Does Engagement Partner Perceived Expertise Matter?

Evidence from the U.S. Operations of the Big 4 Audit Firms

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Abstract

This study investigates whether perceived engagement partner industry specialization matters in the U.S. setting, where the name of the engagement partner is currently not disclosed to the capital market participants. Using a unique engagement partner dataset for the U.S. operations of the Big 4 firms, we find that engagements led by industry specialist partners command higher fees and a higher rate per hour. However, the economic significance of these results does not appear to be as large as in settings where the name of the engagement partner is disclosed. Furthermore, we do not find any association between engagement partner industry specialization and several proxies for audit quality, even though we find a positive association with audit hours. These results suggest that, at least in the U.S. setting, there is a dichotomy between the client perceived value and the actual value provided by an industry specialist engagement partner, consistent with audits suffering from credence goods agency issues.

Keywords: Audit Engagement Partner, Audit Quality, Audit Fees, Industry Specialization, Expert-Client Agency Costs, Disclosure.

JEL Classification: M42, D82, L14, L22.

1. Introduction

The purpose of this study is to determine empirically, in the U.S. setting, whether perceived individual audit partner industry specialization matters in the context of the Big 4 audit firms. Even though prior studies consider the role of partner industry specialization for audit fees and quality, the evidence to date applies only to non U.S. settings where the name of the partner is publicly disclosed (e.g., Chi et al. 2010, Chi and Chin 2011, Zerni 2012, Goodwin and Wu 2014). We contribute to the literature by focusing on the role of the engagement partner in a setting where her name is not publicly disclosed. We assess whether partner industry specialization is associated with a fee premium in the form of higher audit fees and fees per hour, and also with audit hours and higher audit quality.

Prior studies document, for Sweden and Australia, that industry specialist engagement partners charge higher audit fees to their clients (Zerni 2012, Goodwin and Wu 2014). However, it remains an empirical question whether audit clients are willing to pay a premium for industry specialist engagement partners in the U.S. On the one hand, the perception that an industry specialist engagement partner is of higher quality, combined with credible private disclosure mechanisms of this specialization, such as the communication to the audit committee of the partner's prior engagements, may lead clients to pay a premium for an industry specialist engagement partner. On the other hand, because of the lack of public disclosure of the name of the engagement partner, the audit committee may not fully perceive the added value of the engagement partner, especially if the audit firm tends to rely on standardized processes and large engagement teams.

Furthermore, it remains an unexplored topic whether industry specialist engagement partners are able to charge a fee premium through a higher average rate per hour on the engagement,

more audit hours, or a combination of both. In particular, an audit fulfills the attributes of a credence good (e.g., Causholli and Knechel 2012, Causholli et al. 2013), a type of good where an expert seller, in presence of customers unfamiliar with the service, determines how many of the services are necessary and also provides these services (Emons 1997). The particular agency problem for credence goods, well established in the economics literature (e.g., Demski and Sappington 1987, Emons 1997, Hubbard 1998), is akin to a doctor who conducts too many unnecessary procedures (e.g., Domenighetti et al. 1993, Iizuka 2007 and 2012), or even a car mechanic who orders unnecessary repairs (e.g., Patterson 1992), both to maximize their own profits.[1] Causholli and Knechel (2012) similarly suggest that an auditor may have incentives to over-audit or overcharge, and such incentives may be exacerbated in the presence of more perceived expertise from an industry specialist partner.[2] Assessing the influence of partner specialization on audit hours, in combination with other variables, can help us answer whether an audit suffers from credence goods agency issues.

It also remains an empirical question whether industry specialist engagement partners are associated with higher audit quality. On the one hand, increased industry knowledge can lead the engagement team to focus on key parts of the audit. Further, a more experienced partner should command more credibility with her client management. This could lead the client to more readily accept audit adjustments uncovered during the audit, thereby improving audit quality (e.g., Lennox et al., forthcoming). On the other hand, in the absence of public reputation effects and if

[1] The credence attribute of an audit may even be higher than in other professions because of high switching costs in auditing (e.g,, Causholli and Knechel 2012), whereas it is easier for an individual to ask for a second opinion from another doctor or another car mechanic.

[2] Causholli and Knechel (2012) mention in particular, p632: *"During the audit process, the auditor is responsible for making decisions concerning risk assessment, total effort, labor allocation, and the timing and extent of audit procedures that will be implemented to reduce the residual risk of material misstatements. As a non-expert, the auditee may not be able to ascertain the extent to which the risk of material misstatement has been reduced even after the audit is completed. Thus, information asymmetry exists between the auditee and the auditor, the benefit of which accrues to the auditor."*

effort is costly, industry specialist engagement partners may not spend any extra-effort on their audits to reach a level of audit quality beyond the bar imposed by auditing standards (e.g., Dye 1993). Accordingly audit quality may not change regardless of partner industry specialization.

We use a unique dataset obtained from the Public Company Accounting Oversight Board (PCAOB) for the U.S. operations of the Big 4 firms to answer our research questions. The PCAOB is a non-profit organization established by the Sarbanes-Oxley Act of 2002 (SOX) to oversee the audits of public companies (referred to as issuers or client issuers in the remainder of this paper) and improve audit quality. The PCAOB, as part of its inspection program, regularly collects information from audit firms. This information includes, for the U.S. operations of the Big 4 firms, a list of the audits of issuers and the name of the engagement partner on each individual audit. The dataset also includes the overall audit hours for each engagement, lead engagement partner hours and the number of years as partner (seniority). We use this dataset, available from 2008 till 2013, to build a measure of engagement partner industry expertise that we base on the partner's prior-year engagements. We combine this data with Compustat and Audit Analytics to generate publicly available measures of audit quality, audit fees, and several control variables. We also combine our dataset with proprietary PCAOB inspection data of individual engagements that indicate which engagements were inspected and whether audit deficiencies were identified by the PCAOB (in case a deficiency is identified, the PCAOB issues a Part I Finding). We follow prior literature and compute publicly available measures of audit quality, including the propensity of the issuer to restate its financial statements or meet/beat the zero earnings threshold, and accruals (e.g., DeFond and Zhang 2014, Aobdia 2015a).[3] We also

[3] We do not use going concern opinions as a measure of audit quality because Aobdia (2015a) and Bowler (2015) provide evidence casting doubt on the validity of this specific measure.

use the propensity of the PCAOB to identify Part I Findings as a measure of audit quality (the data are only available for the subset of inspected engagements).

In the first set of tests, we find a positive association between partner industry specialization and audit fees. An increase of one standard deviation of engagement partner industry specialization is associated with an increase of 11% of the audit fees. This fee increase could be driven by a higher average rate per hour of the engagement or by more audit hours or both. We find that the increase is partly driven by a higher rate per hour. An increase of one standard deviation of partner industry specialization is associated with a rate per hour increase of $8.8, approximately 4.0% of the mean $221 an hour in the sample. These results suggest that industry specialist engagement partners are perceived to be of higher quality by the client issuers, who are willing to pay a premium for the services of the teams they lead. However, we find that the overall economic significance of our results may not be quite as large as in settings where the name of the engagement partner is publicly disclosed.

Because the increase in rate per hour is lower than the total audit fee increase, part of the fee increase must be driven by more audit hours, a proposition we systematically examine in the next set of tests. We find a positive association between engagement partner industry specialization and audit hours. This result could be driven by the following explanations: 1) Industry specialist engagement partners over-audit in the presence of clients who are unable to determine whether the services provided are necessary or not, a situation typical of credence goods (e.g., Causholli and Knechel 2012, Causholli et al. 2013). Or 2) the partner aims to increase audit quality, increased hours are necessary to improve quality and the partner can credibly sell these hours.[4]

[4] We also test for an association between engagement partner hours and partner industry specialization and find a positive association. However, the economic significance of this result is much more limited than the one for overall

We estimate the association between partner industry specialization and audit quality to disentangle these two potential explanations. Using the propensity of the issuer to restate its financial statements or meet/beat the zero earnings threshold, accruals, and the propensity of the PCAOB to identify a Part I Finding on inspected engagements, we fail to find any relationship between partner industry specialization and audit quality. This finding suggests that the results on increased hours are driven by the first explanation, that is industry specialist partners ineffectively over-audit, with no noticeable influence on audit quality. This result also suggests that, absent disclosure of their name, engagement partners have little incentives to conduct higher quality audits, consistent with Aobdia (2015b) who finds evidence that auditors have limited incentives to conduct audits above the bar imposed by the audit standards in the U.S.[5]

We also consider an alternative explanation whereby risky and complex clients are more likely to be audited by an industry specialist engagement partner. Specifically, our results could be explained by audit firms assigning industry specialist engagement partners to riskier clients. Industry specialist partners would spend more effort and charge higher fees to reach a similar level of audit risk as for less risky clients. We use several empirical specifications to determine whether this alternative explanation is valid. First, we include a battery of variables that control for client risk and complexity. Second, in all specifications, we include an indicator variable equal to one when the auditor identifies specific clients to be more risky. Third, following Lawrence et al. (2011) and Minutti-Meza (2013), we also re-estimate our specifications using a matched sample based on propensity score matching, to control for the potential sorting of industry specialist engagement partners to specific engagements, and still find qualitatively

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audit hours. This suggests that the increased audit hours are conducted by more junior personnel and therefore perhaps of lower quality, potentially consistent with the first explanation of ineffective over-auditing.

[5] In particular one would expect industry specialist engagement partners to conduct higher quality audits if provided with the proper incentives.

unchanged results. Thus, our results are unlikely to be driven by the alternative explanation whereby industry specialist engagement partners are staffed to riskier clients.

We conduct several robustness tests. Given the extant debate on measurement of industry expertise (e.g., Minutti-Meza 2013, Audousset-Coulier et al. 2016), we rerun our analyses using a battery of different proxies for expertise, including one based on a portfolio-share approach and another one based on the engagement partner seniority, and find that our results remain qualitatively unchanged. However, we fail to find meaningful associations between industry expertise and audit fees, hours and quality when using the partner self-reported measure of industry specialization. One potential reason is that approximately 90% of the clients are covered by self-described industry-specialist engagement partners, thereby seriously limiting the cross-sectional variation in the dataset. This statistic still suggests that a baseline level of industry expertise exists in the vast majority of audits conducted by the Big 4 in the U.S., consistent with Bell et al. (2015). While clients are willing to pay to go beyond this baseline level, our other analyses indicate that audit quality does not necessarily improve.[6]

Using several proxies for audit committee expertise, we also find some weak evidence that a more experienced audit committee is able to reduce the credence goods attribute of audits led by industry specialist engagement partners. This result is consistent with strategic interactions between sellers and buyers in a credence setting (e.g., Causholli and Knechel 2012).

