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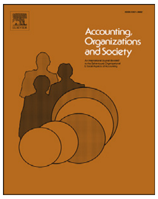

You can't get there from here: The influence of an audit partner's prior non-public accounting experience on audit outcomes☆

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ABSTRACT

We examine the importance of audit partners' prior non-public accounting experience (hereafter, “industry experience”) to audit outcomes. We conducted 20 (nine) semi-structured interviews of audit partners with (without) industry experience. These interviews shed light on industry-experienced partners’ career path choices, perceptions of the challenges and benefits stemming from industry experience, and perceptions of how this experience influences their current audit work. Grounded in theory and the results of these interviews, we empirically examine using a unique hand-collected dataset whether audit partners with industry experience conduct higher quality and more efficient audits. Our evidence implies that industry experience is associated with both higher audit quality and greater efficiency. In additional analyses, we examine the influence of potential mechanisms for these observed associations and find some evidence that the nature and timing of this experience matters. Specifically, actual first-hand experience in major oversight positions among boomerang auditors plays an integral role in the quality of the audits that these partners deliver, while experience in a major oversight position or specialized industry in which the partner audits translates into greater efficiencies.

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1. Introduction

Experimental research suggests that an auditor's ability to evaluate situations and evidence from different perspectives can enhance audit judgments by enabling auditors to better anticipate managers' behavior and actions, thereby reducing the likelihood of succumbing to common biases (Galinsky & Mussweiler, 2001; Trotman, Wright, & Wright, 2005; Church, Peytcheva, Yu, & Singtokul, 2015). The efficacy of objective perspective taking, however, largely hinges on having directly experienced the counterparts' incentives and viewpoints (Altiero, Kang, & Peecher, 2021). First-hand experience outside public accounting should improve the efficacy of auditors' perspective taking and enhance their ability to identify and properly respond to risks of material misstatement. However, it may also engender greater empathy toward client goals and pressures, making auditors more lenient on accounting matters involving judgment (Dawson, Soper, & Pettijohn, 1992), or dull auditing skills, thereby undermining these partners' monitoring performance.

In this study, we analyze the role that audit partners' prior non-public accounting experience (hereafter, “industry experience”) plays in audit outcomes.[1] We conduct 20 semi-structured interviews of 12 Big 4 and eight mid-tier firm audit partners with

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[1] The term “industry experience” refers to work experience outside the public accounting profession, not necessarily to any specific business industry.

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industry experience outside public accounting.[2] In order to provide a balanced perspective, we also conduct nine semi-structured interviews of audit partners who have spent their entire career in public accounting but have worked with or evaluated partners with industry experience. These interviews provide insights into industry-experienced partners' career path choices, perceptions of the challenges and benefits stemming from this experience, and perceptions of how this experience influences their current audit work. We rely on theory, evidence from prior work, and the collective insights elicited from these interviews to guide the development of our hypotheses and the design of the empirical tests using archival data (Bills, Cobabe, Pittman, & Stein, 2020; Donelson, Ege, Imdieke, & Maksymov, 2020; Downar, Erstenberger, and Koch 2020; Lambert, Jones, Brazel, & Showalter, 2017; Soltes, 2014).

Although most of the interviewed partners with industry experience stated they were more empathetic toward client pressures and some viewed themselves as a trusted client advisor, we observed ample consistency among respondents that their experience enhanced their ability to evaluate and respond to risk, ask the right questions, and proactively coordinate with the client to avoid delays in client assistance, reduce burdens on client personnel during busy periods, and avoid surprises late in the audit process. Responses from the partners without industry experience also exhibited a high degree of consistency, corroborating the views expressed by industry-experienced partners. They perceive that industry experience is conducive to developing greater empathy toward clients, a broad business perspective, and an enhanced understanding of risk and client incentives. Collectively, the responses were constructive for developing testable predictions on the effectiveness and efficiency of these partners' audits.

To assemble our sample for the empirical analyses, we collect data on engagement partner identities from the PCAOB Form AP disclosure for all public company audit reports issued on or after January 31, 2017 and identify relevant industry experience using professional networking website profiles and other sources. After assembling this unique hand-collected dataset, we find that approximately five percent of individual audit partners in the eight largest U.S. audit firms that serve publicly traded clients have industry experience.

We initially examine whether audit partners with industry experience are associated with various outcome measures of audit quality (i.e., incidence of misstatements, probability of meeting or just beating analyst earnings forecasts, and discretionary accruals) and financial reporting timeliness likely influenced by audit efficiency (i.e., the likelihood of the client filing a non-timely 10-K notification, audit report lag, and earnings announcement lag). Our models control for audit partner, audit firm, and client characteristics, as well as industry and year fixed effects. In separate estimations, we employ entropy balancing to equally weight the observable characteristics of these partners and their clients with those of partners without industry experience.

Our empirical evidence implies that although partners' industry experience has no perceptible impact on their clients' discretionary accruals, these partners' clients exhibit a lower likelihood of misstatement and meeting or just beating analyst earnings forecasts. In terms of economic magnitudes, the presence of an engagement partner with industry experience translates into a predicted probability of misstatement (meeting or beating analyst EPS forecasts) that is 31.7 (31.1) percent lower relative to having an engagement partner without industry experience. Shifting to efficiency, we find evidence implying that having an engagement partner with industry experience results in a lower likelihood of clients filing an NT 10-K and shorter audit report and earnings announcement lags. In terms of economic magnitudes, we find that the presence of an engagement partner with industry experience results in a predicted probability of filing an NT 10-K that is 45.3 percent lower relative to the presence of an engagement partner without industry experience. Audit report (earnings announcement) lags of clients audited by partners with industry experience are 1.5 (1.6) days shorter than those of clients audited by other audit partners, representing a 2.5 (3.2) percent decrease relative to the sample mean. Altogether, our evidence supports the narrative that partners who have chosen a career path that involves acquiring industry experience are associated with higher quality and more efficient audits.

Our interviews and inspection of the descriptive data reveal heterogeneity in the nature and timing of these partners' industry experience as well as insights into potential mechanisms behind any differences in audit outcomes. Accordingly, we explore in additional analyses whether audit quality and efficiency differ based on various facets of the industry experience such as the timing of the industry experience (e.g., boomerangs—defined as auditors who begin their career in public accounting, leave to take an industry position, and later return to public accounting—and auditors who begin their career in industry), the type/level of industry experience, a combination of the timing and type/level of industry experience, and whether the experience was in a specialized industry in which the partner conducts audits. The results of these analyses suggest that the nature and timing of this experience matters. Specifically, we find that actual first-hand experience in major oversight positions among boomerang auditors plays an integral role in the quality of the audits that these partners deliver. We also find evidence implying that experience in a major oversight position or in a specialized industry in which the partner operates translates into greater efficiencies.

Importantly, insights from the interviews of audit partners who have spent their entire career in public accounting but have worked with or evaluated partners with industry experience indicate no perceptible differences in partner selection/assignment and staffing allocations. Although these potential sources of endogeneity are less likely to pose a major threat to reliable inference based on the interview responses, we supplement our association-based tests with alternative empirical analyses designed to improve identification. The results from these tests provide corroborating evidence of the impact of industry experience on various audit outcomes. However, it is important to stress that data constraints stemming from the short time-series under study prevent us from drawing strong inferences from these tests.

We contribute to extant research in several ways. First, we shed light on partners' career path choices, the perceived challenges and benefits arising from industry experience, and the perceptions of how this experience influences their current audit work. Second, in complementing this interview evidence and prior experimental research (Church et al., 2015; Trotman et al., 2005), we report archival evidence suggesting that partners who have chosen a career path that involves accumulating industry experience are associated with higher quality and more efficient audits. Finally, consistent with insights garnered from the interviews, we find some evidence that the nature and timing of this experience matters.

These findings also have practical relevance. Many of the large accounting firms devote considerable resources to maintaining relationships with audit firm alumni. Indeed, firms' recruiting directors assert that auditors who return, after having spent time in industry, bring back "stronger knowledge, a broader sense of experience, a broader skill set" to the firm (Hyland, 2006). While we recognize that our empirical analyses are subject to certain limitations, the evidence lends some support validating efforts made by large accounting firms to recruit recently departed auditors who have developed experience in key financial reporting oversight positions, as well as auditors who have acquired experience outside public accounting in specialized industries (Badal, 2006; Deloitte, 2011). Although the frequency of lead engagement partners with industry experience is low, the observed associations we document underscore the potential benefits of industry experience, particularly since these non-traditional career paths have become more common in recent years.[3]

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[2] Institutional Review Board approval was received prior to conducting the interviews. The study was marked exempt by the IRB. Please refer to Appendix B for the semi-structured interview protocol.

The rest of the paper is organized as follows. Section 2 describes our semi-structured interviews and reviews prior research to develop the motivation for our testable predictions. Section 3 outlines our research design. Section 4 describes the sample, empirical results, and supplemental and sensitivity analyses, while Section 5 concludes.

2. Motivation and Hypothesis development

2.1. Interview evidence

Prior research highlights the importance of incorporating field evidence into archival research to develop a richer understanding of the setting by communicating directly with individuals involved in the phenomena (Soltes, 2014). Consistent with recent work implementing a multi-method approach to analyzing research questions (e.g., Bills et al., 2020; Donelson et al., 2020; Downar, Ernstberger, & Koch, 2020; Lambert et al., 2017), we conducted 20 (nine) semi-structured interviews with audit partners with (without) industry experience. We identified audit partners with industry experience by conducting online searches for information on partners auditing public companies during our sample period. Next, we contacted these audit partners via connections on a networking website or via email. To identify partners without industry experience who either worked with or evaluated partners with industry experience, we began by contacting audit partners with industry experience whom we had interviewed earlier. To increase the pool of both types of audit partner interviewees, we also used university and personal connections to solicit additional audit partners that met our criteria. In several cases, this led to referrals. This process resulted in the identification of 20 partners with industry experience and nine partners without industry experience who either worked with or evaluated partners with industry experience (five of whom worked with partners we interviewed who have industry experience).

Fourteen of the 20 participants with industry experience are included in our archival data sample.[4] Approximately 80 percent of the interviews were jointly conducted by two coauthors, with the remaining 20 percent conducted by a single coauthor. The interviews with industry-experienced partners ranged from 35 to 90 min, averaging 50 min, while interviews with partners without industry experience ranged from 20 to 38 min, averaging 26 min. All interviews were held virtually using video conferencing technology, recorded and transcribed for accuracy. We determined that we had reached saturation based on no new themes having been identified in subsequent interviews (Guest, Bunce, & Johnson, 2006). This was the case after the 15th (4th) interview with partners with (without) industry experience evident in no new themes emerging in the remaining interviews.

In the semi-structured interviews, we asked the partners with industry experience a series of open-ended questions about their career path to probe the reasons for transitioning into and out of public accounting (as applicable), the nature of their industry work, the challenges and benefits of their industry experience, and whether they perceive that their industry experiences affects the efficiency and effectiveness of their audit work. We asked the partners without industry experience about their experience working with or evaluating audit partners with industry experience and their perceptions of how industry experience influences audits. Besides providing a more balanced perspective on the role that industry experience plays in shaping audit outcomes, these interviews also alleviate concerns about potential sources of endogeneity stemming from client assignments, clients' preferences for partners, and engagement staffing allocations. For instance, eight of the nine interviewees noted that there were no systematic differences in client preferences or in client assignments based on industry experience. Although several interviewees mentioned that experience in a specialized industry is definitely considered when identifying potential engagement partner candidates for clients in those specialized industries, there was hardly any distinction according to whether this experience was acquired externally (i.e., outside public accounting) or internally (i.e., within public accounting). Additionally, all nine interviewees noted that partners' industry experience was irrelevant to staffing decisions. Rather, staffing decisions are primarily based on client type, size, and risk. Although engagement partners have some input into the assignment of senior managers and managers to the engagement team, they typically choose based on availability and auditing experience in certain client industries. In short, concerns about client assignment, partner selection, and staffing decisions are unlikely to pose a significant threat to reliable inference in subsequent empirical analyses.

In Appendix B, we outline the full interview protocol. We asked participants to provide examples and probed further on certain questions to elicit deeper responses. Afterward, we developed an initial version of the coding scheme for each type of participant (according to whether they had industry experience) including categories for potential responses to each question. Based on an initial test coding of the interviews, we made minor modifications to the coding scheme by combining or adding response categories. Two of the authors coded the responses independently, and then reconciled all remaining differences. The initial inter-coder agreement for the coding of all 29 interviews prior to reconciliation averaged 85 percent and Cohen's Simple Kappa = 0.67, implying an acceptable level of reliability (Landis & Koch, 1977, pp. 159–174).

In Table 1, we report information about the interview participants. All participants currently serve or have served as partners on audits of SEC issuer clients. Among the 20 participants with industry experience, 60 percent (40 percent) are Big 4 audit partners (mid-tier non-Big 4 partners); 75 percent (25 percent) are boomerangs (industry starters, i.e., auditors who initially worked outside public accounting before switching to public accounting practice); 70 percent held a key financial reporting role; and 80 percent (20 percent) are male (female). Among the nine participants without industry experience, 67 percent (33 percent) are Big 4 (mid-tier non-Big 4) audit partners and 67 percent (33 percent) are male (female). Five of the nine participants without industry

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[3] For example, recruiting boomerangs is a major emerging hiring trend (https://ringsidetalent.com/5-accounting-hiring-trends-to-watch-out-for-during-2018/). At EY, 30% of its experienced hires are former employees (https://www.efinancialcareers.com/news/2016/06/boomerang-employees-pros-and-cons-of-going-back-to-a-former-job).

[4] The six partners not included in our sample either did not sign audit opinions of publicly traded companies during our sample period (e.g., one was an IT audit partner, one was an audit partner who had transitioned to the advisory practice, and one retired prior to our sample period) or their audit clients did not have available data necessary for our tests.

