

# Audit Partner Identification and Characteristics: Evidence from U.S. Form AP Filings

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**SUMMARY:** This paper investigates the overall impact of and the information made available by the recent audit partner disclosure requirement in the U.S. After a contentious comment period, the PCAOB released Rule 3211, which requires registered public accounting firms to disclose the name of the audit partner for every audit report it issues. In the first year of adoption, we find a significant increase in audit quality and audit fees and a significant decrease in audit delay. We collect information on partner gender, busyness, education, and social connections to explore whether these newly observable characteristics are associated with audit outcomes. We find that several of these characteristics are associated with variations in audit fees and audit delay, but no evidence of an association with audit quality. Overall, our findings suggest that the disclosure of partner name in Form AP enhances the audit information environment, which supports PCAOB motivation for Rule 3211.

**Keywords:** PCAOB; Form AP; audit partner disclosure; partner characteristics; gender; busyness; education; social connections.

## I. INTRODUCTION

Public Company Accounting Oversight Board (PCAOB 2016) Rule 3211 requires registered public accounting firms to file a Form AP containing the name of the audit partner for each public company audit report it issues after January 31, 2017. The disclosure requirement had two primary motivations. First, the PCAOB argued that public identification would enhance partner accountability, which could lead to greater effort and higher audit quality (PCAOB 2015a, 2015b). U.S. audit firms generally argued against this logic, stating that unique features of the audit market already hold partners accountable and that the requirement could lead to over-auditing by introducing inefficiencies (e.g., increased fees and delays) without a parallel increase in audit quality (PCAOB 2015a). Therefore, our first objective is to inform this debate by examining changes in audit quality, audit fees, and audit delay following the disclosure requirement. Second, the PCAOB (2015a, 2015b) stated that providing the name of the audit partner would improve transparency. Therefore, our second objective is to explore whether audit outcomes vary across several partner characteristics made available by this disclosure.

Although prior research exists in countries with similar regulation (e.g., Blay, Notbohm, Schelleman, and Valencia 2014; Carcello and Li 2013), the findings are not consistent and it is not clear which will manifest in the U.S. Furthermore, although research has also been conducted at the partner level in other countries (including Australia, Belgium, China, Finland, Sweden, Taiwan, and the U.K.), unique features of the U.S. audit market warrant U.S.-based research.

To test the overall impact of the disclosure requirement on audit outcomes, we employ a balanced panel design that varies depending on the audit outcome examined, ranging from 2,254 to 3,327 unique U.S. public companies. In the first year of the disclosure requirement, we find a significant increase in audit quality (i.e., a decrease in discretionary accruals) and audit fees,

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as well as a significant decrease in audit delay. These findings are based on firm fixed effect models and are robust to a change specification. Overall, our findings are consistent with the PCAOB argument that requiring public identification will enhance accountability and motivate individual audit partners to avoid negative outcomes such as poor audit quality and audit delay. Interestingly, we also find evidence of a structural shift in the audit market (e.g., firm-wide response via changes in policies and procedures that affect all partners) that is incremental to changes in individual partner behavior. This may suggest that even partners whose names were not disclosed during our sample period react to the disclosure requirement, which illustrates the difficulty of isolating the impact of Rule 3211 using the archival research method.<sup>1</sup>

We also explore whether these results hold for both Big 4 and non-Big 4 audit firms, because important differences in pre-disclosure accountability mechanisms exist across these firm types. Additionally, non-Big 4 firms represent a significant, yet underexplored, portion of the audit market. We find that the increase in audit fees and decrease in audit delay hold across both groups, but that audit quality increased only for Big 4 clients. This suggests that audit fees increased for non-Big 4 clients without a corresponding increase in audit quality.

To test the potential usefulness of the information made available by these disclosures, we perform cross-sectional analyses of the association between several partner characteristics that were previously unavailable in the U.S. and audit quality, audit fees, and audit delay. We also test whether these findings differ across Big 4 and non-Big 4 firms. Specifically, we manually collect information on public company audit partners now identified in Form AP, including their gender, busyness (i.e., number of public company engagements covered in Compustat), education, and social connections. Based on the PCAOB motivation for passing Rule 3211 and findings from studies in non-U.S. settings, we expect these partner characteristics to be associated with audit outcomes, which would suggest that partner name disclosure improves transparency and provides relevant information.

The samples used in these analyses include up to 1,796 unique audit partners identified in Form AP with necessary background information available. These new data generate descriptive statistics that have not been previously documented across a broad sample of U.S. audit partners. We find that 16.6 percent of audit partners in our sample are female. This figure is higher for Big 4 firms (at 17.7 percent), but remains significantly lower than the estimated 50 percent female employees in CPA firms (Franzel 2014). In addition, audit partners are responsible for 1.62 public company engagements on average. This number is higher in non-Big 4 firms and varies across industries. We also collect data on the type of educational institution an audit partner attends, such as those that produce a significant number of audit partners. We identify ten of these institutions, which produce 15.8 percent of partners. Finally, since auditing is a service business, social connections are important to consider. For instance, 51.4 percent of partners are employed in an audit office close to their undergraduate institution, which implies that they have strong local connections. Additionally, 51.6 percent of partners maintain a significant online networking presence.

Multivariate analyses largely reveal that these characteristics, made available by the disclosure of partner names, are associated with audit outcomes. For instance, we find that female audit partners charge higher audit fees, but audit quality and delay do not differ across partner gender. We further find an inverse association between partner busyness and audit fees, which is driven by Big 4 firms. The type of educational institution a partner attends is also significant. Specifically, Big 4 partners who attended universities that produce more partners charge higher fees. Finally, social connections are also informative. Online connections are associated with higher fees across all firm types, and non-Big 4 partners with online and local connections conduct timelier audits. Overall, partner characteristics made available by the disclosure requirement are associated with variations in audit fees and audit delay, but not in audit quality. We conclude that the disclosure requirement provides information relevant for predicting audit fees and delay, which are economically important factors to various users of the audit report.

Our study makes several contributions to research and practice. We provide timely archival evidence on changes to audit outcomes following the U.S. partner disclosure requirement. Specifically, we find an increase in audit quality and a decrease in audit delay, which support the PCAOB position that the requirement would enhance the accountability of audit partners. We also observe an increase in audit fees, which highlights a potential unintended consequence in the first year of the disclosure requirement. These results are consistent with reactions to the audit partner signature requirement in the U.K. (Carcello and Li 2013). At the partner level, our results suggest that the disclosure requirement provides information relevant for predicting audit pricing and efficiency. To the best of our knowledge, our study is the first to examine U.S. audit partner characteristics using the data made available in Form AP. We describe the backgrounds of U.S. public company audit partners across a broad sample. Multivariate results reveal that audit outcomes vary across several partner characteristics and often contrast with findings from other countries with available partner data. This should encourage interested individuals, such as investors, creditors, activists,

<sup>1</sup> Recognizing this difficulty, Cunningham, Li, Stein, and Wright (2019) employ a difference-in-differences research design using two primary control groups that are not expected to react to Rule 3211. They find that audit fees increase using one of two control samples, but do not find audit quality differences using either control sample.

**FIGURE 1**  
**Form AP Disclosure Timeline**

	Due date for 10-K and audit report	Due date for Form AP
<b>FYE: November 2, 2016</b>		
Large accelerated filer	January 1, 2016	February 5, 2017
Accelerated filer	January 16, 2017	February 20, 2017
Non-accelerated filer	January 31, 2017	March 7, 2017
<b>FYE: December 31, 2016</b>		
Large accelerated filer	March 1, 2017	April 5, 2017
Accelerated filer	March 16, 2017	April 20, 2017
Non-accelerated filer	March 31, 2017	May 5, 2017

and audit committees, to consider the audit partner's background in their decision making. Furthermore, we note differences in the importance of partner characteristics across Big 4 and non-Big 4 firms. This is important because the latter group is understudied in this context.

## II. BACKGROUND AND HYPOTHESES DEVELOPMENT

### U.S. Audit Partner Disclosure Requirement

PCAOB Rule 3211 required registered public accounting firms to disclose the audit partner's name and information about component auditor use (if any) in Form AP in two stages (PCAOB 2015b) (see Figure 1). We use audit partner information made available in the first stage, before disclosure of component auditor use was required; therefore, our sample consists of audit reports filed after January 31, 2017 but before June 30, 2017. This is important because this time period allows us to study the disclosure of audit partner names in a period that avoids any confounding effects of the additional disclosure requirement. Specifically, recent research suggests that the disclosure and use of component auditors significantly impacts audit outcomes (e.g., Dee, Lulseged, and Zhang 2015; Burke, R. Hoitash, and U. Hoitash 2019).

While developing the disclosure requirement, the PCAOB argued that disclosure of audit partner names would have two primary benefits—enhanced partner accountability and improved transparency (PCAOB 2015a, 2015b). In the following sections, we discuss these potential benefits, competing arguments made by audit firms that generally opposed the requirement, and supporting theory.

### Overall Impact of the Audit Partner Disclosure Requirement

Theory cited in PCAOB proposals suggests that public identification of audit partners will enhance their accountability and reputational concerns (DeZoort, Harrison, and Taylor 2006). This will presumably motivate audit partners to increase due professional care (King, Davis, and Mintchik 2012) and avoid negative consequences associated with a perceived audit failure (PCAOB 2015a, 2015b). One way an audit failure can be avoided is by performing more work (e.g., extending or changing the nature of procedures performed) (Carcello and Santore 2015). If partners are motivated to take these actions, audit quality should increase. Additionally, if greater accountability motivates audit partners to act more conservatively, this could curtail aggressive earnings management (e.g., Kim, Chung, and Firth 2003). Furthermore, public identification of the partner will allow stakeholders to track a partner's negative regulatory and legal outcomes, such as PCAOB sanctions and private lawsuits. These considerations may motivate partners to alter their behavior in response to public identification.

Evidence from the introduction of a similar requirement exists in the U.K. and in The Netherlands. Specifically, following a signature requirement, Carcello and Li (2013) find an increase in audit quality and audit fees in the U.K., but Blay et al. (2014) do not find audit quality improvements in The Netherlands. Although findings from these two studies are important, it is unclear whether they are generalizable to the introduction of the partner disclosure requirement in the U.S. First, findings vary across the countries examined, so it is not clear which will hold in the U.S. Second, these studies examine countries where partners sign the audit report. In contrast, the partner name is disclosed in the U.S. and the separate Form AP is not part of the Securities and Exchange Commission (SEC) file repository. This is important because disclosure may not have the same accountability benefits as a signature requirement. Third, the audit market has changed since 2009 and 2005 when the U.K. and

The Netherlands instituted signature requirements. Fourth, “audit partner” is defined differently across and within these jurisdictions (based on equity ownership, legal liability exposure, etc.) (Lennox and Wu 2018).