Our results do not necessarily imply that the decision by the audit committee to hire an industry specialist engagement partner in the U.S. does not serve a rational goal. In particular, the name of the engagement partner can currently be publicly disclosed in certain cases ex-post

[6] This result is consistent with anecdotal evidence that suggests that audit committees inquire beyond the self-reported industry expertise of their engagement partners. In particular, audit committees appear to ask for detailed biographies and lists of prior engagements when assessing new lead partners on their engagements.

when things go wrong, including during PCAOB or SEC enforcement actions and class action lawsuits.[7] Thus, the audit committee could have a legitimate incentive to ex-ante engage an industry specialist engagement partner in an attempt to shield its ex-post exposure to liability. This incentive should be higher for issuers where the ex-ante risk of litigation is higher. Consistent with this prediction, we find that audit fees and the average rate per hour are higher for industry specialist partners in industries with a higher risk of litigation. This result suggests in general that the credence attribute of an audit may be stronger in the U.S., where litigation is more prevalent than in many other countries.

Overall, our results contribute to several streams of the literature. We contribute to the audit partner literature and extend Zerni (2012) and Goodwin and Wu (2014) by providing some evidence that clients perceive industry specialist engagement partners to be of higher quality and are willing to pay a premium for their services, even in a setting where the partner name is not publicly disclosed. This result suggests that, to a certain extent, private disclosure mechanisms can effectively substitute for public mechanisms. However, partner industry specialization is not associated with our proxies for audit quality, suggesting that the actual value of using a perceived industry specialist engagement partner in the U.S. is low. This evidence is in contrast with papers that focus on countries where the name of the engagement partner is disclosed (e.g., Chi et al. 2010, Chi and Chin 2011). Furthermore, the dichotomy between the client perceived value and the actual value provided by an industry specialist engagement partner provides support for the December 15, 2015 PCAOB rule that requires disclosure of the name of the engagement partner (e.g., PCAOB 2015). In particular, disclosure of the name of the engagement partner may reduce

[7] See for example the PCAOB enforcement actions against James L. Fazio, and Stephen J. Nardi, partners at Deloitte and BDO Seidman, respectively (PCAOB 2007a and 2007b).

this dichotomy if capital markets and clients care about choosing higher quality engagement partners and thus focus on their publicly observable track record (e.g., Aobdia et al. 2015).

We also contribute to the literature in economics on expert-client agency costs (e.g., Iizuka 2007) by documenting that part of the increased audit fees clients pay for industry specialist engagement partners are driven by increased audit hours. Given that audit quality remains unchanged, this suggests that perceived industry specialist engagement partners may ineffectively over-audit, consistent with audits being credence goods (e.g., Causholli and Knechel 2012, Causholli et al. 2013). This evidence complements an extensive literature in industrial organization on the topic of expert-client agency costs and credence goods (e.g., Demski and Sappington 1987, Emons 1997). Expert-client agency issues have been documented in many types of situations, including car mechanics (e.g., Patterson 1992, Hubbard 1998), doctor-client relationships (e.g., Emons 2001, Afendulis and Kessler 2007, Iizuka 2007 and 2012), legal services (e.g., Hadfield 2000), real estate agents (Levitt and Syverson 2008), and mutual fund companies and mutual fund investors (Chevalier and Ellison 1997). To our knowledge, we are the first to find empirical evidence consistent with this theory in the context of ineffective over-auditing.

We caveat that our results do not necessarily imply that engagement partner industry expertise does not matter from an audit quality standpoint. For example, our results could be driven by the current disclosure regime in the U.S. that provides little incentives for engagement partners to audit beyond the bar imposed by the standards. Furthermore, our sample is restricted to the Big 4 firms, where engagement partners are chosen through a rigorous process that only keeps a limited number of individuals that are likely to be of higher quality to begin with, and

where support to conduct each individual audits is reasonably high. Consequently, we caution against extrapolation of our results to other jurisdictions or to the non-Big 4 audit firms.

The remainder of this paper is structured as follows. Section 2 includes a review of prior literature and the hypothesis development; Section 3, the data and the sample construction; Section 4, the main empirical tests; and Section 5, some additional tests. Section 6 concludes.

2. Prior Literature and Hypothesis Development

2.1 Prior Literature

Prior empirical audit literature in the U.S. setting is severely constrained by lack of information about the auditor beyond the name of the audit firm or its office responsible for issuing the audit report. As a result, a large part of the empirical auditing literature assesses, at the audit firm level, whether auditor size, often proxied by Big N, or industry specialization, is associated with higher audit quality and audit fees (e.g., DeAngelo 1981, Palmrose 1988, Balsam et al. 2003, Krishnan 2003). More recent literature focuses on individual audit-offices (e.g., Reynolds and Francis 2001, Francis and Yu 2009) and their influence on audit quality and fees, and finds that the influence of industry specialization also depends on the level of industry specialization of the individual audit office (e.g., Francis et al. 2005, Reichelt and Wang 2010). However, to date, limited research focuses on individual engagement partners in the U.S. setting because this information is not publicly available.[8]

Using international settings such as Australia, China and Taiwan, where the name of the engagement partner is disclosed, recent research has increased its focus on individual audit partners (e.g., Chen et al. 2008, Chen et al. 2010). For example, Gul et al. (2013) find for China

[8] An exception is Laurion et al. (2016) who track U.S. audit partner rotations based on public correspondences between issuers and the SEC.

that individual engagement partners matter for audit quality, and Aobdia et al. (2015) confirm their findings for Taiwan, and also find evidence of capital market effects of individual engagement partners. Knechel et al. (2015) also find differences in individual partner reporting styles in Sweden. Both Gul et al. (2013) and Aobdia et al. (2015) use partner fixed effect models. These models capture all time invariant dimensions of a partner, and although informative, do not fully answer what drives individual partner effects. We cannot apply a fixed effects model for this particular study because we are interested in measuring the effects of perceived industry expertise. A fixed effect model would measure actual ability and cannot be estimated (perceived) by a client because all partner-client histories need to be observable to estimate such a model.[9]

The closest studies to ours study the influence of partner industry specialization outside of the U.S. Using data from Sweden and Australia, Zerni (2012) and Goodwin and Wu (2014) focus on industry expertise at the individual partner level and find a positive association between industry expertise and audit fees. However, their studies do not focus on audit quality. Chi et al. (2010) and Chi and Chin (2011), using data from Taiwan, find evidence that partner industry specialization is positively associated with audit quality. One caveat applicable to these studies is that their results may not apply to a setting where the name of the partner is not disclosed.

2.2 Hypothesis Development

We consider the perceived and actual value of expertise separately by assessing the influence of the audit partner industry specialization on audit fees and audit quality. In particular, tests of industry specialization on audit fees can reflect the perceived value of expertise from a client standpoint, whereas tests on audit quality reflect the actual value of this perceived expertise.

[9] An additional concern of a fixed effect model is that it needs to be estimated on a reasonably long period of time. An estimation and validation sample may also be required as in Aobdia et al. (2015). We only have six years available in our dataset.

First, we consider whether client issuers are willing to pay a premium for the industry specialization of their engagement partner. Prior studies suggest that clients are willing to pay a fee premium when their audit office is an industry specialist (Ferguson et al. 2003, Francis et al. 2005) or is larger (Choi et al. 2010). This suggests that clients may be willing to pay a premium for an industry specialist engagement partner. In particular, the audit committee could be interested in working with a credible partner who may be less likely to be challenged by the issuer's management when presenting the findings of the audit to the client. In general, the audit committee or the issuer management team may also be interested in interacting with an industry specialist partner to gain more insights about accounting or auditing practices of other issuers in the industry, or to benefit from information spillovers from other clients (Aobdia 2015). Anecdotal evidence from audit committee, board members and auditors suggests that audit committees, in exercising their due care, naturally want to engage the most able auditors available with the appropriate level of expertise, and ask for detailed information about their audit team members' resumes and prior assignments (e.g., Fiolleau et al. 2013). Furthermore, in settings where the name of the partner is publicly disclosed, Zerni (2012) and Goodwin and Wu (2014) find a positive association between partner industry specialization and audit fees. Thus, an audit committee may be interested in hiring an industry specialist partner and pay a premium.

However, in the U.S., issuers cannot accrue signaling benefits in the capital markets by hiring an industry specialist engagement partner, because the partner name is currently not disclosed. This contrasts with other jurisdictions such as Taiwan where hiring a better partner provides direct capital market benefits (e.g., Aobdia et al. 2015). Even though an individual audit office can command a fee premium in the U.S., the audit office's size and expertise can be inferred from its clients' public disclosures. This is not the case for individual partners. Thus, price-

sensitive clients may not insist on working with an industry specialist partner as long as the cost of the audit is low. Furthermore, audit partners may encounter some difficulties to credibly convey their expertise to their clients in absence of confirmation from an external disclosure mechanism.[10] This suggests that industry specialist partners may be unable to command a premium in the U.S. as their assignments to specific clients could result more from internal supply factors at the audit firm than demand factors from the clients. Audit partners may also have limited influence on preparing the audit bids with clients, and this could result in a lack of premium for expertise. Consequently we test the following hypothesis, stated in a null form:

H1a: There is no association between audit fees and engagement partner industry specialization

H1b: There is no association between audit fees per hour and engagement partner industry specialization

An additional element needs to be considered in the analysis of the potential audit fee premium for expertise. On the one hand, audit partners may be able to charge a premium per hour but bill fewer hours in general due to production efficiencies they generate in the audit process, as suggested by prior literature (e.g.,Cairney and Young 2006, DeFond and Zhang 2014, Bills et al. 2015). This suggests that audit hours could be lower on engagements audited by industry specialist partners, thereby lowering the overall client fees.

On the other hand, if industry specialist partners command more credibility at their client and are able to derive higher fees as a result, these partners may also internally and externally generate more credibility and have their decisions questioned less often. This discussion suggests that audit hours could be higher if industry specialist engagement partners, in contrast to less

[10] For example it would be easier for a partner in the U.S. to selectively remove problematic engagements from a biography shared with a prospective client.

experienced partners, are able to successfully shield their teams from client-driven or audit-firm driven time pressure. In particular, prior research suggests that reduced time pressure can lead to lower audit efficiency (e.g., McDaniel 1990).

Furthermore, if audit effort is unobservable and costly, auditors have incentives to shirk (e.g., Dye 1993) and these incentives may be exacerbated if an industry specialist partner can more successfully shield the engagement team from external pressure, thereby increasing this moral hazard. Agency costs in the expert-client relationship are well known in the economics literature (e.g., Demski and Sappington 1987, Emons 1997, Iizuka 2007). For example, Emons (1997) mentions that in many settings where expert services are provided (including medical services, lawyer services, as well as repair services such as auto mechanics and appliance servicepersons), the expert has an incentive to oversell the services in presence of a client who is unable to determine whether these services are necessary or not. This setting is applicable to auditing (e.g., Causholli and Knechel 2012, Causholli et al. 2013), where an industry specialist partner may be able to sell additional auditing procedures that are not truly necessary for the client issuer, or perhaps use their engagements as training grounds for inexperienced auditors. In addition, if industry specialist engagement partners influence audit quality, this could have an impact on the audit hours as more thorough audits could require increased hours. Consequently we test the following hypothesis, stated in a null form:

H2: There is no association between engagement partner industry specialization and audit hours

Hiring an industry specialist engagement partner can provide the appearance of credibility from a client standpoint. However, the question remains whether in practice industry specialist engagement partners provide better audit quality than non-specialists. On the one hand, several

arguments go in favor of higher audit quality. First, more industry knowledge should allow the engagement partner to direct the engagement team to spend more time on the more crucial parts of the audit.[11] A non-industry specialist may not have sufficient knowledge to do so and may have to rely on junior audit team members. Second, increased industry credibility can help an industry specialist engagement partner convince the issuer's management to accept more audit adjustments. This has the potential to improve audit quality (e.g., Lennox et al., forthcoming).

