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The Effect of Auditor Busyness and Audit Report Signing Experience on Constraining Earnings Management: Evidence from China

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Introduction

Prior research shows that incentives and pressures on management to meet earnings targets can lead to earnings manipulation (Hogan, Rezaee, Riley, and Velury, 2008), and that firms with earnings manipulation are more likely to commit financial statement fraud (Perols and Lougee, 2011). Auditors are responsible for assessing and responding to fraud cues, such as manipulation of the financial statements. In China, an audit report is signed by two Certified Public Accountants (CPA): (1) the audit partner or chief CPA who is responsible for the direction, supervision, execution, and review of the overall audit and (2) another CPA who manages the day-to-day audit work (Cahan and Sun, 2015; Chinese Institute of Certified Public Accountants (CICPA, 2010). These roles are analogous to an engagement partner and an engagement manager, so hereafter we use those terms. These two engagement leaders jointly manage the audit and would be held personally responsible in the event of an audit failure due to clients' earnings manipulation. Thus, both auditors have significant influence on detecting management's manipulation of the financial statements. We contribute to the literature by using this unique setting of two audit report signatories in China to examine individual auditor effects on clients' earnings manipulation in the audited financial statements, including separate analysis at the engagement partner and manager roles. Specifically, we study the effects of two auditor characteristics, (1) signing auditor busyness (total number of audit reports signed per year) and (2) audit report signing experience (total number of audit reports signed during one's career), on clients' earnings manipulation.

Studying these two signing auditors' characteristics is important from a theoretical and practice standpoint. During the year, some signing auditors may lead several audit engagements. The "busyness" of auditing multiple clients disperses the auditor's attention and effort. The effects of busyness and workload are mixed, where some research suggests this can lead to lower audit quality (e.g., Sundgren and Svanstrom, 2014; Gul et al., 2017; Lai et al., 2017; Lo et al., 2020) while other studies find no effect on audit quality (Goodwin and Wu, 2016; Burke et al., 2019). Although busyness could be problematic for detecting and constraining clients' earnings management, this exposure to leading more client engagements, particularly in a lead signatory role, also increases their overall audit experience. Increased audit experience across different engagements enhances auditors' knowledge, helping them to be more efficient (Salterio, 1994) and more effective (Cahan and Sun, 2015; Wang et al., 2015; Libby and Frederick, 1990; Tubb, 1992; Salterio, 1994) in their work. Therefore, an auditor's experience working on many engagements in a signatory role could attenuate the negative effects of busyness, offering a potential explanation to the mixed findings on the impact to audit quality and providing new insights for how firms could potentially think of addressing the problem of auditor busyness.

Using data of China's A-share listed companies from 2013–2017, we examine the effect of auditor busyness on constraining clients' earnings management (measured using abnormal discretionary accruals; Chen and Xia, 2006; Dechow et al., 1995), extending prior research by Gul et al. (2017) to a new sample period.[1] We focus on manipulation of accruals as it is a well-established strategy management can use to manage earnings. We expect busyness to be associated with higher earnings management (Gul et al., 2017). In an attempt to identify a possible solution to the auditor busyness problem, we

[1] Gul et al. (2017) studied the busyness of the signing auditors on earnings management in China from 2000–2009. As discussed in the Methods section, our sample period begins in 2013 to avoid confounding effects of the convergence between international auditing standards and Chinese auditing standards; the new standards took effect in 2011.

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study whether the accumulated audit report signing experience moderates the relationship between auditor busyness and earnings management.[2] Experience is a multi-faceted construct; our measure of experience is different and a more precise type of experience than studied in prior literature (e.g., client tenure experience or total audit experience) because we measure the auditor's experience in an engagement leadership role (i.e., a signatory role) where they have more responsibility and accountability for the audit work (e.g., Carcello and Li, 2013; King et al., 2012). We separately examine the relationship between our variables of interest and earnings management for the engagement partner and manager, as the effects could vary based on their individual roles. In supplemental analyses, we hand collect the signing auditors' gender and age to examine the moderating effects of these two characteristics.

In our main analysis, we find that partner busyness is associated with higher earnings management by clients (complementing Gul et al., 2017), but we do not find a busyness effect on clients' earnings management for auditors serving in a manager role. While this result for managers may seem surprising given their involvement in the day-to-day audit work, most managers in our sample only sign the audit report for one public client a year. In contrast, partners in our sample are busier (i.e., simultaneously attending to multiple audits of public clients). Therefore, we find differing levels of partner and manager busyness, and the resulting effect on earnings management in audited financial statements.

We also find that the increased signing experience is associated with lower earnings management, consistent with the notion that this exposure to different client engagements in a signatory role increases auditor knowledge and accountability for the work performed, thus increasing their effectiveness in detecting and constraining management's manipulation of the financial statements. Importantly, when examining the interaction of these two characteristics, the audit report signing experience attenuates the adverse effect of busyness on earnings management. Our findings are robust to income-increasing and income-decreasing accruals manipulation, as well as real earnings manipulation (Cohen and Zarowin, 2010; Roychowdhury, 2006).

In supplemental analyses, the adverse effect of busyness on earnings management is only found for male audit partners, and partners aged forty or older. We do not find an effect of busyness for female audit partners, nor for audit managers over age 30. We find that experience in a signatory role helps to constrain earning management regardless of gender, and this result holds for almost all age groups tested. Lastly, accumulated signing experience attenuates the adverse busyness effect for male audit partners. Together, these results provide additional insights of how gender and age could moderate effects of busyness and signing experience on earnings management in audited financial statements.

Auditors are key to the capital markets' trust and confidence in financial information. Given that firms with earnings manipulation are more likely to commit financial statement fraud (Perols and Lougee, 2011), it is important to understand auditors' detection of management's actions to intentionally misrepresent the firm's financial performance as this could have consequential effects on investors and the broader capital markets. We contribute to the forensic and earnings management literatures by leveraging the unique signatory setting in China to provide new insights about how certain characteristics of engagement partners and engagement managers can affect management's financial statement manipulation behavior. Our empirical data shows the difference in client workload of these two ranks, where busyness is more pronounced at the partner level than the manager level in our sample. This is important because while managers may be more involved with the day-to-day audit tasks than the partners, partners are still a key component of the engagement audit quality so monitoring their workload is important. We extend the findings of Gul et al. (2017) in showing that audit partner busyness is a continued problem for earnings management, but we also show that experience as an engagement leader in a signatory role can help reduce the adverse effects of busyness. This suggests that partner busyness may not be as significant of an issue when the partner has more experience in this role (i.e., they can use their experience to overcome the adverse effects of busyness) and could help explain the mixed results of busyness in the literature (e.g., Sundgren and Svanstrom, 2014; Goodwin and Wu, 2016; Gul et al., 2017; Lai et al., 2017; Burke et al., 2019).

Further, we extend prior research on auditor experience, such as Cahan and Sun (2015), by using a different measure of experience: audit report signing experience. Experience in this role increases auditors' responsibility and accountability for the quality of the audit (e.g., Carcello and Li, 2013; King et al., 2012), and can increase their overall audit knowledge (including how to address and conclude on the significant risks of the audit). This is particularly important for partners as

[2] Cahan and Sun (2015) also use data of Chinese signing auditors to study the effect of auditors' total audit experience on audit quality (i.e., how long they been an auditor). We build on their study by capturing a different and more granular experience measure, which is how many audit reports auditors have signed (i.e., we focus on their experience as an engagement leader).

they set the tone for the quality of the audit engagement. Our insights about signing experience could inform studies in other jurisdictions where audit partner identity more recently became available (e.g., the United States; PCAOB, 2015). Importantly, we find that experience in the signing role (i.e., an engagement leadership role) positively benefits audit quality in both ranks (partner and manager), regardless of gender and for almost all age groups tested. Our findings also complement archival research on the audit partners in other jurisdictions, such as Australia (e.g., Goodwin and Wu, 2016), Belgium (Hardies et al., 2016), Sweden (Sundgren and Svanstrom, 2014), Taiwan (Chi et al., 2017), and the United States (Burke et al., 2019; Cunningham et al., 2019).

Additionally, our findings are likely of interest to practitioners and regulators. As noted above, our evidence suggests that busyness is potentially not as problematic when the "busy" auditor has gained some signatory experience (i.e., experience in an engagement leader role). Therefore, firms may want to consider the signing experience of engagement leaders when forming the audit teams, or at least try to balance out the experience levels, given the benefits to detecting and constraining earnings management. Given the benefits of signatory experience, regulators may also consider who else could be disclosed in the audit report (e.g., other engagement leaders, such as the concurring partner). Alternatively, firms could limit the number of concurrent public audit engagements (as seen with the audit managers in our sample) as a quality control process to minimize the effect of busyness on higher earnings management in audited financial statements.