Table 1
Semi-structured interview participant demographics.

Panel A: Participants with Non-Public Accounting Experience

ID	Big 4	Boomerang	Key Role	Industry Years	Public Co.	Male	Interview Length in Minutes	In Archival Sample?
1	0	1	0	1	0	1	90	1
2	0	0	0	5	0	1	50	1
3	1	1	1	3	0	0	45	1
4	0	1	0	3	0	1	45	1
5	0	1	1	1	1	1	90	0
6	0	1	1	1	1	1	35	1
7	0	1	1	4	1	1	45	1
8	1	0	1	4	1	1	45	0
9	0	1	1	1	0	1	45	0
10	1	0	0	3	1	1	43	0
11	1	1	1	6	1	1	41	0
12	0	1	1	4	1	0	31	1
13	1	1	1	3	1	1	50	1
14	1	1	1	1	0	1	35	1
15	1	0	0	3	1	1	51	1
16	1	0	0	3	1	1	55	1
17	1	1	1	2	1	1	35	0
18	1	1	1	4	1	0	45	1
19	1	1	1	3	1	0	45	1
20	1	1	1	10	1	1	60	1
Total Average	**12 60%**	**15** **75%**	**14** **70%**	**3.25 yrs.**	**14** **70%**	**16 80%**	**49 min.**	**14** **70%**

Panel B: Participants with Public Accounting Experience Only

ID	Big 4	Male	Interview Length in Minutes	Colleague of Interviewed Industry Exp Partner
21	1	1	38	Y
22	1	1	37	N
23	1	0	22	N
24	1	0	20	Y
25	0	1	27	Y
26	1	1	22	Y
27	1	1	21	N
28	0	0	22	N
29	0	1	21	Y
Total Average	**6** **67%**	**6** **67%**	**26 min.**	**5** **56%**

experience were direct colleagues of interviewees with industry experience.

We began by asking partners with industry experience to describe their careers paths so that we could better grasp why they chose to start their career in industry or, alternatively, leave public accounting for an industry position. The interviewees who started their careers in industry (five interviewees) did so because they were either not traditional accounting majors (60 percent) or did not receive offers in public accounting firms straight out of college (40 percent). Among the boomerangs (15 interviewees), the most common reasons for leaving public accounting to take an industry role included a desire for more work-life balance due to personal or family considerations (e.g., recently had children) and/or fatigue from long hours spent in public accounting (67 percent), to take advantage of what they perceived as good career opportunities (73 percent), and a desire to try something different (60 percent).[5] When we asked boomerangs why they chose to return to public accounting, they frequently stressed that they missed the variety of challenges, diversity of clients, and interacting with smart and driven people (35 percent), and more opportunities for career progression (45 percent). Several indicated they returned since they did not feel sufficiently challenged, stating that their industry responsibilities were too routine or repetitious (30 percent). Although some recounted that they worked fewer hours in their industry positions, they perceived that their employer provided less flexibility in the form of where and when they worked as well as in granting paid leave (10 percent).

Partners without industry experience provided similar responses to these questions. When asked why boomerangs leave public accounting, five of the nine (56 percent) mentioned a desire for more work-life balance, while four (44 percent) thought that they left to pursue attractive career opportunities. With regard to returning to public accounting, 56 percent indicated that the boomerangs did not feel sufficiently challenged in their industry roles; 44 percent indicated that they missed the variety of challenges, diversity of clients, and interacting with smart and driven people; and 28 percent suggested they returned due to limited career growth (e.g., inflexible schedules) outside of public accounting.

In the next section, we combine themes that emerged from our interviews, supported by illustrative quotes, with prior theory and evidence to develop the rationale underlying our predictions on the association between an audit partner's industry experience and audit quality and efficiency.

2.2. *Hypothesis development*

Extensive prior research documents various cognitive benefits stemming from sound perspective taking (Davis, Conklin, Smith, & Luce, 1996; Galinsky & Moskowitz, 2000; Galinsky & Mussweiler, 2001; Galper, 1976; Johnson, 1967; Johnson & Johnson, 1991; Regan & Totten, 1975; Sessa, 1996). In an auditing context, the ability to effectively consider an auditor's own frame of reference as well as that of a manager, investor, or regulator can result in improved judgments by reducing anchoring effects and confirmation bias (Galinsky & Mussweiler, 2001). This can help auditors to better evaluate audit evidence, which can lead to higher quality audit judgments and outcomes.

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[5] The reasons for leaving public accounting were not necessarily mutually exclusive.

Actual experience in accounting and reporting roles enables auditors to acquire a deeper understanding of situational incentives, which provides a basis for auditors to carefully weigh managers' reporting choices, including the likelihood of reporting biases. This can enhance auditors' perspective taking by ensuring that they become more sensitive to situational factors that affect managers' reporting choices, most notably managers' incentives. Prior economics research implies that successful perspective taking serves to amplify the salience of the counterpart's incentives (e.g., Fiske, Taylor, Etcoff, & Laufer, 1979; Wyer, Srull, Gordon, & Hartwick, 1982). The increased salience directs auditors' attention to managers' incentives and provides unique insight into how managers might reason and act.

Prior experimental research provides some supportive evidence that manager perspective taking influences audit outcomes. Trotman et al. (2005) perform an experiment with 45 audit managers and partners to assess the efficacy of different intervention methods in auditor-client negotiations. They posit that role-taking (i.e., assuming the client's position in a mock negotiation) improves negotiation results because this intervention requires direct experience in considering and arguing the client's position. Consistent with their prediction, they find that participants assigned to the role-taking intervention exhibited an enhanced negotiation outcome evident in a larger write-down of obsolete inventory. In an experimental economics study, Church et al. (2015) examine whether role-taking experience stimulates auditors' perspective taking. They argue that experience as a manager (outside public accounting) should improve auditors' ability to understand managers' viewpoints, which can facilitate anticipating managers' behavior. In their experiment using 58 student participants, they manipulate auditors' prior experience in the manager's role (experience vs. no experience) and find that participants in the experience condition more accurately estimate managers' reported earnings and make decisions that improve financial reporting quality.

Many of our interview responses support this view. In fact, 30 percent of the interviewees with industry experience specifically mentioned that they had a better understanding of manager motives, incentives, and pressures, while 65 percent stated that their experience helped hone their ability to understand motives and incentives as well as to evaluate and respond to risk, which is evident in these quotes:

> It was being on the inside of a company that you can really get an idea as to the types of things that motivate people. You know why people do the things that they do. You get a better understanding from a perspective of competencies and who it is that you want to talk to if you want the real story. It's just about asking a few questions and figuring out what makes them tick. (Interviewee 1)
>
> If you have both kinds of operational experience, then pairing the two together helps you understand not only the process, but where the risk is in the process … better than somebody that has not had that experience. (Interviewee 2)
>
> I think I was better at identifying where risk was and what mattered. (Interviewee 3)
>
> It has informed my risk assessment. (Interviewee 19)
>
> The industry experience changed my perspective. When I was on the other side dealing with auditors, I often thought that they are spending their time on risks and issues that were not as important; auditors sometimes missed the boat on risk assessment; they were not asking about the right holes/issues. (Interviewee 13)

Five of the nine partners without industry experience (56 percent) shared these views as evident in the following quotes:

> I think [it will] probably help give you some different perspective. One thing you might learn, I guess being on the private side, [is that you] get a sense of where [there] might be additional risk that we might not know, and that's probably what I will think will help them. (Interviewee 26)
>
> He has the ability I'd say, better than some of our other partners, to determine what's risk and what's not risk, and make good judgments based on his risk assessments. (Interviewee 27)
>
> They definitely bring a different perspective; I think their outside perspectives [are] helpful because they bring a different risk perspective, they basically bring the risk of the CFO, how is the CFO thinking about the quarter versus how is the auditor thinking about the quarter and oftentimes, the way the standards work, the way the profession works, we're very focused on a process right; often results in a more pragmatic response, so [they're] less focused on the process and more on the outcome and so it's not about how they got there, it's not about why they got there, it's whether what they got was more, whether you could live with it. (Interviewee 21)

According to the interviewees with industry experience, part of the enhanced ability to assess risk reflects a deeper understanding of processes and controls (85 percent) and a broader understanding of the business and business risks (75 percent). These quotes illustrate this point:

> And understanding how things come together in consolidations, how journal entries get posted, how they get recorded. What's the analysis you have to do to get all those things right. They [auditors without industry experience] don't know how to do that. They just haven't seen it come from … the flow from the accounts payable department to the financial record to the integration between your AP module to your ERP system … They've audited it but they haven't done it, and you see it very differently when you have done it because you can see where things go wrong. (Interviewee 5).
>
> After having spent time in industry, I had a much more of a refined businessperson's approach to looking at things. Looking at relationships between accounts and understanding how that relationship should function to identify things that aren't functioning in the expected way. I would say that's an important element of my second lap around the track in public accounting that was probably different than my first. From the perspective of being there running the business and what you should expect based on those experiences versus kind of being the outsider looking in as an auditor and maybe not having as much of a focus on the true business reasons why certain trends and relationships are what they are and why they may change over time. (Interviewee 8)

All nine partners without industry experience shared this sentiment with one partner stating:

> My overall sense was that people that had spent time in industry had more of a business perspective, whereas I think some people that are in public accounting their whole career take more of a, this is the accounting issue, these are the accounting standards, whereas I think people that have been in private, they had more of a business perspective, what was the client trying to accomplish not just the accounting treatment … I'd say those people tended to be viewed by clients as more a little more focused on the business side of their business. (Interviewee 22)

Based on these statements and the results from experimental research outlined earlier, we expect that industry experience will enhance auditors' understanding of managers' motivations, incentives, and pressures, as well as their understanding of business processes and risk, thereby enabling them to more effectively evaluate and address risks leading to better audit judgments and higher audit quality (all hypotheses are stated in alternative form):

Hypothesis 1a. Audit partners with industry experience deliver higher audit quality than audit partners without industry experience.

Although our arguments justify formulating a directional Hypothesis, we may fail to observe supportive evidence on this front. Importantly, first-hand experience in accounting and reporting roles may elicit empathy toward client goals and pressures. In fact, 55 (67) percent of the partners with (without) industry experience indicated that industry experience engenders greater empathy toward clients. While empathy can help bolster a working relationship with the client, it can also potentially lead to auditors becoming more lenient by allowing clients wider discretion over accounting policies and estimates.[6] Psychology research in marketing lends support to this intuition. Dawson et al. (1992) find that a greater degree of empathy among used car sales representatives is associated with reduced effectiveness, measured with sales performance. Responses from the interviewees reinforce this tension. Below we highlight some quotes corroborating this alternative perspective:

> The big takeaway there I think is kind of empathy for the CFO. My clients have a million priorities. GAAP financial reporting is somewhere on the list, but not necessarily right at the top of the list every day. (Interviewee 2)
>
> Being on the other side of that discussion I think probably helped me a lot with how to use some level of empathy. (Interviewee 1)
>
> I have empathy for people's position and what they're facing. (Interviewee 5)

To the extent that empathy induces leniency on accounting matters involving judgment, more empathy for the client could offset any benefits associated with improved perspective taking. Apart from the influence of greater empathy, four of the nine partners without industry experience (44.4 percent) suggested that partners with adequate experience in a client industry (acquired internally through public accounting) can eventually reach a similar level of perspective and risk assessment as those with industry experience. Seven of the nine partners without industry experience (77.8 percent) did not perceive a difference in audit quality between partners with and without industry experience. In fact, one of the nine partners (11.1 percent) stated that audit quality was perceived as lower among industry-experienced partners. Given the competing forces in play, we may find that industry experience is irrelevant to audit quality.

Next, we examine whether audit efficiency is sensitive to audit partners' prior industry experience. Bamber, Bamber, and Schoderbek (1993: 2) state that “efficiency means the use of fewer inputs to obtain a given output.” Given that partners with industry experience are familiar with the heavy demands that the annual audit can place on client personnel, they may be more proactive in coordinating with client personnel and structuring the audit work plan to meet client deadlines. Since responses from the interviewees were generally consistent with this conjecture, we provide some illustrative comments below:

> I think a big part of what I consider to be my brand is understanding that my clients are not always thinking about the same things I'm thinking about with the same level of urgency and so I'm always trying to get them the information that they need with enough time to react to it and embed into their process or whatever it is that they need to … I think that [my industry experience] helps our clients prepare. (Interviewee 2)
>
> I was more proactive with clients; understood when they were busy; did not wait on client discussions. I didn't want clients to be surprised. (Interviewee 14)
>
> I learned how to work smarter, quickly identify areas of concern and not spin my wheels too long. (Interviewee 3)
>
> I remember I was there being asked for those things during the audit and it was very painful and time consuming. So maybe we can do these things a little bit differently. (Interviewee 9)

Partners without industry experience held similar views. Six of the nine partners (67 percent) recognized that industry experience can enable the auditor to improve their communication with clients, which facilitates efficiently gathering evidence as illustrated by the following quotes:

> They do understand how the inner workings of a corporation work because they actually lived in it, and so they can maneuver the client better than I would say, somebody who does not have that. (Interviewee 24)
>
> [They are good at] getting into the line of the business, talking with the business representatives and understanding what they're thinking. (Interviewee 21)
>
> It's a relationship business so anytime you can communicate and get to the answer quicker, it's going to make them more efficient. They're still constrained by the accounting principles but it's just going to make the road to the audit opinion a lot easier. (Interviewee 24)

Given these viewpoints, our next prediction reflects that more effective interaction and coordination with client personnel should lead to a more efficient audit:

Hypothesis 1b. Audit partners with industry experience deliver more efficient audits than audit partners without industry experience.