U.S. audit firms, which generally campaigned against this required disclosure, argued that partners are already subject to substantial accountability mechanisms that influence audit performance (e.g., partner rotation, partner compensation, internal firm quality control review, peer review, potential inspection and regulatory sanctions by the SEC and PCAOB, civil litigation, and more [e.g., Basu and Shekhar 2019; Bedard, Deis, Curtis, and Jenkins 2008; PCAOB 2015a]). These mechanisms are weak or absent in countries examined in prior literature, reflective of differences in legal, regulatory, and professional environments (e.g., Carcello and Li 2013) because U.S. audit partners operate in a strict environment and may have limited influence on their individual engagements.

Given the competing arguments above, we present the following hypothesis in null form:

**H1:** Audit quality will not change in the U.S. after audit partner names are required to be disclosed.

Next, we consider the impact of the disclosure requirement on audit fees. The PCAOB’s argument that enhanced accountability will improve audit quality suggests an increase in audit effort, which should increase audit fees. Relatedly, audit firms have suggested that inefficiencies may arise from undue legal, regulatory, and reputational risk motivating partners to undertake unnecessary procedures (e.g., PCAOB 2015a) or to charge a fee premium as compensation for the additional risk. These arguments converge to a predicted increase in audit fees following the disclosure requirement. Our second hypothesis is stated in the alternative:

**H2:** Audit fees will increase in the U.S. after audit partner names are required to be disclosed.

Third, we consider the impact of the disclosure requirement on audit delay. Audit delay could increase if additional effort is motivated by the disclosure requirement. Furthermore, prior studies find that audit regulation increases audit delay (e.g., Bronson, Hogan, Johnson, and Ramesh 2011; Ettredge, Li, and Sun 2006), but the partner disclosure regulation is unique because it does not directly require additional work. Conversely, since the requirement enhances partner reputational concerns, it may motivate them to avoid outcomes that are viewed negatively, such as audit report delays (Chambers and Penman 1984; Kross and Schroeder 1984). Given these competing predictions, we present the following null hypothesis:

**H3:** Audit delay will not change in the U.S. after audit partner names are required to be disclosed.

#### ***Big 4 versus Non-Big 4: Consequences of the Disclosure Requirement***

Because extant literature suggests significant differences between Big 4 and non-Big 4 audit firms (Becker, DeFond, Jambalvo, and Subramanyam 1998; Behn, Choi, and Kang 2008; Palmrose 1988), the disclosure requirement may result in heterogeneous reactions across audit firm types. Although all audit firms are subject to similar professional standards, Big 4 firms are also regulated by strong internal and external accountability mechanisms. Internally, the size of Big 4 firms affords greater investment in training programs and standardized audit methodologies (Bedard et al. 2008) as well as a better distribution of partner workload and increased options for quality control reviewers (Lawrence, Minutti-Meza, and Zhang 2011). Furthermore, external parties such as the media, analysts, creditors, investors, regulatory agencies, and civil litigators often focus on Big 4 audit clients due to their size and prominence and, as a result, their auditors may face greater risk (e.g., Choi, Kim, Liu, and Simunic 2008). Combined, the strength of these accountability mechanisms suggests that Big 4 audit partners are already motivated to deliver optimal audit quality and the disclosure requirement could introduce inefficiencies such as increased fees and/or delays.

Due to smaller economies of scale, non-Big 4 firms have different, and likely fewer, accountability mechanisms than Big 4 firms. Thus, the disclosure requirement could motivate non-Big 4 audit partners to increase audit effort and thus, audit quality, fees, and/or delay. In sum, it is not clear whether Big 4 and non-Big 4 firms will react differently to the disclosure requirement. We therefore investigate whether the outcomes of the disclosure requirement differ between Big 4 and non-Big 4 audit firms.

#### **Information Made Available by the Audit Partner Disclosure Requirement**

Rule 3211 could also be important because of the information it makes available. In fact, the PCAOB’s (2015a, 2015b) primary motivation for the disclosure was that information about who is leading audits could be useful to individuals evaluating audit quality. Disclosure of this important input to the audit process would presumably allow investors, creditors, and audit committee members to incorporate this information into their decisions. In fact, James R. Doty (2017), the PCAOB Chairman at the time of Rule 3211’s passage, stated that “our growing database on the engagement partners assigned to lead audits will allow investors and audit committees to develop a better understanding of a partner’s experience and capabilities.” Inherent in



this statement is the notion that audit quality varies across individual audit partners.<sup>2</sup> Thus, an important empirical question is whether information made available by Form AP explains variations in audit outcomes. Arguments from audit firms suggest that partners are *all* held accountable within their firm and that audit outcomes may not vary across individual partners. Furthermore, U.S. audit firms have strong quality control mechanisms that may constrain the ability of individual partners to influence their engagements (e.g., Basu and Shekhar 2019; Bedard et al. 2008).

Although there is a lack of U.S. evidence, the explanatory power of partner characteristics for variations in audit outcomes is well documented in non-U.S. settings (e.g., Taylor 2011; Aobdia, Lin, and Petacchi 2015; Cameran, Campa, and Francis 2017; Chi, Myers, Omer, and Xie 2017; Chi, Lisic, Myers, Pevzner, and Seidel 2018, 2019; Gul, Wu, and Yang 2013; Knechel, Vanstraelen, and Zerni 2015; Li, Qi, Tian, and Zhang 2017; Qi, Si, Tian, and Wu 2015; Wang, Yu, and Zhao 2015). When releasing the disclosure requirement, the PCAOB (2015b) cited several of these studies and stated, “Experience in other countries suggests that over time the disclosures would enable databases to be developed that would allow investors and other financial statement users to evaluate a number of data points about the engagement partner.” This passage goes on to mention specific data points, including the number of public company engagements a partner oversees and other information in the public domain, such as education, professional titles and qualifications, and association memberships. In the sections that follow, we explore several publicly observable characteristics of U.S. audit partners. If audit outcomes vary across these characteristics, then information made available by the disclosure requirement should be informative to various stakeholders.

### **Audit Partner Gender**

Gender research across a variety of disciplines shows that males and females make decisions differently. For instance, females have a lower tolerance for risk than males (Byrnes, Miller, and Schafer 1999; Carter, Franco, and Gine 2017; Levin, Snyder, and Chapman 1988; Powell and Ansic 1997). This can result in females being less tolerant of opportunistic behavior (Srinidhi, Gul, and Tsui 2011). Extant research concludes that females are also more careful, more diligent and conservative, and more likely to exhibit rule-following behavior (E. Palvia Vähämaa and S. Vähämaa 2015; Peni and Vähämaa 2010), which can have positive implications for firm monitoring and performance (Adams and Ferreira 2009; Gul, Srinidhi, and Ng 2011; Huang and Kising 2013; Srinidhi et al. 2011).

Prior studies examine audit partner gender in international jurisdictions.<sup>3</sup> Gender-based behavioral differences, particularly female risk intolerance, could materialize in female audit partners charging a fee premium and/or exhibiting greater caution (Hardies, Breesch, and Branson 2015). Several studies find that female partners charge fee premiums and provide higher audit quality (Ittonen and Peni 2012; Ittonen, E. Vähämaa, and S. Vähämaa 2013; Hardies, Breesch, and Branson 2016). However, in the U.K., female audit partners charge lower audit fees but have lower levels of client accruals (Cameran et al. 2017), and in China, female audit partners do not charge different fees or differ in terms of discretionary accruals, but are less likely to issue modified audit opinions (Cahan and Sun 2015) and have a higher likelihood of audit failure (Ye, Cheng, and Gao 2014). Notably, whether female risk aversion impacts audit delay has not been examined. If female risk aversion persists in the U.S. auditing environment, we would expect audit outcomes to vary with an audit partner’s gender.

### **Audit Partner Busyness**

We next consider audit partner busyness, captured by the number of public company engagements. Lennox and Wu (2018, 9) state that “a heavy workload could distract a partner from giving adequate attention to an audit and could motivate the partner to take shortcuts instead of gathering all the required audit evidence.” In this way, a partner’s workload negatively impacts the partner’s time and effort invested in each assignment (Sundgren and Svanström 2014). This suggests that audit partner busyness is an indirect proxy for auditor effort (whether perceived or actual) and is likely to be inversely associated with audit quality and/or audit fees. However, busyness could also lead to added reputational concerns that prevent audit partners

<sup>2</sup> Because of the lack of publicly available data at the partner level, this question has not been well explored in the U.S. context. Prior to the disclosure mandate, a few studies identified limited samples of U.S. audit partners from SEC comment letters (e.g., Laurion, Lawrence, and Ryans 2017; Lee, Nagy, and Zimmerman 2019) or via proprietary PCAOB data (Aobdia, Siddiqui, and Vinelli 2019). Notably, samples used in Aobdia et al. (2019) and Lee et al. (2019) are limited to clients of Big 4 firms. And it is not clear whether findings of studies that rely on SEC comment letters are generalizable to the larger population of public issuers.

<sup>3</sup> Before the disclosure requirement, Lee et al. (2019) collect the gender of Big 4 audit partners in the U.S. from SEC comment letters, and find that female audit partners demand a fee premium and deliver superior audit quality. Female risk intolerance may be particularly salient in their sample, which contains larger firms targeted by the SEC, but may not influence audit outcomes in the larger U.S. audit partner population. Our sample is more representative of the general population but is restricted to one year. Specifically, the Lee et al. (2019) sample contains 1,191 unique audit partners over a 12-year period, whereas our sample contains 1,796 unique partners (1,195 Big 4) in just one year.

from taking shortcuts (Goodwin and Wu 2016). Furthermore, the experience gained through exposure to additional clients could bring benefits to these audit outcomes (Chi et al. 2017).

To the best of our knowledge, partner busyness has not been examined in the U.S. Furthermore, partner-level research in non-U.S. settings has not examined the impact of busyness on audit fees nor audit delay. Using Australian data, Goodwin and Wu (2016) do not find an association between partner busyness and audit quality. Conversely, Sundgren and Svanström (2014) find a negative association between partner busyness and the propensity to issue a going concern opinion for private companies that filed for bankruptcy in Sweden. Across several audit quality proxies, Gul et al. (2013) and Cameran et al. (2017) also find a negative association between partner busyness and audit quality proxies for Chinese and U.K. audit partners, respectively. Overall, findings for busyness differ across countries, so it is not clear which effects will dominate in the U.S.