Literature Review and Hypotheses Development

The engagement partner sets the tone of the audit engagement and has significant influence on the quality of the audited financial statements, including assessing and responding to fraud cues such as the manipulation of figures in the financial statements. For example, Gul et al. (2013) find that the individual audit partners have both economically and statistically significant effects on audit quality. Lennox and Wu (2018) summarize extant research examining various audit partner incentives and partner characteristics on audit outcomes, such as audit fees and audit quality. For example, research finds that partner incentives, such as client importance, client tenure, partner workload, and partner characteristics, such as age, experience, expertise, education, ethics, and gender, can explain observed audit quality differences (see Lennox and Wu, 2018 for review). Individual auditor characteristics are viewed as an important determinant of audit outcomes (Christensen et al., 2016). Thus, moving research beyond firm-level effects to study the impact of individual auditors on audit outcomes is important and timely given increased disclosure of audit partner identity globally (e.g., PCAOB, 2015).[3]

While research in certain jurisdictions allows examination of audit partner effects, little is known about other audit engagement members. In China, an audit report is signed by two CPAs certified in China: (1) the audit partner or chief CPA who is responsible for the direction, supervision, execution, and review of the overall audit and sets the tone for the audit engagement; and (2) another CPA who manages the day-to-day audit work (Cahan and Sun, 2015; CICPA, 2010) for further discussion of the signing requirements of audit reports in China). These respective roles are analogous to the roles of an engagement partner and manager in other jurisdictions (such as the U.S.), so we use those terms hereafter. The engagement partner and engagement manager are tasked with jointly managing the audit engagement. Also, they assume personal responsibility for the audit reports they issue and would be held accountable for an audit failure (e.g., in terms of litigation, fines, or imprisonment sentences). So, both engagement leaders have a significant influence on identifying and constraining earnings manipulation by management in the financial statements. This unique signatory setting allows us to contribute to the literature by examining the effects of both engagement leaders on constraining earnings management.

In China, all the public company audits must be completed between January 1 and April 31 (Gul et al., 2017). Signing auditors may serve on several client engagements during the year and these engagements may occur simultaneously. Attending to several clients at the same time presents audit challenges and has implications for audit work (Beyer and Sridhar, 2006). One potential source of the audit challenge is that individuals have limited attention resources. Kahneman (1973) proposes theory about limited attention, arguing that an individual must allocate a limited amount of attention when faced with multiple information or multitasking. When cognitive resources are fully occupied, it is more difficult to process other information and perform other tasks sufficiently. In the auditing context, putting attention on one engagement will inevitably reduce the focus on another engagement, and these effects could be particularly consequential during the

[3] PCAOB AS 3101 recently mandated disclosure of the auditor partner's identity in the auditor's report or in Form AP for audits of U.S. publicly listed companies. This new regulation aligns with engagement partner disclosures in other jurisdictions such as Australia, Brazil, China, Japan, France, Germany, India, Italy, Mexico, the Netherlands, Russian Federation, South Africa, Spain, Sweden, Switzerland, and the United Kingdom (PCAOB, 2015).

heightened busy season period. Therefore, the signing auditors' limited attention that they can allocate to each client engagement could lead to higher manipulation of the financial statements by management.

Consistent with this effect, research finds that audit partner busyness in China can lead to lower audit quality (Lo et al., 2020), and this effect is exacerbated by shorter audit partner-client tenure (Gul et al., 2017). Research in other jurisdictions also corroborate that higher audit workloads of audit partners can be associated with lower audit quality (Sundgren and Svanstrom, 2014; Lai et al., 2017). However, more recent research in the United States finds that audit partner busyness is not associated with audit quality (Burke et al., 2019). These findings are also consistent with Goodwin and Wu (2016) using Australia data. Other research suggests that when the partnership structure and compensation mechanisms are sound, an increase in the number of clients will increase audit quality, rather than negatively affect audit quality (Liu et al., 2008). Further, starting in 2010, the Chinese government required all Chinese audit firms to reorganize from a limited liability company to a limited liability partnership, which increases the liability exposure for negligent auditors. He, Pan, and Tian (2015) find that auditors are more likely to constrain client's earning management following the reorganization. Because our sample period is after this government intervention, auditors may exhibit relatively high audit quality (i.e., auditors may constrain client's earnings management regardless of their level of busyness).

While there is mixed evidence of whether auditor busyness affects audit effectiveness, limited attention theory (Kahneman, 1973) suggests that the more auditing engagements an auditor is responsible for at the same time, the more difficult it is to ensure that each audit project is given sufficient attention, thus the performance of the task may suffer. As such, we predict auditors who are "busier" will be less likely to catch or constrain clients' earnings management in the financial statements. We examine the effect of busyness on audit partners and audit managers separately, but do not predict the effect to be stronger for one rank over the other because, despite their different tasks, both partners and managers have a significant workload on audit engagements that require significant attention and cognitive resources. Stated formally:

H1a: *Audit partner busyness is positively associated with clients' earnings management.*

H1b: *Audit manager busyness is positively associated with clients' earnings management.*

As noted by Westermann et al. (2015, 864), "auditors must master a considerable body of highly complex knowledge in order to attain the level of professional proficiency required to comply with auditing standards, pass regulatory inspections, and uphold their public responsibility." In addition, they must exercise professional skepticism and professional judgment, which are difficult skills to teach. Formal education and trainings are not sufficient to gain the skills needed to perform a high-quality audit, as most knowledge is acquired on the job (Westermann et al., 2015). Therefore, auditor busyness could help auditors to acquire more knowledge, which could improve performance.

Drawing on cognitive psychology, prior research in accounting finds that as auditors gain experience in a particular task, their knowledge structures become more developed and complete, which improves their task performance, particularly the efficiency (Salterio, 1994) and effectiveness of their work (Libby and Frederick, 1990; Tubb, 1992; Salterio, 1994). In a similar fashion, increased experience on client engagements should increase auditors' knowledge and strengthen their audit skills, which could improve the effectiveness and efficiency of their work. This knowledge acquisition should be particularly salient at the signing auditor level as they are leading the engagement and are responsible for the audit process and audit outcome.

Studies have shown that auditor experience is associated with higher professional skills (Li et al., 2012) and enhances their industry expertise (Yan, 2016). Further, studies using data from Chinese audit report signees and find that audit experience is associated with higher audit fees (Cahan and Sun, 2015) and higher audit quality (Cahan and Sun, 2015; Wang et al., 2015), suggesting clients pay a premium for more experienced auditors and for higher quality. Auditors' client-specific experience (Chi et al., 2017) and international experience (Chen et al., 2017) can also improve audit quality. Therefore, auditors' experience appears conducive to enhancing their knowledge and improving their ability to identify and constraining earning management.

However, more audit experience may not have universal positive effects. Yu and Li (2003) suggest that more audit experience may lead auditors to be less willing to accept new audit methods, cope with challenges, and reduce their professional skepticism. Therefore, more audit experience may not guarantee better audit effectiveness.

In considering both arguments, we follow psychology research and posit that as an auditor is exposed to more client engagements and completes more audits in a signatory role, this accumulated experience in a signatory role should improve

the auditor's audit effectiveness. Like H1, we parse out the effect of signing experience separately for audit partners and audit managers. This leads to the following hypothesis:

H2a: *Audit partner accumulated audit report signing experience is negatively associated with clients' earnings management.*

H2b: *Audit manager accumulated audit report signing experience is negatively associated with clients' earnings management.*

Collectively, our H1 and H2 series are competing hypotheses of how working on multiple client engagements could affect auditors' ability to detect and constrain earnings management. Specifically, busyness caused by working on several audit engagements at the same time could hinder auditors from detecting and constraining earnings management because auditors are dispersing their attention to multiple clients. However, the accumulated audit experience gained from serving multiple clients in the auditor signing role could improve auditors' ability to identify and constrain earnings management. Importantly, these two effects could interact where the auditors' accumulated experience in an audit signatory role may mitigate the adverse effects of busyness on audit quality. For example, in the signatory role, auditors gain exposure to different clients and must have sufficient knowledge to lead and manage these different engagements, as they are personally accountable for the audit outcome. The increased experience in this role can improve their decision processes and lead to better audit judgments. Therefore, more experience accumulated in the signing auditor role may help to attenuate the negative impact of auditor busyness on clients' earnings management. Based on this, we propose hypothesis three and separately examine the effects on audit partners and audit managers:

H3a: *Higher accumulated audit report signing experience can attenuate the adverse effects of busyness on clients' earnings management for audit partners.*

H3b: *Higher accumulated audit report signing experience can attenuate the adverse effects of busyness on clients' earnings management for audit managers.*

Other Signing Auditors' Characteristics: Gender and Age

Given that we study individual auditor effects, we also examine how the relationships between busyness and signing experience with detecting and constraining earnings management may vary by auditors' gender and age (Lennox and Wu, 2018). Research shows that women tend to be more risk averse than men (e.g., Byrnes et al., 1999; Carter et al., 2017) and exhibit higher moral judgment (White, 1999). In governance and auditing roles, women tend to be more conservative (Palvia et al., 2015), exhibit greater diligence in monitoring (Adams and Ferreira, 2009; Gul et al., 2011), are less tolerant to earnings management (Li et al., 2017; Srinidhi et al., 2011), and provide higher audit quality (Hardies et al., 2014; Lee et al., 2019). Given these behavioral differences observed in prior research, female auditors may be able to effectively monitor multiple client engagements, and thus be less prone to the adverse busyness effect on earnings management than male auditors. However, other research does not find gender-driven audit quality differences (Burke et al., 2019). Thus, gender may not differentially influence the relationship between busyness and earnings management. Relatedly, it is difficult to predict ex ante whether experience in a signatory role would affect female and male auditors differently (i.e., experience may be beneficial for all auditors).