Again, although considerable interview evidence justifies forming a directional prediction, we may fail to observe a link between industry experience and audit efficiency for several reasons.

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[6] For instance, interviewee 21, a partner without industry experience, stated: “I certainly do think it [empathy] can be taken advantage of, but I also think it can be a tremendous asset, when you have an empathetic relationship, they're much more transparent about what they're doing because … you find yourself having a more proactive relationship versus a reactive relationship.”

Table 2
Archival sample partner demographics.

Panel A: Frequency of Most Commonly Held Industry Experience Roles

Job Title	Boomerangs	%	Industry Starters	%	Total Frequency	%
CFO	12	16%	0	0%	12	11%
CAO	3	4%	1	2%	4	3%
Controller	13	17%	5	12%	18	16%
VP/director of finance	6	8%	0	0%	6	5%
VP/director of accounting or financial reporting	5	6%	1	3%	6	5%
Assistant Controller	6	8%	3	8%	9	8%
Manager of Accounting/Financial Reporting	10	13%	1	2%	11	10%
Internal Audit	4	5%	1	2%	5	4%
Staff or Senior Accountant	2	3%	6	15%	8	7%
Other (e.g., Consultant, Analyst, Non-Accounting Role)	15	20%	20	48%	35	31%
Unique Partners with Industry Experience in the Sample	**76**	**67%**	**38**	**33%**	**114**	**100%**

Panel B: Years of Industry Experience

Years of Industry Experience	Boomerangs	Industry Starters	Total
Min	1.00	1.00	1.00
Max	8.00	10.00	10.00
Average	2.56	3.24	2.81
Median	2.00	3.00	2.00

Panel C: Boomerangs Only – Years in Public Accounting before Industry Experience

Years in Public Accounting before Industry	Boomerangs
Min	1.00
Max	21.00
Average	7.32
Median	7.00

Panel D: Boomerangs Only – Levels at which left public accounting and returned

Level	No. Left Public Accounting as	%	No. Came Back to Public Accounting as	%
Staff	6	8%	0	0%
Senior	15	20%	0	0%
Manager	15	20%	5	7%
Senior Manager	13	17%	17	22%
Partner	6	7%	15	20%
Undetermined	21	28%	39	51%
Total	**76**	**100%**	**76**	**100%**

Panel E: Boomerangs Only by Firm

Current Firm	No. at Current Firm	%	No. Returned to Same Firm	%	No. Returned to Different Firm	%
PwC	6	8%	3	50%	3	50%
EY	17	23%	13	76%	4	24%
Deloitte	14	19%	14	100%	0	0%
KPMG	7	9%	5	71%	2	29%
GT	17	22%	7	40%	10	60%
BDO	7	9%	4	57%	3	43%
RSM	5	7%	2	40%	3	60%
Crowe	3	4%	3	100%	0	0%
Total	**76**	**100%**	**52**		**24**	

First, clients' predetermined schedules for releasing earnings and filing the annual report heavily influence the audit process, the related timing, and the final audit procedures and evidence necessary to support the audit opinion (Glover, Hansen, & Seidel, 2021). Additionally, while several partners without industry experience perceived efficiency-related benefits stemming from industry experience, one partner without industry experience (Interviewee 28) who has supervised partners with industry experience stated: "where you really see the outcome of efficiency is going to be in their overall economics on their jobs; and I haven't seen any sort of trend with partners that come back."

3. Empirical archival research design

3.1. Measures

3.1.1. Partner industry experience

Our primary explanatory variable of interest reflects whether an audit partner has industry experience. To specify this measure, we begin by determining engagement partner identities for publicly traded companies using the PCAOB Form AP disclosure. On April 30, 2020, the Auditor Search database included 2,888 audit partners affiliated with the eight largest U.S. audit firms (the Big 4 and GT, BDO, RSM, and Crowe). To ascertain whether these partners have industry experience, we undertook online searches based on the partner's name and audit firm. Many of these searches led to professional networking website profiles (e.g., LinkedIn). In the event that these websites lacked complete information, or profiles were not available, we searched for partner profiles on their respective audit firm's website (more typical for the non-Big 4 audit firms), within news press articles, or on nonprofit board websites for boards on which these partners serve. This search process enabled us to determine the industry experience for 2,468 of the 2,888 (85.5 percent) audit partners, mitigating concerns surrounding sample selection bias. Further, we were able to ascertain partner sex, undergraduate alma mater, and undergraduate graduation year for 2,094 of these partners. We find that 122 (5.8 percent) of these partners have industry experience. However, reflecting data availability in Compustat and Audit Analytics and the removal of financial institutions and utilities from our sample in certain estimations, we have to exclude up to 19 of these partners.

We classify partners as having industry experience if their background profile indicates that they formerly worked outside of public accounting. In Table 2 Panel A, we provide a breakdown of the most common roles held by the partners with industry experience based on the timing of the industry experience. We report this information for the 114 audit partners who have client observations in our tests. If partners' industry experience preceded any experience in public accounting, we categorize these individuals as industry starters (33 percent). If partners' industry experience came after any initial experience in an auditing role in public accounting, we categorize these individuals as boomerang auditors (67 percent). We find that the most frequent industry roles are in the “other category,” including consultant, analyst, or non-accounting roles, followed by controller, manager of accounting/financial reporting, CFO, and assistant controller.

In Panel B of Table 2, we focus on the duration of industry experience broken out by boomerangs and industry starters. We find that the average experience is about 3 years for both groups, with a range of one to eight years among boomerangs and one to ten years for industry starters. Next, we provide descriptive information related specifically to boomerang auditors. In Panel C, we find that the average amount of time these auditors spend in public accounting is approximately 7 years before leaving public accounting to take an industry role. Panel D reports descriptive evidence on the level boomerang auditors held upon leaving public accounting and upon later returning to public accounting. Regrettably, data constraints mean that this granular level of detail is only available for approximately 70 percent of the boomerang auditors under study. It is important to highlight that most auditors leave public accounting between their senior and senior manager years. Additionally, we find that auditors returning to public accounting are appointed at the rank of manager or higher (with most returning at the rank of senior manager).

Finally, in Panel E of Table 2, we provide the breakdown of boomerang auditors by audit firm, as well as whether they returned to the same audit firm. Our evidence implies that EY, GT, and Deloitte have the most boomerang auditors that later serve as partners on publicly traded clients. Nearly two-thirds of the boomerangs return to their former audit firm. For EY and Deloitte, 75 and 100 percent of boomerangs are audit firm alumni, respectively.

3.1.2. Audit quality proxies

We follow prior research by relying on several outcome variables to gauge audit quality (DeFond & Zhang, 2014). Our first outcome variable is misstatements (identified through subsequent restatements). Survey evidence in Christensen, Glover, Omer, and Shelley (2016) suggests that auditors and investors perceive financial statement restatements as a leading indicator of low audit quality. Aobdia (2019) finds that misstatements revealed through financial statement restatements exhibit a high correlation with audit deficiencies detected through PCAOB and audit firm quality control inspections. We identify financial statement restatements using the Audit Analytics Non-Reliance Restatement database and use these data to identify years with misstated financial statements (*MISSTATE*).

Our second outcome variable is the likelihood of meeting or just beating the most recent analyst consensus earnings forecast. Prior research implies that firms routinely resort to managing their earnings in order to meet market expectations (Graham, Harvey, & Rajgopal, 2005; Dichev, Graham, Harvey, & Rajgopal, 2013). Even if earnings management attempts are not quantitatively large deviations from Generally Accepted Accounting Principles (GAAP), they could be considered qualitatively material (SEC, 1999). To the extent that a high-quality audit constrains firms from distorting their earnings, a lower likelihood of meeting or just beating analyst forecasts reflects higher audit quality. We retrieve analyst forecast data from the *I/B/E/S* summary file, which provides the earnings per share (EPS) forecasts as well as actual EPS figures. Consistent with extensive prior research (McVay, Nagar, & Tang, 2006; Quinn, 2018; Zang, 2012), we code an indicator variable, *MBEX*, to equal one when actual EPS meets or beats the most recent median annual consensus EPS forecast by two cents or less, and zero otherwise.[7]

Our third outcome variable is a measure of a firm's earnings quality based on deviations from expected accounting accruals. Using earnings quality measures to proxy for audit quality facilitates the detection of earnings manipulation within the confines of GAAP (DeFond & Zhang, 2014). We follow Kothari, Leone, and Wasley (2005) in constructing performance-adjusted discretionary accruals. This involves estimating discretionary accruals for each firm using the following cross-sectional least-squares regression by two-digit SIC industry and year groupings with at least 10 observations:

$$\frac{TA_{it}}{A_{it-1}} = \beta_1\left(\frac{1}{A_{it-1}}\right) + \beta_2\left(\frac{(\Delta S_{it} - \Delta AR_{it})}{A_{it-1}}\right) + \beta_3\left(\frac{PPE}{A_{it-1}}\right) + \beta_4 ROA_{it} + \varepsilon_{it} \tag{1}$$

where *TA* equals total accruals using the indirect cash flow method (i.e., income before extraordinary items less cash flows from operations); *A* equals total assets; ΔS equals the change in total sales from prior year; ΔAR equals the change in accounts receivable from the prior year; *PPE* equals net property, plant, and equipment; and *ROA* equals income before extraordinary items scaled by beginning of the year total assets. Consistent with prior research (e.g., Francis & Yu, 2009; Reynolds & Francis, 2000), we take the absolute value of the residuals to capture the magnitude of opportunistic reporting (*ABSDA*).

3.1.3. Audit efficiency proxies

Audit efficiency is likely to manifest in more timely completion of audit procedures. A long stream of research relies on the audit report lag (i.e., the number of days between the fiscal year-end date and the date of the audit report) to measure audit efficiency (e.g., Bamber et al., 1993; Ettredge, Li, & Sun, 2006; Kinney & McDaniel, 1993; Knechel & Payne, 2001; Whitworth & Lambert, 2014). However, Glover et al. (2021) show that, in the aftermath of several regulatory actions and professional standard setting changes in the mid-2000s, auditors' interpretation of what constitutes sufficient appropriate evidence to support the audit opinion has shifted to coincide with the date the financial statements are issued to the public (i.e., the 10-K filing date). One implication of this updated view is that the audit report date no longer provides any visibility into fieldwork completion, injecting noise into this proxy for audit efficiency.

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[7] In untabulated analyses, we examine whether our results hold when we rely on another standard threshold: meeting or just beating the consensus analyst earnings forecast by one cent or less (e.g., Balsam, Bartov, & Marquardt, 2002; Huang, Pereira, & Wang, 2017; Mande & Son, 2012). We continue to find supportive evidence in this re-specification.

Accordingly, we take Glover et al.'s (2021) advice by specifying several measures of client financial reporting timeliness to infer audit timeliness. Besides using the audit report lag (*AR LAG*), which reflects the 10-K filing lag, we use the earnings announcement lag (*EA LAG*), and the likelihood of a non-timely filing (*NT 10K*) since prior research suggests that more timely financial reporting to the public implies timelier audit completion (Williams & Dirsmith, 1988).[8] Although each of these proxies for audit efficiency has limitations, consistent evidence across these proxies would support reliable identification.

3.2. Models

To test our hypotheses, we estimate the following logistic (or OLS when the dependent variable is continuous) regression model:

$$\begin{aligned} \textit{Audit Quality or Audit Efficiency} = {} & \beta_0 + \beta_1 \textit{INDUSTRY\_EXP} + \beta X_i \\ & + \textit{Industry and Year fixed effects} + \varepsilon_{it} \end{aligned} \tag{2}$$

where *Audit Quality* is either *MISSTATE*, *MBEX*, or *ABSDA* and where *Audit Efficiency* is either *AR LAG*, *EA LAG*, or *NT 10K*. *INDUSTRY_EXP*, the variable of interest, is an indicator variable set to one if the audit partner has industry experience, and zero otherwise. We expect under Hypotheses 1a and 1b that the coefficient estimates on β_1 will be negative, suggesting that an audit partner with industry experience provides higher quality and more efficient audits.

We closely follow prior research in selecting and specifying the control variables represented by the vector *X* (e.g., Aobdia, 2019; Cao, Myers, & Omer, 2012; Francis & Yu, 2009; Lisic, Myers, Pawlewicz, & Seidel, 2019). Besides controlling for various audit partner and client characteristics, the regressions include industry and year fixed effects. Audit partner characteristics that could affect audit quality based on prior research include partner sex (*PARTNER SEX*), years of work experience (*YRS WORK EXP*), education (*EDUCATION*), and industry market share (*PARTNER INDSHARE*) (Burke, Hoitash, & Hoitash, 2019; Che, Langli, & Svanström, 2018; Lee, Nagy, & Zimmerman, 2019; Lennox & Wu, 2018). We also incorporate variables to capture variation in audit quality for large, new, or busy auditors (*BIG4*, *SWITCH* and *BUSY*). Client characteristics that serve as proxies for client risk include client size (*LNASSETS*), complexity based on the number of geographic (*LNGEOSEG*) and business segments (*LNBUSSEG*) and whether the client reports foreign sales (*FOREIGN*), current and expected growth (*SGROW*, *BM*), the level of receivables and inventory (*INVREC*), leverage (*LEVERAGE*), performance (*CFO*, *ROA*), volatility (*SDCFO*), and financial distress (*LOSS*, *GC*). Additionally, we control for the risk of litigation (*LIT*), the effectiveness of the client's internal control environment based on whether the client has a material weakness in internal controls (*WEAKNESS*), and whether the client is involved in a merger or acquisition (*M&A*).[9]

Although many of the constructs underlying the control variables in our models relate both to quality and efficiency, some variables are only relevant to certain models. In the meet or beat analyst EPS forecasts analysis, we follow prior work by including three additional control variables (e.g., Davis, Soo, & Trompeter, 2009): *STD FORECASTS*, which represents forecast dispersion calculated as the standard deviation of earnings forecasts; *NUM ANALYSTS*, which is the number of analysts making an earnings forecast, and *HORIZON*, which is the forecast horizon that reflects the number of months between the earnings announcement date and the date that the earnings forecast was made. Consistent with prior research (Blankley, Hurtt, & MacGregor, 2014; Livnat & Zhang, 2015; Schroeder, 2016), we augment the audit efficiency models by controlling for unexpected earnings (*UNEXPEARN*), special items (*SPECIAL*), discontinued operations (*DISCOPS*), and variables capturing the filing status of the company given differing required filing deadlines (*ACCEL*, *LARGE ACCEL*).[10] All variables are defined in Appendix A.