### *Audit Partner Educational Institution*

The PCAOB (2015b) release states that a partner's education may be an important characteristic to investors and other financial statement users. Where an individual is educated may influence their knowledge, skills, risk preferences, values, productivity, etc. (Becker 1962; De Franco and Zhou 2009; Hambrick and Mason 1984). Because auditing is a skilled profession, education is crucial for facilitating the acquisition of knowledge and expertise necessary for successful job performance (Bonner and Walker 1994; Libby 1995). This implies that an audit partner's education can affect their skills and productivity, and therefore audit quality, audit fees, and audit delay. In addition, partners who are more knowledgeable may be more critical and gather more audit evidence, resulting in higher audit quality, but also higher audit fees and delay. Che, Langli, and Svanström (2018) find support for the latter effect in the Norwegian audit market, because they observe a positive association between various education measures and audit effort.

Interestingly, most auditing research has not detected differences across educational backgrounds in the U.S. For instance, Estes and Reames (1988) find no difference in auditor materiality decisions across education and attribute this result to the homogeneity of educational background in their sample. This homogeneity also exists for U.S. audit partners, all of whom likely have at least an undergraduate business degree (Christensen, Glover, Omer, and Shelley 2016). Because education levels are likely to be homogenous in the U.S., focusing on the institution where partners receive their education may be revealing. Attendance at elite educational institutions, where an individual builds human and social capital (Pollock, Chen, Jackson, and Hambrick 2010), is associated with higher respect, as well as perceived and actual ability (Badolato, Donelson, and Ege 2014; D'Aveni 1990; Finkelstein 1992). Thus, we investigate whether the institution an audit partner attends is an informative characteristic.

### *Audit Partner Social Connections*

Extant literature finds that social connections provide an information advantage by linking individuals to their peers, competitors, customers, and executives at other firms (Karlan, Mobius, Rosenblat, and Szeidl 2009). This can help individuals generate ideas, acquire knowledge, and identify opportunities, which can ultimately influence job performance (Li, Lin, and Hu 2016). Furthermore, the size of an individual's network can reflect their social skills, confidence, intelligence, and reputation (Li et al. 2016). Recent research suggests that these performance implications may translate to the auditing environment. For example, Causholli, Floyd, Jenkins, and Soltis (2017) report that auditor knowledge acquisition and job performance are positively associated with mutually acknowledged social ties.

In an audit setting, familiarity with a client's top management and organizational culture could contribute to better assessments of control risk and audit quality (Francis, Golshan, and Hallman 2017). Additionally, better information and awareness of a client's economic, regulatory, and media environment could increase the efficiency of the audit (Dong, Robinson, and Xu 2018), resulting in lower audit fees and audit delay. However, close social connections with client management could result in lower audit quality due to a loss of objectivity and professional skepticism arising from an unwarranted trust in client-provided information (Kadous, Leiby, and Peecher 2013; King 2002; Rose 2007). Furthermore, clients could view a socially connected audit partner as more reputable or trustworthy, which would allow these partners to increase fees. These connections also increase the audit partner's visibility to their network, which enhances reputation risk and audit fees. In sum, social connections could either benefit audit quality and efficiency due to improved information transfer or harm these outcomes due to biased decision making.

### *Summary of Partner Characteristics*

Based on PCAOB statements, related theory, and prior literature, we expect characteristics of individual U.S. audit partners to influence audit outcomes. Therefore, we investigate whether audit quality, audit fees, and/or audit delay vary with audit partner gender, busyness, educational institution, and/or social connections.

**TABLE 1**  
**Derivation of Balanced Panel Sample**

U.S. public issuers with Form AP in PCAOB AuditorSearch with a due date between January 31, 2017 and May 31, 2017	6,702
Less: Missing engagement partner ID	(1)
Less: Missing or duplicate CIK	(389)
Less: Missing Compustat or Audit Analytics coverage (coverage is required for fiscal years 2015 and 2016)	(2,117)
Less: Observations with an auditor change during the year	(260)
Potential companies in sample	3,935
Less: Missing data in Compustat or Audit Analytics for audit fee model control variables (data are required for fiscal years 2015 and 2016)	(608)
Companies in audit fee sample	3,327

### III. RESEARCH DESIGN

#### Sample Selection

We begin our data collection by identifying Form AP filings for fiscal year-ends from November 2016 through May 2017 in the AuditorSearch database made available by the PCAOB (<https://pcaobus.org/Pages/AuditorSearch.aspx>). We then compose a balanced panel of 6,654 firm-year observations representing 3,327 unique firms, with coverage in Audit Analytics and Compustat in fiscal years 2015 and 2016. We use this balanced panel in the audit fee analysis, and its derivation is reported in Table 1. Because data requirements vary in each analysis, sample sizes differ for each dependent variable. Our partner characteristic analyses also require manually collected data from LinkedIn and other online sources, resulting in a sample of 2,703 engagements supervised by 1,796 partners in 2016.

#### Test Variables

The test variable in our main analyses is *DISCLOSURE*, which is an indicator variable equal to 1 for the year of the audit partner disclosure requirement, and 0 for the year prior. Using disclosed audit partner names, we manually collect background information for our partner characteristics analyses. To identify partner gender, we manually review the names of all audit partners. For any name that is not clearly identifiable as male or female, we determine gender based on photographs of the audit partner available online (Lee et al. 2019). *FEMALE-PARTNER* is an indicator variable equal to 1 if the audit partner is female, and 0 otherwise. *PARTNER-BUSYNESS* is the natural log of the number of public engagements of firms covered in Compustat that the partner oversees.<sup>4</sup> To measure the partner's educational institution, we use *PARTNER-PRODUCING-SCHOOL*, which is an indicator variable equal to 1 if an audit partner obtains their undergraduate degree from an institution that produces more than 20 partners, and 0 otherwise.<sup>5</sup> Finally, we construct two indicator variables that measure a partner's social connections. *CONNECT-LOCAL* is equal to 1 if the audit partner is currently employed by an audit firm located in the same state or within 100 miles of their undergraduate institution, and 0 otherwise, and *CONNECT-ONLINE* is equal to 1 if the audit partner has 500 connections on LinkedIn (which is the maximum observable on a user's profile), and 0 otherwise.

#### Model Specifications

##### Dependent Variables

All analyses use three sets of dependent variables. For each analysis, model specifications can be found in the table notes. The first set of dependent variables is the absolute value of discretionary accruals (*DISC-ACC*) and their change ( $\Delta$ *DISC-ACC*), which proxy for audit quality.<sup>6</sup> As *DISC-ACC* decreases, audit quality increases. The second pair of dependent variables is the natural log of audit fees (*AUDIT-FEES*) and its change ( $\Delta$ *AUDIT-FEES*). The last set of dependent variables is *AUDIT-DELAY*

<sup>4</sup> Partners' client portfolios can also include clients that are private, are not covered in Compustat, or that have not yet filed a Form AP. Our busyness measure is therefore underestimated and results should be interpreted with caution.

<sup>5</sup> Ten universities produce more than 20 partners currently filing a Form AP. These are Boston College, Indiana University, Miami University, The Pennsylvania State University, Texas A&M University, University of California, Santa Barbara, University of Illinois, University of Notre Dame, University of Southern California, and The University of Texas.

<sup>6</sup> We calculate discretionary accruals following Kothari, Leone, and Wasley (2005). Several common proxies for audit quality, such as the accuracy of going concern opinions and financial statement restatements, require additional years of data and are therefore not available at the time of this study.

**TABLE 2**  
**Descriptive Statistics**

	Panel Data		Fiscal Year 2015 (Pre-Disclosure)		Fiscal Year 2016 (Post-Disclosure)	
	n	Mean	n	Mean	n	Mean
<i>DISC-ACC</i>	4,508	0.077	2,254	0.082	2,254	0.072***
<i>AUDIT-FEES</i>	6,654	13.898	3,327	13.876	3,327	13.919
<i>AUDIT-DELAY</i>	6,252	-6.363	3,126	-6.074	3,126	-6.653**
<i>ASSETS</i>	6,654	7.055	3,327	7.040	3,327	7.071
<i>BUS-SEG</i>	6,654	1.869	3,327	1.868	3,327	1.871
<i>GEO-SEG</i>	6,654	1.911	3,327	1.904	3,327	1.918
<i>FOREIGN</i>	6,654	0.325	3,327	0.327	3,327	0.322
<i>INV-REC</i>	6,654	0.250	3,327	0.249	3,327	0.251
<i>LOSS</i>	6,654	0.404	3,327	0.398	3,327	0.411
<i>CASH-FLOW</i>	6,654	0.023	3,327	0.020	3,327	0.026
<i>MARKET/BOOK</i>	6,654	2.831	3,327	2.741	3,327	2.920
<i>LEVERAGE</i>	6,654	0.651	3,327	0.642	3,327	0.659*
<i>GC</i>	6,654	0.050	3,327	0.045	3,327	0.055
<i>MW</i>	6,654	0.098	3,327	0.096	3,327	0.101
<i>RESTATE</i>	6,654	0.066	3,327	0.069	3,327	0.064
<i>BIG4</i>	6,654	0.713	3,327	0.713	3,327	0.713
<i>SALES-GROWTH</i>	6,654	0.117	3,327	0.132	3,327	0.102**
<i>ACQUISITION</i>	6,654	0.342	3,327	0.350	3,327	0.334
<i>ACCELERATED</i>	6,654	0.758	3,327	0.755	3,327	0.761
<i>TOTAL-ACC</i>	6,654	-0.075	3,327	-0.077	3,327	-0.073
<i>FYE-DEC</i>	6,654	0.910	3,327	0.910	3,327	0.911

\*\*\*, \*\*, \* Indicate two-tailed statistical significance for differences between 2015 and 2016 at 1 percent, 5 percent, and 10 percent, respectively. Variables are defined in Appendix A.

and  $\Delta$ *AUDIT-DELAY*, where *AUDIT-DELAY* is the number of days between the fiscal year-end and the audit report date minus the SEC's filing deadline (60, 75, and 90 days for large accelerated, accelerated, and non-accelerated filers, respectively).<sup>7</sup>

### Control Variables

All control variables are defined in Appendix A. We use several control variables across all three sets of models and include additional model-specific controls where necessary. Multi-year models, which test for an overall impact of the disclosure requirement (H1–H3), include firm fixed effects, and single year models, which test for an impact of partner characteristics, include industry and core-based statistical area (CBSA) fixed effects. The latter control for market differences, such as cost of living. Furthermore, to remove the influence of potential outliers, we winsorize continuous variables at the 1st and 99th percentiles.<sup>8</sup>

## IV. RESULTS

### Descriptive Statistics

#### Overall Impact

Table 2 presents descriptive data for the dependent and control variables in the audit fee sample. Column (1) presents overall statistics, whereas Columns (2) and (3) present descriptives for pre- and post-disclosure year, respectively. We observe no significant differences between pre- and post-audit fees. In contrast, discretionary accruals and audit delay have significantly

<sup>7</sup> Without this adjustment, the audit delay variable simply captures company size, which is used by the SEC to define filer status (R. Hoitash and U. Hoitash 2018).