Next, research finds that the auditor age can impact audit effectiveness. For example, using data from Australia (Sundgren and Svanstrom, 2014) and Sweden (Goodwin and Wu, 2016), older audit partners are associated with lower audit quality. This could be attributed to older partners putting forth lower effort (as suggested by Sundgren and Svanstrom, 2014), or that as they progress in their career, they take on more responsibilities at the firm and in their professional life, which makes it more challenging to balance multiple client engagements with these other duties. Therefore, age may exacerbate the busyness effect on identifying and constraining earnings management, and older auditors may not benefit from additional signatory experience. However, Ding et al. (2010) find that age is associated with higher audit quality. Thus, older auditors may be able to overcome busyness challenges and use their experience to constrain earnings management in the financial statements.

Given the mixed findings in the literature on the effects of gender and age on audit effectiveness, we pose the following research questions rather than a directional prediction:

RQ1: *How do the gender and age of the engagement partner and engagement manager affect the relationship between auditor busyness and clients' earnings management?*

RQ2: *How do the gender and age of the engagement partner and engagement manager affect the relationship between auditor audit report signing experience and clients' earnings management?*

We will also explore the gender and age effects on the interaction of our busyness and signing experience variables and earnings management.

Method

Sample Selection and Data Sources

Our initial sample consists of 14,583 company-year observations of A-share listed companies in China's Shanghai and Shenzhen stock markets from the China Stock Market and Accounting Research (CSMAR) database from 2013 to 2017.[4] Specifically, this database provides data about the companies, the name of the audit firm, the type of audit opinion, and the names of the CPAs who signed the audit report. Using the CPA names, we then manually collected each engagement partner and engagement manager's personal information, such as age and gender, from Chinese Institute of Certified Public Accountants (CICPA) (http://www.cicpa.org.cn/). Table 1 Panel A details our sample selection process. Our final sample is 6,971 observations. [See Table 1, pg. 425]

Table 1 Panel B and Panel C provide the annual distribution and industry distribution of the sample, respectively. The industry classification comes from the "Guidelines for the Classification of Listed Companies" issued by the China Securities Regulatory Commission in 2012. As shown in Panel B, the number of listed companies in our sample increased year by year, from 1,149 in 2013 to 1,656 in 2017. Panel C indicates that most of the samples were concentrated in manufacturing industry, followed by wholesale and retail, and the smallest sample was in the professional technology service industry.

Earnings Management Model

To test each of our hypotheses, we use the modified Jones model of abnormal discretionary accruals (Dechow et al., 1995), as prior research (Chen and Xia, 2006) finds that this model effectively measures earnings management of Chinese listed companies. Model (1) tests the main effect of auditor busyness and accumulated audit report signing experience on earnings management to control for the correlation between these two variables ($p < 0.001$). Model (2) tests the interaction of auditor busyness and accumulated audit report signing experience on earnings management. We run the models separately for the audit partners, audit managers, and combined across partners and managers. Each variable is defined in Table 2. [See Table 2, pg. 426]

Test of H1 and H2 series: $absDA=\beta_0 + \beta_1 Busy + \beta_2 Experience + Controls + \varepsilon$； （1）

Test H3 series: $absDA=\beta_0 + \beta_1 Busy + \beta_2 Experience + \beta_3 Busy* Experience + Controls + \varepsilon$（2）

As indicated above, the dependent variable in each of the two models is earnings management, which is measured using abnormal discretionary accruals (Dechow et al., 1995). We use the absolute value, where a larger absolute value of abnormal discretionary accruals value indicates a higher the degree of earnings management of the audited entity. In robustness tests, we also test income-increasing and income-decreasing abnormal accruals, as well as real earnings management.

To test H1a (H1b), our explanatory variable in Model (1) is the individual audit partner's (manager's) busyness (*Busy*). As described in Section II above, the audit report of Chinese listed companies must be signed by two auditors. The first auditor is the engagement partner, who is appointed by statutory or with a higher-ranking in the firm, and the other auditor is a CPA who is in charge of the day-to-day fieldwork, analogous to the role of an engagement manager. We separately measure the "busyness" of the engagement partner and engagement manager, which is the number of audit reports

[4] We chose our sample period based on knowledge of the Chinese audit market and prior research. In 2010, the Chinese Standards of Audit converged with International Standards of Auditing, so the effects of the new standards could add noise to our analysis, warranting a later sample period after the effects of convergence (IAASB, 2010). Gul et al.'s (2017) sample period is 2000–2009 and Cahan and Sun's (2013) sample period is 2007–2010, which is before the convergence. While prior research finds busyness is associated with higher earnings management (Gul et al., 2017) and experience is associated with lower earnings management (Cahan and Sun, 2013), it is important that scholars continue to examine these relationships at different points in time, particularly after changes to regulatory standards, so we chose a later period to extend those prior studies. Lastly, given the time to manually collect the individual signing auditors' gender and age, we believe five years of sample observations is sufficient to detect the earnings management effects. If our sample size is too small, this would bias against results.

signed by each auditor during year *t* (similar to Gul et al., 2017). We also measure the combined "busyness" of the client's signing auditors, which is measured by the number of audit reports signed by the engagement partner and engagement manager for a company during year *t*.

To test H2a (H2b), our explanatory variable in Model (1) is the individual audit partner's (manager's) accumulated audit report signing experience (*Experience*). We separately measure the accumulated signature experience of the engagement partner and engagement manager, which is the number of audit reports signed by each auditor up to year *t*. A higher *Experience* value indicates more experience in the signatory role accumulated by the engagement partner or engagement manager. We also measure the combined number of audit reports signed by the engagement partner and engagement manager on the client engagement up to the audit year, *t*.

We include various control variables in our models that may be related to earnings management, auditor busyness, or experience accumulation. First, we control for factors likely to affect the audit engagement. We control for: the audit fee (*Lnfee*), expecting a higher audit fees can be indicative of greater auditor effort, which could curtail earnings management; the quality of the audit firm (*Big4*), expecting the top firms in China to be better at constraining earnings management; and the client complexity (*Inventory* and *Receivables*), where more complex clients require more audit attention and could affect auditor busyness. Prior research also shows that client importance can significantly affect audit quality (Chen et al., 2010; Sharma et al., 2011). So, we control for client importance, measured at the audit partner level (*PCIM*), audit manager level (*MCIM*), combined partner and manager level (*SCIM*), and audit firm level (*AFCIM*).

Next, we control for various client characteristics, such as client size (*Size*), age (*Client_Age*), and financial health (*Leverage*, *Loss*). We expect that larger companies, older companies, and companies in better financial health (i.e., lower leverage ratio and not a loss company) to have better internal controls and/or resources to limit earnings management. We also control for sales growth (*SGROW*) as companies with higher sales growth could be associated with lower audit effectiveness (Cahan and Zhang, 2006). Additionally, we control for company profitability (*ROA*) and economic differences between clients in certain regions (*Develop*), and do not make a directional prediction for either of these variables given mixed results in the literature. Specifically, some research using data in China finds that companies with higher *ROA* are associated with lower audit quality (Chen et al., 2018; Fan et al., 2013), while a different study finds this variable is associated with high audit quality (Gul et al., 2017). Further, in China, there are significant economic differences among regions, particularly the west and the east. For example, the fiscal, industrial, and taxation policies, and the operating environment are different. Also, listed companies in different regions have different characteristics. These factors can affect the auditing resources of the different regions (e.g., key regions such as Beijing, Shanghai, and Guangzhou have better audit training), which can ultimately affect audit effectiveness (Yuan and Han, 2012). However, a different study documents that these key regions are associated with lower audit quality (Chen, 2015). We also control for whether a firm is a state-owned enterprise of the Chinese government, as such firms are politically connected and may have less incentive to manage earnings. Lastly, we include industry and year fixed effects in all models.

To address our research questions and to descriptively examine the current composition of public company signing auditors in China, we also study certain characteristics that can affect auditors' detection and curtailment of earnings management: gender and age (Lennox and Wu, 2018). We separate the sample by gender and age groupings (starting with under 35 (30) for partners (managers) and then in five-year increments until over 50 for both groups).[5] Following prior research (Gul et al., 2009; Evans et al., 2010), we run our regression analysis on the separate sample gender and age groups rather than interact the variables to test these moderating effects. We also separately examine the gender and age effects of the engagement partner and engagement manager.