4. Sample and results

4.1. Sample composition and descriptive statistics

In assembling the sample, we begin by retrieving all available company-year data from Audit Analytics for fiscal years 2016 through 2018. After merging this data with the Compustat Fundamental Annual database and Form AP data on issuer audits, we are left with 13,858 company-year observations with available data. Next, we remove 3,668 observations not audited by one of the eight largest U.S. audit firms (the Big 4 and GT, BDO, RSM, and Crowe). Additionally, we remove 21 observations with assets that do not exceed $1 million (Bills, Cunningham, & Myers, 2016). We lose 1,202 observations stemming from missing partner background data on education and work experience, and 1,441 observations stemming from missing Compustat or Audit Analytics data necessary for specifying control variables. Our sample varies slightly by our audit quality or audit efficiency proxy because we exclude: (i) observations with less than 10 observations per industry-year for the discretionary accruals test; and (ii) observations without I/B/E/S forecast data for the meet or just beat analyst forecast tests. We also remove company-year observations in regulated industries (2,028 in the financial sector and utilities sectors) for the accruals and meet or beat tests (Reichelt & Wang, 2010; Francis & Yu, 2009;

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[8] If an SEC registrant cannot file Form 10-K within the required filing deadline, the company must file within one business day of the due date a Form 12b-25 (designated as an "NT 10-K" in the EDGAR filing system). The report will be deemed filed on time if the company files an NT 10-K and then files the annual report no later than the 15th calendar day following the due date for the missed report.

[9] We recognize that *PARTNER_INDSHARE* may be highly correlated with audit fees given that auditors seldom concurrently serve a large number of public companies. Additionally, the inclusion of *LIT* may be redundant since the model includes industry fixed effects. However, our core results are robust to removing these two variables successively or collectively from the regressions.

[10] These variables belong in the audit efficiency regressions, although they play no role in shaping audit quality. For example, designated filing status reflects filing deadlines, which directly impact the filing of the 10-K (this date coincides with the audit report date), when a NT 10-K would be filed (impacting the likelihood of a NT 10-K), and when earnings are released. In contrast, the filing status designation should be irrelevant to audit quality since auditors would consider these timing differences in risk assessments and adjust the nature, timing, and extent of audit procedures accordingly. In fact, when we include these additional variables in the audit quality models, we find that their coefficients are almost never statistically significant at conventional levels (the exceptions are that *ACCEL* in the discretionary accruals model and *DISCOPS* in the meet or beat model enter negatively at the 1% and 5% levels, respectively) and that adding these variables admits considerable sample attrition stemming from missing data (protecting power is quite important given our small samples). More generally, our empirical strategy aligns with recent research suggesting a more parsimonious approach to control selection rather than having an extensive set of control variables in the models (e.g., Bertomeu, Beyer, & Taylor, 2016; Whited, Swanquist, Shipman, & Moon, 2021).

Table 3
Sample construction.

Merger of Compustat, Audit Analytics, and Form AP - fyear 2016–2018	13,858
Less: Observations without Top 8 Auditor	3,668
Less: Observations with Total Assets less than $ 1 million	21
Less: Missing partner background data – sex, industry experience, work experience, education	1,202
Less: Missing financial and audit data from Compustat and Audit Analytics for model variables	1,441
Subtotal: Sample size for restatement and audit efficiency tests	**7,596**
Subtotal Less Obs. in regulated industries – utilities and financial institutions (SIC codes in 4900 range and 6000–6999 range)	2,028
Less: Observations not in I/B/E/S for meet or beat analyst forecasts tests	533
Sample size for meet or beat tests	**5,035**
Subtotal Less Obs. in regulated industries – utilities and financial institutions (SIC codes in 4900 range and 6000–6999 range)	2,028
Less: Observations for which accruals were not able to be estimated	286
Sample Size for accruals tests	**5,282**

Geiger & North, 2006).[11] We summarize the sample selection process in Table 3.

In Table 4, we report in Panel A some descriptive statistics on the regression variables. We find that 5.3 percent of the company-year observations are audited by a partner with industry experience. For the audit quality proxies, we find that 5 percent of the company-years in the sample are misstated, the mean level of unsigned discretionary accruals is 0.067, and 13.9 percent of the company-years meet or just beat the consensus analyst forecast by two cents or less. For the audit efficiency proxies, we find that the audit report lag is 60.9 days, on average, while the earnings announcement lag is 50.6 days, on average. Approximately 3.1 percent of company-year observations file an NT 10-K. In Panel B, we tabulate results from examining differences in means of the variables included in the analyses between observations audited by partners with and without industry experience. We find that partners with industry experience have longer work experience, are less likely to graduate from a top accounting program, and compile a smaller share of the industry clients in the local area relative to partners without industry experience. We also detect several differences in client characteristics.

Table 5 reports the Pearson correlations between the regression variables. Although the statistical significance of this univariate evidence does not provide support for the predictions, we more rigorously analyze our research questions in a multivariate framework in the next section. Importantly, the highest variance inflation factor among all explanatory variables is 4, implying minimal multicollinearity concerns (O'Brien, 2007).

4.2. Tests of hypotheses

In Table 6, we report evidence for the audit quality tests of Hypothesis 1a in Panel A and for the audit efficiency tests of Hypothesis 1b in Panel B. In Panel A, we provide the primary regression results in Columns (1) to (3) and the results after applying entropy balancing in Columns (4) to (6).[12] We estimate a negative and significant coefficient on *INDUSTRY_EXP* in Columns (1) and (2), suggesting that clients audited by partners with industry experience outside public accounting are less likely to have misstatements later revealed through restatements and meet or just beat analyst earnings expectations. In terms of economic significance, we find that holding all model variables at their mean values, the probability of misstatement (meeting or just beating analyst earnings forecasts) is 4.1 (10.8) percent when the engagement partner does not have industry experience compared to only 2.8 (7.4) percent when the engagement partner does have industry experience. As such, the presence of an engagement partner with industry experience results in a predicted probability of misstatement (meeting or just beating analyst earnings forecasts) that is 31.7 (31.1) percent lower relative to the presence of an engagement partner without industry experience. In Column (3), we find that *INDUSTRY_EXP* has no perceptible impact on unsigned discretionary accruals. These results provide some evidence in support of Hypothesis 1a that audit partners with industry experience are associated with higher quality audits than audit partners without such experience. Importantly, the entropy balanced regression results in Columns (4) to (6) yield similar results.

In Panel B, we report in Columns (1) to (3) that *INDUSTRY_EXP* is negatively associated with a non-timely 10-K filing (*NT 10K*), the audit report lag (*AR LAG*), and the earnings announcement lag (*EA LAG*). Economically, our results imply that holding all model variables at their mean values, the probability of a non-timely 10-K filing is 1.1 percent when the engagement partner does not have industry experience compared to only 0.6 percent when the engagement partner does have industry experience. As such, having an engagement partner with industry experience translates into a predicted probability of a non-timely 10-K filing that is 45.3 percent lower relative to having an engagement partner without industry experience. The audit report (earnings announcement) lag of clients audited by partners with industry experience are 1.5 (1.6) days shorter than those of clients audited by other partners. Given

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[11] Although our empirical strategy is grounded in the importance of protecting power in the small samples by avoiding data attrition, we also evaluate the impact of re-estimating the regressions on a constant sample despite that we pay a heavy price in terms of a major loss in observations in some analyses. We find that the results relating to *MBEX* and *ABSDA* are nearly identical to those that we tabulate, reflecting that we lose hardly any observations for these tests when imposing the constant sample requirement. However, sample sizes for the *MISSTATE* and audit efficiency tests fall steeply from 7,556 observations to 4,544 observations (i.e., a decrease of nearly 40 percent) when we require a constant sample. Despite this severe sample attrition, we find consistent results with *NT 10K* and that the *MISSTATE* results are similar to those reported in Tables 7 and 9 when splitting out boomerangs, and, subsequently, boomerangs in a key financial reporting oversight role. However, the *AR LAG* and *EA LAG* tests are no longer significant when we focus on this far smaller sample.

[12] To perform our tests using entropy balancing, we follow the method described in Hainmueller and Xu (2013). This involves first estimating a determinants model of an audit partner's prior industry experience with *INDUSTRY_EXP* as the dependent variable regressed on the vector *X* of control variables and the fixed effects included in equation (2). Although entropy balancing does not alleviate concerns about unobservable confounds, it has the advantage of avoiding an assumption of a linear relation between the outcomes of interest and underlying covariates and improves upon matched-sample designs by limiting differences between treatment and matched control samples. This is an important consideration given the differences in characteristics between partners with and without industry experience, as well as the clients they serve, reported in Panel B of Table 4. We balance on the first moment due to the inability of the regressions to converge when attempting to balance on higher moments. The two independent variables responsible for this issue are operating cash flows (*CFOLAGAT*) and leverage (*LEVERAGE*). If we exclude these two variables, we are able to balance on the second or third moments. In both cases, we find consistent, robust results. In line with guidance in McMullin and Schonberger (2021), we also assess the maximum observational weight assigned to a single control observation, which is 0.393, indicating that no single control observation has extreme or “above equal weights” (i.e., >1).

Table 4
Descriptive statistics and univariate tests.

Panel A: Descriptive Statistics

Variable	N	Mean	St. Dev	Median	p25	p75
INDUSTRY_EXP	7556	0.053	0.224	0.000	0.000	0.000
MISSTATE	7556	0.050	0.218	0.000	0.000	0.000
MBEX	5035	0.139	0.346	0.000	0.000	0.000
ABSDA	5282	0.067	0.098	0.041	0.018	0.080
NTFILER	7556	0.031	0.173	0.000	0.000	0.000
ARL	7556	60.947	15.326	59.000	53.000	68.000
EALAG	7556	50.634	20.049	51.000	38.000	60.000
PARTNER SEX	7556	0.178	0.383	0.000	0.000	0.000
YRS WORK EXP	7556	3.189	0.249	3.219	2.996	3.367
EDUCATION	7556	0.428	0.495	0.000	0.000	1.000
PARTNER INDSHARE	7556	0.175	0.261	0.057	0.020	0.205
BIG4	7556	0.789	0.408	1.000	1.000	1.000
SWITCH	7556	0.044	0.204	0.000	0.000	0.000
BUSY	7556	0.835	0.371	1.000	1.000	1.000
LNASSETS	7556	7.263	2.011	7.325	5.916	8.607
LNBUSSEG	7556	0.899	0.400	0.693	0.693	0.693
LNGEOSEG	7556	0.872	0.380	0.693	0.693	0.693
FOREIGN	7556	0.293	0.697	0.000	0.000	0.284
SGROW	7556	0.035	0.186	0.019	−0.002	0.086
BM	7556	0.442	0.840	0.409	0.198	0.701
INVREC	7556	0.237	0.227	0.170	0.056	0.341
LEVERAGE	7556	0.292	0.335	0.245	0.066	0.426
CFOLAGAT	7556	0.006	0.349	0.064	0.013	0.119
SDCFO	7556	0.069	0.212	0.025	0.010	0.058
ROA	7556	−0.061	0.335	0.016	−0.038	0.058
LOSS	7556	0.334	0.471	0.000	0.000	1.000
GC	7556	0.040	0.195	0.000	0.000	0.000
LIT	7556	0.271	0.444	0.000	0.000	1.000
WEAKNESS	7556	0.046	0.208	0.000	0.000	0.000
M&A	7556	0.334	0.472	0.000	0.000	1.000
STD FORECASTS	6646	0.084	0.172	0.030	0.010	0.080
NUM ANALYSTS	6646	8.445	7.139	6.000	3.000	12.000
HORIZON	6646	0.526	0.276	0.467	0.233	0.700
UNEXPECTEARN	7556	0.369	0.483	0.000	0.000	1.000
SPECIAL	7556	0.748	0.434	1.000	0.000	1.000
DISCOPS	7556	0.106	0.308	0.000	0.000	0.000
ACCEL	7556	0.274	0.446	0.000	0.000	1.000
LARGE ACCEL	7556	0.614	0.487	1.000	0.000	1.000

Panel B: Variable Means and Univariate T-Tests

Variable	(1) *INDUSTRY_EXP* = 0		(2) *INDUSTRY_EXP* = 1		(1)–(2)
	N	Mean	N	Mean	*t*-test
MISSTATE	7156	0.051	400	0.040	0.956
MBEX	4783	0.141	252	0.107	1.509
ABSDA	5009	0.067	273	0.065	0.444
NTFILER	7156	0.031	400	0.022	0.977
ARL	7156	60.931	400	61.220	−0.367
EALAG	7156	50.692	400	49.587	1.073
PARTNER SEX	7156	0.178	400	0.177	0.027
YRS WORK EXP	7156	3.187	400	3.209	−1.707*
EDUCATION	7156	0.433	400	0.338	3.746***
PARTNER INDSHARE	7156	0.177	400	0.156	1.539
BIG4	7156	0.798	400	0.623	8.401***
SWITCH	7156	0.042	400	0.070	−2.648***
BUSY	7156	0.837	400	0.805	1.659*
LNASSETS	7156	7.283	400	6.893	3.785***
LNBUSSEG	7156	0.901	400	0.868	1.597
LNGEOSEG	7156	0.872	400	0.873	−0.076
FOREIGN	7156	0.296	400	0.246	1.392
SGROW	7156	0.036	400	0.026	1.028
BM	7156	0.443	400	0.433	0.242
INVREC	7156	0.235	400	0.279	−3.807***
LEVERAGE	7156	0.296	400	0.228	3.904***
CFOLAGAT	7156	0.006	400	−0.008	0.829
SDCFO	7156	0.070	400	0.059	1.023
ROA	7156	−0.061	400	−0.059	−0.165
LOSS	7156	0.331	400	0.372	−1.700*
GC	7156	0.041	400	0.020	2.074**
LIT	7156	0.269	400	0.297	−1.248
WEAKNESS	7156	0.045	400	0.060	−1.427
M&A	7156	0.333	400	0.352	−0.822

(*continued on next page*)

Table 4 (*continued*)

Panel B: Variable Means and Univariate T-Tests

Variable	(1) *INDUSTRY_EXP* = 0		(2) *INDUSTRY_EXP* = 1		(1)–(2)
	N	Mean	N	Mean	*t*-test
STD FORECASTS	6302	0.084	344	0.073	1.124
NUM ANALYSTS	6302	8.512	344	7.224	3.260***
HORIZON	6302	0.526	344	0.525	0.037
UNEXPECTEARN	7156	0.369	400	0.362	0.276
SPECIAL	7156	0.750	400	0.710	1.786*
DISCOPS	7156	0.107	400	0.092	0.902
ACCEL	7156	0.269	400	0.355	−3.758***
LARGE ACCEL	7156	0.618	400	0.550	2.700***

Variables are defined in Appendix A.
Variables are defined in Appendix A. *, **, and *** indicate statistical significance at the 0.01, 0.05, and 0.10 levels, respectively.