On the other hand, several arguments go in favor of little or no difference in audit quality. First, audit teams are reasonably large and rely heavily on the audit firms' methodologies. For example, Aobdia (2015c) finds that defects in the audit methodology negatively influence audit quality, and the descriptive statistics in this study suggest that engagement partner hours represent a small proportion of the total hours spent on an audit. Thus, the influence of an engagement partner on the audit quality of a specific engagement may be limited.

Second, because their names are not disclosed to the capital market participants, engagement partners may have limited incentives, from a reputation standpoint, to spend any extra-effort on their audits beyond the bar imposed by auditing standards.[12] Supporting this conjecture, Aobdia (2015b) finds that audit firms gravitate towards the bar imposed by the standards following a PCAOB inspection, consistent with little differentiation existing in the audit market in the U.S. If effort is costly and difficult to monitor (e.g., Balachandran and Ramakrishnan 1987, Dye 1993, Bedard et al. 2008), then engagement partners may rely more on their audit firms' methodologies

[11] For example, Auditing Standard 12 requires the auditor to have an understanding of the company and its environment to identify and assess the risk of material misstatement. An industry specialist auditor may know which specific industry conditions or developments have a potential impact on this risk.

[12] Industry specialist engagement partners may still have an incentive to perform rigorous work given that their names are provided to the PCAOB. However, it is unclear whether they have an incentive to perform any work beyond the bar imposed by the PCAOB standards (e.g., Aobdia 2015b).

and engagement team members and decide not to spend any extra-effort on their audits, even if they are industry specialists.

Third, audit firms actively manage their partners' assignments and careers. Thus, audit firms might be cognizant about the strengths and weaknesses of their engagement partners and appropriately pair them with complementary team members on their engagements. For example, a non-industry specialist engagement partner may be paired with a highly experienced engagement team on a specific engagement, while an industry-specialist engagement partner may be paired with a less qualified engagement team.[13]

Additional factors could also explain a lack of relationship between engagement partner industry specialization and audit quality. Industry specialist partners may be overconfident given their prior track record, or busy individuals whose engagements suffer from lack of attention. Further, their enhanced knowledge of accounting in given industries may make them more susceptible to allow more aggressive accounting treatments of certain transactions.

Consequently, it remains an empirical question whether industry-specialist engagement partners are able to improve audit quality on their engagements. We test the following hypothesis, stated in its null form:

H3: There is no association between engagement partner industry specialization and audit quality.

3. Data and Sample Construction

[13] Note that even if this statement is valid, this still suggests that industry specialist engagement partners have limited incentives to achieve higher audit quality at their clients. Otherwise they would push back against this practice.

The PCAOB collects some information about each engagement audited by the U.S. operations of the largest audit firms in its annual data request form (e.g., McKenna 2015). This information includes the CIK of the issuer, its fiscal year end, the identity and seniority of the engagement partner and the hours worked on the audit.[14] We obtain this information for the fiscal years ranging from 2008 to 2013 for the U.S. operations of the Big 4 firms, and start with 24,190 issuer-year observations. We eliminate 5,815 observations corresponding to non-operating companies and where the name of the engagement partner is missing, leaving a total of 18,375 issuer-years. We base the computation of the expertise proxy on these observations. Because our partner expertise proxy is computed based on the prior year, we lose another 5,200 observations where the partner's prior year information is unavailable. Finally, we merge this dataset with Compustat and Audit Analytics in order to obtain audit fees information, and compute publicly available measures of audit quality as well as our control variables. Our final sample is composed of 8,097 observations that have partner industry specialization, audit quality and fee measures and control variables available. Table 1 summarizes the sample selection process.

(Insert Table 1 About Here)

We also use audit hours, partner hours, and fees per hour as dependent variables in some of the specifications. Lead engagement partner hours are only available for the years 2012 and 2013, which further reduces the sample size for the specifications involving the hours. We do not restrict the data to the intersection of all data available, because doing so would considerably reduce our overall sample size. We also merge our sample with proprietary PCAOB inspection

[14] This information is restricted to the audit of issuers.

data, ending in 2012, to determine which engagement is inspected, and what the outcome of the inspection is. Our sample restricted to inspected engagements is reduced to 502 observations.

4. Main Empirical tests

4.1 Research design

We initially test whether engagement partner industry specialization is associated with audit quality, fees and hours using the following regression:

$$Logauditfees_{i,t} \text{ or } Log(Hours)_{i,t} \text{ or } Rate\_Per\_Hour_{i,t} \text{ or } Audit\_Quality_{i,t} = \alpha + \beta_1.Expertise_{i,t} + \gamma.Controls_{i,t} + Year\ Fixed\ Effects + Industry\ Fixed\ Effects + \varepsilon_{i,t}, \quad (1)$$

where the subscripts i and t correspond to issuers and years, respectively.

Model (1) is estimated using OLS, even when the dependent variables are binary, but the results are qualitatively unchanged if we use logistic specifications for binary dependent variables. The dependent variables are composed of *Logauditfees*, the natural logarithm of the audit fees charged to the issuer and *Log(Hours)*, composed of two different proxies: *Logaudithours*, equal to the logarithm of the total engagement hours, and *Logpartnerhours*, equal to the logarithm of the engagement partner hours. Detailed variable definitions are provided in Appendix A. We also use *Rate_Per_Hour* as a dependent variable, equal to the total audit fees divided by the total engagement hours, to test for whether engagements audited by industry specialist engagement partners command a rate premium. We also use *Audit_Quality* as a dependent variable, itself composed of four different proxies, to test for the potential influence of the engagement partner on audit quality. Following prior literature (e.g., Leuz et al. 2003, DeFond and Zhang 2014, Aobdia 2015a), we use the following proxies for audit quality: *Restatement*, *SmallProfits* and *PartIFinding*, indicator variables equal to one when the company restates its financial statements, has a return on assets between 0% and 3%, or its audit

engagement receives a Part I Finding, respectively; and *ScaledAccrualsCFO*, the absolute value of accruals deflated by cash flows from operations. All these variables are computed in a similar fashion as in Aobdia (2015a), who finds that *Restatement*, *SmallProfits*, and *ScaledAccrualsCFO* represent adequate measures of audit quality when compared with the PCAOB Part I Findings. We tend to rely more on the inferences derived from *PartIFinding*, *Restatement* and *SmallProfit*, in contrast to *ScaledAccrualsCFO*, because of Aobdia (2015a)'s results that suggest that these variables are stronger at predicting audit quality. Nevertheless our results on audit quality are qualitatively unchanged regardless of which dependent variable we use. We also do not tabulate additional specifications that use total accruals or discretionary accruals as dependent variables, but our results are also qualitatively unchanged when using these variables.

Following prior literature (e.g., Balsam et al. 2003, Krishnan 2003, Reichelt and Wang 2010, Minutti-Meza 2013), we use the audit partner's within-industry market share as our measure of industry specialization. Specifically, our main proxy for partner industry specialization, *Expertise*, is equal to the total audit fees charged by the engagement partner in the client industry, defined using the Fama French 48 industry groups, divided by the total audit fees charged in this industry.[15,16] We measure industry specialization one year prior to the measurement of the dependent variables, because otherwise we may mistakenly assign engagement partners to be industry specialists when they just start working on a large engagement in a completely different industry. Given that the measurement of industry

[15] Because the Fama French 48 industry groups are more granular than the typical industries defined by the audit firms, we rerun in untabulated analyses our specifications using the Fama French 10 industry groups and find qualitatively unchanged results.

[16] One may wonder whether the typical measure of industry specialization, based on publicly available data, does not suffer from noise due to lack of inclusion of nonpublic companies. Because the PCAOB collects the total number of non-issuer clients for each partner and each year, we are able to re-run our specifications on partners that do not have any nonpublic clients. While our sample size is greatly reduced by incorporating this restriction, we keep finding, in untabulated analyses, qualitatively unchanged results.

specialization can be problematic in general (e.g., Zerni 2012), especially because we are limited by the number of years in our dataset, we also explore some additional measures of industry specialization in Section 5. Further, there is little consensus in the literature about whether a continuous market share variable or an indicator variable above a certain market share threshold needs to be chosen. For example, Goodwin and Wu (2014) use a continuous measure, whereas Minutti-Meza (2013) and Zerni (2012) use indicator variables. We use a continuous measure of industry specialization in Model (1), similar to Goodwin and Wu (2014). However, our results are qualitatively unchanged if we use an indicator variable when the market share is above the 75th percentile threshold (*Specialist* variable). We use the latter definition when applying propensity score matching regressions described below.[17]

Following prior literature (e.g., Francis et al. 2005; Francis and Yu 2009; Reichelt and Wang 2010), we include a battery of control variables that have been shown to influence audit quality and audit fees. These control variables are composed of *Logat* (the natural logarithm of the issuer's total assets, to control for issuer size), *Leverage* (total debt divided by total debt plus equity, to control for capital structure), *Loss* (an indicator variable equal to one if earnings before extraordinary items is negative), *BTM* (the book to market ratio, equal to the issuer's book equity divided by fiscal year end market value), *ForeignPifo* (absolute value of pretax income from foreign operations divided by the absolute value of pretax income), *Intangi* (minus one times gross PP&E divided by assets), *CATA* (current assets divided by total assets), *Quick* (current assets less inventory divided by current liabilities), *Geoseg* (number of geographic segments, as per Compustat Segments), *Busseg* (number of business segments, as per Compustat Segments), *Stdsalegrowth* (the standard deviation of the issuer's sales growth, computed from year $t-3$ to

[17] We use an indicator variable when applying the propensity score model in order to estimate the selection model which must be based on a binary outcome.

year *t*), *DecYE* (a dummy that equals one for fiscal year ending in December), *CFOat* (cash flows from operations deflated by beginning assets), *StdCFOat*(standard deviation of *CFOat*, computed from year $t - 3$ to year *t*), *Altman* (the Altman Z-score), *Length_Relationship* (number of years the audit firm has continuously audited the client issuer, obtained from Compustat, to control for auditor tenure), *Salegrowth* (percentage increase in the issuer's revenues), and *Weaknesses* (indicator variable equal to one when internal control weaknesses are reported). Following prior literature on the influence of audit office on quality and fees (e.g., Francis et al. 2005; Francis and Yu 2009; Reichelt and Wang 2010), we also control for *City_Leader* (a dummy equal to one when the total office audit fees for a two-digit SIC industry are the largest in the core business statistical area –CBSA– in that year), *NationalLeader* (a dummy equal to one if the total fees for that auditor in a two-digit SIC industry are the largest), and *Office_Size* (logarithm of audit fees for the office year). We also include year and Fama French 48 industry group fixed effects, cluster standard errors at the issuer level, and winsorize all continuous variables at the 1st and 99th percentiles to limit the impact of outliers in the specifications.