Results

Descriptive Statistics

Table 3 shows the descriptive statistics for each variable in the model. The absolute mean value of the abnormal discretionary accrual (*absDA*) is 0.058, and the maximum value is 3.843, indicating that there are varying degrees of earnings management between listed companies during the sample period. On average, engagement partners signed 2.12

[5] We use different age start points for partners and managers because managers tend to be younger, which allows us to capture more variation among younger auditors. Further, there are only 32 partners under age 30 in our sample, which is a very small portion of the sample to yield meaningful insights; our results are unchanged if we separate the partners into the same age groups as the managers.

audit reports a year, with a maximum of nine reports signed in a year, indicating some engagement partners are busy. The average accumulated audit report signing experience of engagement partners is 19.37, with a maximum of 120, indicating that some auditors have significant experience in the signatory role. Turning to the engagement managers, they signed 1.41 reports per year, on average, with the maximum of nine signed reports in a year. The average accumulated audit report signing experience for engagement managers is 6.82 signed reports up to the audit year, with a maximum 53 signed reports. These results show that some engagement managers are also relatively busy and have accumulated quite a bit of experience in the signatory role. The average age of the engagement partner is 45, whereas the average age of the engagement manager in our sample is 39. Further, 19 percent of the audit reports are signed by auditors from the Big 4 firms. [See Table 3, pg. 428]

Table 4 shows the frequency distribution of the number of audit reports signed by the engagement partner (*Busy_Partner*) in Column 1 and the engagement manager (*Busy_Manager*) in Column 2 during the sample period; these variables are measured at the individual auditor level. Additionally, the Busy variable in Column 3 is measured at an engagement level and shows the combined number of audit reports signed in year *t* by the engagement partner and engagement manager on that client engagement. Therefore, *Busy* is not the sum of the *Busy_Partner* and *Busy_Manager* columns, but rather the sum of the annual reports signed by the two signees on a client engagement.[6] When comparing the partner and manager busyness, 40.5 percent of the engagement partner (Column 1) and 69.6 percent of the engagement managers (Column 2) signed only one audit report, and this is significantly different (untabulated $\chi^2 = 1{,}192.75$; $p < 0.001$). Therefore, most managers in our sample only signed one audit report for a public client during a year, which biases against finding a busyness effect for managers as they are focused on signing one report. In comparison, as the number of audit reports signed in a year increases, partners tend to be busier, where a larger portion of the partners in our sample are managing multiple public engagements and serving in a signatory role, compared to the proportion of managers in our sample (untabulated χ^2 $p < 0.001$ at N =1 to N = 5; we did not test after N = 6 as the cumulative proportions are almost identical). As shown in Column 3, 77.6 percent of the engagement partner/manager pairs signed between one and three audit reports each year, and almost all (99.7 percent) of the engagement partner/manager pairs signed between one and ten audit reports. Only a few partner/manager pairs signed more than ten audit reports. [See Table 4, pg. 429]

Table 5 shows the frequency distribution of the accumulated number of reports signed by the auditors up to the current year, *t*. Specifically, Column 1 shows the accumulated number of audit reports signed by the engagement partner (*Experience_Partner*) and Column 2 shows the accumulated number signed by the engagement manager (*Experience_Manager*); these variables are measured at the individual auditor level. Additionally, the Experience variable shown in Column 3 is measured at an engagement level and shows the combined number of audit report signing experience of the engagement partner and engagement manager on that client engagement. Sixty percent of the engagement partners (Column 1) have accumulated experience of signing ten or more audit reports during the sample period (40 percent have signed nine or less), whereas only 24 percent of engagement managers (Column 2) have this level of experience (76 percent have signed nine or less). Further, only three engagement managers signed more than 50 audit reports, whereas 557 engagement partners have signed more than 50, indicating the partners are more experienced than the managers ($\chi^2 = 610.2$; $p < 0.0001$). While we expect partners to have more experience, the significant difference in experience levels is noteworthy when considering team compositions. As shown in Column 3, 77 percent of the partner/manager pairs signed ten or more audit reports up to the current year (23 percent of pairs signed nine or less), and 12 percent of the partner/manager pairs signed more than fifty audit reports, indicating they are quite experienced. [See Table 5, pg. 430]

Table 6 reports the Pearson correlations between the variables in this study. As expected and consistent with prior research (e.g., Gul et al., 2017), *Busy_Partner* (shortened to *Busy_P* in the table) is positively correlated with abnormal accruals, providing univariate evidence that partner busyness is associated with higher earnings management. We do not find a significant association between *Busy_Manager* (*Busy_M* in the table) and abnormal accruals, suggesting busyness varies among the signing leaders. We also find a negative association between our experience variables (*Experience_Partner* and *Experience_Manager; Exp_P* and *Exp_M* in the table) and abnormal accruals, providing

[6] For example, in year *t*, the partner on the audit engagement signed five audit reports and the engagement manager on that same engagement signed three audit reports, so the total audit report signing experience of partner/manager pair for that engagement is eight. Therefore, Column 3 is the total audit report signing experience of the partner and manager on an engagement. The partner and manager may not always sign the same reports or work on the same engagements, which is why the partner or manager may have different signing experience.

univariate evidence that the partner and manager's accumulated audit report signing experience is associated with lower earnings management by clients (complementing other studies on audit experience; e.g., Cahan and Sun, 2015; Wang et al., 2015). Our key contribution will be examining the interaction of these two variables. There are several significant correlations between the control variables, busyness and experience variables, and dependent variable (abnormal accruals). Therefore, following prior research (e.g., Gul et al., 2017; Cahan and Sun, 2015), we control for certain auditor, audit firm, and client-level characteristics in our formal tests of the hypotheses in the regression models.[7] [See Table 6, pg. 431]

Effects of Signing Auditors' Busyness and Accumulated Audit Reporting Signing Experience on Earnings Management

Table 7 shows the results of each of the two regression models. We divide the sample into three groups according to the status of the signing auditor: engagement partner, engagement manager, and the combined column represents the total signatories of the partner/manager pair per engagement.[8] In Model (1) regression results, we find a significant positive relationship between *Busy* and *absDA* for the engagement partner, indicating that busier engagement partners are associated with higher earnings management ($p < 0.01$). This pattern is not significant for engagement managers ($p > 0.10$). While managers are tasked with the more detailed audit work, in our sample, most auditors serving in the manager role only signed one audit report (as noted in Table 4); ostensibly, because they manage fewer engagements in a signatory role than partners, they are less busy, which reduces finding a busyness effect on earnings management for these auditors. Therefore, we find support for H1a for the audit partners, but no support for H1b for the audit managers. We also find a significantly positive relationship between *Busy* and *absDA* for the combined signatories ($p < 0.01$), which seems to be driven by partner, not manager busyness. [See Table 7, pg. 432]

Model (1) regression results also show a significantly negative relationship between *Experience* and *absDA* for engagement partners, engagement managers and the combined signatories (all p-values < 0.01). These consistent results indicate that as auditors accumulate more experience in the audit signatory role, they are more likely to detect and constrain earnings management. This finding is consistent with the intuition that experience in this leadership role helps increase audit effectiveness, potentially through the increased knowledge gained from managing the overall engagement and the accountability of having their name publicly disclosed for the work performed. Therefore, we find support for H2a and H2b.

Model (2) regression results show a significant negative interaction between *Busy* and *Experience* on *absDA* for the engagement partners and the combined signatories ($p < 0.01$); and a marginally significant interaction for managers ($p < 0.10$). This suggests that the accumulated audit report signing experience helps to moderate, specifically weaken, the negative impact of busyness on earnings management. Therefore, we find support for H3a and marginal support for H3b. As prior research (e.g., Gul et al., 2017) identifies a concern for audit quality from audit partner busyness (which we corroborate in our test of H1a), we find one possible mitigation of the adverse busyness effect, which is experience in a signatory role. In this role, report signees presumably acquire knowledge about the overall audit process and risks and feel more accountable for the supervision and delivery of the audited financial statements. This finding provides important insights for firms' quality control standards when staffing engagements and team composition.

The coefficients of *Lnfee* and *Big4* are not significant, indicating that there is no effect on earnings management in our sample. *Leverage* and *Loss* are consistently positive in all models as expected ($p < 0.01$). This shows that companies with higher leverage and losses have more earnings management. We also find that companies with higher *ROA* and in the *Develop* cities are associated with higher earnings management, and thus lower audit quality, consistent with results of Chen et al. (2018) and Fan et al. (2013). As *ROA* and *Develop* are not our primary variables of interest in this study, we do not speculate why we find such associations and encourage future research to explore variations in company profitability and company location on earnings management. Lastly, earnings management is negatively related to *Size* and *State*, indicating that larger and state-owned companies have lower earnings management ($p < 0.01$).

Additional Analyses

[7] In untabulated analysis, all variance inflation factors are less than 10, indicating that the model does not have a serious multicollinearity problem (Hair et al., 2009).

[8] We also perform Vuoug's test to compare our model with just the control variables to the full model (i.e., with our variables of interest: busyness, experience, and busyness*experience, plus the control variables) for partner signees, for manager signees, and for combined partner and manager signee pairs. We find that each model is significantly different (all p-values < 0.01).