Table 5
Pearson correlations among dependent and test variables.

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
(1) MISSTATE	1.000						
(2) MBEX	−0.003	1.000					
(3) ABSDA	−0.001	−0.031*	1.000				
(4) NTFILER	0.075*	−0.030*	0.055*	1.000			
(5) ARL	0.071*	−0.031*	0.171*	0.439*	1.000		
(6) EALAG	0.059*	−0.077*	0.187*	0.323*	0.747*	1.000	
(7) INDUSTRY_EXP	−0.011	−0.021	−0.006	−0.011	0.004	−0.012	1.000

Variables are defined in Appendix A. * indicates statistical significance at the least at the 10% level.

that the sample mean audit report (earnings announcement) lag is 60.9 (50.6) days, this represents a 2.5 (3.2) percent fall. The entropy balanced regression results in Columns (4) to (6) provide corroborating evidence. Collectively, these results lend support to Hypothesis 1b, implying that partners with industry experience are associated with more efficient audits than partners without industry experience.

4.3. Additional analyses

Our interviews and inspection of the descriptive data in Table 2 reveal ample heterogeneity in the nature and timing of partners' industry experience as well as insights into the potential mechanisms responsible for any differences in audit outcomes. Next, we explore whether audit quality and efficiency are sensitive to various aspects of the industry experience.

4.3.1. The nature and sequence of industry experience

In Table 2, we report that some partners begin their careers outside public accounting before switching to public accounting practice, while others begin their career in public accounting, leave to take an industry position, and later return to public accounting. Given that the early career stage is a formative period for auditors (He, Kothari, Xiao, & Zuo, 2018), that characteristics developed early in a career are likely to persist into subsequent roles and across organizational boundaries (Bamber & Iyer, 2007; Condie, Obermire, Seidel, & Wilkins, 2021; Dokko, Wilk, & Rothbard, 2009; Louis, 1980), and that the responsibilities in industry positions are likely more significant for boomerangs than for industry starters (Panel A of Table 2), it follows that experience as a boomerang will be more salient to subsequent audit quality and efficiency than experience as an industry starter. To examine this conjecture, we split our variable of interest into two mutually exclusive variables, *BOOMERANG* and *INDUSTRYSTART*, as defined in Appendix A, and re-estimate the audit quality and efficiency regressions.

In Table 7, we report in Panel A the audit quality regression results without entropy balancing (Columns (1) to (3)) and with entropy balancing (Columns (4) to (6)). We find that *BOOMERANG* enters negatively in five of the six estimations, implying that clients audited by partners who acquired industry experience as a boomerang conduct higher quality audits. In sharp contrast, we find no evidence that audit quality improves under industry starters. However, we only observe a perceptible difference in the coefficients on *BOOMERANG* and *INDUSTRYSTART* in two of the six comparisons. In Panel B, we generally find that audits are more efficient under both boomerangs and industry starters; there are no discernible differences in these coefficient estimates.

However, it is also plausible that the significance of the responsibilities in industry positions is alone sufficient to engender effective perspective taking. Although experience in accounting and reporting roles affords valuable insight into processes, related controls, and areas of risk, it does not provide first-hand knowledge of the incentives and perspectives of those making accounting and reporting choices. In comparison, prior experience in a key financial reporting oversight role may be conducive to effective perspective taking, leading to better risk assessments, more efficient coordination with the client, and the development of audit plans that facilitate the efficient collection of audit evidence. Consequently, we also evaluate whether prior experience in a key financial reporting oversight role, irrespective of whether the partner is an industry starter or a boomerang, matters more to a partner's audit quality and efficiency. We operationalize experience in a key financial reporting oversight role with serving as a Chief Financial Officer (CFO), Chief Accounting Officer (CAO), controller, assistant controller, or vice president/director of accounting, finance, or financial reporting. We split our variable of interest into two mutually exclusive variables, *INDUSTRY_KEY* and *INDUSTRY_NOTKEY* as defined in Appendix A, and re-estimate our audit quality and efficiency models.

In Table 8, we report the results with and without entropy balancing. In Panel A, we find a negative and significant coefficient

Table 6
Audit partner industry experience.

Panel A: Audit Quality Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	**No**	**No**	**Yes**	**Yes**	**Yes**
Variable/DV =	***MISSTATE***	***MBEX***	***ABSDA***	***MISSTATE***	***MBEX***	***ABSDA***
INDUSTRY_EXP	−0.395*	−0.409**	0.001	−0.466**	−0.503**	0.001
	(-1.37)	(-1.82)	(0.12)	(-1.79)	(-2.35)	(0.28)
PARTNER SEX	0.140	0.097	−0.003	0.517	0.376	−0.001
	(0.85)	(0.84)	(-0.83)	(1.71)	(1.79)	(-0.12)
YRS_WORK_EXP	−0.325	−0.232	0.006	−0.018	−0.639	0.004
	(-1.38)	(-1.28)	(1.13)	(-0.05)	(-1.78)	(0.46)
EDUCATION	−0.104	−0.260**	−0.001	0.129	−0.351*	0.003
	(-0.78)	(-2.94)	(-0.36)	(0.51)	(-2.03)	(0.72)
PARTNER INDSHARE	0.548*	−0.230	−0.009**	0.512	−0.301	−0.022***
	(2.50)	(-1.23)	(-2.75)	(1.35)	(-0.76)	(-3.79)
BIG4	−0.622***	−0.095	−0.002	−1.156***	0.333	−0.001
	(-3.79)	(-0.72)	(-0.61)	(-3.90)	(1.63)	(-0.23)
SWITCH	−0.009	0.135	0.008	−0.621*	0.578	−0.010
	(-0.03)	(0.59)	(0.93)	(-1.99)	(1.39)	(-0.75)
BUSY	0.032	0.141	−0.005	−0.012	0.095	−0.004
	(0.17)	(1.16)	(-1.58)	(-0.04)	(0.41)	(-0.77)
LNASSETS	−0.018	−0.065	−0.003***	0.122	−0.114	−0.001
	(-0.37)	(-1.28)	(-3.48)	(1.65)	(-1.03)	(-0.62)
LNBUSSEG	−0.005	−0.009	−0.006*	−0.168	0.193	−0.005
	(-0.03)	(-0.07)	(-2.11)	(-0.65)	(0.67)	(-0.94)
LNGEOSEG	0.143	−0.055	0.005	0.416	0.259	0.003
	(0.86)	(-0.46)	(1.85)	(1.42)	(1.10)	(0.68)
FOREIGNPIFO	0.167*	−0.046	−0.001	0.352***	0.118	0.002
	(2.50)	(-0.77)	(-1.14)	(3.93)	(0.91)	(0.88)
SGROW	0.362	0.034	0.049***	0.711	0.848	0.037
	(1.17)	(0.13)	(4.98)	(1.40)	(1.34)	(1.79)
BM	−0.033	−0.067	−0.005**	−0.190*	−0.156	−0.002
	(-0.43)	(-0.99)	(-2.91)	(-2.09)	(-1.40)	(-0.66)
INVREC	−0.275	−0.055	−0.003	−0.613	0.427	0.006
	(-0.82)	(-0.21)	(-0.35)	(-1.18)	(0.92)	(0.46)
LEVERAGE	0.150	−0.036	−0.003	0.020	−0.997*	−0.010
	(0.99)	(-0.19)	(-0.50)	(0.03)	(-2.36)	(-1.02)
CFOLAGAT	−0.400	−0.248	−0.116***	−0.444	0.225	−0.111**
	(-1.31)	(-0.92)	(-4.04)	(-1.24)	(0.33)	(-2.84)
SDCFO	−1.650	−0.622	0.142***	−1.397	−1.346	0.355***
	(-1.64)	(-1.48)	(3.94)	(-0.96)	(-0.97)	(4.65)
ROA	−0.002	0.234	0.027	−0.142	1.114	0.048*
	(-0.01)	(0.82)	(1.50)	(-0.31)	(1.34)	(2.15)
LOSS	0.155	−0.050	0.001	0.525*	0.211	−0.006
	(1.01)	(-0.41)	(0.16)	(2.03)	(0.83)	(-1.21)
GC	−0.215	−0.324	0.031*	−1.293	1.080*	0.060*
	(-0.48)	(-0.89)	(2.27)	(-1.53)	(2.11)	(2.02)
LIT	−0.271	0.006	0.003	−0.311	−0.199	−0.002
	(-1.28)	(0.05)	(0.80)	(-0.88)	(-0.82)	(-0.50)
WEAKNESS	1.237***	−0.221	−0.000	0.411	−0.378	−0.002
	(6.90)	(-1.02)	(-0.03)	(1.61)	(-1.28)	(-0.24)
M&A	0.160	0.120	−0.003	−0.029	0.042	−0.003
	(1.07)	(1.30)	(-1.35)	(-0.12)	(0.21)	(-0.81)
STD FORECASTS		−6.885***			−9.326**	
		(-3.75)			(-2.69)	
NUM ANALYSTS		0.040***			0.054**	
		(4.99)			(3.13)	
HORIZON		−0.079			−0.130	
		(-0.47)			(-0.41)	
INTERCEPT	−0.681	−0.150	0.081***	−1.835	0.454	0.075*
	(-0.82)	(-0.23)	(4.34)	(-1.35)	(0.35)	(2.08)
N	7,556	5,035	5,282	7,556	5,035	5,282
Adjusted R2			0.333			0.344
Pseudo R2	0.065	0.056		0.120	0.116	
Area under ROC curve	0.700	0.690				
DV = 1				379	701	
Industry FE Included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE Included	Yes	Yes	Yes	Yes	Yes	Yes

Panel B: Audit Efficiency Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	**No**	**No**	**Yes**	**Yes**	**Yes**

(*continued on next page*)

Table 6 (*continued*)