<sup>8</sup> The variance inflation factors (VIFs) are below 10 in all of our models, with the highest VIF being 4.09. This suggests that multicollinearity is not a serious concern in interpreting the results (J. Cohen, P. Cohen, West, and Aiken 2003).



**TABLE 3**  
**Descriptive Statistics: Partner Level**

**Panel A: Partner Characteristics by Auditor Size**

<u>Variable Name</u>	<u>n</u>	<u>Mean</u>	<u>Median</u>	<u>STD</u>
All Partners				
<i>FEMALE-PARTNER</i>	1,796	0.166	0.166	0.373
<i>PARTNER-BUSYNESS</i>	1,796	1.618	1.618	0.850
<i>PARTNER-PRODUCING-SCHOOL</i>	1,796	0.158	0.158	0.365
<i>CONNECT-LOCAL</i>	1,796	0.517	0.517	0.500
<i>CONNECT-ONLINE</i>	1,796	0.516	0.516	0.500
Big 4 Partners				
<i>FEMALE-PARTNER</i>	1,195	0.177	0.000	0.381
<i>PARTNER-BUSYNESS</i>	1,195	1.556	1.000	0.761
<i>PARTNER-PRODUCING-SCHOOL</i>	1,195	0.174***	0.000	0.379
<i>CONNECT-LOCAL</i>	1,195	0.459	0.000	0.498
<i>CONNECT-ONLINE</i>	1,195	0.499	0.000	0.500
Non-Big 4 Partners				
<i>FEMALE-PARTNER</i>	601	0.146	0.000	0.354
<i>PARTNER-BUSYNESS</i>	601	1.742***	1.000	0.994
<i>PARTNER-PRODUCING-SCHOOL</i>	601	0.126	0.000	0.333
<i>CONNECT-LOCAL</i>	601	0.632***	1.000	0.483
<i>CONNECT-ONLINE</i>	601	0.551**	1.000	0.498

\*\*\*, \*\* Indicate two-tailed statistical significance for differences between Big 4 and Non-Big 4 partners at 1 percent and 5 percent, respectively. Descriptive statistics are at the unique partner level.

**Panel B: Partner Characteristics by Audit Firm**

	<u>n</u>	<u><i>FEMALE-PARTNER</i></u>	<u><i>PARTNER-BUSYNESS</i></u>	<u><i>PARTNER-PRODUCING-SCHOOL</i></u>	<u><i>CONNECT-LOCAL</i></u>	<u><i>CONNECT-ONLINE</i></u>
Deloitte	258	0.174	1.527	0.147	0.411	0.411
EY	341	0.199	1.639	0.205	0.537	0.475
KPMG	270	0.137	1.574	0.163	0.533	0.437
PwC	326	0.187	1.475	0.172	0.353	0.644
Other	601	0.146	1.742	0.126	0.632	0.551
Total	1,796	0.166	1.618	0.158	0.517	0.516

Descriptive statistics are at the unique partner level.

(continued on next page)

decreased. Importantly, with the exception of sales growth, which decreased in the post-disclosure year, none of the firm characteristics vary significantly across periods. These results provide comfort that changes in company characteristics are not likely to explain our results.

**Partner Characteristics**

Regarding partner characteristics, Table 3, Panel A shows that 16.6 percent of partners are female and that partners audit an average of 1.62 public clients. When Big 4 and non-Big 4 audit partners are examined separately, the frequency of *FEMALE-PARTNER* across the two groups is not statistically different. However, partners in non-Big 4 firms audit on average 1.74 clients, which is statistically greater than the 1.56 average for Big 4 audit partners. This result is not surprising because engagements handled by non-Big 4 firms are typically smaller in size. In untabulated analyses, we find no difference in the number of engagements between male and female audit partners, overall or within auditor size class. We do, however, observe that the log of total assets across all engagements audited by female audit partners is significantly lower than the log of total assets audited by male

TABLE 3 (continued)

## Panel C: Partner Characteristics by City

	<b>n</b>	<b>FEMALE- PARTNER</b>	<b>PARTNER- BUSYNESS</b>	<b>PARTNER- PRODUCING- SCHOOL</b>	<b>CONNECT- LOCAL</b>	<b>CONNECT- ONLINE</b>
Atlanta	51	0.137	1.608	0.098	0.255	0.490
Boston	103	0.204	1.728	0.214	0.631	0.553
Chicago	92	0.185	1.424	0.424	0.554	0.370
Dallas	73	0.219	1.658	0.247	0.466	0.411
Denver	43	0.209	1.721	0.093	0.349	0.651
Houston	89	0.146	1.753	0.281	0.528	0.416
Los Angeles	60	0.250	1.667	0.250	0.533	0.550
McLean	43	0.093	1.488	0.093	0.465	0.512
Minneapolis	35	0.229	1.657	0.086	0.400	0.571
New York	167	0.246	1.509	0.072	0.599	0.515
Philadelphia	65	0.062	1.677	0.092	0.692	0.677
San Francisco	53	0.226	1.509	0.170	0.491	0.717
San Jose	53	0.094	1.755	0.057	0.321	0.811
Other	869	0.146	1.620	0.137	0.503	0.495
Total	1,796	0.166	1.618	0.158	0.510	0.516

Descriptive statistics are at the unique partner level. All cities with more than 50 unique audit partners in the AuditorSearch database are listed.

## Panel D: Partner Characteristics by Industry

	<b>n</b>	<b>FEMALE- PARTNER</b>	<b>PARTNER- BUSYNESS</b>	<b>PARTNER- PRODUCING- SCHOOL</b>	<b>CONNECT- LOCAL</b>	<b>CONNECT- ONLINE</b>
Consumer Non-Durables	123	0.187	1.813	0.089	0.495	0.472
Consumer	72	0.194	1.833	0.155	0.586	0.444
Manufacturing	245	0.135	1.829	0.134	0.527	0.477
Oil, Gas	179	0.117	2.073	0.195	0.483	0.424
Chemicals	76	0.158	1.816	0.094	0.344	0.507
Business Equipment Software	489	0.135	1.943	0.148	0.497	0.601
Telephone and Television	89	0.079	1.764	0.121	0.348	0.507
Utilities	104	0.115	2.096	0.209	0.267	0.523
Wholesale Retail	238	0.176	1.849	0.202	0.495	0.412
Healthcare	411	0.204	2.263	0.115	0.504	0.574
Finance	865	0.161	1.954	0.169	0.499	0.427
Other	436	0.156	1.872	0.147	0.382	0.458

audit partners and that this association is driven by Big 4 partners but is insignificant among non-Big 4 partners. Thus, although female partners in Big 4 firms are responsible for a similar number of engagements, these engagements are smaller on average.

Regarding partner education, 60.5 percent of partners attended a public institution, and only 1 percent (18 partners) attended an Ivy League institution. 15.8 percent of audit partners received their undergraduate degree from one of the ten schools that produced the most audit partners in our sample. Untabulated results show that female partners are significantly more likely to attend these institutions, and this is driven by female partners at non-Big 4 firms. Regarding social connections, there is also significant variation in audit partner location by school.<sup>9</sup> Overall, 51.7 percent of audit partners meet the criteria for *CONNECT-LOCAL*. Although we do not detect differences across gender, non-Big 4 partners are significantly more likely to

<sup>9</sup> For example, more than 75 percent of University of California, Santa Barbara, The University of Texas, and University of Southern California graduates are employed in the same state or within 100 miles of their undergraduate institution. In contrast, less than 30 percent of University of Notre Dame and Indiana University graduates are employed nearby.

meet the criteria. Finally, we find that 51.6 percent of audit partners have the maximum observable number of connections in LinkedIn (*CONNECTED*), and that this is most common for male partners of non-Big 4 firms.

We also examine the distributions of these partner characteristics across firms, major metropolitan cities, and industries. Panel B reports that among Big 4 firms, EY has the highest female partner representation (at 19.9 percent) and KPMG has the lowest (at 13.7 percent). Non-Big 4 firms generally have a lower female representation at 14.6 percent. In the Big 4 sample, the number of engagements per audit partner is the highest at EY and lowest at PwC. EY recruits the most partners from schools that produce 20 or more partners. Of the Big 4 firms, EY and KPMG partners are most likely to be located close to their undergraduate institution, whereas PwC partners are the least likely. Perhaps related to this lack of geographic tie to their institution, PwC partners have the highest online presence of any of the Big 4, which even exceeds this figure for non-Big 4 firms.

Panel C further documents that female audit partners are better represented in certain areas of the country. For example, within major metropolises, female audit partners are most common in Los Angeles, New York, and Minneapolis, and are least common in Philadelphia, McLean (the DC area), and San Jose.<sup>10</sup> On average, audit partners in San Jose, Houston, and Boston have more audit clients, while audit partners in Chicago, McLean, San Francisco, and New York City have fewer. Partners in major markets such as Chicago, Houston, and Los Angeles are most likely to have attended the institutions we identify as producing the most audit partners. Furthermore, more than 60 percent of partners in Philadelphia and Boston received their schooling in the area, whereas most partners in Atlanta, San Jose, and Denver have relocated. Finally, most partners in San Jose have the maximum number of LinkedIn connections, but this is less common in Chicago, Dallas, or Houston.

In Panel D, we find that partner characteristics also vary by industry. The highest female representation is observed in the healthcare and consumer industries, and the lowest is observed in the telephone and television, utilities, and oil/gas industries. Partners in healthcare, utilities, and oil/gas have the most engagements, whereas partners in telephone and television, consumer non-durables, and chemicals have the fewest engagements. Partners in the business equipment software and healthcare industries are most likely to reach the maximum number of LinkedIn connections, and this is least common in the wholesale retail industry.