To test the robustness of the results, we divide discretionary accruals (*DA)* into positive earnings management (i.e., income-increasing accruals) and negative earnings management (i.e., income-decreasing accruals), and examine the coefficients in each model for each group. Tables 8 and 9 shows the model results for income-increasing and income-decreasing accruals, respectively. Overall, our conclusions in Table 7 are consistent with those of Table 8 and Table 9. Specifically, we continue to find that audit partners in our sample exhibit the adverse busyness effect on earnings management, but managers in our sample do not; and that accumulated experience reduces earnings management across all three groups (audit partners, audit managers, and the combined signatories). Further, given that partners in our sample are more prone to the busyness effect, we also find additional support that signing experience can weaken the adverse effect of busyness on earnings management, both for income-increasing and income-decreasing accruals.[9] [See Table 8, pg. 433 and Table 9, pg. 434]

Additionally, we use an alternative earnings management measure, which captures real earnings management (following Cohen and Zarowin, 2010 and Roychowdhury, 2006), rather than accruals-based earnings management. Table 10 shows that audit partners in our sample exhibit the adverse busyness effect on real earnings management, but managers in our sample do not; and that accumulated signing experience constrains real earnings management across all three signatory groups. We also find that signing experience can weaken the adverse effect of audit partner busyness on earnings management. As such, our findings are robust to real earnings management as well as accruals-based earnings management. [See Table 10, pg. 435]

Effects of Signing Auditors' Gender and Age on Earnings Management

Next, we examine the effects of signing auditor gender and age on earnings management. In Table 11 we present the gender and age distribution of the signing auditors in our sample. Approximately 76 percent of the engagement partners, and 61 percent of the engagement managers in our sample are male. Given the time and experience needed to reach a senior position in the firm, it is not surprising that most signing auditors are between the ages of 35 and 50, which accounts for approximately 70 percent of the auditors in our sample. On average, the engagement partners tend to be older than the engagement managers (mean age of 44.85 vs. 38.58 in Table 3; $t= -6.270$; $p < 0.001$), which is consistent with expectations based on their respective ranks. [See Table 11, pg. 437]

To examine the effects of age and gender, we show the results of our two regression models by gender and age groups. First, Table 12 shows the Model (1) results, which examines the effect of busyness and accumulated signing experience on audit quality and provides a comparison by gender (Panel A) and age (Panels B and C for partners and managers, respectively). In Panel A, we find a significant positive relationship between busyness and discretionary accruals in male signing audit partners ($p < 0.01$). However, we do not find a significant relationship for the female partners ($p > 0.10$). Therefore, this suggests that in our sample, busyness affects the audit quality conducted by male partners, but not female partners. This is consistent with other research that finds females are less tolerant to earnings management (e.g., Li et al., 2017) and they provide higher audit quality (e.g., Hardies et al., 2014). We also do not find that audit manager busyness affects earnings management (consistent with our results above) and this does not vary by gender. [See Table 12, pg. 438]

Examining the age groups, we find a significant positive relationship between busyness and discretionary accruals for engagement partners older than 40 years ($p < 0.05$; Table 12 Panel B). This suggests that the busyness of older engagement partners is associated with higher earnings management. The lack of findings for engagement partners in the younger age groups (i.e., less than 40 years old) could also be attributed to the lower observations in this category. Interesting, while previously we do not find a busyness effect for managers, in Table 13 Panel C, we find that for managers under age 30, busyness is marginally associated with *less* earnings management ($p < 0.10$), suggesting busier managers in this age group are able to identify and constrain earnings management. We do not find a relationship between busyness and earnings management for managers over 30 ($p > 0.10$). As such, we believe this finding is important to future research, particularly studying the behavior and workload of audit managers; many studies tend to focus on audit staff due to convenience or audit partners due to increasingly publicly-available data in many jurisdictions, but audit managers are in a

[9] We also use an alternative proxy for audit quality, modified audit opinions, but our results are insignificant so for brevity we do not report the table. In our sample period, there are only 268 modified audit opinions (about 3.8 percent of the sample), and the model has lower explanatory power (the adjusted R^2 is less than 4 percent). As such, we do not find an effect of busyness nor experience on auditors' issuance of a modified audit opinions.

unique position where they are team leaders and have accumulated relevant audit experience, which could lead to knowledge spillover on other engagements, but do not have all of the same administrative and other obligations of partners).

Second, Table 12 also shows the results of signing experience accumulation on earnings management, for the gender (Panel A) and age (Panels B and C for partners and managers, respectively). We find a significant negative relationship between the experience accumulation and discretionary accruals for partners and managers, and this does not vary by gender (all p-values < 0.01; Panel A). Comparing different age groups, we find less earnings management with greater signing experience for all audit partner age groups ($p < 0.05$; Panel B). However, for audit managers, this relationship is not significant for those under 30 ($p > 0.10$; Panel C), but is significant for older managers, particularly those 35 and older ($p < 0.05$; Panel C). Therefore, accumulating more audit experience in a signatory role appears to constrain earnings management for both auditor ranks regardless of gender, and particularly for older auditors in our sample. While our results for the older age groups are consistent with the general intuition that more-experienced auditors provide higher audit effectiveness, we believe the findings for managers are insightful for research and practice by showing how the experience of serving in leadership roles benefits audit quality among younger auditors and a rank other than partner (i.e., the significance of experience gets stronger across our manager age groupings).

Lastly, Table 13 shows the Model (2) results, which examines the interactive effect of busyness and experience accumulation on earnings management, for the gender (Panel A) and age (Panels B and C). Our findings build on the previous regression results. Specifically, in Table 13 Panel B, the accumulated audit report signing experience attenuates the negative effect of busyness for male partners ($p < 0.01$) and partners aged 45 and older ($p < 0.01$). Further, because we do not find an effect of busyness on earnings management for female auditors (Table 12 Panel A) or male managers over age 30 (Table 12 Panel C), the significant interactive effect for managers aged 35–39 in Panel C ($p < 0.05$) is not as meaningful as the results for audit partners. Together, these results for the different subgroups suggest that audit partner busyness is associated with higher earnings management, particularly for male and older audit partners, but greater experience in the signatory role attenuates the adverse effects of busyness on clients' earnings manipulation. [See Table 13, pg. 441]

Conclusion

In this study, we leverage the unique audit report signature requirements in China to study the busyness and audit reporting signing experience of the identified engagement partners and engagement managers and how these characteristics of these individual auditors affect clients' earnings manipulation. In our main results, we find that audit partner signing busyness is associated higher earnings management (extending the findings of Gul et al., 2017). We do not find an effect of busyness on clients' earnings management for managers. This lack of effect on earnings manipulation could be that managers are generally less busy than partners.

Further, we find that accumulated audit report signing experience for partners, managers, and the combined experience of the partner and manager is associated less earnings manipulation. Thus, the exposure to different client engagements in a signatory role increases auditor knowledge and their ability to detect and curtail earnings management. Our findings complement other research that measures total auditor experience (Cahan and Sun, 2015), as we have a narrower, more precise measure of experience, which is auditors' experience in an engagement leadership role (i.e., a signatory role), where they have more responsibility and accountability for the audit work. When examining the interactive effect, the accumulated audit report signing experience helps to attenuate the negative impact of partner busyness on earnings management in audited financial statements. Our results are robust to accruals-based and real earnings management. Overall, our evidence suggests that more experience in the audit report signing role appears to be important to audit effectiveness and upholding the integrity of audited financial statements, especially since firms with earnings manipulation are more likely to commit financial statement fraud (Perols and Lougee, 2011).

We also find some evidence that the positive relationship between busyness and earnings management (meaning increased busyness is associated with higher earnings management) is more prominent in male auditors and partners who are 40 years of age and older. We do not observe an effect for female auditors, even though they are a meaningful proportion of our sample. Importantly, we find that experience in the signatory role attenuates the busyness effect for older audit partners. Overall, these results show some variability between auditor gender and age on constraining earnings management by clients.

A key takeaway from our findings is the role of experience. Experience is a multi-faceted construct, and we provide a different measure of auditor's experience that can contribute to audit effectiveness and constrain earnings management in financial statements. While intuitively we expect auditors with more experience to delivery better audit quality, research shows that is not always the case (Sundgren and Svanstrom, 2014; Goodwin and Wu, 2016). Our findings offer important considerations for practice when forming audit engagement teams and balancing out the relative experience of the different team members, particularly those in a lead engagement role. Additionally, audit engagements have a concurring partner who reviews the significant auditing and financial reporting matters. Firms could consider the concurring partner's experience, particularly when they are paired with a relatively new audit partner who would have less experience in the lead role. Regulators may also consider whether the concurring audit partner or other engagement leaders should sign the audit report or at least be disclosed, as this could be another relevant factor to assessing audit effectiveness.[10] Lastly, our findings contribute to the literature on audit partner characteristics (Lennox and Wu, 2018), and extend the literature by providing insight about another important lead engagement team member, audit managers.