Panel B: Audit Efficiency Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	**No**	**No**	**Yes**	**Yes**	**Yes**
Variable/DV =	***NT 10K***	***AR LAG***	***EA LAG***	***NT 10K***	***AR LAG***	***EA LAG***
Variable/DV =	***NT 10K***	***AR LAG***	***EA LAG***	***NT 10K***	***AR LAG***	***EA LAG***
INDUSTRYEXP	−0.608*	−1.535**	−1.621**	−0.850***	−1.803**	−1.794**
	(-1.52)	(-2.13)	(-1.86)	(-3.00)	(-2.51)	(-2.09)
PARTNER SEX	−0.007	0.396	0.386	−0.240	0.409	0.795
	(-0.03)	(0.96)	(0.71)	(-0.75)	(0.48)	(0.77)
YRS_WORK_EXP	0.325	0.335	0.435	0.515	1.142	0.134
	(0.95)	(0.40)	(0.40)	(0.85)	(0.50)	(0.05)
EDUCATION	0.035	−0.166	0.628	−0.249	0.273	1.135
	(0.22)	(-0.51)	(1.45)	(-0.93)	(0.40)	(1.39)
PARTNER INDSHARE	0.281	1.720**	0.599	1.109*	2.366	2.351
	(0.86)	(2.67)	(0.62)	(2.14)	(1.86)	(1.40)
BIG4	−0.615**	−2.107***	−0.766	−0.674*	−1.223	−0.143
	(-2.96)	(-4.05)	(-1.10)	(-2.46)	(-1.41)	(-0.14)
SWITCH	0.790**	4.411***	3.180*	0.849*	3.479*	3.393
	(3.19)	(3.57)	(2.09)	(2.32)	(2.21)	(1.79)
BUSY	0.327	0.739	1.653*	0.188	−0.698	−1.258
	(1.29)	(1.24)	(2.18)	(0.63)	(-0.48)	(-0.75)
LNASSETS	−0.069	−1.575***	−3.755***	−0.206	−1.982***	−4.565***
	(-0.94)	(-11.03)	(-19.59)	(-1.88)	(-5.45)	(-12.22)
LNBUSSEG	−0.088	−0.661	1.134*	0.075	−0.692	0.049
	(-0.33)	(-1.50)	(1.99)	(0.17)	(-0.62)	(0.04)
LNGEOSEG	0.078	−1.662***	−2.798***	0.039	−0.535	−2.078*
	(0.28)	(-3.44)	(-4.77)	(0.11)	(-0.59)	(-1.97)
FOREIGNPIFO	−0.064	0.135	0.474	−0.520	0.172	0.850
	(-0.50)	(0.71)	(1.91)	(-1.68)	(0.44)	(1.82)
SGROW	−0.206	−1.547	−1.902	−0.547	−2.677	−4.326
	(-0.62)	(-0.96)	(-0.90)	(-1.09)	(-1.12)	(-1.43)
BM	−0.144	−0.298	0.032	−0.364**	−1.360	−1.047
	(-1.89)	(-0.79)	(0.07)	(-3.27)	(-1.51)	(-1.11)
INVREC	1.399**	4.255***	−13.743***	2.140**	5.390**	−15.135***
	(3.04)	(4.03)	(-10.14)	(2.86)	(2.63)	(-6.91)
LEVERAGE	−0.092	0.007	5.006***	−0.944	0.076	10.315***
	(-0.56)	(0.01)	(4.60)	(-1.54)	(0.05)	(5.79)
CFOLAGAT	−0.036	−0.850	−1.325	−1.649***	−2.625	−2.884
	(-0.13)	(-1.19)	(-1.67)	(-4.96)	(-1.47)	(-1.48)
SDCFO	0.163	−0.567	−0.673	−4.145**	−2.531	−0.372
	(0.37)	(-0.52)	(-0.58)	(-2.96)	(-0.73)	(-0.10)
ROA	0.146	0.567	3.064***	2.217***	2.048	5.316*
	(0.70)	(0.72)	(3.32)	(4.11)	(0.91)	(2.11)
LOSS	0.796***	2.014***	5.207***	1.086***	2.550*	6.541***
	(3.88)	(4.27)	(8.82)	(4.01)	(2.50)	(5.60)
GC	2.052***	5.777***	4.995**	3.069***	3.525	5.843
	(5.70)	(3.97)	(2.85)	(5.13)	(0.90)	(1.25)
LIT	−0.360	−0.663	−1.865*	0.332	−0.828	−2.843
	(-1.35)	(-1.10)	(-2.46)	(1.02)	(-0.61)	(-1.87)
WEAKNESS	3.467***	15.557***	15.505***	4.001***	14.667***	14.071***
	(17.85)	(8.06)	(6.86)	(12.71)	(5.05)	(4.49)
M&A	0.479*	1.211***	2.011***	0.838**	1.641*	2.366**
	(2.32)	(3.56)	(4.56)	(2.67)	(2.51)	(2.76)
UNEXPECTEARN	−0.359	0.236	0.012	−0.227	−0.278	0.402
	(-1.75)	(0.73)	(0.03)	(-0.78)	(-0.38)	(0.50)
SPECIAL	0.409	1.220**	1.904***	0.244	2.045*	2.312*
	(1.84)	(3.16)	(3.92)	(0.67)	(1.97)	(1.99)
DISCOPS	0.267	1.077	2.473***	0.350	2.935	3.935*
	(1.00)	(1.76)	(3.43)	(1.04)	(1.76)	(2.18)
ACCEL	−0.353	−7.082***	−7.607***	−0.441	−7.415***	−7.073***
	(-1.30)	(-9.13)	(-7.31)	(-1.21)	(-4.62)	(-3.93)
LARGE ACCEL	−0.535	−14.725***	−12.628***	−0.221	−13.577***	−10.703***
	(-1.68)	(-18.53)	(-11.47)	(-0.49)	(-6.85)	(-5.07)
INTERCEPT	−4.948***	84.114***	88.855***	−4.830*	85.266***	99.044***
	(-3.87)	(25.74)	(20.50)	(-2.07)	(9.81)	(10.34)
N	7,556	7,556	7,556	7,556	7,556	7,556
Adjusted R2		0.388	0.443		0.341	0.473
Pseudo R2	0.322			0.417		
Area under ROC curve	0.903					
N DV = 1	232			232		
Industry FE Included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE Included	Yes	Yes	Yes	Yes	Yes	Yes

Notes: This table reports the results of tests of the association between partners with industry experience and audit quality and efficiency. Misstatement, meet or beat analyst forecasts, and NT 10K models are estimated using logistic regression and the accruals, EA lag, and ARL models are estimated using ordinary least squares regression. All models in Columns (4) through (6) utilize entropy balanced samples – balancing is on all model variables other than the test variable on the first moment. For brevity, coefficients on industry and year fixed effects are not reported. The T (or Z) statistics are reported in parentheses below coefficient estimates. Robust standard errors are clustered by client firm. ***, **, and * represent significance at the 0.01, 0.05, and 0.10 levels, respectively, 2-tailed, other than on predicted test variables, which are 1-tailed. Appendix A provides variable definitions.

Table 7
Boomerang vs. Industry Start Experience.

Panel A: Audit Quality Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	**No**	**No**	**Yes**	**Yes**	**Yes**
Variable/DV =	***MISSTATE***	***MBEX***	***ABSDA***	***MISSTATE***	***MBEX***	***ABSDA***
BOOMERANG	−0.813**	−0.432**	−0.006	−0.820**	−0.517**	−0.006*
	(-1.85)	(-1.70)	(-1.26)	(-2.02)	(-2.14)	(-1.33)
INDUSTRYSTART	0.112	−0.351	0.015*	−0.029	−0.469	0.016*
	(0.31)	(-0.80)	(1.67)	(-0.09)	(-1.08)	(1.99)
N	7,556	5,035	5,282	7,556	5,035	5,282
Adjusted R2			0.334			0.350
Pseudo R2	0.066	0.056		0.126	0.116	
Area under ROC curve	0.701	0.690				
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE included	Yes	Yes	Yes	Yes	Yes	Yes
Coeff. Diff Test – Chi Square (F test)	2.704	0.027	4.473	2.272	0.009	6.307
p-value	0.100	0.870	0.035	0.132	0.923	0.012

Panel B: Audit Efficiency Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	**No**	**No**	**Yes**	**Yes**	**Yes**
Variable/DV =	***NT 10K***	***AR LAG***	***EA LAG***	***NT 10K***	***AR LAG***	***EA LAG***
BOOMERANG	−0.432	−1.591**	−0.959	−0.898***	−1.895**	−1.455*
	(-0.97)	(-1.74)	(-0.86)	(-3.13)	(-2.08)	(-1.34)
INDUSTRYSTART	−1.051*	−1.433*	−2.814**	−0.744	−1.638*	−2.401**
	(-1.29)	(-1.30)	(-2.18)	(-1.22)	(-1.53)	(-1.89)
N	7,556	7,556	7,556	7,556	7,556	7,556
Adjusted R2		0.388	0.443		0.341	0.473
Pseudo R2	0.322			0.417		
Area under ROC curve	0.903					
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE included	Yes	Yes	Yes	Yes	Yes	Yes
Coeff. Diff Test – Chi Square (F test)	0.461	0.013	1.243	0.054	0.036	0.345
p-value	0.497	0.910	0.265	0.816	0.850	0.557

Notes: This table reports tests of the association between boomerangs versus industry start audit partners and audit quality and efficiency. For brevity, coefficients on auditor, industry, and year fixed effects are not reported. T (or Z) statistics are reported in parentheses below coefficient estimates. Robust standard errors are clustered by client firm. P values provided for coefficient difference tests are all two-tailed. ***, **, and * represent significance at the 0.01, 0.05, and 0.10 levels, respectively, 2-tailed, other than on predicted test variables, which are 1-tailed. Appendix A provides variable definitions.

on *INDUSTRY_KEY* in Columns (1), (2), (4) and (5), suggesting that clients audited by partners who accumulated industry experience in a key financial reporting oversight role are less likely to have misstatements later revealed through restatements and meet or just beat analyst earnings expectations. In contrast, the coefficients on *INDUSTRY_NOTKEY* are statistically indistinguishable from zero in all cases; we document perceptible differences in two of the six comparisons. In Panel B, we consistently find that *INDUSTRY_KEY* enters negatively, implying that clients audited by partners with experience in a key financial reporting oversight role are associated with greater efficiency. In contrast, the coefficient on *INDUSTRY_NOTKEY* is only statistically negative in Column (4); however, none of the pairwise comparisons are statistically significant. Although the audit quality and efficiency results are concentrated in partners with industry experience in key financial reporting oversight roles, it is important to exercise caution in interpreting the evidence given that we only observe some statistical differences in the coefficients on *INDUSTRY_KEY* and *INDUSTRY_NOTKEY*.

To gauge whether the imprinting effect of early career experiences coupled with industry experience in a key financial reporting oversight role matters, we split *BOOMERANG* into *BOOMERANG_KEY* and *BOOMERANG_NOTKEY* and include these variables in the models with *INDUSTRYSTART*. In Panel A of Table 9, we find that the coefficient on *BOOMERANG_KEY* is significantly negative in all six regressions, while the coefficient on *BOOMERANG_NOTKEY* is only significantly negative in Column (1); we observe perceptible differences in three of the six cases. Reinforcing our earlier evidence, we find no evidence implying that industry starters provide higher quality audits. In Panel B, we find some evidence of greater efficiency among boomerangs who held key roles (in Columns (2), (4), and (5)); however, the results do not differ significantly from boomerangs without key roles and industry starters. Altogether, we report some evidence suggesting that actual first-hand experience in key oversight positions among boomerang auditors plays an integral role in the audit quality that these partners deliver.

In an untabulated analysis, we examine whether the evidence for industry starters in Table 7 is an artifact of taking a non-traditional path into public accounting. Although we cannot determine whether these partners received offers directly out of college, we performed online searches of profiles of industry

Table 8
Industry Key Role vs. Not Key Role Experience.

Panel A: Audit Quality Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	**No**	**No**	**Yes**	**Yes**	**Yes**
Variable/DV =	***MISSTATE***	***MBEX***	***ABSDA***	***MISSTATE***	***MBEX***	***ABSDA***
INDUSTRY_KEY	−0.681*	−1.022**	−0.004	−0.842**	−0.999**	−0.004
	(-1.31)	(-2.38)	(-0.71)	(-2.12)	(-2.26)	(-0.76)
INDUSTRY_ NOTKEY	−0.334	0.038	0.004	−0.315	−0.143	0.006
	(-0.97)	(0.15)	(0.63)	(-0.94)	(-0.58)	(0.99)
N	7,556	5,035	5,282	7,556	5,035	5,282
Adjusted R2			0.333			0.346
Pseudo R2	0.065	0.057		0.124	0.122	
Area under ROC curve	0.701	0.690				
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE included	Yes	Yes	Yes	Yes	Yes	Yes
Coeff. Diff Test − Chi Square (F test)	0.321	4.557	0.927	1.129	2.810	1.555
p-value	0.571	0.033	0.336	0.288	0.094	0.213

Panel B: Audit Efficiency Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	**No**	**No**	**Yes**	**Yes**	**Yes**
Variable/DV =	***NT 10K***	***AR LAG***	***EA LAG***	***NT 10K***	***AR LAG***	***EA LAG***
INDUSTRY_KEY	−0.947*	−2.142**	−2.651**	−1.130**	−2.347**	−2.355**
	(-1.43)	(-2.32)	(-2.29)	(-2.28)	(-2.40)	(-1.98)
INDUSTRY_ NOTKEY	−0.413	−0.696	−0.915	−0.570**	−0.969	−0.966
	(-0.85)	(-0.68)	(-0.75)	(-1.76)	(-0.93)	(-0.82)
N	7,556	7,556	7,556	7,556	7,556	7,556
Adjusted R2		0.388	0.443		0.341	0.473
Pseudo R2	0.322			0.417		
Area under ROC curve	0.903					
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE included	Yes	Yes	Yes	Yes	Yes	Yes
Coeff. Diff Test − Chi Square (F test)	0.431	1.135	1.110	0.929	0.914	0.721
p-value	0.511	0.287	0.292	0.335	0.339	0.396

Notes: This table reports the results of estimating our audit quality and efficiency models after separating partners with industry experience based on whether they held key financial reporting roles. For brevity, coefficients on auditor, industry, and year fixed effects are not reported. T (or Z) statistics are reported in parentheses below coefficient estimates. Robust standard errors are clustered by client firm. P values provided for coefficient difference tests are all two-tailed. ***, **, and * represent significance at the 0.01, 0.05, and 0.10 levels, respectively, 2-tailed, other than on predicted test variables, which are 1-tailed. Appendix A provides variable definitions.

starters and found that 72 percent were accounting majors. As such, only 11 industry starter partners were not accounting majors (which translates into 43 client-year observations in our sample). Given that there are too few of these observations to generate sufficient power to separately analyze the role that non-accounting majors play, we examine whether our core results persist when we narrow our focus by replacing *INDUSTRY_EXP* with *INDUSTRY_EXP_ACC_MAJOR* (reflecting boomerangs and industry starters who were accounting majors). In the audit quality regressions, we continue to find supportive evidence in the *MISSTATE* and *MBEX* regressions. In the audit efficiency regressions, we find that *INDUSTRY_EXP_ACC_MAJOR* enters negatively in five of the six estimations. In short, despite the loss of power in these smaller samples, almost all of our core results hold when we isolate the industry starters who are accounting majors.

4.3.2. *Experience in a specialized industry*

Next, we explore whether audit outcomes vary systematically with experience in a specialized industry. Three of the nine interviewed partners without industry experience (33 percent) suggested that experience in a specialized industry could be valuable to audit quality and efficiency. We follow Bills, Jeter, and Stein (2015) in defining specialized industries. In this set-up, we partition industry experience into *INDUSTRY_EXP_SPEC* and *INDUSTRY_EXP_NOTSPEC* as specified in Appendix A and re-estimate the main regressions. In Table 10, we report the results. In Panel A, we do not find consistent evidence that audit quality differs based on specialized industry experience and serving clients in those industries. In contrast, the results in Panel B generally lend support to the intuition that industry experience in specialized industries is associated with higher audit efficiency.