## Multivariate Results

### Overall Impact

**Audit quality.** Our first model examines the impact of disclosure on audit quality (proxied by discretionary accruals). Column (1) of Table 4 reveals that the level of discretionary accruals significantly decreased in the disclosure year ( $p < 0.01$ ). These results suggest that the enhanced accountability and legal, regulatory, and reputational risk concerns imposed by public identification motivate partners to increase audit quality. However, the increase in audit quality holds only for Big 4 firms (Column (2) of Table 4), which suggests that, despite arguments against the disclosure requirement, reputational concerns appear to be salient for Big 4 audit partners. For robustness, in Columns (4)–(6) we repeat the analysis using a change model and find a similar decrease in discretionary accruals in the disclosure year, which is driven by Big 4 firms.<sup>11,12</sup>

**Audit fees.** Our second model examines the impact of disclosure on audit fees. Results in Column (1) of Table 5 reveal a positive and significant association between disclosure and audit fees ( $p < 0.01$ ). Combined with findings in Table 4, this suggests that audit teams expend greater effort following the disclosure requirement. Interestingly, results in Columns (2) and (3) show that the increase in audit fees holds for both Big 4 ( $p < 0.01$ ) and non-Big 4 firms ( $p < 0.01$ ). This is surprising given that audit quality does not improve in non-Big 4 firms. The audit firms' argument that the disclosure requirement could introduce inefficiencies, such as increased fees, is supported by this finding. One possible explanation for this is that non-Big 4 audit partners are exposed to a greater increase in liability concerns and share this risk with their clients through increased fees. For robustness, in Columns (4)–(6) we repeat the analysis using a change model, and we observe a similar increase in audit fees for all firm types.<sup>13</sup>

**Audit delay.** Our last model examines the impact of disclosure on audit delay. Columns (1)–(3) of Table 6 show that audit delay decreased significantly in the disclosure year ( $p < 0.01$ ). These results may suggest that greater accountability and risk incentivize audit partners to provide timelier audit reports. Similar to our audit fee findings, audit delay findings do not differ

<sup>10</sup> In Form AP, audit firms must disclose the city and state of the audit office associated with the named partner. Panel C reports descriptives for all cities with more than 50 unique audit partners.

<sup>11</sup> Consistent with [Carcello and Li \(2013\)](#), we model changes in the absolute value of discretionary accruals to capture changes in the deviation from the expected level of accruals. Nevertheless, we also estimate models using signed accruals and find that positive accruals produce similar results (i.e., we find a reduction in positive abnormal accruals during the disclosure year overall and in the Big 4 sample). For negative accruals, we observe a decline in the absolute value during the disclosure year overall and in the non-Big 4 sample.

<sup>12</sup> Here and in subsequent change analyses, the samples are smaller because we require a three-year complete panel (2014–2016) to calculate changes in the dependent and control variables.

<sup>13</sup> In an untabulated analysis, we explore the association between the disclosure requirement and the ratio of nonaudit fees to audit fees. We find a significant decrease in the year following the requirement. This helps to alleviate the concern that fees are increasing overall.

**TABLE 4**  
**Audit Quality and Audit Partner Disclosure**

$$\begin{aligned}
 DISC-ACC/\Delta DISC-ACC = & \alpha + \beta_1 DISCLOSURE + \beta_2 TOTAL-ACC + \beta_3 ASSETS + \beta_4 BUS-SEG + \beta_5 GEO-SEG \\
 & + \beta_6 FOREIGN + \beta_7 INV-REC + \beta_8 LOSS + \beta_9 CASH-FLOW + \beta_{10} MARKET/BOOK \\
 & + \beta_{11} LEVERAGE + \beta_{12} SALES-GROWTH + \beta_{13} GC + \beta_{14} MW + \beta_{15} RESTATE \\
 & + Firm/Industry Fixed Effects + e
 \end{aligned}$$

	(1) <i>DISC-ACC</i> All	(2) <i>DISC-ACC</i> Big 4	(3) <i>DISC-ACC</i> Non-Big 4	(4) <i>ΔDISC-ACC</i> All	(5) <i>ΔDISC-ACC</i> Big 4	(6) <i>ΔDISC-ACC</i> Non-Big 4
<i>DISCLOSURE</i>	−0.006*** (−2.79)	−0.007*** (−2.99)	−0.002 (−0.32)	−0.009*** (−2.66)	−0.008** (−2.41)	−0.007 (−0.83)
<i>TOTAL-ACC</i>	−0.119*** (−8.30)	−0.164*** (−9.45)	−0.068** (−2.54)	−0.125*** (−11.39)	−0.178*** (−13.34)	−0.084*** (−3.93)
<i>ASSETS</i>	0.002 (0.19)	0.002 (0.17)	−0.005 (−0.27)	0.007 (1.23)	0.001 (0.22)	0.018 (1.27)
<i>BUS-SEG</i>	−0.002 (−0.42)	−0.003 (−0.61)	0.000 (0.03)	−0.001 (−0.42)	−0.002 (−0.79)	0.012 (0.97)
<i>GEO-SEG</i>	−0.001 (−0.17)	−0.001 (−0.43)	0.000 (0.03)	0.002 (0.67)	0.001 (0.20)	0.007 (0.74)
<i>FOREIGN</i>	−0.017 (−1.51)	−0.006 (−0.59)	−0.060* (−1.89)	−0.000 (−0.03)	0.001 (0.32)	−0.004 (−0.39)
<i>INV-REC</i>	−0.059 (−1.50)	−0.042 (−0.78)	−0.115* (−1.71)	0.117*** (3.75)	0.066 (1.62)	0.137** (2.39)
<i>LOSS</i>	0.003 (0.44)	0.007 (1.08)	−0.011 (−0.59)	−0.010** (−2.48)	−0.007* (−1.75)	−0.029** (−2.54)
<i>CASH-FLOW</i>	−0.120*** (−8.00)	−0.034* (−1.77)	−0.189*** (−7.13)	−0.129*** (−10.36)	−0.139*** (−9.13)	−0.126*** (−5.26)
<i>MARKET/BOOK</i>	−0.000 (−0.36)	−0.000 (−0.18)	−0.000 (−0.60)	−0.000 (−0.27)	0.000 (1.05)	−0.001 (−1.45)
<i>LEVERAGE</i>	−0.010 (−0.79)	−0.037** (−2.42)	0.007 (0.29)	0.013 (1.35)	−0.008 (−0.64)	0.027 (1.45)
<i>SALES-GROWTH</i>	0.035*** (11.77)	0.023*** (7.34)	0.054*** (8.28)	0.020*** (8.74)	0.016*** (6.38)	0.029*** (5.36)
<i>GC</i>	−0.003 (−0.25)	−0.018 (−1.31)	0.012 (0.54)	0.018** (2.04)	−0.006 (−0.53)	0.036** (2.11)
<i>MW</i>	0.012 (1.53)	0.019** (2.46)	−0.002 (−0.14)	0.007 (1.18)	0.018*** (2.85)	−0.015 (−1.00)
<i>RESTATE</i>	−0.011* (−1.70)	−0.010 (−1.57)	−0.016 (−0.78)	−0.003 (−0.51)	−0.003 (−0.69)	−0.009 (−0.51)
Firm Fixed Effects	Included	Included	Included			
Industry Fixed Effects				Included	Included	Included
Constant	0.085 (1.42)	0.078 (1.10)	0.156* (1.67)	0.011 (1.53)	0.005 (0.75)	0.023 (1.31)
Observations	4,508	3,344	1,164	3,936	2,976	960
Adjusted R <sup>2</sup>	0.458	0.388	0.478	0.067	0.085	0.049

\*\*\*, \*\*, \* Indicate two-tailed statistical significance at 1 percent, 5 percent, and 10 percent, respectively.

Variables are defined in Appendix A. Control variables in the change model are measured as a change from year  $t-1$  to year  $t$ .

between Big 4 and non-Big 4 firms. Results in Columns (4)–(6) using a change model support timelier reporting in the disclosure year.

**Additional analyses.** To explore the robustness of our results, we conduct several additional analyses. First, we separately examine firms that are annually/triennially inspected by the PCAOB and those that are not. Results are similar to those that partition audit firms by size. Second, we find that results are robust to the inclusion of client size decile dummies, which helps

**TABLE 5**  
**Audit Fees and Audit Partner Disclosure**

$$\begin{aligned} \text{AUDIT-FEES}/\Delta\text{AUDIT-FEES} = & \alpha + \beta_1\text{DISCLOSURE} + \beta_2\text{ASSETS} + \beta_3\text{BUS-SEG} + \beta_4\text{GEO-SEG} + \beta_5\text{FOREIGN} \\ & + \beta_6\text{INV-REC} + \beta_7\text{LOSS} + \beta_8\text{CASH-FLOW} + \beta_9\text{MARKET/BOOK} \\ & + \beta_{10}\text{LEVERAGE} + \beta_{11}\text{SALES-GROWTH} + \beta_{12}\text{ACQUISITION} \\ & + \beta_{13}\text{ACCELERATED} + \beta_{14}\text{GC} + \beta_{15}\text{MW} + \beta_{16}\text{RESTATE} \\ & + \text{Firm/Industry Fixed Effects} + e \end{aligned}$$