Because the inclusion of so many control variables may have an influence on some of the results, we also estimate parsimonious regressions with a set of basic controls, including *Logat*, *Leverage*, *Loss*, and *BTM*. These parsimonious regressions ensure that our results are not driven by the inclusion of any specific control variable. We also exclude *Loss* from the specifications that use *SmallProfit* as the dependent variable to avoid any mechanical relationship between *Loss* and *SmallProfit*.

To control for the client risk identified by the audit firm, we also include an indicator variable, *High_Risk*, equal to one when the engagement is considered to be of higher risk by the audit firm. This variable controls for the fact that industry specialist partners are potentially

assigned to riskier engagements and alleviates concerns that a positive association between audit fees or hours and industry specialization, or a null association with audit quality, could be driven by client risk.

We also re-estimate Model (1) using a matched sample based on propensity score matching. Lawrence et al. (2011) and Minutti-Meza (2013) find that OLS can lead to misleading inferences in the analysis of Big 4 auditors and auditor industry specialization on audit quality and fees, and suggest that using matched samples instead is more appropriate. In particular, Minutti-Meza (2013) argues that differences in clientele among auditors can influence the measurement of industry specialization because auditors covering larger clients are more likely to be classified as industry specialists. Thus, he recommends using matched samples to take care of this issue. Following these two studies, we apply propensity score matching (Rosenbaum and Rubin 1983) and rerun Model (1) on the sample of engagements audited by industry specialists and a control group matched on propensity score matching.[18] We use the following first stage logistic model:

$$Specialist_{i,t} = \alpha + \gamma.Explanatory\ Variables_{i,t} + Year\ Fixed\ Effects + Industry\ Fixed\ Effects + \varepsilon_{i,t}, \quad (2)$$

In this specification, *Specialist* is an indicator variable equal to one when *Expertise* is above 1.6%, which corresponds to the 75th percentile of the distribution in the sample (see Table 2).[19] *Specialist* proxies for engagements that are audited by an industry specialist partner.

We first estimate the propensity for engagements in the sample to be audited by an industry specialist. Then, for each engagement audited by a specialist, we match this engagement, without replacement, with an engagement not audited by a specialist that has the closest predicted

[18] Following the recommendations in Shipman et al. (2016), we present our results using both multivariate regression and propensity score matching.
[19] We also use different thresholds, such as the 90th percentile and 5% of industry fees, and find qualitatively unchanged results.

probability from Model (2).[20] The differences between the two groups should be informative about the treatment effect of engagements being audited by an industry specialist (e.g., Heckman et al. 1997, 1998, Dehejia and Wahba 1999, 2002, and Lawrence et al. 2011). Following Lawrence et al. (2011) and Minutti-Meza (2013), we still use Model (1) restricted to the treated and control samples to control for any remaining differences. However, our results remain unchanged if we only estimate the average treatment effect without inclusion of control variables.

4.2 Descriptive Statistics

Descriptive statistics are presented in Table 2. The mean of expertise is 1.8%, indicating that audit partners on average audit 1.8% of their industry's total audit fees. There is some variation in the number, as evidenced by a standard deviation of 4.6%. Because this variation is partly driven by the industry composition, we include industry fixed effects in all our specifications. Furthermore, we also explore additional measures of expertise based on indicator variables and obtain qualitatively similar results. In terms of dependent variables, 10.7% of the financial statements are eventually restated, and 15.2% meet/beat the zero earnings threshold. An audit at the average of the variables generates approximately $1.6M in fees, corresponding to 7,538 hours and 301 partner hours. Partner hours represent only 4% of total audit hours.

(Insert Table 2 About Here)

4.3 Propensity to be Audited by an Industry Specialist

The results of Model (2) are presented in Table 3. We present the analyses with a limited set of control variables in Column (1) and with the full set of variables in Column (2) (we use the set

[20] We follow DeFond et al. (2016) and match without replacement with a one-to-one matching, but our results are qualitatively unchanged if we match with replacement.

with the full set of variables in subsequent analyses based on propensity score matching). We find that larger issuers, international issuers, issuers audited by an industry-specialist city auditor and larger offices, and with lower cash flows and sales growth are more likely to be audited by an industry specialist partner, as evidenced by significant coefficients on *Logat*, *ForeignPifo*, *City_Leader*, *Office_Size*, *CFOat* and *SaleGrowth*. This suggests that auditors assign industry specialist engagement partners to larger, more complex and riskier clients, and also where they have a larger pool of potential industry specialist partners available.[21] We note that while *High_Risk* loads positively in Column (1), the coefficient becomes insignificant after incorporating other control variables in Column (2). This result suggests that the client risk as perceived by the auditor can be controlled with publicly available variables when considering partner assignment decisions.

(Insert Table 3 About Here)

We note that the explanatory power of Model (2) is reasonably high. Untabulated analyses indicate that the area under the curve of the model is 88% in Column (1) and only increases to 90% when incorporating all control variables in Column (2).[22]

4.4 Audit Fee Results

Results on audit fees are presented in Table 4. Columns (1) to (3) show the results when using *Logauditfees* as the dependent variable. We find a positive association between *Expertise* (and *Specialist*) and *Logauditfees*. This result, consistent with Zerni (2012) and Goodwin and Wu (2014), suggests that clients value industry expert engagement partners on their engagements

[21] We note that the relationship on issuer size could be mechanical, due to the way industry specialization is measured in the first place (e.g., Minutti-Meza 2013). This justifies the need to use a matched model.
[22] The Receiver Operating Characteristic (ROC) curve is a parametric plot of the probability of detection versus the false positive rate (e.g., Schmidt, 2012). The area under the curve (AUC) represents a measure of fit of the model. A value of 0.5 of this statistic corresponds to a random model, while a value of 1.0 means perfect predictive power of the explanatory variables.

and are willing to pay a premium, even in the context of the U.S. setting where the name of the engagement partner is not publicly disclosed. The results are qualitatively unchanged regardless of the number of control variables used, but are slightly weaker in Column (2) when including more controls. The results also hold when using propensity score matching in Column (3). In terms of economic significance, based on Column (2), one standard deviation increase in partner industry specialization is associated with an increase in audit fees of approximately 11%.[23] This number is reasonably large in general, but is still smaller than comparable numbers found in settings where the name of the engagement partner is publicly disclosed. For example, in Goodwin and Wu (2014), based on the results of their Table 6 Column (2), an increase of one standard deviation of industry expertise of the partner is associated with a fee increase of approximately 24%. These results suggest that clients may not be willing to pay as much for industry specialist partners in a setting where their name is not disclosed.[24]

(Insert Table 4 About Here)

Columns (4) to (6) show the results when using *Rate_Per_Hour* as the dependent variable. Similarly to the results in Columns (1) to (3), we find a positive association between *Expertise* and *Rate_Per_Hour*. This suggests that clients are willing to pay a premium to use industry expert audit partners. In terms of economic significance, an increase of one standard deviation of *Expertise* is associated with an increase of the fees per hour of approximately $8.8, or 4.0% of the average fees per hour of $220.5. This number is smaller than the increase in audit fees and suggests that audit hours must increase, a premise we study next. Because Zerni (2012) and

[23] This number is computed as $e^{(2.388\times0.045)}$-1.
[24] We note that the economic significance of an industry expert is closer to Goodwin and Wu (2014) when using propensity score matching. However, Goodwin and Wu (2014) use OLS and therefore this comparison is not meaningful.

Goodwin and Wu (2014) do not have access to hourly data, we are unable to compare this result with their studies.

In terms of control variables we find that the audit firm charges a higher fee but a lower fee per hour for engagements considered to be of higher risk (*High_Risk* variable*).*

4.5 Audit Hour Results

Results on audit hours are presented in Table 5. Columns (1) to (3) show the results when using *Logaudithours* as the dependent variable. Similarly to the audit fees, we find a positive association between *Expertise* and *Logaudithours*, suggesting that more hours are spent on engagements audited by industry expert partners. In terms of economic significance, based on the results in Column (2), an increase of one standard deviation in *Expertise* is associated with an increase in hours of approximately 8%. These results are consistent with the following explanations: 1) Industry expert engagement partners increase audit quality by conducting more thorough work and consequently need their team to spend more time on the engagement, or 2) Industry expert engagement partners oversell ineffective audit procedures, because audit is a credence good and agency costs are even larger when the engagement partner is an industry specialist. At this point, before running some analyses on audit quality, we are unable to disentangle between these two explanations.

(Insert Table 5 About Here)

Columns (4) to (6) show similar results when using *Logpartnerhours* as the dependent variable. Similarly to Columns (1) to (3), we find a positive association between *Expertise* and *Logpartnerhours*. However, the coefficient is smaller than the one for total audit hours. Based on Column (5), an increase of one standard deviation in industry expertise is associated with an

increase of only 3% in the partner hours. This smaller increase for engagement partners suggests that the extra-hours spent on the audit are not driven by higher quality hours.[25]

In terms of control variables, we find that both audit and partner hours are higher on higher risk engagements (*High_Risk* variable).

4.6 Audit Quality Results

Results on audit quality are presented in Tables 6 and 7. Table 6 shows the results when using *Restatement* and *PartIFinding* as the dependent variables, and Table 7 when using *SmallProfit* and *ScaledAccrualsCFO*. In all eight specifications using the four different dependent variables, we fail to find any association between *Expertise* and audit quality.

(Insert Tables 6 and 7 About Here)

These results suggest that having an industry specialist engagement partner on the account does not have much impact on auditor quality in the U.S., perhaps because audit partner hours are very small on each engagement in light of the effort put by the remainder of the engagement team, audit firms tend to heavily rely on their methodologies, and the absence of disclosure of the name of the engagement partner does not provide any incentive to improve audit quality beyond the bar imposed by the audit standards. These results are consistent with Donovan et al. (2014) and Aobdia (2015b), who provide some evidence that audit differentiation does not matter in the U.S.

The results on audit quality also suggest that the results identified in Table 4 on the audit hours are driven by the second explanation, that is, because industry specialist partners command

[25] In untabulated analyses we confirm that the proportion of partner hours out of the total hours declines when partner industry specialization increases, suggesting that lower-quality hours are substituted in an audit led by an industry specialist partner.

a higher stature outside their organization and the audit is a credence good, agency costs between auditor and client are increased when the client is audited by an industry specialist and these partners tend of sell some services that are unnecessary to their clients.

In terms of control variables, we also find positive associations between *High_Risk* and *Restatement*, *SmallProfit* and *ScaledAccrualsCFO*, but none with *PartIFinding* (the coefficient is negative and close to significance in one specification). Thus, despite increasing their effort on higher risk engagements, auditors appear unable to fully reduce the level of audit risk to the level of lower-risk engagements. This is consistent with the arguments in DeFond and Zhang (2014).