4.3.3. *Additional facets of industry experience*

We also analyze whether audit outcomes hinge on the length of time in industry, the length of time since the industry experience occurred, and whether audit outcomes vary for boomerang auditors according to whether they began their career in a Big 4 audit

Table 9
Boomerangs with Key Role Experience vs. Boomerangs without Key Role Experience and Industry Starters.

Panel A: Audit Quality Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	**No**	**No**	**Yes**	**Yes**	**Yes**
Variable/DV =	***MISSTATE***	***MBEX***	***ABSDA***	***MISSTATE***	***MBEX***	***ABSDA***
BOOMERANG_KEY (B1)	−1.039*	−0.992**	−0.009*	−1.225**	−0.993**	−0.008*
	(-1.38)	(-2.10)	(-1.33)	(-1.98)	(-2.00)	(-1.34)
BOOMERANG_notKEY (B2)	−0.860*	0.054	−0.003	−0.712	−0.106	−0.004
	(-1.47)	(0.18)	(-0.46)	(-1.25)	(-0.38)	(-0.69)
INDUSTRYSTART (B3)	0.123	−0.352	0.015*	−0.050	−0.474	0.016**
	(0.34)	(-0.80)	(1.69)	(-0.15)	(-1.11)	(2.02)
N	7,556	5,035	5,282	7,556	5,035	5,282
Adjusted R2			0.334			0.351
Pseudo R2	0.066	0.057		0.131	0.122	
Area under ROC curve	0.702	0.690				
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE included	Yes	Yes	Yes	Yes	Yes	Yes
Coeff. Diff Test B1=B2 − Chi Square (F test)	0.036	3.511	0.364	0.430	2.263	0.250
p-value	0.849	0.061	0.546	0.512	0.132	0.617
Coeff. Diff Test B1=B3 − Chi Square (F test)	1.951	0.999	4.705	2.684	0.605	5.797
p-value	0.163	0.318	0.030	0.101	0.437	0.016

Panel B: Audit Efficiency Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	**No**	**No**	**Yes**	**Yes**	**Yes**
Variable/DV =	***NT 10K***	***AR LAG***	***EA LAG***	***NT 10K***	***AR LAG***	***EA LAG***
BOOMERANG_KEY (B1)	−0.813	−2.445**	−1.228	−1.361**	−2.645**	−1.679
	(-1.12)	(-2.21)	(-0.94)	(-2.73)	(-2.39)	(-1.28)
BOOMERANG_notKEY (B2)	−0.143	−0.229	−0.226	−0.478*	−0.393	−0.556
	(-0.25)	(-0.16)	(-0.12)	(-1.39)	(-0.28)	(-0.32)
INDUSTRYSTART (B3)	−1.045	−1.417	−2.798**	−0.746	−1.573*	−2.300*
	(-1.28)	(-1.28)	(-2.17)	(-1.23)	(-1.48)	(-1.82)
N	7,556	7,556	7,556	7,556	7,556	7,556
Adjusted R2		0.388	0.443		0.341	0.473
Pseudo R2	0.322			0.418		
Area under ROC curve	0.903					
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE included	Yes	Yes	Yes	Yes	Yes	Yes
Coeff. Diff Test B1=B2 − Chi Square (F test)	0.531	1.483	0.199	2.358	1.578	0.273
p-value	0.466	0.223	0.656	0.125	0.209	0.602
Coeff. Diff Test B1=B3 − Chi Square (F test)	0.046	0.442	0.753	0.630	0.508	0.121
p-value	0.830	0.506	0.386	0.427	0.476	0.728

Notes: This table presents the results of estimating our audit quality and efficiency models after separating partners with industry experience based on whether they were boomerangs that held key financial reporting roles, boomerangs that did not hold key financial reporting roles, or industry starters. For brevity, coefficients on auditor, industry, and year fixed effects are not reported. T (or Z) statistics are reported in parentheses below coefficient estimates. Robust standard errors are clustered by client firm. P values provided for coefficient difference tests are all two-tailed. ***, **, and * represent significance at the 0.01, 0.05, and 0.10 levels, respectively, 2-tailed, other than on predicted test variables, which are 1-tailed. Appendix A provides variable definitions.

firm.[13] Concerning the length of time in industry, five of the nine interviewed partners without industry experience (56 percent) suggested that changes in audit methodologies, technology, and accounting and auditing standards can undermine individuals' auditing skills when they are no longer in public practice and require major effort to recover.[14] Accordingly, although a lengthy period spent outside public accounting can be beneficial in some ways, this could come at the expense of audit outcomes. To examine this issue, we separate industry experience into *INDUSTRY_YRS_SHORT* and *INDUSTRY_YRS_LONG* as defined in Appendix A and re-estimate the main models. In untabulated analyses, although we generally find that audit quality and efficiency are higher when the duration of the industry experience is shorter, compared to partners with longer industry experience and partners without industry experience, it is important to highlight that having short but meaningful industry experience is more likely to occur among boomerang auditors holding major oversight roles.[15]

To examine whether the length of time since the industry experience influences audit outcomes, we split industry experience into *YRS_SINCE_INDUSTRY_SHORT* and *YRS_SINCE_INDUSTRY_LONG*

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[13] El Ghoul, Guedhami, and Pittman (2016: 63) highlight how early career experience at a Big 4 firm could engender a more indelible imprint since they instill a culture that shapes "individual auditors' values, ethics, and attitudes", provide "access to continuing professional development opportunities and high-quality technical support resources", have "robust systems for making client acceptance and retention decisions … rigorous quality control structures, including informal and formal consultation processes … well-structured engagement teams with members receiving timely appraisals and suitable coaching … [and] the capacity to recruit partners and staff with the right characteristics to thrive in a career in the auditing profession."

[14] For instance, Interviewee 23 mentioned that: "… it can be a struggle if you're gone more than a year or two; you know you've got a lot of catching up to do."

[15] In fact, we find a significant and positive pairwise correlation between *INDUSTRY_YRS_SHORT* and *BOOMERANG* of 0.616, $p < 0.001$.

Table 10
Specialized industry experience.

Panel A: Audit Quality Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	No	No	Yes	Yes	Yes
Variable/DV =	*MISSTATE*	*MBEX*	*ABSDA*	*MISSTATE*	*MBEX*	*ABSDA*
INDUSTRY_EXP _SPEC	−0.662	−1.917**	0.006	−0.548	−2.097**	0.011
	(-1.18)	(-1.83)	(0.76)	(-1.02)	(-2.32)	(1.48)
INDUSTRY_EXP _NOTSPEC	−0.439	−0.207	−0.000	−0.552**	−0.298*	−0.000
	(-1.28)	(-0.94)	(-0.09)	(-1.88)	(-1.38)	(-0.02)
N	7,556	5,035	5,282	7,556	5,035	5,282
Adjusted R2			0.333			0.345
Pseudo R2	0.065	0.057		0.122	0.125	
Area under ROC curve	0.701	0.691				
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE included	Yes	Yes	Yes	Yes	Yes	Yes
Coeff Difference Test Chi-Square	0.118	2.559	0.481	0.000	3.927	1.893
p-value	0.731	0.110	0.488	0.996	0.048	0.169

Panel B: Audit Efficiency Tests

Entropy Balanced	(1)	(2)	(3)	(4)	(5)	(6)
	No	No	No	Yes	Yes	Yes
Variable/DV =	*NT 10K*	*AR LAG*	*EA LAG*	*NT 10K*	*AR LAG*	*EA LAG*
INDUSTRY_EXP _SPEC	−1.666**	−3.175**	−5.437***	−1.651**	−3.388**	−3.998**
	(-1.66)	(-2.82)	(-3.82)	(-1.95)	(-2.88)	(-2.50)
INDUSTRY_EXP _NOTSPEC	−0.350	−0.757	−0.438	−0.534**	−0.955	−0.729
	(-0.80)	(-0.90)	(-0.43)	(-1.80)	(-1.11)	(-0.71)
N	7,556	7,556	7,556	7,556	7,556	7,556
Adjusted R2		0.388	0.443		0.342	0.474
Pseudo R2	0.323			0.420		
Area under ROC curve	0.904					
Controls included	Yes	Yes	Yes	Yes	Yes	Yes
Industry FE included	Yes	Yes	Yes	Yes	Yes	Yes
Year FE included	Yes	Yes	Yes	Yes	Yes	Yes
Coeff Difference Test − Chi-Square (F)	1.485	3.109	8.519	1.590	2.878	2.878
p-value	0.223	0.078	0.004	0.207	0.090	0.090

Notes: This table presents the results of estimating our audit quality and efficiency models after separating partners with industry experience based on whether they gained industry experience in a specialized industry in which they currently audit. For brevity, coefficients on auditor, industry, and year fixed effects are not reported. T (or Z) statistics are reported in parentheses below coefficient estimates. Robust standard errors are clustered by client firm. P values provided for coefficient difference tests are all two-tailed. ***,**, and * represent significance at the 0.01, 0.05, and 0.10 levels, respectively, 2-tailed, other than on predicted test variables, which are 1-tailed. Appendix A provides variable definitions.

as defined in Appendix A and re-estimate the main regressions. Untabulated analyses imply that audit quality and efficiency do not vary according to the length of time that has passed since the partner left their industry position. We also explore whether audit outcomes vary for boomerang auditors according to whether they began their career in a Big 4 audit firm. This involves re-estimating the main regressions after replacing *INDUSTRY_EXP* with *BOOMERANG_B4START* and *BOOMERANG_NB4START*. Overall, the untabulated analyses do not reveal perceptible differences in audit quality or efficiency between boomerangs starting in Big 4 firms relative to boomerangs starting in non-Big 4 firms.[16]

4.3.4. *Addressing potential endogeneity*

Although insights from the interviews suggest that client assignment, partner selection, and staffing decisions are unlikely to pose a major threat to reliable inference, we caution that our association-based tests are vulnerable to these potential sources of endogeneity, including from unobservable partner traits (e.g., ambition, drive, etc.). Additionally, a lack of publicly available data precludes us from integrating engagement team characteristics into our models despite recent evidence implying that team members below the partner can affect audit outcomes (e.g., Aobdia, Choudhary, & Newberger, 2021; Christensen, Newton, & Wilkins, 2021). To confront these issues, we perform two additional analyses. First, we conduct a falsification test by examining the association between partners with industry experience and restatements of quarterly financial statements. Given that quarterly financial statements are subject to a lower level of assurance (i.e., reviewed rather than audited), the reported balances have not been subjected to audit tests of details that might otherwise identify misstatements requiring adjustment. If client screening or systematic partner assignment (i.e., the assignment of partners with industry experience to clients with higher quality financial reports) drives our results, then we would expect the quarterly and annual financial statements to exhibit similar high quality. Reflecting this rationale, we replace *MISSTATE* with *QUARTER_MISSTATE* as the dependent variable. In contrast to the negative association between *INDUSTRY_EXP* and *MISSTATE* documented in Panel A of Table 6, we find (untabulated) an insignificant association between *INDUSTRY_EXP* and *QUARTER_MISSTATE*. Although this insignificant relation is inconsistent with the client screening narrative, it is important to stress that the low frequency of quarterly misstatements in our sample prevents us from drawing strong inferences from this analysis.

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[16] Another interesting theme that emerged from the interviews is the perception that industry experience is valuable from a business development standpoint. Most (55 percent) stressed that they leveraged their network and experience for business development. Although not the focus of our research, this is an interesting insight into the value of an audit partner's industry experience. In additional, untabulated analyses, we examine whether industry experience influences: (i) the count of public office (partner) clients; (ii) the likelihood of attracting new public office (partner) clients; (iii) the change in the office (partner) count of public clients; and (iv) non-audit fees at the client-level. At the office-level, we find a positive association between offices with partners that have industry experience and the count of clients. However, this association is negative at the partner-level. All other tests provide statistically insignificant results. Accordingly, we are unable to draw inferences from these empirical analyses concerning business development.

Second, we perform two separate tests (untabulated) focused on partner changes. In the first (second) set of tests, we restrict the sample to the annual (two annual) observation(s) immediately preceding an audit partner change and the annual (two annual) observation(s) after the partner change. In these tests, we replace *INDUSTRY_EXP* with two indicator variables, *CHG NONINDUSTRY TO INDUSTRY* and *CHG INDUSTRY TO NONINDUSTRY*, which capture the year(s) following the audit partner change. In both sets of tests, we find a lower likelihood of misstatement and of filing a NT 10-K in the year(s) following a change from an audit partner without industry experience to one with industry experience. In contrast, we do not find that changes from an audit partner with industry experience to one without industry experience impact audit quality. In the misstatement test, we also find that *CHG NONINDUSTRY TO INDUSTRY* is significantly different from *CHG INDUSTRY TO NONINDUSTRY*. Although these tests provide some evidence reinforcing our earlier results, the low frequency of within-firm changes to an industry-experienced partner (and misstatements in the year of a partner change) prevents us from reaching strong conclusions.[17]

5. Conclusion

In this study, we examine the influence of audit partners' industry experience on their audits. Although several prior studies highlight the cognitive benefits stemming from sound perspective taking (Davis et al., 1996; Galinsky & Moskowitz, 2000; Galinsky & Mussweiler, 2001; Galper, 1976; Johnson, 1967; Johnson & Johnson, 1991; Regan & Totten, 1975; Sessa, 1996), recent work suggests that attempts at perspective taking often fail due to a lack of objectivity (Altiero et al., 2021). Not having directly experienced counterparts' perspectives can leave auditors vulnerable to their preexisting motivations. However, actual first-hand experience in industry roles should enhance auditors' ability to consider the perspectives of auditees, leading to higher quality audit judgments and outcomes. This prediction is supported by semi-structured interviews with 20 (nine) Big 4 and mid-tier firm audit partners with (without) industry experience. Grounded in theory and the results of these interviews, we develop testable predictions of the role that industry experience plays in audit outcomes. Using a unique hand-collected dataset containing audit partner characteristics and work experience, we empirically examine the importance of audit partner industry experience to audit outcomes. Additionally, we examine the influence of potential mechanisms for these observed relations. Specifically, we examine whether audit quality and efficiency differ based on various facets of the industry experience.