Our study is subject to several limitations. First, our insights are based on audits of public-traded companies. The extent to which managers and female auditors in our sample also serve on nonpublic engagements or that our sample of female auditors is too small to observe a significant effect, our results may differ. So, we caution the reader from over-interpreting our results that managers and female auditors are not "busy," or that female auditors always provide higher audit quality. Second, we acknowledge that other jurisdictions do not require multiple auditors to sign the auditor's report. However, our results could generalize to report signees in general, and reveal insights of how accumulated experience in a lead engagement role is beneficial to reducing earnings management in audited financial statements. Additionally, we rely on the signee's publicly available information (e.g., name, age, gender), and cannot observe the extent of the auditor's work on an audit engagement. Future research using a field study or data on audit hours may be able to measure busyness with greater granularity. Lastly, China has a different legal and regulatory environment from many other jurisdictions (e.g., the United States, Australia, and many European countries), which could lead to different results when compared to other jurisdictions.

Future research could build on our study by examining the role of signing experience in other jurisdictions and/or perform cross-cultural comparisons, particularly now that audit partner identity is increasingly being disclosed. Additionally, given the busyness of audit partners, research could study and suggest best practices of the number of concurrent audit engagements and the "breaking point" where audit quality starts to be negatively affected. Another opportunity for future research is to examine the effects of partners and managers who always work together, compared to pairs that do not. This could provide additional insights about how a partner's tone at the top could impact manager's behavior, or whether there are more synergies or less scrutiny of the audit process when partners and managers routinely work together. Relatedly, future research could examine the partner/manager pairs to identify moderating variables of the signing manager that could potentially mitigate the adverse effects partner busyness on earnings management in audited financial statements. Lastly, because auditors may have experiences or expertise across more than one industry, future research could examine variation in auditor busyness and experience based on the dominant industry or cluster of industries served in the auditor's client portfolio on other financial reporting and audit quality outcomes.

[10] Relatedly, Christensen et al.'s (2016) qualitative findings also support that disclosing more information about the engagement team leaders would be useful to investors in their assessment of audit quality.

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Table 1: Sample Distribution

Panel A: Sample Selection

Initial observations of A-Listed Companies from 2013 to 2017	14,583
Less: observations in the financial and insurance industry	(285)
Less: companies with incomplete industry information in the database, such as company name and industry code	(17)
Less: engagements more than two signing CPAs in the auditor's report	(471)
Less: observations with missing financial data	(1,630)
Less: initial public offering companies	(1,015)
Less: observations designated as "ST" companies (i.e., warned of delisting risk after two consecutive years of losses)	(698)
Less: missing personal information of the partner and manager (e.g., gender and age)	(3,264)
Less: incomplete data to calculate sales growth rate and client importance variables	(232)
Final Sample	**6,971**

Panel B: Distribution of Sample Observations by Year

Year	# of Observations
2013	1,149
2014	1,281
2015	1,407
2016	1,478
2017	1,656
Total	**6,971**

Panel C: Distribution of Sample Observations by Industry

Industry	# of Observations
A. Agricultural, forestry, animal, and fishery	81
B. Mining	209
C. Manufacturing	4,295
D. Electricity, heat, gas, and water	316
E. Construction	199
F. Wholesale and retail	518
G. Transportation, warehousing, and postal	217
I. Information technology	339
K. Real estate	446
L. Leasing and business services	77
M. Professional technology services	39
N. Ecological protection and environmental management	76
R. News and publishing	105
Total	**6,971**

Table 2: Variable Definitions

Dependent Variables	Definition	Expected Sign
DA	Audit quality, measured by the difference between total accruals and expected accruals estimated using the modified Jones model	
absDA	Audit quality, measured by the absolute value of the difference between total accruals and expected accruals estimated using the modified Jones model	
Test Variables		
Busy	The degree of an auditor busyness, measured by the number of audit reports signed by an auditor during year *t*. We separately measure the busyness of the engagement partner (*Busy_Partner*) and engagement manager (*Busy_Manager*), which is the number of audit reports signed by each auditor during year *t*, and also measure the combined busyness of the client's signing auditors (*Busy_Combined*), which is the number of audit reports signed by the engagement partner and engagement manager for a company during year t.	+
Experience	The accumulated audit experience, measured by the number of audit reports signed by the auditor up to year *t* for a company. We separately measure the experience of the engagement partner (*Experience_Partner*) and engagement manager (*Experience_Manager*), which is the number of audit reports signed by each auditor up to year *t*, and also measure the combined experience of the signing auditors (Experience_Combined), which is the number of audit reports signed by the engagement partner and engagement manager up to year *t* for a company.	–
Gender	Indicator variable for the gender of the signing auditors, where 1 = male, 0 = female. We also separately measure the gender of the engagement partner and engagement manager.	
Age	The age of signing auditors measured in year *t*. We also separately measure the age of the engagement partner and engagement manager.	

Table 2 (continued):

Controls—Audit Characteristics		
Lnfee	Audit fee, measured by the natural log of the audit fees paid by the company in the sample year	+
Big4	Indicator variable where 1 = the audit firm is a Big 4 accounting firm, 0 otherwise	–
Inventory	Audit complexity, measured by the ratio of the audit client's inventory to total assets at the end of the year.	+
Receivables	Audit complexity, measured by the ratio of the audit client's accounts receivable to total assets at the end of the year.	+
PCIM	Signee client importance of the partner, measured as the ratio of the natural logarithm of the client's total assets to the sum of the natural logarithm of total assets of all clients audited by the partner	+
MCIM	Signee client importance of the manager, measured as ratio of the natural logarithm of the client's total assets to the sum of the natural logarithm of total assets of all clients audited by the manager	+
SCIM	Signee client importance of both the partner and the manager, measured as the sum of PCIM and MCIM	+
AFCIM	Audit firm client importance, measured as the ratio of the natural logarithm of the client's total assets of all clients audited by the audit firm	+
Controls—Client Characteristics		
Size	Client size, measured by the natural log of the audit client's total assets at the end of the year.	–
Client_Age	Audit client's listing period, measured by the difference between year *t* and the year the company was listed on the stock market (i.e., the IPO year)	–
ROA	Profitability, measured by the ratio of the audit client's net profit at the end of year *t* to the total assets at the end of year *t*.	?
Leverage	Financial risk, measured by the total liabilities of the audit client at the end of year *t* divided by the total assets at the end of year *t*.	+
Loss	Indicator variable where 1 = the audit client is a loss company in year *t*, 0 otherwise	+
Develop	Indicator variable where 1 = the audit client is located in Beijing, Shanghai, Guangzhou, 0 otherwise	?
SGROW	Sales growth, measured as the annual percentage change in sales	+
State	Indicator variable where 1 = if the company is state-owned, 0 otherwise	–

Table 3: Descriptive Statistics

	N	Minimum	Maximum	Mean	Median	Std. Dev.
DA	6,971	(1.412)	3.843	0.000	(0.003)	0.107
absDA	6,971	0.000	3.843	0.058	0.039	0.089
Busy_Partner	6,971	1.000	9.000	2.120	3.000	1.285
Experience_Partner	6,971	0.000	120.000	19.370	13.000	19.742
Gender_Partner	6,971	0.000	1.000	0.760	1.000	0.425
Age_Partner	6,971	26.000	70.000	44.850	45.000	5.703
Busy_Manager	6,971	1.000	9.000	1.410	1.000	0.752
Experience_Manager	6,971	1.000	53.000	6.820	5.000	6.500
Gender_Manager	6,971	0.000	1.000	0.610	1.000	0.489
Age_Manager	6,971	22.000	69.000	38.580	38.000	6.702
Opinion	6,971	0.000	1.000	0.040	0.000	0.193
Lnfee	6,971	0.000	18.156	13.871	13.795	0.991
Big4	6,971	0.000	1.000	0.190	0.000	0.394
Inventory	6,971	0.000	0.940	0.155	0.112	0.157
Receivables	6,971	0.000	0.775	0.109	0.079	0.106
Size	6,971	14.942	28.070	22.422	22.260	1.368
ROA	6,971	(6.776)	8.441	0.035	0.032	0.144
Leverage	6,971	0.009	8.612	0.459	0.456	0.236
Loss	6,971	0.000	1.000	0.090	0.000	0.288
Develop	6,971	0.000	1.000	0.310	0.000	0.463
Client_Age	6,971	1.000	28.000	13.190	14.000	7.028
PCIM	6,791	0.106	1.000	0.638	0.509	0.312
MCIM	6,791	0.102	1.000	0.833	1.000	0.258
SCIM	6,791	0.349	2.000	1.471	1.494	0.458
AFCIM	6,791	0.004	1.000	0.030	0.014	0.050
SGROW	6,791	(1.000)	251.000	0.340	0.100	3.947
State	6,791	0.000	1.000	0.480	0.000	0.500

Table notes:
Variables are defined in Table 2.