5. Additional Empirical tests

5.1 Focus on Smaller Issuers

We conduct an additional test that is similar in spirit to the propensity-score matching approach. Because our measure of partner industry specialization is mostly driven by partners that cover larger issuers, we partition our sample into two equal halves based on the market capitalization of the issuer, and replicate our analyses on the subsample of smaller issuers. The advantage of using this subsample is that it acts as a quasi-validation sample, given that the cross-sectional variation in our industry expertise measure is mostly driven by the coverage of the largest issuers. In untabulated analyses we find similar results as the ones shown in Tables 4 to 7. This analysis further confirms the inferences detailed above.

5.2 Partner Seniority

We conduct an additional test where we re-run Model (1) adding a second variable for partner experience, *Seniority*, equal to the number of years the engagement partner has been an engagement partner in the audit firm. One advantage of using *Seniority* compared to *Expertise* is that the measure is less likely to be contaminated by measurement error. In particular, more

senior partners are more likely to command credibility at their clients, due to their general expertise of auditing and the total experience they built over time auditing clients. The main disadvantage of this measure is that it only relates to how many years a partner has been a partner in the audit firm, and not to how many years the partner has audited specific clients.

(Insert Table 8 About Here)

Results are presented in Table 8. For brevity, we omit the coefficients on the control variables. We keep finding qualitatively unchanged results on *Expertise*. We find qualitatively similar results to *Expertise* on the *Seniority* variable. Notably, we find that more senior partners command higher fees, and that more hours are spent on the engagements they audit. However, we do not find any significant relationship between *Seniority* and *Rate_Per_Hour*. Furthermore, we find a negative relationship between *Seniority* and *Logpartnerhours*, suggesting that more senior partners are less involved on their audit engagements or more efficient. This result could also be due to the addition of additional audit partners on large engagements audited by very senior partners.

We also do not find any association between *Seniority* and variables that proxy for audit quality, suggesting, again, that partner experience has little influence on the audit quality of their engagements. Overall, these results corroborate our main results on *Expertise*.

5.3 Additional Measures of Industry Specialization

One potential concern of our current measure of industry specialization is that it is based on audit fees. Given that we assess the influence of partner industry specialization on audit fees, a legitimate concern could be that a mechanical relationship exists between the dependent and independent variables, both based on fees. Furthermore, audit fees are also subject to potential

economic forces such as lowballing or auditor differentiation that may have an influence on the measurement of industry specialization. To alleviate these concerns, we use an alternative measure of industry specialization based on the issuer's square roots of assets. We build this variable in a similar fashion as *Expertise*. We use the issuer's square roots of assets because a regression of the logarithm of audit fees on the logarithm of the issuer's assets yields a regression coefficient very close to 0.5, with an R-square above 60%. Consequently, audit fees are roughly proportional to the square root of the issuer's assets, consistent with prior research on the topic (e.g., Simunic 1980, Simunic 1984). For this reason, several papers in auditing assess market share using the square root of the issuers' assets or use the square root of assets as a deflator (e.g., Simunic 1984, Kwon 1996, Hogan and Jeter 1999). In untabulated analyses we find qualitatively similar results when using this other proxy for industry expertise.[26]

We also perform an additional robustness test by measuring industry expertise as the natural logarithm of the total audit fees charged by the engagement partner in a given industry. The main advantage of this measure is that it takes into account the fact that different industries are of different sizes. In particular, an engagement partner could still be a specialist even if her industry-market share is reasonably small, because the industry could be very large and the partner still audits major clients in this industry. We find in untabulated analyses that our inferences are robust to the use of this alternative measure of partner industry specialization.[27]

[26] We also rerun our specifications using measures of audit quality built similarly as for *Expertise*, but based on the issuers' market capitalization or the number of hours worked on the audit. We find results that are overall qualitatively similar to the ones shown above. However, when using market capitalization, we find a negative association between engagement partner industry specialization and *SmallProfits*. When using hours, we also find a weak negative association between industry specialization and *Rate_Per_Hour*.

[27] Our inferences are also robust to using the natural logarithm of the sum of the square roots of the clients' assets as an alternative specification. This specification alleviates the concerns detailed at the start of this sub-section.

We conduct another robustness test by replacing *Expertise* with another variable that is based on a portfolio share approach, following Neal and Riley (2004) and Minutti-Meza (2013). The advantage of this measure is that it recognizes the fact that an audit partner does not need to audit very large clients in a specific industry in order to build expertise. In particular, if the auditor spent all her time in a given industry with smaller clients, it is still likely that the auditor would acquire sufficient expertise in a given industry. We define this variable based on the client portfolio of the engagement partner. The new proxy for expertise, *Expertise Portfolio Share* is equal to the total fees charged by the engagement partner in the client industry divided by the total fees charged by this partner in all industries (*Specialist Portfolio Share*, for the propensity score matching regression, equals one when *Expertise Portfolio Share* is above 75%). Thus, if an audit partner spends 100% of her time in a given industry, she is considered an expert. Similar to our main measure of expertise, we estimate this alternative measure one year prior to measurement of our dependent variables.

(Insert Table 9 About Here)

We rerun Model (1) using this variable, and, in Table 9, find robust results for all variables except *Rate_Per_Hour*, where the coefficient on *Expertise Portfolio Share* remains positive but becomes insignificant.

Finally, as part of its annual data request form, the PCAOB collects, for a subset of the audit firms over several years, the self-reported partner industry expertise, and assesses whether each of the clients is audited by an industry specialist engagement partner or not. We obtain this dataset and conduct an additional robustness test to determine whether our inferences are robust to the use of this self-reported measure. In untabulated analyses, we do not find any meaningful

relationship between engagement partner self-reported industry expertise and audit fees, audit hours or audit quality. However, the main issue of the dataset is that approximately 90% of the client-years are allegedly audited by self-reported industry specialist engagement partners (this result is similar to Bell et al. 2015 who find in their sample that 88% of the engagements are audited by self-reported industry specialists). This lack of cross-sectional variation in our dataset likely explains our insignificant results and suggests that prospective clients do not fully rely on the self-reported industry specialization of audit engagement partners.[28] This is consistent with anecdotal evidence that suggests that audit committees tend to focus on specific prior clients of an engagement partner and ask for detailed biographies and resumes. We note that our result indicates that a baseline level of industry expertise is present in the vast majority of audits conducted by the Big 4 in the U.S. However, any increase in perceived industry expertise beyond this baseline level is not associated with a commensurate increase in audit quality.

5.4 Role of the Audit Committee

In this section we test whether audit committee expertise mitigates the results above. In particular, because sellers act strategically in a credence goods setting (e.g., Causholli and Knechel 2012), a more expert audit committee may be able to reduce the credence goods effect of industry specialist engagement partners. We test for this possibility by augmenting Model (1) with *Auc_CPA*, the number of audit committee members who have a CPA, *Auc_Big4_Alumns*, the number of audit committee members who are alumni of a Big 4 firm (both variables are built

[28] Because the self-reported dataset is substantially smaller than the dataset shown in Tables 3 to 5, one may wonder whether the reduction in sample size drives the lack of statistical significance in our analyses. In additional untabulated tests, we rerun our analyses in Tables 3 to 5 restricting the sample to the sample where the self-reported measure is available, and still find qualitatively unchanged results. This suggests that the lack of statistical significance when using the self-reported measure is due to the lack of cross-sectional variation in the measure itself rather than in a reduction in the sample size.

from Boardex), and the interactions of these variables with *Expertise*. We expect the engagement partner fee premium to be lower when audit committee members are more experienced.

(Insert Table 10 About Here)

Results are presented in Table 10. We find some weak evidence that expertise of the audit committee reduces the credence goods attribute of the audit. In particular, the interaction *Expertise* × *Auc_CPA* is negative (insignificant but close to significance levels) in the regression with audit fees as the dependent variable. Furthermore, *Expertise* × *Auc_Big4_Alumns* loads negatively in the regression with *Rate_Per_Hour* as the dependent variable, even though the coefficient is insignificant in the audit fee regression. One possibility for the lack of significance of the regressions is that the audit expertise of the audit committee is dated and thus not entirely applicable in today's environment.

5.5 Complex Industries

While we do not find any average effect of engagement partner industry specialization on audit quality, it is still possible that this effect could appear in specific industries. In particular, recent evidence (Francis and Gunn 2015, Bills et al. 2015), suggests that the role of auditor industry expertise is much greater in industries with greater accounting complexity, because the measurement of earnings is noisier and has more measurement error. We test for this idea by partitioning our sample between complex and non-complex industries, as defined in Francis and Gunn (2015) and Bills et al. (2015). In untabulated analyses, we find qualitatively unchanged results for non-complex industries. For complex industries, our results are similar, except for *SmallProfit*, where we find a negative association with *Expertise*. We still find no association when using *Restatement*, *PartIFinding*, and *ScaledAccrualsCFO* as the dependent variables. Overall, this result suggests that partner industry expertise might matter slightly more for audit

quality in more complex industries. However, the results are quite weak and still suggest that there is limited audit quality influence of hiring an industry specialist partner.

5.6 Litigation Industries

Our results above suggest that issuers hiring industry specialist engagement partners pay higher fees but do not obtain commensurate audit quality improvements. However, this does not necessarily imply that the decision to hire an industry specialist engagement partner is irrational. In particular, because the name of the engagement partner can be disclosed ex-post when things go wrong, an audit committee could have some ex-ante incentives to show that they hired a qualified auditor in order to attempt to reduce litigation exposure. We test for this idea by including a proxy for ex-ante litigation risk in our model and interacting it with *Expertise*. We build our variable, *Litigation*, based on industry membership as in Kim and Skinner (2012). We predict that the interaction *Litigation* × *Expertise* should load positively in the fee regressions if the audit committee perceives higher benefits of hiring an industry specialist engagement partner when the ex-ante risk of litigation is higher.

Consistent with this hypothesis, we find in untabulated analyses that the interaction *Litigation* × *Expertise* loads positively in the regressions using audit fees, fee per hour, and hours. This interaction generally does not load when using audit quality measures as the dependent variables, except for *Restatement*, where we find a weak negative association. Taken collectively, these results suggest that the credence nature of auditing is enhanced when the ex-ante risk of litigation is higher. The uninteracted coefficient on *Expertise* remains positive and significant in the regressions using fees, fee per hour, and hours, and insignificant in the regressions using audit quality measures as the dependent variables. This confirms that the credence nature of auditing is not restricted to a given set of industries subject to litigation risk.

6. Conclusion

This study examines the association between engagement partner industry specialization and audit fees and quality. We find a positive association between industry specialization and audit fees and fees per hour, consistent with specialist engagement partners charging a premium to their clients. We also find a positive association between specialization and audit hours. However, we do not find any association between specialization and audit quality. Collectively, these results suggest that specialist engagement partners command some credibility outside and inside their firms, but that their presence does not necessarily increase audit quality. In particular, we infer, because our results of increased hours do not translate into higher audit quality, that industry specialist partners ineffectively over-audit, as is typical of credence goods.