Our evidence implies that industry experience broadly is associated with greater audit effectiveness and efficiency. In additional analyses, we find that the nature and timing of this experience matters. Consistent with the theoretical motivation for effective perspective taking, we find that actual first-hand experience in major oversight positions among boomerang auditors plays an integral role in the quality of the audits that these partners deliver. We also find that experience in a key financial reporting oversight role or in a specialized industry in which the partner now audits translates into greater audit efficiencies.

These findings are relevant to public accounting firm recruiting initiatives. The large accounting firms dedicate significant resources to maintaining relationships with audit firm alumni. Although providing experiences outside public accounting may be impractical, re-hiring recently departed auditors that currently hold positions with key financial reporting oversight could prove beneficial to audit quality and efficiency.

It is important to highlight that our study is subject to several limitations. As discussed above, our empirical analyses are subject to concerns that the associations arise endogenously. We also recognize that our tests are limited to a short time-series of available partner disclosure, which precludes implementing research designs conducive to more reliable identification. Additionally, while the frequency of lead engagement partners with industry experience is low (approximately five percent), the observed associations between partners who have gained this experience and audit quality and efficiency underscores the potential benefits of

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[17] Given the short time-series of available public data on engagement partners, there are only a small number of within-client engagement partner changes from a partner without industry experience to one with industry experience, or vice versa. Indeed, data inspection reveals that this analysis suffers from exceedingly poor variation since the vast majority of auditor changes—87.1%–87.9% according to the dependent variable under study—involve lateral moves from one non-industry experienced partner to another. The data constraints prevent us from employing an alternative empirical strategy used in prior research that exploits the mandatory rotation of partners as an exogenous shock that disrupts partner assignment to engagements (e.g., Firth, Rui, & Wu, 2012a,b; Lennox, Wu, & Zhang, 2014; Sharma, Tanyi, & Litt, 2017; Chen, Huang, Li, & Pittman, 2021).

Variable Definitions.	
Audit Quality Proxies:	
MISSTATE	An indicator variable set equal to one if the annual financial statements are misstated as indicated by a subsequently revealed restatement, and zero otherwise.
MBEX	An indicator equal to one if actual earnings per share met or beat the most recent analyst median annual consensus earnings per share forecast by two cents or less, and zero otherwise.
ABSDA	The absolute value of discretionary accruals based on the modified Jones model adjusted for performance (ROA) using a cross-sectional regression for each industry and year with at least 10 observations (Kothari et al., 2005 performance-adjusted model).
Audit Efficiency Proxies:	
NT 10-K	An indicator equal to one if the 10-K was not filed on a timely basis evidenced by a 10-K NT filing in Audit Analytics NT filer dataset.
ARL	The number of days between fiscal year end and audit report signature date in Audit Analytics.
EALAG	The number of days between fiscal year end and the earnings announcement from Compustat Fundamentals Quarterly dataset (RDQ – APDEDATEQ)
Audit Partner Test Variables:	
INDUSTRY_EXP	An indicator variable set equal to 1 if the lead audit partner has prior business and industry experience outside of public accounting.
Audit Partner Control Variables:	
PARTNER SEX	An indicator variable set equal to one if the lead audit partner is female and 0 if male. Sex is coded manually based on first name and photographs of the partner observed online.
YRS WORK EXP	The natural log of 1 + the number of years that elapsed between the year the lead audit partner obtained the first bachelor's degree and the fiscal year under audit.
EDUCATION	An indicator variable set equal to one if the lead audit partner attended a college or university ranked in the top 50 for undergraduate accounting programs by the Public Accounting Report in the last ten years and 0 otherwise.
PARTNER INDSHARE	Partner industry share measured as the sum of issuer audit fees for the lead audit partner divided by total issuer audit fees in the signing audit office's MSA the year under audit.
Control Variables:	
BUSY	1 when fiscal year end is in December, and 0 otherwise.
SWITCH	1 if the one if the company changes auditors in the current year, and 0 otherwise.
SOXAUDIT	Indicator variable when the audit is an integrated audit of internal controls over financial reporting and financial statements.
LNASSETS	Natural log of assets in millions of U.S. dollars.
SGROW	Year-on-year sales growth of the client firm.
BM	Shareholder's equity (book value) deflated by fiscal year-end market capitalization
LEVERAGE	Total debt (DLC + DLTT) divided by total assets (AT).
SDCFO	Standard deviation of the client's cash flows from operations deflated by beginning assets, computed over years t-3 and t.
CFOLAGAT	Client's cash flows from operations deflated by beginning assets.
LNGEOSEG	Number of geographic segments from Compustat Historical Segments.
LNBUSSEG	Number of business segments from Compustat Historical Segments.
FOREIGNPIFO	Absolute value of pretax income from foreign operations (PIFO) divided by the absolute value of pretax income (PI).
RECINV	Ratio of accounts receivable (RECT) plus inventories (INVT) to total assets (AT).
ROA	Earnings before extraordinary items (IB) divided by total assets (AT).
LOSS	Indicator variable equal to one when income before extraordinary items (IB) is negative.
GC	An indicator variable equal to if the audit opinion for the fiscal year under audit contained a going-concern modification.
LIT	Indicator variable if the client is in a high litigation industry (SIC code between 2833 and 2836, 8731 and 8734, 3570 and 3577, 7370 and 7374, 3600 and 3674, or 5200 and 5961).
WEAKNESS	An indicator variable equal to one if the client reports a material weakness.
M&A	An indicator variable set equal to one if the client had a merger or acquisition in the year under audit.
HORIZON	Forecast horizon, equal to the number of months between earnings announcement and the month when earnings forecast was made.
STD FORECASTS	Forecast dispersion, calculated as the standard deviation of earnings forecasts.
NUM ANALYSTS	Number of analysts making an earnings forecast.
UNEXPECTEARN	An indicator variable set equal to one if the client had an increase in earnings from prior year.
SPECIAL	An indicator variable set equal to one if the client has special items.
DISCOPS	An indicator variable set equal to one if the client has discontinued operations.
ACCEL	An indicator variable set equal to one if the client is an accelerated filer.
LARGE ACCEL	An indicator variable set equal to one if the client is a large accelerated filer.
BIG4	An indicator variable set equal to one if the audit firm is a Big 4 firm and 0 if it is a second-tier firm – GT, BDO, RSM or Crowe.
Industry FE	Dummy variable for Fama-French 12 industry grouping
Year FE	Dummy variable for fiscal year under audit
Additional Dependent Variables:	
QUARTER_MISSTATE	An indicator variable set equal to 1 if the client's quarterly financial statements during the fiscal year were subsequently restated and 0 otherwise.
Additional Test Variables:	
BOOMERANG	An indicator variable set equal to 1 if the lead audit partner started his or her career in public accounting, left public accounting to take an industry position, and then returned to public accounting.
INDUSTRYSTART	An indicator variable set equal to 1 if the lead audit partner started his or her career in a non-public accounting position and then transferred to public accounting, eventually becoming an audit partner.
INDUSTRY _KEY	An indicator variable set equal to 1 if the lead audit partner has served in a key financial reporting oversight role (i.e., CFO, CAO, controller, assistant controller, or VP/director of finance, accounting, or financial reporting) in an industry position outside of public accounting.
INDUSTRY _notKEY	An indicator variable set equal to 1 if the lead audit partner has *not* served in a key financial reporting oversight role (i.e., CFO, CAO, controller, assistant controller, or VP/director of finance, accounting, or financial reporting) in an industry position outside of public accounting.
BOOMERANG_KEY	An indicator variable set equal to 1 if the lead audit partner started his or her career in public accounting, left public accounting to take an industry position and served in a key financial reporting oversight role (i.e., CFO, CAO, controller, assistant controller, or VP/director of finance, accounting, or financial reporting), and then returned to public accounting.
BOOMERANG_notKEY	

(*continued*)

Variable Definitions.	
	An indicator variable set equal to 1 if the lead audit partner started his or her career in public accounting, left public accounting to take an industry position, but did not serve in a key financial reporting oversight role (i.e., CFO, CAO, controller, assistant controller, or VP/director of finance, accounting, or financial reporting), and then returned to public accounting.
INDUSTRY_EXP_SPEC	An indicator variable set equal to 1 if the lead audit partner gained industry experience in a specialized industry, where specialized industry is defined consistent with Bills et al. (2015), and the audit client is within the same specialized industry.
INDUSTRY_EXP_NOTSPEC	An indicator variable set equal to 1 if the lead audit partner did not gain industry experience in a specialized industry, where specialized industry is defined consistent with Bills et al. (2015), and/or the audit client is not within a specialized industry.
INDUSTRY_YRS_SHORT	An indicator variable set equal to 1 if the lead audit partner's number of years of industry experience is less than the sample median for partners with industry experience.
INDUSTRY_YRS_LONG	An indicator variable set equal to 1 if the lead audit partner's number of years of industry experience is greater than or equal to the sample median for partners with industry experience.
YRS_SINCE_INDUSTRY_SHORT	An indicator variable set equal to 1 if the lead audit partner's number of years since the industry experience is less than the sample median for partners with industry experience.
YRS_SINCE_INDUSTRY_LONG	An indicator variable set equal to 1 if the lead audit partner's number of years since the industry experience is greater than or equal to the sample median for partners with industry experience.
BOOMERANG_B4START	An indicator variable set equal to 1 if the lead audit partner started his or her career in public accounting at a Big 4 firm, left public accounting to take an industry position before returning to public accounting and assuming the current lead audit partner role.
BOOMERANG_NB4START	An indicator variable set equal to 1 if the lead audit partner started his or her career in public accounting at a non-Big 4 firm, left public accounting to take an industry position before returning to public accounting and assuming the current lead audit partner role.

this experience, particularly since these non-traditional career paths are becoming more common in recent years.

Appendix A

Appendix B

Semi-Structured Interview Protocol

Study overview

We are conducting interviews with accounting firm partners who had had prior industry experience. Your experience and perspective is unique and interesting, and we are interested in learning more about your career path. Your candid responses will be invaluable in understanding the current practice environment and will provide rich insights to help contribute to this research topic. The results of our study intend to benefit the public accounting profession as well as accounting research and education.

This interview should last approximately 30–45 min. Interview questions are provided below for your review in advance to allow you to think about the questions and expedite the interview process. All interview notes will be kept confidential within our research team. Your individual responses will not be identifiable in any reports. Because participation in these interviews is voluntary, you are free to refuse to answer any question. We would like to record the interviews for accuracy. To protect your anonymity, all recordings and transcripts will be kept confidential within our research team. Further your individual responses will be aggregated with all of our collected data and the individuals will not be identifiable in any reports. If you prefer that we do not record, then at least two researchers will participate in the call, take detailed notes, and then you send notes to verify their accuracy.

Following is information on the backgrounds of the research team, of which two will participate in your interview. [omitted] If you have any questions or concerns regarding this study and would like to talk to someone other than the researcher(s), you are encouraged to contact the Office of Research Compliance at the XXX Office for Human Subjects Protection at XXX. If you have questions for the scholars, please contact us at the following email addresses: XXX.

Interview Questions – industry experience participants

1. Please tell us about your career journey including your industry experience.
2. If applicable, why did you decide to leave public accounting and go into industry and then why did you decide to come back to public accounting?
3. If applicable, why did you decide to start your career in private industry (as opposed to public accounting) and why did you decide to transition to public accounting?
4. What do you perceive as the benefits and challenges of your industry experience in terms of your overall career? Do you think your prior industry experience has helped or undermined your subsequent career?
5. What did you learn during your industry experience that you use in your work today?
6. Do you perceive that you have a different mindset or perspective on accounting and auditing issues than fellow partners that did not have any industry experience during their career?
7. Did your industry experience affect the efficiency of your audits in any way? If yes, why/how?

INTERVIEW QUESTIONS – NO INDUSTRY EXPERIENCE PARTICIPANTS

1. Have you supervised and/or evaluated partners with non-public accounting industry experience? How many of such partners have you encountered during your career and how many have you supervised/evaluated? Can you please describe those partners (without naming them) and the nature of their non-public accounting experience?
2. How do those partners with non-public accounting experience compare with others without that experience? Do you perceive any systematic differences in characteristics or behavioral traits (e.g., work ethic, ambition, drive, quality, client interaction, etc.) between partners that have or do not have non-public accounting experience? Please describe/provide some examples.
3. What factors are considered when allocating staff to audit engagements? Do engagement partners influence the staff allocation process? If so, how? Does the engagement partner's background factor into the process? If so, how and in what respects? In your experience, did engagement partners with prior non-public accounting experience have any advantages/disadvantages in staffing their engagements?

4. Have you ever noticed that a client preferred an engagement partner with non-public accounting experience? How influential do you think a partner's non-public accounting experience is to the client's selection of the engagement partner (whether initial client wins or through partner rotation)? Did you notice that certain types of clients (based on ethicality, aggressiveness, competence, etc.) preferred partners with prior non-public accounting experience? For example, do clients selecting a partner with non-public accounting experience typically exhibit greater competency or resolve to get things right?

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