	(1) AUDIT- FEES All	(2) AUDIT- FEES Big 4	(3) AUDIT- FEES Non-Big 4	(4) ΔAUDIT- FEES All	(5) ΔAUDIT- FEES Big 4	(6) ΔAUDIT- FEES Non-Big 4
DISCLOSURE	0.033*** (7.37)	0.027*** (4.81)	0.044*** (6.16)	0.017** (2.53)	0.014* (1.71)	0.017* (1.65)
ASSETS	0.244*** (14.19)	0.263*** (12.05)	0.216*** (8.29)	0.221*** (18.18)	0.252*** (16.36)	0.145*** (7.69)
BUS-SEG	0.032*** (3.32)	0.034*** (3.05)	0.022 (1.00)	0.032*** (4.64)	0.025*** (3.12)	0.073*** (4.83)
GEO-SEG	0.032*** (3.50)	0.037*** (3.55)	0.001 (0.04)	0.023*** (3.52)	0.023*** (3.03)	0.011 (0.78)
FOREIGN	0.042 (1.62)	0.026 (0.85)	0.070 (1.55)	0.032* (1.76)	0.039* (1.77)	-0.008 (-0.23)
INV-REC	0.012 (0.15)	-0.153 (-1.26)	0.211** (2.15)	-0.068 (-1.12)	-0.142 (-1.63)	0.011 (0.15)
LOSS	0.028* (1.86)	0.015 (0.78)	0.042* (1.79)	0.022*** (2.59)	0.021** (2.01)	0.023 (1.59)
CASH-FLOW	-0.068** (-1.99)	-0.160*** (-2.95)	0.003 (0.07)	-0.090*** (-3.34)	-0.157*** (-3.97)	-0.016 (-0.47)
MARKET/BOOK	-0.001 (-1.23)	-0.001 (-1.13)	-0.000 (-0.17)	-0.000 (-0.24)	0.000 (0.22)	-0.000 (-0.32)
LEVERAGE	0.065** (2.21)	0.159*** (3.72)	-0.034 (-0.94)	0.088*** (4.11)	0.118*** (3.71)	0.042 (1.56)
SALES-GROWTH	0.001 (0.14)	0.023** (2.51)	-0.029*** (-3.12)	0.007 (1.31)	0.016** (2.40)	-0.011 (-1.51)
ACQUISITION	0.044*** (4.52)	0.044*** (3.76)	0.040** (2.34)	0.037*** (5.28)	0.038*** (4.60)	0.029** (2.24)
ACCELERATED	0.094*** (3.87)	0.089*** (2.84)	0.134*** (3.82)	0.089*** (4.94)	0.076*** (3.17)	0.146*** (5.77)
GC	0.013 (0.49)	-0.040 (-1.02)	0.048 (1.54)	0.001 (0.07)	-0.023 (-0.76)	0.019 (0.75)
MW	0.118*** (7.24)	0.131*** (6.25)	0.097*** (4.01)	0.091*** (6.98)	0.106*** (6.51)	0.055*** (2.65)
RESTATE	0.021 (1.48)	0.005 (0.29)	0.077*** (2.98)	0.037*** (3.65)	0.038*** (3.30)	0.029 (1.34)
Firm Fixed Effects	Included	Included	Included			
Industry Fixed Effects				Included	Included	Included
Constant	11.869*** (91.43)	12.043*** (66.78)	11.194*** (73.13)	-0.025 (-1.54)	-0.024 (-1.19)	-0.042 (-1.64)
Observations	6,654	4,744	1,910	5,838	4,274	1,564
Adjusted R <sup>2</sup>	0.983	0.972	0.974	0.107	0.111	0.101

\*\*\*, \*\*, \* Indicate two-tailed statistical significance at 1 percent, 5 percent, and 10 percent, respectively.

Variables are defined in Appendix A. Control variables in the change model are measured as a change from year  $t-1$  to year  $t$ .



**TABLE 6**  
**Audit Delay and Audit Partner Disclosure**

$$\begin{aligned} \text{AUDIT-DELAY}/\Delta\text{AUDIT-DELAY} = & \alpha + \beta_1\text{DISCLOSURE} + \beta_2\text{ASSETS} + \beta_3\text{BUS-SEG} + \beta_4\text{GEO-SEG} \\ & + \beta_5\text{FOREIGN} + \beta_6\text{INV-REC} + \beta_7\text{LOSS} + \beta_8\text{CASH-FLOW} \\ & + \beta_9\text{MARKET/BOOK} + \beta_{10}\text{LEVERAGE} + \beta_{11}\text{SALES-GROWTH} \\ & + \beta_{12}\text{ACQUISITION} + \beta_{13}\text{FYE-DEC} + \beta_{14}\text{GC} + \beta_{15}\text{MW} + \beta_{16}\text{RESTATE} \\ & + \text{Firm/Industry Fixed Effects} + e \end{aligned}$$

	(1) AUDIT- DELAY All	(2) AUDIT- DELAY Big 4	(3) AUDIT- DELAY Non-Big 4	(4) $\Delta$ AUDIT- DELAY All	(5) $\Delta$ AUDIT- DELAY Big 4	(6) $\Delta$ AUDIT- DELAY Non-Big 4
DISCLOSURE	-0.866*** (-5.94)	-0.856*** (-5.15)	-0.839*** (-2.84)	-1.019*** (-5.06)	-0.803*** (-3.45)	-1.558*** (-3.89)
ASSETS	3.638*** (6.67)	4.576*** (7.21)	1.781* (1.68)	2.609*** (6.97)	3.704*** (8.30)	0.209 (0.30)
BUS-SEG	0.363 (1.16)	0.514 (1.58)	-0.638 (-0.71)	0.387* (1.78)	0.324 (1.41)	0.568 (0.97)
GEO-SEG	0.407 (1.34)	0.286 (0.91)	0.862 (0.97)	0.236 (1.14)	0.148 (0.66)	0.489 (0.92)
FOREIGN	-0.596 (-0.71)	-0.761 (-0.81)	0.267 (0.15)	-0.256 (-0.46)	-0.515 (-0.81)	0.596 (0.50)
INV-REC	2.381 (0.92)	5.212 (1.48)	-2.112 (-0.52)	2.357 (1.28)	4.066 (1.62)	-0.256 (-0.09)
LOSS	0.559 (1.16)	0.679 (1.24)	0.470 (0.48)	0.491* (1.84)	0.657** (2.15)	0.261 (0.47)
CASH-FLOW	0.176 (0.16)	0.043 (0.03)	-0.483 (-0.30)	0.025 (0.03)	1.043 (0.97)	-1.464 (-1.23)
MARKET/BOOK	-0.003 (-0.17)	0.017 (0.76)	-0.044 (-1.19)	0.001 (0.09)	0.007 (0.42)	-0.020 (-0.75)
LEVERAGE	4.110*** (4.34)	2.368* (1.85)	5.473*** (3.67)	2.128*** (3.32)	2.061** (2.29)	1.575 (1.62)
SALES-GROWTH	-0.451** (-2.06)	-0.439 (-1.63)	-0.416 (-1.07)	-0.291* (-1.90)	-0.246 (-1.31)	-0.389 (-1.43)
ACQUISITION	0.247 (0.79)	0.330 (0.96)	-0.120 (-0.17)	0.552** (2.53)	0.614** (2.54)	0.236 (0.48)
FYE-DEC	-0.847 (-0.18)	-4.103 (-0.76)	6.554 (0.75)	-0.102 (-0.26)	-0.614 (-1.27)	0.779 (1.05)
GC	5.566*** (6.42)	4.694*** (3.83)	5.394*** (4.09)	5.785*** (9.05)	5.338*** (5.80)	5.898*** (6.27)
MW	3.745*** (7.00)	3.205*** (5.06)	4.843*** (4.83)	2.954*** (7.43)	2.166*** (4.60)	4.554*** (6.05)
RESTATE	-0.099 (-0.22)	-0.263 (-0.55)	0.501 (0.47)	-0.350 (-1.14)	-0.476 (-1.44)	0.246 (0.32)
Firm Fixed Effects	Included	Included	Included			
Industry Fixed Effects				Included	Included	Included
Constant	-36.140*** (-6.13)	-42.843*** (-5.92)	-25.186** (-2.49)	-0.907 (-1.43)	-0.993 (-1.31)	-0.674 (-0.57)
Observations	6,252	4,410	1,842	5,848	4,178	1,670
Adjusted R <sup>2</sup>	0.694	0.711	0.659	0.045	0.041	0.062

\*\*\*, \*\*, \* Indicate two-tailed statistical significance at 1 percent, 5 percent, and 10 percent, respectively.

Variables are defined in Appendix A. Control variables in the change model are measured as a change from year  $t-1$  to year  $t$ .

**TABLE 7**  
**Audit Quality and Audit Partner Characteristics**

$$\begin{aligned}
 \text{DISC-ACC} = & \alpha + \beta_1 \text{FEMALE-PARTNER} + \beta_2 \text{PARTNER-BUSINESS} + \beta_3 \text{PARTNER-PRODUCING-SCHOOL} \\
 & + \beta_4 \text{CONNECT-LOCAL} + \beta_5 \text{CONNECT-ONLINE} + \beta_6 \text{TOTAL-ACC} + \beta_7 \text{ASSETS} + \beta_8 \text{BUS-SEG} \\
 & + \beta_9 \text{GEO-SEG} + \beta_{10} \text{FOREIGN} + \beta_{11} \text{INV-REC} + \beta_{12} \text{LOSS} + \beta_{13} \text{CASH-FLOW} + \beta_{14} \text{MARKET/BOOK} \\
 & + \beta_{15} \text{LEVERAGE} + \beta_{16} \text{SALES-GROWTH} + \beta_{17} \text{GC} + \beta_{18} \text{MW} + \beta_{19} \text{RESTATE} + \beta_{20} \text{BIG4} \\
 & + \text{Industry and CBSA Fixed Effects} + e
 \end{aligned}$$

	(1) <i>DISC-ACC</i> All	(2) <i>DISC-ACC</i> Big 4	(3) <i>DISC-ACC</i> Non-Big 4
<i>FEMALE-PARTNER</i>	−0.004 (−0.67)	0.000 (0.06)	−0.018 (−1.24)
<i>PARTNER-BUSINESS</i>	0.000 (0.05)	−0.004 (−0.89)	0.006 (0.63)
<i>PARTNER-PRODUCING-SCHOOL</i>	−0.002 (−0.27)	0.000 (0.03)	0.006 (0.39)
<i>CONNECT-LOCAL</i>	0.000 (0.10)	−0.002 (−0.55)	0.012 (1.06)
<i>CONNECT-ONLINE</i>	0.001 (0.18)	−0.000 (−0.03)	0.004 (0.38)
<i>TOTAL-ACC</i>	−0.063*** (−4.15)	−0.106*** (−4.84)	−0.027 (−1.05)
<i>ASSETS</i>	−0.009*** (−5.52)	−0.005*** (−3.25)	−0.014*** (−3.63)
<i>BUS-SEG</i>	−0.001 (−0.39)	−0.002 (−1.13)	0.002 (0.28)
<i>GEO-SEG</i>	0.001 (0.90)	0.002* (1.73)	0.001 (0.38)
<i>FOREIGN</i>	−0.004 (−0.86)	−0.003 (−0.63)	−0.005 (−0.36)
<i>INV-REC</i>	−0.007 (−0.44)	0.001 (0.04)	−0.022 (−0.76)
<i>LOSS</i>	0.007 (1.31)	0.012** (2.27)	−0.007 (−0.56)
<i>CASH-FLOW</i>	−0.085*** (−8.03)	−0.080*** (−5.48)	−0.095*** (−5.07)
<i>MARKET/BOOK</i>	−0.000 (−0.24)	0.000 (0.44)	−0.000 (−0.89)
<i>LEVERAGE</i>	0.029*** (5.19)	0.025*** (3.72)	0.034*** (3.11)
<i>SALES-GROWTH</i>	0.021*** (5.36)	0.025*** (5.42)	0.016** (2.09)
<i>GC</i>	0.000 (0.01)	0.010 (0.72)	−0.017 (−1.03)
<i>MW</i>	0.026*** (4.16)	0.010 (1.42)	0.040*** (3.22)
<i>RESTATE</i>	0.002 (0.19)	0.002 (0.29)	−0.000 (−0.02)
<i>BIG4</i>	−0.004 (−0.63)		
Industry Fixed Effects	Included	Included	Included
CBSA Fixed Effects	Included	Included	Included
Constant	0.116*** (5.99)	0.087*** (4.12)	0.096* (1.93)