Our results contribute to the auditing literature, by documenting, in a setting where the name of the engagement partner is not disclosed, that clients still care about the perceived quality of their engagement partners. They also cast some doubts on the actual value provided by such partners. We caution that this result may be driven by the lack of disclosure of the name of the engagement partner in the U.S., which could lead partners to rely more on their audit team and methodology than in other settings where the name is publicly available. Consequently, future research may have an opportunity to re-examine changes in the association between engagement partner industry expertise and audit quality when data become available following the recent PCAOB decision to require the disclosure of the name of the engagement partner (PCAOB 2015). We note that our results support the disclosure of the name of the engagement partner, because this disclosure may lead the capital markets and clients to focus more on the publicly observable track record of the engagement partner (e.g., Aobdia et al. 2015), thereby providing

incentives for engagement partners to provide higher audit quality and reducing agency costs between industry specialist auditors and their clients.

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Appendix A: Variables Definitions

Variable	Definition
Dependent Variables:	
Restatement	An indicator variable equal to one if financial statements for the year are restated
SmallProfits	An indicator variable equal to one if the ROA (income before extraordinary items deflated by beginning assets) is positive and less than 3%
PartIFinding	An indicator variable equal to one if the inspection of a specific engagement resulted in a Part I finding
ScaledAccrualsCFO	Absolute value of accruals deflated by cash flow from operations
Logauditfees	The logarithm of the engagement audit fees, from Audit Analytics
Logaudithours	The logarithm of the audit hours spent on the engagement
Logpartnerhours	The logarithm of the engagement partner audit hours
Rate_Per_Hour	Total audit fees divided by total engagement hours
Explanatory Variables:	
Expertise	Total audit fees charged by the engagement partner in the client's Fama French 48 industries, divided by the total audit fees for the client's industry
Specialist	An indicator variable equal to one when *Expertise* is above the 75th percentile of the distribution
Seniority	Number of years the engagement partner has been a partner
Expertise Portfolio Share	Total audit fees charged by the engagement partner in the client's Fama French 48 industries, divided by the total audit fees charged by the engagement partner
Specialist Portfolio Share	An indicator variable equal to one when *Expertise Portfolio Share* is above 75%
Auc_CPA	Number of CPA holders on the audit committee of the issuer
Auc_Big4_Alumns	Number of audit committee members that are Big 4 alumni
Control Variables:	
Logat	Logarithm of assets
Leverage	Total debt divided by debt plus stockholder's equity
Loss	Indicator variable equal to one when income before extraordinary items (IB) is negative
BTM	Book shareholder's equity deflated by fiscal year end market capitalization
ForeignPifo	Absolute value of pretax income from foreign operations (PIFO) divided by the absolute value of pretax income (PI)
Intangi	Minus one times gross PP&E divided by assets
CATA	Current assets divided by total assets
Quick	Current assets less inventories divided by current liabilities
Geoseg	Number of geographic segments
Busseg	Number of business segments
StdSaleGrowth	Standard deviation of the issuer's sales growth, computed over t-3 and t
DecYE	An indicator variable equal to one when the fiscal year ends in December
CFOat	Issuer's cash flows from operations deflated by beginning assets
StdCFOat	Standard deviation of the issuer's cash flows from operations deflated by beginning assets, computed over t-3 and t
AltmanZ	Altman *Z*-score. Defined as [1.2 × (Working Capital/ Assets)] + [1.4 × (Retained earnings / Assets)] + [3.3 × (Earnings Before Interest and Taxes / Assets)] + [0.6 × (Market value of equity / Book value of liabilities) + Sale/Assets]
Length_Relationship	Number of years the auditor has continuously audited a given client (from Compustat)
SaleGrowth	Year-on-year sales growth of the client firm
Weaknesses	An indicator variable equal to one if the issuer reports a material weakness

Variable	Definition
City_Leader	An indicator variable equal to one if the auditor office is the largest in the core business statistical area (CBSA) in terms of fees for the issuers's industry (defined at the two-digit SIC code)
National_Leader	An indicator variable equal to one if the auditor is the largest in terms of fees for the issuer's industry (defined at the two-digit SIC code)
Office_Size	Logarithm of the total office fees charged to clients during the year
High_Risk	An indicator variable equal to one if the issuer is classified as higher risk by the audit firm

Table 1: Sample Selection Process

This table presents the sample construction from the raw dataset obtained from the PCAOB.

	Observations	
PCAOB dataset of issuer-years audited by the Big 4 in 2008-2013		**24,190**
Less:		
Non-operating companies (Mutual Funds, Pension Plans etc.)	5,235	
Missing Partner Names	580	
		18,375
One-year Lagged Expertise Proxies Available	5,200	
		13,175
Missing variables	5,078	
Final sample: Issuer-year observations		**8,097**

Table 2: Descriptive Statistics

This table presents the descriptive statistics. All the variables are defined in Appendix A.

Variables	Observations	Mean	Stdev	25th perc.	50th perc.	75th perc.
Restatement	8,097	0.107	0.310	0.000	0.000	0.000
SmallProfit	8,097	0.152	0.359	0.000	0.000	0.000
PartIFInding	502	0.363	0.481	0.000	0.000	1.000
ScaledAccrualsCFO	8,097	1.380	3.338	0.323	0.574	0.947
Logauditfees	8,097	14.255	0.972	13.585	14.144	14.858
Logaudithours	8,092	8.928	0.853	8.351	8.866	9.465
Logpartnerhours	3,369	5.706	0.682	5.247	5.704	6.160
Rate_Per_Hour	8,092	220.519	87.269	164.750	203.657	254.468
Expertise	8,097	0.018	0.046	0.002	0.006	0.016
Expertise Portfolio Share	8,097	0.573	0.386	0.214	0.598	1.000
Logat	8,097	7.085	1.791	5.828	7.054	8.286
Leverage	8,097	0.338	0.361	0.026	0.282	0.497
Loss	8,097	0.267	0.442	0.000	0.000	1.000
BTM	8,097	0.478	0.561	0.244	0.435	0.701
ForeignPifo	8,097	0.341	0.650	0.000	0.056	0.457
Intangi	8,097	-0.521	0.407	-0.787	-0.400	-0.192
City_Leader	8,097	0.607	0.488	0.000	1.000	1.000
National_Leader	8,097	0.326	0.469	0.000	0.000	1.000
Office_Size	8,097	17.574	1.158	16.843	17.723	18.496
CATA	8,097	0.470	0.243	0.273	0.464	0.654
Quick	8,097	2.177	2.154	1.017	1.516	2.462
Geoseg	8,097	2.740	2.483	1.000	2.000	4.000
Busseg	8,097	2.140	1.743	1.000	1.000	3.000
StdSaleGrowth	8,097	0.304	0.710	0.075	0.143	0.254
DecYE	8,097	0.715	0.452	0.000	1.000	1.000
StdCFOat	8,097	0.068	0.097	0.023	0.040	0.071
CFOat	8,097	0.078	0.169	0.049	0.096	0.150
AltmanZ	8,097	3.666	5.042	1.655	3.071	5.063
Length_Relationship	8,097	11.792	8.954	6.000	10.000	15.000
SaleGrowth	8,097	0.102	0.360	-0.030	0.060	0.172
Weaknesses	8,097	0.020	0.140	0.000	0.000	0.000
Auc_CPA	7,588	0.634	0.709	0.000	1.000	1.000
Auc_Big4_Alumns	7,588	0.506	0.566	0.000	0.000	1.000

Table 3: Propensity to be Audited by an Industry Specialist Engagement Partner

This table presents the results of Model (2) and assesses the propensity of a client to be audited by an industry specialist engagement partner. Variable definitions are provided in Appendix A. Standard-errors are clustered at the issuer-level. Significance levels are * 10%, ** 5% and *** 1%.

Dependent Variable:	**Specialist**	**Specialist**
High_Risk	0.263*	0.191
	[1.808]	[1.374]
Logat	0.903***	0.908***
	[24.672]	[22.314]
Leverage	0.291*	0.206
	[1.778]	[1.204]
Loss	0.263**	0.018
	[2.525]	[0.154]
BTM	-0.159*	-0.203**
	[-1.900]	[-2.463]
ForeignPifo		0.145**
		[2.403]
Intangi		-0.099
		[-0.612]
City_Leader		0.211**
		[2.263]
National_Leader		0.207**
		[2.333]
Office_Size		0.272***
		[6.717]
CATA		1.622***
		[5.377]
Quick		-0.075*
		[-1.741]
Geoseg		0.056***
		[2.840]
Busseg		0.011
		[0.421]
StdSaleGrowth		-0.019
		[-0.217]
DecYE		-0.048
		[-0.441]
StdCFOat		0.684
		[0.794]
CFOat		-0.890*
		[-1.916]
AltmanZ		-0.045***
		[-3.025]
Length_Relationship		-0.005
		[-1.050]
SaleGrowth		-0.421***
		[-2.578]
Weaknesses		-0.109
		[-0.380]
Year Fixed Effects	Yes	Yes
FF 48 Industry Fixed Effects	Yes	Yes
Observations	8,062	8,062
Pseudo R-squared	0.359	0.383

Table 4: Audit Fee Results

This table presents the results of Model (1) when using audit fee measures as the dependent variables. Variable definitions are provided in Appendix A. The t-statistic (in parenthesis) is below the coefficient. Standard-errors are clustered at the issuer-level. Significance levels are * 10%, ** 5% and *** 1%. OLS = Ordinary Least Squares; PSM = Propensity Score Matching; FE = Fixed Effects

Dependent Variables:	**(1) OLS Logaudit fees**	**(2) OLS Logaudit fees**	**(3) PSM Logaudit fees**	**(4) OLS Rate_Per_Hour**	**(5) OLS Rate_Per_Hour**	**(6) PSM Rate_Per_Hour**
Expertise	2.910***	2.301***		231.384***	189.367***	
	[7.493]	[7.324]		[4.884]	[4.347]	
Specialist			0.262***			21.943***
			[14.010]			[6.714]
High_Risk	0.217***	0.158***	0.149***	-9.153**	-10.109***	-16.312***
	[8.201]	[7.018]	[4.626]	[-2.488]	[-2.746]	[-2.845]
Logat	0.475***	0.460***	0.482***	20.368***	19.391***	21.435***
	[68.753]	[62.085]	[45.803]	[17.761]	[14.646]	[10.369]
Leverage	-0.007	0.025	0.021	-14.902***	-7.468**	-7.502
	[-0.212]	[0.829]	[0.419]	[-4.012]	[-1.971]	[-1.248]
Loss	0.151***	0.088***	0.052**	7.493***	1.811	0.142
	[7.937]	[5.281]	[1.999]	[2.690]	[0.627]	[0.030]
BTM	-0.051***	-0.041**	-0.047*	-8.026***	-7.052***	-8.957**
	[-2.793]	[-2.437]	[-1.681]	[-3.414]	[-2.945]	[-2.517]
ForeignPifo		0.108***	0.106***		3.966*	3.673
		[10.470]	[7.692]		[1.960]	[1.468]
Intangi		0.142***	0.179***		9.117**	21.219***
		[5.111]	[4.376]		[1.970]	[3.034]
City_Leader		0.082***	0.092***		11.398***	14.352***
		[4.924]	[3.777]		[3.984]	[3.152]
National_Leader		0.005	0.007		2.090	6.682*
		[0.335]	[0.327]		[0.762]	[1.661]
Office_Size		0.079***	0.064***		6.198***	5.288***
		[10.819]	[6.252]		[5.274]	[2.962]
CATA		0.629***	0.617***		22.802**	6.761
		[10.888]	[6.926]		[2.468]	[0.416]
Quick		-0.043***	-0.065***		1.212	1.921
		[-9.663]	[-6.561]		[1.644]	[1.031]
Geoseg		0.027***	0.021***		0.919	1.387
		[6.619]	[4.334]		[1.281]	[1.339]
Busseg		0.024***	0.021***		1.610*	2.476**
		[4.774]	[3.381]		[1.692]	[1.994]
StdSaleGrowth		-0.008	-0.001		-2.772	0.027
		[-0.670]	[-0.047]		[-1.525]	[0.006]
DecYE		0.022	0.020		-5.222	-8.864*
		[1.094]	[0.714]		[-1.592]	[-1.733]
StdCFOat		-0.103	-0.131		9.999	-28.936
		[-1.099]	[-0.560]		[0.639]	[-0.876]
CFOat		-0.244***	-0.310**		-36.423***	-3.327
		[-4.311]	[-2.410]		[-3.698]	[-0.151]
AltmanZ		-0.006***	-0.006		-0.129	-0.251
		[-2.742]	[-1.121]		[-0.432]	[-0.403]