Table 4: Descriptive Statistics—Busyness of Signing Auditors

N	***Column 1: Busy_Partner*** (number of audit reports signed by the engagement partner during year *t*)			***Column 2: Busy_Manager*** (number of audit reports signed by the engagement manager during year *t*)			***Column 3: Busy*** (combined number of audit reports signed by engagement partner and engagement manager during the company year)		
	Frequency	Percentage	Cumulative percentage	Frequency	Percentage	Cumulative percentage	Frequency	Percentage	Cumulative percentage
1	2,825	40.5%	40.5%	4,853	69.6%	69.6%	0	0.0%	0.0%
2	2,122	30.4%	70.9%	1,568	22.5%	92.1%	2.354	33.7%	33.7%
3	1,023	14.7%	85.6%	412	5.9%	98.0%	1,793	25.7%	59.4%
4	596	8.5%	94.1%	104	1.5%	99.5%	1,267	18.2%	77.6%
5	270	3.9%	98.0%	25	0.4%	99.9%	701	10.1%	87.7%
6	83	1.2%	99.2%	0	0.0%	99.9%	392	5.6%	93.3%
7	35	0.5%	99.7%	0	0.0%	99.9%	253	3.6%	96.9%
8	8	0.1%	99.8%	0	0.0%	99.9%	135	1.9%	98.8%
9	9	0.1%	100%	9	0.1%	100%	38	0.6%	99.4%
10	0	0.0%	100%	0	0.0%	100%	21	0.3%	99.7%
11	0	0.0%	100%	0	0.0%	100%	14	0.2%	99.9%
12	0	0.0%	100%	0	0.0%	100%	1	0.0%	99.9%
13	0	0.0%	100%	0	0.0%	100%	2	0.0%	100%
Total	**6,971**	100%	100%	**6,971**	100%	100%	**6,971**	100%	100%

Table notes:
Variables are defined in Table 2.

Table 5: Descriptive Statistics—Audit Report Experience Accumulated by Signing Auditors

N	***Column 1: Experience_Partner***			***Column 2: Experience _Manager***			***Column 3: Experience***		
	(number of audit reports signed by the engagement partner up to year *t*)			(number of audit reports signed by the engagement manager up to year *t*)			(combined number of audit reports signed by engagement partner and engagement manager up year *t* for a company)		
	Frequency	Percentage	Cumulative percentage	Frequency	Percentage	Cumulative percentage	Frequency	Percentage	Cumulative percentage
0	2	0.0%	0.0%	0	0.0%	0.0%	0	0.0%	0.0%
1	411	5.9%	5.9%	1,105	15.8%	15.8%	2	0.0%	0.0%
2	400	5.7%	11.6%	902	12.9%	28.7%	126	1.8%	1.8%
3	348	5.0%	16.6%	744	10.7%	39.4%	151	2.2%	4.0%
4	312	4.5%	21.1%	649	9.3%	48.7%	212	3.0%	7.0%
5	289	4.1%	25.2%	513	7.4%	56.1%	195	2.8%	9.8%
6	308	4.4%	29.6%	433	6.2%	62.3%	228	3.3%	13.1%
7	247	3.5%	33.1%	353	5.1%	67.4%	201	2.9%	16.0%
8	253	3.6%	36.7%	317	4.5%	71.9%	228	3.3%	19.3%
9	229	3.3%	40.0%	275	3.9%	75.8%	225	3.2%	22.5%
10	190	2.7%	42.7%	243	3.5%	79.3%	210	3.0%	25.5%
11-20	1,614	23.1%	65.8%	1,125	16.1%	95.4%	1,765	25.0%	50.5%
21-30	1,011	14.5%	80.3%	241	3.5%	98.9%	1,315	19.0%	69.5%
31-50	780	11.2%	91.5%	68	1.0%	99.9%	1,262	18.0%	88.0%
> 51	577	8.5%	100.0%	3	0.0%	100.0%	851	12.0%	100.0%
Total	**6,971**	**100%**	**100%**	**6,971**	**100%**	**100%**	**6,971**	**100%**	**100%**

Table notes:
Variables are defined in Table 2.

Table 6: Pearson Correlation Analysis of Each Variable (N: 6971)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
absDA	1	1.00																				
Busy_P	2	0.05**	1.00																			
Exp_P	3	-0.07**	0.37**	1.00																		
Busy_M	4	0.01	0.26**	0.11**	1.00																	
Exp_M	5	-0.06**	0.16**	0.21**	0.35**	1.00																
PCIM	6	-0.01	-0.87**	-0.33**	-0.26**	-0.15**	1.00															
MCIM	7	-0.01	-0.27**	-0.12**	-0.91**	-0.35**	0.28**	1.00														
SCIM	8	-0.01	-0.75**	-0.30**	-0.69**	-0.29**	0.84**	0.76**	1.00													
AFCIM	9	0.01	0.11**	-0.09**	-0.04**	-0.03*	0.11**	0.05**	0.10**	1.00												
SGROW	10	0.05**	0.01	0.01	-0.01	-0.01	0.00	0.01	0.01	0.00	1.00											
Big4	11	-0.01	-0.12**	-0.11**	-0.04**	-0.11**	0.10**	0.06**	0.11**	-0.12**	0.03*	1.00										
Lnfee	12	-0.03*	-0.04**	0.01	-0.06**	-0.05**	0.04**	.081**	0.07**	0.04**	0.03*	0.16**	1.00									
Leverage	13	0.10**	-0.04**	-0.06**	-0.06**	-0.04**	0.06**	.065**	0.08**	0.04**	0.02	0.06**	0.26**	1.00								
Size	14	-0.05**	-0.06**	-0.02*	-0.06**	-0.04**	0.07**	.084**	0.09**	0.06**	0.04**	0.19**	0.58**	0.42**	1.00							
ROA	15	0.26**	0.02*	0.01	0.01	0.01	-0.01	0.00	-0.01	-0.01	0.01	0.01	-0.01	-0.38**	0.00	1.00						
Loss	16	0.08**	-0.01	-0.03*	-0.01	-0.01	0.02	0.01	0.02	-0.01	-0.03*	0.00	-0.02	0.18**	-0.09**	-0.27**	1.00					
Inventory	17	0.07**	-0.01	0.00	-0.01	0.00	0.02	0.01	0.02	0.04**	0.01	-0.01	0.05**	0.29**	0.15**	-0.04**	0.00	1.00				
Receivables	18	0.01	0.00	-0.01	0.01	-0.02	-0.01	-0.01	-0.01	-0.01	0.00	-0.04**	-0.08**	0.00	-0.18**	0.02	-0.05**	-0.11**	1.00			
Develop	19	0.03*	0.04**	0.01	0.03**	0.00	-0.04**	-0.03**	-.05**	-0.05**	-0.02	0.13**	0.09**	-0.05**	0.08**	0.03*	-0.06**	0.02*	0.08**	1.00		
Client_Age	20	0.06**	-0.02	-0.01	-0.04**	0.03*	0.03*	.048**	0.05**	0.04**	0.02*	0.02	0.18**	0.29**	0.23**	-0.06**	0.09**	0.15**	-0.26**	-0.02	1.00	
State	21	-0.02	-0.05**	-0.05**	-0.05**	-0.04**	0.04**	.049**	0.05**	0.00	-0.04**	0.11**	0.17**	0.25**	0.31**	-0.05**	0.06**	0.03*	-0.18**	0.01	0.41**	1.00

Table Notes:

Two-tailed significance is indicated by ** and * for 1% and 5% respectively.

To keep the correlation matrix to one page, we *Busy_P* and *Exp_P* represent the busyness and signing experience of partners; *Busy_M* and *Exp_M* represent the busyness and signing experience of managers.

Table 7: Auditor Busyness and Accumulated Experience on Audit Quality (Absolute Value of Accruals)

	Model (1)			Model (2)		
		absDA			*absDA*	
Variables	Partner	Manager	Combined	Partner	Manager	Combined
Busy	0.162 ***	0.003	0.157***	.263***	.043	0.226***
	7.106	0.097	6.231	8.570	1.227	6.793
Experience	-0.088***	-0.068***	-0.100***	-0.000	-0.031	-0.030.
	-7.459	-5.771	-8.417	-0.034	-1.305	-1.176
*Busy*Experience*				-0.137***	-0.057*	-0.104***
				-4.911	-1.749	-3.180
Lnfee	-0.005	-0.011	-0.007	-0.004	-0.011	-0.006
	-0.394	-0.798	-0.510	-0.313	-0.783	-0.467
Big4	-0.006	-0.010	-0.011	-0.005	-0.010	-0.010
	-0.552	-0.869	-0.956	-0.473	-0.869	-0.892
Inventory	0.012	0.008	0.012	0.011	0.008	0.012
	0.725	0.516	0.740	0.677	0.528	0.726
Receivables	-0.002	-0.004	-0.003	-0.002	-0.005	-0.004
	-0.183	-0.364	-0.283	-0.182	-0.377	-0.300
Size	-0.175***	-0.174***	-0.174***	-0.175***	-0.175***	-0.175***
	-11.296	-11.219	-11.277	-12.195	-11.250	-11.329
ROA	0.392***	0.397***	0.393***	.390***	0.397***	.392***
	32.016	32.356	32.113	31.905	32.353	32. 049
Leverage	0.287***	0.293***	0.280***	.286***	0.293***	.287***
	19.537	19.928	19.579	19.489	19.919	19.558
Loss	0.119***	0.120***	0.119***	.120***	0.120***	.119***
	10.243	10.292	10.216	10.31	10.281	10.262
Develop	0.039***	0.040***	0.039***	.039***	.040***	.040***
	3.405	3.493	3.435	3.424	3.490	3.476
Client_Age	0.034**	0.035***	0.016	0.033**	0.037***	.034**
	2.577	2.695	1.323	2.494	2.838	2.593
PCIM	0.106***			0.151***		
	4.746			6.270		
MCIM		-0.029			-0.015	
		-1.087			-0.534	
SCIM			0.098***			0.125***
			3.950			4.772
AFCIM	0.010	0.011	0.009	0.012	0.011	0.010
	0.875	0.978	0.774	1.044	1.020	.897
SGROW	0.046***	0.047***	0.0486***	0.045***	0.047***	0.046***
	4.205	4.270	4.218	4.168	4.294	4.197
State	-0.052***	-0.055***	-0.053***	-0.052***	-0.054***	-0.053***
	-4.011	-4.208	-4.103	-4.032	-4.183	-4.109
Adj R^2	0.183	0.176	0.181	0.185	0.176	0.183
Observations	6,971	6,971	6,971	6,971	6,971	6,971