(continued on next page)

TABLE 7 (continued)

	(1) <i>DISC-ACC</i> All	(2) <i>DISC-ACC</i> Big 4	(3) <i>DISC-ACC</i> Non-Big 4
Observations	1,814	1,206	608
Adjusted R <sup>2</sup>	0.311	0.207	0.272

\*\*\*, \*\*, \* Indicate two-tailed statistical significance at 1 percent, 5 percent, and 10 percent, respectively.  
Variables are defined in Appendix A.

to alleviate concerns that our findings are driven by client size. Third, we recognize that significant events could similarly cause changes to the audit outcomes we examine. Therefore, we remove firm-years with a going concern opinion, material weakness, restatement, or PCAOB inspection from the panel and we find that our inferences do not change results. Finally, we include partner fixed effects and find that *DISCLOSURE* remains significant. Assuming that the audit partner in 2016 was also the audit partner in 2015, this suggests that changes in audit outcomes following the disclosure requirement should be attributed not only to behavioral changes at the individual audit partner level, but also to changes at the audit firm level. This analysis illustrates that it is difficult to isolate the impact of the disclosure requirement on individual partner behavior, and that even partners whose identities were not disclosed during our sample period appear to react to the disclosure requirement.

### Partner Characteristics

Next, we examine the association between partner characteristics and the three dependent variables.

**Audit quality.** Table 7 presents results of regressions using discretionary accruals. The insignificant coefficient estimates suggest that the observable partner characteristics in our models are not associated with audit quality. This is surprising given that part of the PCAOB motivation was that information about the audit partner's identity would be informative for variations in audit quality. Since we only examine one dimension of audit quality during the first year of disclosure, future research can explore whether differences are detected using other audit quality proxies and over a longer time period.

A possible explanation for this null finding was proposed by audit firms during the comment period for the disclosure requirement, when they argued that sufficient mechanisms already hold partners accountable. If this is the case, these same null associations would have been detected in the pre-disclosure regime. In untabulated analyses, we find support for this explanation because none of the partner characteristics are associated with improvements in audit quality. Assuming that the audit partner in 2016 was also the audit partner in 2015, the findings in Table 4 represent a structural shift whereby all audit firms increased their audit quality such that improvements should not be solely attributed to partners or their specific characteristics.

**Audit fees.** Table 8 reports the audit fee results and reveals that several partner characteristics are significant. Column (1) documents a positive association between *FEMALE-PARTNER* and audit fees, suggesting that female partners command a fee premium or that additional effort is exerted in their engagements.<sup>14</sup> We further observe a negative association between the number of public company audit engagements (*PARTNER-BUSYNESS*) and audit fees. These results suggest that busy partners exert less effort (e.g., *Sundgren and Svanström 2014*) or that busy partners audit smaller firms and therefore charge lower audit fees. We address this possibility in additional analysis. An audit partner's educational institution is also influential for audit pricing because *PARTNER-PRODUCING-SCHOOL* is positively associated with audit fees. Similar to results in the Norwegian audit market (*Che et al. 2018*), partners from schools that produce the most audit partners either encourage additional effort on their engagements or command a fee premium due to their perceived or actual superior ability. Similarly, *CONNECT-ONLINE* is also highly significant, although *CONNECT-LOCAL* is not. Overall, these results illustrate that several partner characteristics are associated with variations in fees.

In Columns (2) and (3), we observe that the Column (1) results are primarily driven by Big 4 audit partners. Specifically, *FEMALE-PARTNER*, *PARTNER-BUSYNESS*, and *PARTNER-PRODUCING-SCHOOL* are only significant within Big 4 firms. This illustrates that audit fee findings from samples of Big 4 audit partners, which have been the focus of the limited U.S. literature, may not be generalizable to non-Big 4 audit partners.

<sup>14</sup> This finding is consistent with *Lee et al. (2019)*, who detect a female fee premium for a sample of Big 4 partners named in SEC comment letters. However, we do not detect gender-driven differences in audit quality as in their study, where we presume that female risk aversion is particularly salient given a focus on larger and riskier companies.

**TABLE 8**  
**Audit Fees and Audit Partner Characteristics**

$$\begin{aligned}
 \text{AUDIT-FEES} = & \alpha + \beta_1 \text{FEMALE-PARTNER} + \beta_2 \text{PARTNER-BUSYNESS} \\
 & + \beta_3 \text{PARTNER-PRODUCING-SCHOOL} + \beta_4 \text{CONNECT-LOCAL} + \beta_5 \text{CONNECT-ONLINE} \\
 & + \beta_6 \text{ASSETS} + \beta_7 \text{BUS-SEG} + \beta_8 \text{GEO-SEG} + \beta_9 \text{FOREIGN} + \beta_{10} \text{INV-REC} + \beta_{11} \text{LOSS} \\
 & + \beta_{12} \text{CASH-FLOW} + \beta_{13} \text{MARKET/BOOK} + \beta_{14} \text{LEVERAGE} + \beta_{15} \text{SALES-GROWTH} \\
 & + \beta_{16} \text{ACQUISITION} + \beta_{17} \text{ACCELERATED} + \beta_{18} \text{GC} + \beta_{19} \text{MW} + \beta_{20} \text{RESTATE} + \beta_{21} \text{BIG4} \\
 & + \text{Industry and CBSA Fixed Effects} + e
 \end{aligned}$$

	(1) AUDIT-FEES All	(2) AUDIT-FEES Big 4	(3) AUDIT-FEES Non-Big 4
FEMALE-PARTNER	0.053** (2.08)	0.069** (2.28)	0.010 (0.21)
PARTNER-BUSYNESS	-0.098*** (-5.18)	-0.136*** (-5.37)	-0.037 (-1.19)
PARTNER-PRODUCING-SCHOOL	0.047* (1.79)	0.058* (1.89)	0.032 (0.61)
CONNECT-LOCAL	-0.015 (-0.78)	-0.032 (-1.33)	0.023 (0.64)
CONNECT-ONLINE	0.092*** (4.92)	0.078*** (3.39)	0.125*** (3.75)
ASSETS	0.426*** (56.57)	0.430*** (48.20)	0.397*** (25.82)
BUS-SEG	0.064*** (7.77)	0.068*** (7.26)	0.090*** (4.56)
GEO-SEG	0.044*** (7.64)	0.039*** (6.03)	0.054*** (4.31)
FOREIGN	0.102*** (4.19)	0.090*** (3.22)	0.097** (1.97)
INV-REC	0.058 (0.91)	0.215** (2.41)	-0.094 (-1.00)
LOSS	0.154*** (6.41)	0.150*** (5.14)	0.140*** (3.10)
CASH-FLOW	-0.292*** (-5.60)	-0.276*** (-3.36)	-0.259*** (-3.66)
MARKET/BOOK	-0.000 (-0.01)	0.001 (0.50)	-0.001 (-0.40)
LEVERAGE	0.143*** (5.26)	0.159*** (4.11)	0.146*** (3.63)
SALES-GROWTH	-0.011 (-0.59)	0.025 (0.95)	-0.053* (-1.95)
ACQUISITION	0.149*** (6.75)	0.138*** (5.41)	0.143*** (3.07)
ACCELERATED	0.096*** (3.60)	-0.018 (-0.47)	0.204*** (4.76)
GC	0.031 (0.63)	0.231*** (2.73)	-0.014 (-0.23)
MW	0.176*** (5.88)	0.249*** (6.06)	0.145*** (3.14)
RESTATE	0.087** (2.42)	0.047 (1.15)	0.105 (1.33)
BIG4	0.552*** (20.49)		

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TABLE 8 (continued)

	(1) <i>AUDIT-FEES</i> All	(2) <i>AUDIT-FEES</i> Big 4	(3) <i>AUDIT-FEES</i> Non-Big 4
Industry Fixed Effects	Included	Included	Included
CBSA Fixed Effects	Included	Included	Included
Constant	10.184*** (110.29)	10.747*** (90.45)	10.351*** (57.04)
Observations	2,703	1,742	961
Adjusted R <sup>2</sup>	0.883	0.788	0.770

\*\*\*, \*\*, \* Indicate two-tailed statistical significance at 1 percent, 5 percent, and 10 percent, respectively. Variables are defined in Appendix A.

**Audit delay.** Table 9 reports results from the audit delay analysis. Results in Column (1) reveal a negative association between our measures of partner social connections and audit delay. Results in Columns (2) and (3) suggest that these results are driven by non-Big 4 partners. Based on prior literature, one explanation for these results is that socially connected audit partners may perform the audit more quickly because of reduced objectivity and skepticism based on their familiarity with the client (e.g., [Kadous et al. 2013](#); [King 2002](#); [Rose 2007](#)). If this were true, we would expect to find a negative association between social connections and audit quality in Table 7, which is not the case. A second explanation is that social connections may provide these audit partners with an informational advantage that increases the efficiency of the audit ([Dong et al. 2018](#)). However, if this is true, it does not appear that these efficiencies are passed on to clients in the form of lower fees, as evidenced by findings in Table 8.

**Additional analyses.** We perform additional analyses to test the validity of our partner characteristic analyses. First, although we detect no clear multicollinearity issues, we create independent models for each characteristic and find that our inferences are consistent. Second, we include controls for board characteristics, including number of members, independence, gender, and busyness, and find that the inferences generally hold.<sup>15</sup> Finally, we perform an analysis to alleviate concerns that client characteristics lead clients to select auditors with certain characteristics and these characteristics drive the fee results.<sup>16</sup> Specifically, for each partner characteristic, we match firms that meet the criterion (e.g., female audit partner) with firms that do not (e.g., male audit partner) based on two-digit SIC code industry, size decile, performance (return on assets decile), and auditor type.<sup>17</sup> Although the matched samples are smaller, partner characteristics remain significantly associated with audit fees.<sup>18</sup>

## V. CONCLUSION

In 2016, the SEC mandated an audit partner disclosure requirement in the U.S. The PCAOB, which proposed the regulation, argued that this disclosure could enhance partner accountability and the information environment, while audit firms cautioned that unintended consequences could occur. In the first year following the partner disclosure requirement, we find that audit quality and audit fees increase, and audit delays decrease. Despite differences in respective requirements, this reaction is similar to outcomes following the partner signature requirement in the U.K. ([Carcello and Li 2013](#)). Overall, these consequences are consistent with public identification enhancing partner accountability and legal, regulatory, and reputational risk concerns ([DeZoort et al. 2006](#); [King et al. 2012](#)). Additionally, our audit quality and audit fee findings support the PCAOB argument that enhanced partner accountability will motivate audit partners to exert greater effort on their engagements. The audit delay finding suggests that partners seek to avoid negative consequences associated with delayed audit report.