Length_Relationship		0.001	0.003**		0.502***	0.855***
		[0.675]	[2.045]		[2.836]	[3.502]
SaleGrowth		-0.051***	-0.086***		-1.219	-10.158*
		[-3.216]	[-2.683]		[-0.461]	[-1.822]
Weaknesses		0.284***	0.368***		-2.200	6.055
		[6.495]	[5.309]		[-0.291]	[0.444]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
FF 48 Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,097	8,097	4,048	8,092	8,092	4,045
Adjusted R-squared	0.768	0.814	0.794	0.213	0.235	0.283

Table 5: Audit Hour Results

This table presents the results of Model (1) when using audit hour measures as the dependent variables. Variable definitions are provided in Appendix A. The t-statistic (in parenthesis) is below the coefficient. Standard-errors are clustered at the issuer-level. Significance levels are * 10%, ** 5% and *** 1%.

Dependent Variables:	(1) OLS Logaudit hours	(2) OLS Logaudit hours	(3) PSM Logaudit hours	(4) OLS Logpartner hours	(5) OLS Logpartner hours	(6) PSM Logpartner hours
Expertise	2.157***	1.734***		0.883***	0.651***	
	[7.387]	[7.199]		[3.472]	[2.829]	
Specialist			0.182***			0.070**
			[9.499]			[2.331]
High_Risk	0.264***	0.206***	0.222***	0.202***	0.143***	0.150***
	[10.317]	[9.077]	[6.870]	[6.227]	[4.616]	[3.601]
Logat	0.389***	0.378***	0.401***	0.264***	0.263***	0.285***
	[59.100]	[52.239]	[37.386]	[36.760]	[30.383]	[18.408]
Leverage	0.048*	0.047	0.036	0.043	0.028	0.065
	[1.701]	[1.618]	[0.782]	[1.200]	[0.711]	[1.083]
Loss	0.124***	0.087***	0.064**	0.154***	0.113***	0.095**
	[6.891]	[5.280]	[2.575]	[6.055]	[4.297]	[2.406]
BTM	-0.017	-0.012	-0.009	-0.033	-0.037	-0.028
	[-0.989]	[-0.719]	[-0.358]	[-1.443]	[-1.617]	[-0.763]
ForeignPifo		0.094***	0.092***		0.062***	0.067***
		[9.170]	[6.641]		[4.323]	[3.717]
Intangi		0.112***	0.090**		0.064*	0.059
		[3.979]	[2.216]		[1.782]	[1.137]
City_Leader		0.023	0.016		0.014	0.023
		[1.424]	[0.665]		[0.639]	[0.700]
National_Leader		-0.005	-0.022		-0.100***	-0.090***
		[-0.288]	[-1.008]		[-4.778]	[-3.175]
Office_Size		0.051***	0.045***		0.023**	0.007
		[7.056]	[4.253]		[2.530]	[0.539]
CATA		0.536***	0.613***		0.320***	0.360***
		[9.851]	[6.897]		[4.885]	[3.617]
Quick		-0.050***	-0.077***		-0.036***	-0.056***
		[-10.562]	[-6.830]		[-5.320]	[-4.074]
Geoseg		0.023***	0.015***		0.014***	0.001
		[5.551]	[2.834]		[2.840]	[0.194]
Busseg		0.020***	0.013**		0.025***	0.024***
		[3.914]	[2.015]		[3.718]	[2.926]
StdSaleGrowth		0.001	0.002		-0.006	0.009
		[0.105]	[0.128]		[-0.333]	[0.279]
DecYE		0.044**	0.061**		0.018	0.013
		[2.209]	[2.092]		[0.775]	[0.390]
StdCFOat		-0.159*	-0.033		-0.075	0.083
		[-1.797]	[-0.158]		[-0.666]	[0.333]
CFOat		-0.093*	-0.298***		-0.226***	-0.521***
		[-1.751]	[-2.684]		[-3.032]	[-3.454]
AltmanZ		-0.005**	-0.004		-0.001	0.007
		[-2.346]	[-0.887]		[-0.556]	[1.038]
Length_Relationship		-0.002*	-0.001		-0.003**	-0.003*

		[-1.903]	[-0.518]		[-2.261]	[-1.838]
SaleGrowth		-0.049***	-0.051*		-0.008	-0.166***
		[-3.140]	[-1.758]		[-0.267]	[-2.784]
Weaknesses		0.326***	0.380***		0.353***	0.356***
		[8.544]	[5.870]		[6.252]	[3.407]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
FF 48 Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,092	8,092	4,045	3,369	3,369	1,689
Adjusted R-squared	0.713	0.756	0.702	0.469	0.507	0.470

Table 6: Audit Quality Results – Restatements and Part I Findings

This table presents the results of Model (1) when using audit quality measures (*Restatement* and *PartIFinding*) as the dependent variables. Variable definitions are provided in Appendix A. The t-statistic (in parenthesis) is below the coefficient. Standard-errors are clustered at the issuer-level. Significance levels are * 10%, ** 5% and *** 1%.

Dependent Variables:	**(1) OLS Restatement**	**(2) OLS Restatement**	**(3) PSM Restatement**	**(4) OLS PartI Finding**	**(5) OLS PartI Finding**	**(6) PSM PartI Finding**
Expertise	0.014	0.014		0.947	0.951	
	[0.135]	[0.132]		[1.064]	[1.086]	
Specialist			0.001			0.061
			[0.087]			[0.967]
High_Risk	0.036**	0.028*	0.044*	-0.102	-0.120	-0.073
	[2.268]	[1.745]	[1.831]	[-1.404]	[-1.605]	[-0.667]
Logat	0.004	-0.001	-0.003	-0.013	-0.003	0.026
	[1.164]	[-0.188]	[-0.503]	[-0.767]	[-0.144]	[0.926]
Leverage	0.059***	0.051***	0.064**	0.110	0.076	-0.087
	[3.809]	[3.029]	[2.340]	[1.306]	[0.717]	[-0.649]
Loss	-0.001	0.002	-0.003	-0.080	-0.115*	-0.098
	[-0.112]	[0.196]	[-0.191]	[-1.409]	[-1.808]	[-1.092]
BTM	0.040***	0.036***	0.053***	0.095**	0.082*	-0.025
	[5.211]	[4.819]	[4.736]	[2.280]	[1.840]	[-0.350]
ForeignPifo		0.008	0.012		0.017	0.068
		[1.091]	[1.235]		[0.481]	[1.522]
Intangi		0.039**	0.050**		0.064	0.142
		[2.341]	[2.027]		[0.781]	[1.235]
City_Leader		-0.009	-0.008		0.024	0.030
		[-0.908]	[-0.507]		[0.461]	[0.398]
National_Leader		0.020*	0.029**		0.020	0.040
		[1.954]	[2.105]		[0.422]	[0.655]
Office_Size		-0.006	-0.009		0.013	-0.024
		[-1.270]	[-1.258]		[0.606]	[-0.887]
CATA		-0.089***	-0.070		0.050	0.127
		[-2.928]	[-1.453]		[0.342]	[0.594]
Quick		0.002	0.002		0.038	0.053
		[0.770]	[0.273]		[1.647]	[1.352]
Geoseg		0.003	0.004		-0.010	-0.009
		[1.302]	[1.131]		[-0.968]	[-0.768]
Busseg		0.006*	0.006		0.006	0.008
		[1.769]	[1.492]		[0.431]	[0.493]
StdSaleGrowth		-0.005	0.013		-0.089	-0.147
		[-0.793]	[0.891]		[-1.481]	[-1.377]
DecYE		0.015	0.032**		-0.061	-0.006
		[1.286]	[1.970]		[-1.170]	[-0.079]
StdCFOat		0.075	0.079		0.192	0.708
		[1.463]	[0.687]		[0.503]	[1.122]
CFOat		0.005	-0.073		-0.022	-0.530
		[0.147]	[-1.015]		[-0.087]	[-1.236]
AltmanZ		-0.001	-0.000		-0.016**	-0.030***
		[-0.747]	[-0.005]		[-2.230]	[-3.817]
Length_Relationship		-0.000	0.001		-0.004*	-0.006*

		[-0.080]	[1.038]		[-1.708]	[-1.873]
SaleGrowth		0.025**	0.017		-0.007	-0.046
		[2.518]	[0.677]		[-0.099]	[-0.312]
Weaknesses		0.102***	0.097*		0.212	0.104
		[3.087]	[1.940]		[1.273]	[0.349]
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
FF 48 Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,097	8,097	4,048	502	502	307
Adjusted R-squared	0.022	0.029	0.045	0.049	0.048	0.080

Table 7: Audit Quality Results – Meet/Beat and Accruals

This table presents the results of Model (1) when using audit quality measures (*SmallProfit* and *ScaledAccrualsCFO*) as the dependent variables. Variable definitions are provided in Appendix A. The t-statistic (in parenthesis) is below the coefficient. Standard-errors are clustered at the issuer-level. Significance levels are * 10%, ** 5% and *** 1%.

