manager	8	Life sciences and biomedical technology	35	No	0	Regional	Yes
M4	Manager	7	Business combinations; Consumer goods	50	No	0	Regional	Yes
M5	Manager	7	Financial services	29	Yes	1.5	Regional	Yes

[f] Interviewees whose ranks are marked with an asterisk also have technical consultation responsibilities at the local, regional, or national level.

TABLE 2
Interviewee demographics[a]

Note: This table is reproduced from Griffith (2020), which uses the same data set to examine professional competition and the development of trust between auditors and specialists.

Panel A: Auditor interviewee characteristics

	Partner	Manager	Combined
Number	15	13	28
Number with technical consultation responsibilities	6	2	8
Average experience (years)	22.9	9.2	16.6
Range of experience (years)	12 – 35	5 – 14	5 – 35
Number of firms represented	6	6	6
Number of cities represented	3	2	4
Number of industries represented[b]	11	7	12
Number discussing Level 2 fair value estimates	7	3	10
Number discussing Level 3 fair value estimates[c]	15	13	28
Average percentage of engagements in past year that involved a valuation specialist	59%	62%	61%
Range of percentage of engagements in past year that involved a valuation specialist	10 – 100%	17 – 100%	10 – 100%

[a] Additional details by interviewee (years of experience, type of estimate discussed, etc.) appear in Table 1.
[b] Based on interviewees' primary client industries. The 12 unique industries identified by interviewees include: benefit plans, consumer goods, financial services, health care, higher education, insurance, manufacturing, non-profit organizations, private entities, real estate, technology, and valuation services.
[c] Some interviewees discussed experiences in which both Level 2 and Level 3 fair values were present. Thus, the total of Level 2 and 3 combined is greater than the number of interviewees.

Panel B: Valuation specialist interviewee characteristics

	Partner/Director	Manager	Combined
Number	9	5	14
Number with technical consultation responsibilities	6	1	7
Average valuation experience (years)	17.4	7.0	13.7
Range of valuation experience (years)	9 – 30	6 – 8	6 – 30
Number with accounting degree (bachelor's or master's)	4	2	6
Average audit experience (years)	0.6	0.3	0.5
Range of audit experience (years)	0 – 2	0 – 1.5	0 – 2
Number of firms represented	5	3	5
Number of cities represented	5	4	6
Number of industries represented[d]	4	7	8
Number discussing Level 2 fair value estimates	5	1	6
Number discussing Level 3 fair value estimates[e]	9	5	14
Average percentage of time in past year spent assisting audit teams	38%	38%	38%
Range of percentage of time in past year spent assisting audit teams	28 – 50%	28 – 50%	28 – 50%

[d] Based on interviewees' primary industry focus. The eight unique industries identified by interviewees include: life sciences and biomedical technology, consumer goods, private equity, business combinations, financial services, energy, health care, and telecommunications. Some interviewees identified more than one industry focus.
[e] Some interviewees discussed experiences in which both Level 2 and Level 3 fair values were present. Thus, the total of Level 2 and 3 combined is greater than the number of interviewees.

Panel C: Audit firm characteristics[f]

	Firm Type	
	Big 4 (n = 18)	**National** (n = 10)
Use only auditor-employed valuation specialists	18	4
Use only auditor-engaged valuation specialists	0	2
Use both auditor-employed and auditor-engaged valuation specialists	0	4
	18	10

[f] Only auditors provided these data.

TABLE 3
Problems encountered by auditors and specialists in fair value audits

Problem	**Number of auditors (n = 28)**	**Number of specialists (n = 14)**	**Audit area(s) affected**
Coordination between specialist and auditor	22	10	Factors considered during planning Other completion procedures
Information flow and coordination with client and client's third party	19	7	Evidence evaluation during fieldwork Other completion procedures
Differences in perspective between specialist and auditor	17	8	Interaction and communication during fieldwork
Uncertainty regarding what constitutes sufficient evidence from specialist	11	1	Review of specialists' work during completion
Uncertainty regarding responsibilities of specialist and auditor	9	3	Evidence gathering during fieldwork Review of specialists' work during completion
Acceptability of multiple points of view	9	2	Review of specialists' work during completion
Lack of valuation guidance from firms, regulators, and valuation industry	0	6	Evidence gathering during fieldwork
Concerns about PCAOB inspections and related risks	0	5	Evidence gathering during fieldwork