Our study further examines the differential impact for Big 4 and non-Big 4 firms. We find that audit fee and audit delay findings are consistent between both groups, but the increase in audit quality only occurs for Big 4 firms. This suggests an

<sup>15</sup> We lose 12 percent of the audit fee sample when requiring these data. In this restricted sample, *PARTNER-PRODUCING-SCHOOL* is not significantly associated with audit fees in Big 4 firms, and *CONNECT-ONLINE* is not significantly associated with audit delay in non-Big 4 firms.

<sup>16</sup> We focus on the audit fee models because clients are directly involved in setting fees for the engagement. In addition, these models are where we detect significance for the most partner characteristics.

<sup>17</sup> If more than one control firm meets these criteria, we select the firm closest in total assets to the treatment firm.

<sup>18</sup> These results help to alleviate the concern that the partner busyness results are explained by busy partners auditing smaller firms and therefore extracting lower fees.



**TABLE 9**  
**Audit Delay Audit Partner Characteristics**

$$\begin{aligned}
 \text{AUDIT-DELAY} = & \alpha + \beta_1 \text{FEMALE-PARTNER} + \beta_2 \text{PARTNER-BUSINESS} \\
 & + \beta_3 \text{PARTNER-PRODUCING-SCHOOL} + \beta_4 \text{CONNECT-LOCAL} + \beta_5 \text{CONNECT-ONLINE} \\
 & + \beta_6 \text{ASSETS} + \beta_7 \text{BUS-SEG} + \beta_8 \text{GEO-SEG} + \beta_9 \text{FOREIGN} + \beta_{10} \text{INV-REC} + \beta_{11} \text{LOSS} \\
 & + \beta_{12} \text{CASH-FLOW} + \beta_{13} \text{MARKET/BOOK} + \beta_{14} \text{LEVERAGE} + \beta_{15} \text{SALES-GROWTH} \\
 & + \beta_{16} \text{ACQUISITION} + \beta_{17} \text{FYE-DEC} + \beta_{18} \text{GC} + \beta_{19} \text{MW} + \beta_{20} \text{RESTATE} + \beta_{21} \text{BIG4} \\
 & + \text{Industry and CBSA Fixed Effects} + e
 \end{aligned}$$

	(1) AUDIT- DELAY All	(2) AUDIT- DELAY Big 4	(3) AUDIT- DELAY Non-Big 4
FEMALE-PARTNER	0.623 (1.25)	0.211 (0.38)	1.579 (1.52)
PARTNER-BUSINESS	0.181 (0.48)	0.600 (1.27)	-0.431 (-0.64)
PARTNER-PRODUCING-SCHOOL	-0.154 (-0.30)	0.178 (0.31)	-1.813 (-1.56)
CONNECT-LOCAL	-0.735* (-1.90)	-0.188 (-0.42)	-1.994** (-2.54)
CONNECT-ONLINE	-0.890** (-2.42)	-0.665 (-1.56)	-1.677** (-2.30)
ASSETS	0.033 (0.24)	0.307* (1.93)	-0.226 (-0.79)
BUS-SEG	0.168 (1.03)	0.223 (1.28)	-0.088 (-0.20)
GEO-SEG	0.023 (0.20)	0.060 (0.49)	-0.136 (-0.50)
FOREIGN	-0.528 (-1.10)	-0.096 (-0.18)	-0.822 (-0.76)
INV-REC	-0.030 (-0.02)	0.995 (0.60)	-1.703 (-0.82)
LOSS	-0.345 (-0.73)	0.173 (0.32)	-1.923** (-1.98)
CASH-FLOW	0.928 (0.90)	-1.370 (-0.90)	3.116** (2.00)
MARKET/BOOK	0.029 (1.30)	0.047* (1.78)	0.010 (0.23)
LEVERAGE	0.148 (0.27)	-0.955 (-1.33)	0.887 (1.00)
SALES-GROWTH	0.029 (0.08)	0.584 (1.20)	-0.627 (-1.02)
ACQUISITION	1.465*** (3.38)	1.393*** (2.92)	1.403 (1.39)
FYE-DEC	-0.150 (-0.21)	0.921 (1.05)	-0.738 (-0.58)
GC	4.956*** (5.20)	0.746 (0.46)	5.012*** (3.67)
MW	6.890*** (11.58)	5.544*** (7.16)	7.936*** (7.82)
RESTATE	1.026 (1.44)	1.260 (1.64)	1.711 (1.00)
BIG4	-0.933* (-1.76)		

(continued on next page)

TABLE 9 (continued)

	(1) AUDIT- DELAY All	(2) AUDIT- DELAY Big 4	(3) AUDIT- DELAY Non-Big 4
Industry Fixed Effects	Included	Included	Included
CBSA Fixed Effects	Included	Included	Included
Constant	−7.384*** (−3.85)	−13.910*** (−5.93)	1.003 (0.24)
Observations	2,675	1,728	947
Adjusted R <sup>2</sup>	0.108	0.058	0.201

\*\*\*, \*\*, \* Indicate two-tailed statistical significance at 1 percent, 5 percent, and 10 percent, respectively. Variables are defined in Appendix A.

increase in audit fees for non-Big 4 clients without an immediate increase in audit quality. We encourage future research to explore whether this consequence persists in future years, or is a one-time impact in the disclosure year.

We also examine the partner-specific information made available by these disclosures. Descriptive statistics illustrate that characteristics of U.S. public company audit partners vary across audit firms, geographic locations, and industries, which provides ample opportunities for future research. We find that audit fees and audit delay are associated with several partner-specific characteristics. In particular, a partner's gender, busyness, educational institution, and social connections are informative for audit pricing and audit efficiency. This suggests that the partner disclosure requirement provides relevant information to stakeholders. However, we find very little evidence that observable partner characteristics are informative for variations in audit quality. Furthermore, we also add to the literature by documenting significant differences between Big 4 and non-Big 4 audits at the audit partner level.

Our study is subject to additional limitations. First, although the timing of our study ensures coverage of 12/31/16 fiscal year-end companies, which make up a majority of the market, our inferences may not generalize to all fiscal year-ends or to private firms. Second, our analyses are limited by the single year of data. For example, we cannot analyze several common proxies for audit quality (e.g., restatements, accuracy of going concern opinions). As additional years of data become available, studies can revisit our findings and examine how this information is used by both audit committees and financial statement users.

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## APPENDIX A

### Variable Definitions

Variable	Variable Definition
<b>Test Variables</b>	
<i>DISCLOSURE</i>	= 1 during the partner disclosure year, 0 otherwise;
<i>FEMALE-PARTNER</i>	= 1 if the partner is female, 0 otherwise;
<i>PARTNER-BUSYNESS</i>	= the natural log of the number of public engagements of firms covered in Compustat that the partner oversees;
<i>PARTNER-PRODUCING-SCHOOL</i>	= 1 if the partner obtains their undergraduate degree from an institution that produces more than 20 partners, 0 otherwise;
<i>CONNECT-LOCAL</i>	= 1 if the partner is currently employed by an audit firm located in the same state or within 100 miles of their undergraduate institution, 0 otherwise;
<i>CONNECT-ONLINE</i>	= 1 if the partner has at least 500 connections on LinkedIn, 0 otherwise;
<b>Dependent Variables</b>	
<i>DISC-ACC</i>	= the absolute value of abnormal accruals derived from the difference between total accruals (calculated as IB – OANC) and expected accruals estimated with the modified Jones model augmented with lag ROA (Kothari et al. 2005) [Compustat];
<i>AUDIT-FEES</i>	= the natural log of audit fees [Audit Analytics];
<i>AUDIT-DELAY</i>	= the number of days between the fiscal year-end date and the audit report date minus the SEC's filing deadline requirement (60, 75, and 90 days for large accelerated, accelerated, and non-accelerated, respectively) [Audit Analytics];
<b>Control Variables</b>	
<i>ASSETS</i>	= the natural log of total assets [Compustat];
<i>BUS-SEG</i>	= the sum of reported business segments [Compustat Segment file];
<i>GEO-SEG</i>	= the sum of reported geographic segments [Compustat Segment file];
<i>FOREIGN</i>	= 1 if the company has nonzero foreign currency translations, 0 otherwise [Compustat];
<i>INV-REC</i>	= the sum of inventory and accounts receivable divided by total assets [Compustat];
<i>LOSS</i>	= 1 if the company reported a net loss in the current or prior year, 0 otherwise [Compustat];
<i>CASH-FLOW</i>	= cash from operating activities divided by the lagged value of total assets [Compustat];
<i>MARKET/BOOK</i>	= market value of equity divided by book value of common equity [Compustat];
<i>LEVERAGE</i>	= total liabilities divided by total assets (AT – CEQ)/AT [Compustat];
<i>SALES-GROWTH</i>	= year-over-year sales growth [Compustat];
<i>GC</i>	= 1 if the company received a going concern modified audit opinion, 0 otherwise [Audit Analytics];
<i>MW</i>	= 1 for companies disclosing a material weakness in their SOX Section 302/404, 0 otherwise [Audit Analytics];
<i>RESTATE</i>	= 1 if the company announced a restatement during the fiscal year, 0 otherwise [Audit Analytics];
<i>BIG4</i>	= 1 if a Big 4 auditor, 0 otherwise (auditor keys 1, 2, 3, and 4) [Audit Analytics];
<i>TOTAL-ACC</i>	= total accruals divided by the lagged value of total assets [Compustat];
<i>ACQUISITION</i>	= 1 if the company has a recent acquisition, 0 otherwise [Compustat];
<i>ACCELERATED</i>	= 1 if the company is an accelerated filer, 0 otherwise [Compustat]; and
<i>FYE-DEC</i>	= 1 if the company has a December fiscal year-end, 0 otherwise [Compustat].

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