Dependent Variables:	(1) OLS Small Profit	(2) OLS Small Profit	(3) PSM Small Profit	(4) OLS Scaled AccrualsCFO	(5) OLS Scaled AccrualsCFO	(6) PSM Scaled AccrualsCFO
Expertise	-0.148	-0.141		-0.355	-0.158	
	[-1.256]	[-1.235]		[-0.531]	[-0.233]	
Specialist			0.006			-0.092
			[0.432]			[-1.026]
High_Risk	-0.010	-0.018	0.007	0.741***	0.784***	0.854***
	[-0.695]	[-1.196]	[0.299]	[3.716]	[3.816]	[3.178]
Logat	0.008***	0.005	0.001	-0.076***	-0.092***	-0.041
	[2.619]	[1.382]	[0.207]	[-3.085]	[-3.325]	[-0.936]
Leverage	0.133***	0.101***	0.130***	0.371**	0.404**	0.414*
	[8.547]	[6.336]	[4.989]	[2.455]	[2.302]	[1.889]
Loss				2.344***	2.575***	2.363***
				[17.850]	[17.127]	[11.010]
BTM	0.114***	0.097***	0.106***	0.285*	0.323**	0.155
	[11.693]	[10.134]	[7.909]	[1.957]	[2.130]	[0.738]
ForeignPifo		0.087***	0.087***		-0.238***	-0.218***
		[9.171]	[6.561]		[-4.485]	[-3.114]
Intangi		-0.027	-0.021		0.027	0.130
		[-1.619]	[-0.834]		[0.192]	[0.865]
City_Leader		-0.013	-0.023		0.031	-0.068
		[-1.298]	[-1.481]		[0.352]	[-0.673]
National_Leader		-0.002	-0.006		-0.024	0.061
		[-0.171]	[-0.444]		[-0.290]	[0.634]
Office_Size		-0.004	-0.010		0.047	0.080*
		[-1.029]	[-1.381]		[1.392]	[1.875]
CATA		-0.100***	-0.143***		0.776***	0.093
		[-3.494]	[-2.763]		[2.914]	[0.282]
Quick		0.005**	0.018**		-0.057**	-0.019
		[2.148]	[2.463]		[-2.071]	[-0.319]
Geoseg		-0.007***	-0.004		0.013	-0.001
		[-3.235]	[-1.481]		[0.766]	[-0.072]
Busseg		0.005*	0.007*		0.008	-0.018
		[1.776]	[1.865]		[0.354]	[-0.656]
StdSaleGrowth		-0.010**	-0.026*		-0.051	-0.212*
		[-2.041]	[-1.770]		[-0.653]	[-1.878]
DecYE		0.020*	0.009		0.102	0.026
		[1.878]	[0.569]		[1.159]	[0.240]
StdCFOat		-0.085**	-0.093		-1.994***	-1.027
		[-2.471]	[-0.896]		[-3.517]	[-1.000]
CFOat		-0.129***	-0.234***		1.149***	-1.745***
		[-5.955]	[-3.726]		[3.406]	[-2.283]
AltmanZ		0.000	-0.004		-0.002	0.009
		[0.139]	[-1.628]		[-0.173]	[0.466]

Dependent Variables:	(1) OLS Small Profit	(2) OLS Small Profit	(3) PSM Small Profit	(4) OLS Scaled AccrualsCFO	(5) OLS Scaled AccrualsCFO	(6) PSM Scaled AccrualsCFO
Length_Relationship		-0.001**	-0.002**		-0.004	-0.004
		[-2.565]	[-2.195]		[-1.212]	[-1.010]
SaleGrowth		-0.005	-0.033		0.156	0.024
		[-0.652]	[-1.465]		[1.067]	[0.090]
Weaknesses		0.033	0.000		-0.087	-0.196
		[1.079]	[0.009]		[-0.283]	[-0.422]
Year FE	Yes	Yes	Yes	Yes	Yes	Yes
FF 48 Industry FE	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,097	8,097	4,048	8,097	8,097	4,048
Adjusted R-squared	0.090	0.116	0.136	0.118	0.125	0.149

Table 8: Seniority Analyses

This table presents the results of Model (1), adding another variable proxying for partner expertise: *Seniority*. Panel A presents the results for audit fees and hours, and Panel B for audit quality variables. Variable definitions are provided in Appendix A. For brevity, the coefficients on the control variables are not reported. The t-statistic (in parenthesis) is below the coefficient. Standard-errors are clustered at the issuer-level. Significance levels are * 10%, ** 5% and *** 1%.

Panel A

Dependent Variables:	**(1) OLS Logaudit fees**	**(2) PSM Logaudit fees**	**(3) OLS Rate_Per _Hour**	**(4) PSM Rate_Per _Hour**	**(5) OLS Logaudit hours**	**(6) PSM Logaudit hours**	**(7) OLS Logpartner hours**	**(8) PSM Logpartner hours**
Expertise / Specialist	2.238***	0.254***	189.970***	23.630***	1.665***	0.167***	0.717***	0.074**
	[7.291]	[13.123]	[4.212]	[6.708]	[7.242]	[8.227]	[2.985]	[2.417]
Seniority	0.004***	0.007***	-0.019	0.277	0.006***	0.006***	-0.007***	-0.006**
	[3.065]	[3.699]	[-0.076]	[0.781]	[4.067]	[3.302]	[-3.760]	[-2.078]
Control Variables	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,103	3,476	7,098	3,473	7,098	3,473	3,319	1,663
Adjusted R-squared	0.816	0.805	0.235	0.301	0.759	0.710	0.513	0.475

Panel B

Dependent Variables:	**(1) OLS Restate ment**	**(2) PSM Restate ment**	**(3) OLS PartI Finding**	**(4) PSM PartI Finding**	**(5) OLS Small Profit**	**(6) PSM Small Profit**	**(7) OLS Scaled AccrualsCFO**	**(8) PSM Scaled AccrualsCFO**
Expertise / Specialist	-0.017	0.002	0.257	0.038	-0.166	0.004	-0.277	-0.096
	[-0.169]	[0.160]	[0.286]	[0.529]	[-1.435]	[0.273]	[-0.359]	[-1.009]
Seniority	0.001	0.001	0.003	0.002	0.001	0.001	0.011	0.012
	[0.816]	[0.783]	[0.673]	[0.295]	[1.461]	[0.860]	[1.348]	[1.249]
Control Variables	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,103	3,476	409	245	7,103	3,512	7,103	3,476
Adjusted R-squared	0.031	0.049	0.038	0.092	0.112	0.132	0.124	0.150

Table 9: Portfolio Share

This table presents analyses similar to Tables 4-7, replacing *Expertise* and *Specialist* with variables based on the portfolio share approach, *Expertise Portfolio Share* and *Specialist Portfolio Share*, respectively. Panel A presents the results for audit fees and hours, and Panel B for audit quality variables. Variable definitions are provided in Appendix A. For brevity, the coefficients on the control variables are not reported. The t-statistic (in parenthesis) is below the coefficient. Standard-errors are clustered at the issuer-level. Significance levels are * 10%, ** 5% and *** 1%.

Panel A

Dependent Variables:	**(1) OLS Logaudit fees**	**(2) PSM Logaudit fees**	**(3) OLS Rate_Per _Hour**	**(4) PSM Rate_Per _Hour**	**(5) OLS Logaudit hours**	**(6) PSM Logaudit hours**	**(7) OLS Logpartner hours**	**(8) PSM Logpartner hours**
Expertise Portfolio Share	0.112***		3.579		0.090***		0.136***	
	[6.999]		[1.353]		[5.687]		[5.420]	
Specialist Portfolio Share		0.097***		2.434		0.091***		0.127***
		[7.057]		[1.022]		[6.701]		[6.421]
Control Variables	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,097	6,690	8,092	6,685	8,092	6,685	3,369	2,791
Adjusted R-squared	0.809	0.808	0.230	0.235	0.753	0.753	0.511	0.519

Panel B

Dependent Variables:	**(1) OLS Restate ment**	**(2) PSM Restate ment**	**(3) OLS PartI Finding**	**(4) PSM PartI Finding**	**(5) OLS Small Profit**	**(6) PSM Small Profit**	**(7) OLS Scaled AccrualsCFO**	**(8) PSM Scaled AccrualsCFO**
Expertise Portfolio Share	-0.003		-0.040		-0.011		-0.132	
	[-0.284]		[-0.672]		[-1.076]		[-1.363]	
Specialist Portfolio Share		-0.005		-0.047		0.004		-0.067
		[-0.595]		[-0.970]		[0.484]		[-0.862]
Control Variables	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	8,097	6,690	502	438	8,097	6,690	8,097	6,690
Adjusted R-squared	0.029	0.032	0.046	0.042	0.116	0.121	0.126	0.128

Table 10: Audit Committee Regressions

This table presents analyses similar to Tables 4-7, augmenting the explanatory variables with interactions with the number of CPAs and Big 4 alumni on the audit committee, respectively. Panel A presents the results for audit fees and hours, and Panel B for audit quality variables. Variable definitions are provided in Appendix A. For brevity, the coefficients on the control variables are not reported. The t-statistic (in parenthesis) is below the coefficient. Standard-errors are clustered at the issuer-level. Significance levels are * 10%, ** 5% and *** 1%.

Panel A

Dependent Variables:	**(1) Logaudit fees**	**(2) Logaudit fees**	**(3) Rate_Per_Hour**	**(4) Rate_Per_Hour**	**(5) Logaudit hours**	**(6) Logaudit hours**	**(7) Logpartner hours**	**(8) Logpartner hours**
Expertise	2.588***	2.303***	219.571***	257.028***	2.009***	1.512***	0.934***	0.679**
	[5.615]	[6.185]	[3.351]	[3.687]	[5.902]	[5.647]	[3.059]	[2.125]
Auc_CPA	-0.017		0.617		-0.019		-0.013	
	[-1.356]		[0.317]		[-1.595]		[-0.859]	
Expertise × Auc_CPA	-0.415		-40.431		-0.387*		-0.275	
	[-1.510]		[-1.042]		[-1.859]		[-1.509]	
Auc_Big4_Alumns		0.041***		0.816		0.035**		0.033*
		[2.618]		[0.334]		[2.271]		[1.692]
Expertise × Auc_Big4_Alumns		-0.139		-129.188**		0.286		-0.028
		[-0.392]		[-2.001]		[0.919]		[-0.077]
Control Variables	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,588	7,588	7,584	7,584	7,584	7,584	3,155	3,155
Adjusted R-squared	0.817	0.817	0.239	0.240	0.761	0.761	0.502	0.502

Panel B

Dependent Variables:	(1) Restatement	(2) Restatement	(3) PartI Finding	(4) PartI Finding	(5) Small Profit	(6) Small Profit	(7) Scaled AccrualsCFO	(8) Scaled AccrualsCFO
Expertise	0.048	0.016	0.690	0.773	-0.093	-0.083	-0.145	0.290
	[0.346]	[0.116]	[0.553]	[0.582]	[-0.555]	[-0.479]	[-0.184]	[0.339]
Auc_CPA	0.006		-0.026		0.003		0.028	
	[0.838]		[-0.687]		[0.493]		[0.539]	
Expertise × Auc_CPA	-0.030		0.594		0.007		-0.581	
	[-0.389]		[0.439]		[0.082]		[-0.693]	
Auc_Big4_Alumns		0.002		-0.057		0.001		0.092
		[0.247]		[-1.156]		[0.067]		[1.271]
Expertise × Auc_Big4_Alumns		0.011		0.472		-0.008		-1.684
		[0.050]		[0.329]		[-0.042]		[-1.571]
Control Variables	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set	Full Set
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Industry Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	7,588	7,588	463	463	7,588	7,588	7,588	7,588
Adjusted R-squared	0.029	0.029	0.028	0.030	0.120	0.120	0.126	0.126