Table notes: Variables are defined in Table 2. Year and industry fixed effects included in all models. Two-tailed significance is indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Table 8: Auditor Busyness and Accumulated Experience on Audit Quality (Income-Increasing Accruals)

	Model (1) *DA>0*			Model (2) *DA>0*		
Variables	Partner	Manager	Combined	Partner	Manager	Combined
Busy	0.120***	-0.022	.107***	0.180***	-0.019	0.140***
	4.265	-0.646	3.436	4.674	-0.450	3.374
Experience	-0.067***	-0.057***	-0.078***	-0.016	-0.018	-0.045
	-4.551	-3.894	-5.270	-0.611	-0.618	-1.453
*Busy*Experience*				-0.080**	-0.059	-0.050
				-2.280	-1.519	-1.215
Lnfee	-0.031*	-0.035**	-0.032*	-0.030*	-0.035*	-0.032*
	-1.860	-2.106	-1.911	-1.840	-2.110	-1.904
Big4	0.001	-0.001	-0.003	-0.001	-0.002	-0.002
	0.042	-0.097	-0.184	-0.049	-0.117	-0.173
Inventory	0.067***	0.062***	0.066***	0.067***	0.062***	0.066***
	3.404	3.154	3.383	3.409	3.171	3.391
Receivables	0.046***	0.043***	0.044***	0.045***	0.043***	0.044***
	2.944	2.761	2.823	2.913	2.758	2.805
Size	.-0.036*	-0.034*	-0.035*	-0.037*	-0.034*	-0.036*
	-1.853	-1.745	-1.836	-1.892	-1.744	-1.856
ROA	0.610***	0.616***	0.611***	0.607***	0.616***	0.610***
	44.423	45.004	44.583	44.155	45.012	44.439
Leverage	0.078***	0.079***	0.078***	0.078***	0.079***	0.078***
	4.408	4.490	4.435	4.421	4.474	4.442
Loss	0.066***	0.068***	0.067***	.067***	0.068***	0.067***
	4.705	4.801	4.774	4.761	4.813	4.798
Develop	0.026*	0.026*	0.026*	0.026*	0.026*	0.026*
	1.794	1.800	1.801	1.828	1.825	1.831
Client_Age	0.039**	0.045***	0.042**	0.039**	0.045***	0.041**
	2.426	2.738	2.559	2.400	2.727	2.521
PCIM	0.083***			0.109***		
	3.037			3.683		
MCIM		-0.047			-0.033	
		-1.385			-0.960	
SCIM			0.065**			0.078**
			2.137			2.421
AFCIM	0.012	0.015	0.011	0.013	0.014	0.012
	0.872	1.074	0.822	0.920	1.018	0.860
SGROW	.050***	.058***	.051***	.048***	.056***	0.050***
	3.668	4.312	3.732	3.557	4.124	3.684
State	-0.041**	-0.045***	-0.043***	-0.041**	-0.044***	-0.043***
	-2.555	-2.776	-2.699	-2.582	-2.766	-2.716
Adj R^2	0.407	0.404	0.407	0.408	0.404	0.407

Observations	3,303	3,303	3,303	3,303	3,303	3,303

Table notes: Variables are defined in Table 2. Year and industry fixed effects included in all models. Two-tailed significance is indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Table 9: Auditor Busyness and Accumulated Experience on Audit Quality (Income-Decreasing Accruals)

	Model (1) *DA<0*			Model (2) *DA<0*		
Variables	Partner	Manager	Combined	Partner	Manager	Combined
Busy	-0.140***	-0.033	-0.141***	-0.222***	-0.089 *	-0.200 ***
	-4.348	-0.885	-3.978	-5.165	-1.759	-4.298
Experience	0.106***	0.084***	0.122***	0.035	0.035	0.060*
	6.430	5.078	7.332	1.164	1.041	1.703
*Busy*Experience*				0.111***	0.075	0.089**
				2.882	1.625	1.958
Lnfee	-0.019	-0.012	-0.017	-0.020	-0.013	-0.018
	-0.989	-0.637	-0.891	-1.055	-0.669	-0.932
Big4	0.009	0.011	0.014	0.008	0.010	0.013
	0.577	0.665	0.858	0.501	0.647	0.806
Inventory	-0.026	-0.025	-0.027	-0.024	-0.026	-0.026
	-1.137	-1.121	-1.191	-1.064	-1.11627	-1.155
Receivables	0.048***	0.049***	0.048***	0.048***	0.049***	0.048***
	2.810	2.842	2.813	2.783	2.862	2.816
Size	0.121***	0.110***	0.110***	0.112***	0.111***	0.111***
	4.960	4.871	4.917	5.002	4.923	4.970
ROA	0.276***	0.276***	0.277***	0.275***	0.276***	0.276***
	12.505	12.454	12.551	12.41358	12.466	12.522
Leverage	-0.005	-0.012	-0.004	-0.006	-0.012	-0.005
	-0.207	-0.479	-0.174	-0.224	-0.470	-0.188
Loss	-0.077***	-0.077***	-0.076***	-0.078***	-0.077***	-0.076***
	-4.634	-4.594	-4.542	-4.680	-4.563	-4.579
Develop	-0.028*	-0.029*	-0.028*	-0.028*	-0.028*	-0.028*
	-1.758	-1.779	-1.755	-1.751	-1.748	-1.763
Client_Age	-0.064***	-0.065***	-0.064***	-0.062***	-0.064***	-0.063***
	-3.436	-3.510	-3.478	-3.373	-3.448	-3.410
PCIM	-0.094***			-0.131***		
	-2.962			-3.842		
MCIM		0.013			-0.008	
		0.341			-0.199	
SCIM			-0.085**			-0.108***
			-2.415			-2.922
AFCIM	-0.005	-0.010	-0.005	-0.008	-0.011	-0.006
	-0.344	-0.656	-0.317	-0.481	-0.690	-0.404
SGROW	-0.059***	-0.056***	-0.059***	-0.059***	-0.056***	-0.059***
	-3.862	-3.662	-3.847	-3.890	-3.681	-3.860
State	.052***	.051***	.052***	0.052***	0.050***	0.052***
	2.873	2.796	2.866	2.880	2.752	2.853

$AdjR^2$	0.160	0.154	0.162	0.162	0.154	0.163
Observations	3,668	3,668	3,668	3,668	3,668	3,668

Table notes: Variables are defined in Table 2. Year and industry fixed effects included in all models. Two-tailed significance is indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Table 10: Auditor Busyness and Accumulated Experience on Audit Quality (Absolute Value of Real Earnings Management)

	Model (1) *absRDA*			Model (2) *absRDA*		
Variables	Partner	Manager	Combined	Partner	Manager	Combined
Busy	0.155 ***	0.027	0.080***	0.197***	0.085**	0.089***
	6.785	0.972	5.064	6.601	2.261	4.043
Experience	-0.086***	-0.034***	-0.078***	-0.028	0.018	-0.065**
	-7.280	-2.697	-6.151	-1.261	0.700	-2.537
*Busy*Experience*				-0.071**	-0.079**	-0.019
				-2.389	-2.321	-0.564
Lnfee	-0.005	-0.018	-0.015	-0.013	-0.018	-0.015
	-0.401	-1.273	-1.076	-0.918	-1.253	-1.067
Big4	-0.006	-0.008	-0.008	-0.005	-0.008	-0.008
	-0.527	-0.665	-0.659	-0.425	-0.665	-0.644
Inventory	0.008	-0.026	-0.024	-0.024	-0.026	-0.024
	0.496	-1.541	-1.411	-1.410	-1.526	-1.415
Receivables	-0.009	-0.037***	-0.037***	-0.035***	-0.038***	-0.037***
	-0.746	-2.857	-2.832	-2.716	-2.875	-2.836
Size	-0.161***	-0.066***	-0.065***	-0.066***	-0.067***	-0.065***
	-10.368	-4.036	-3.983	-4.022	-4.079	-3.988
ROA	.383***	.242***	.240***	.237***	0.242***	0.240***
	31.129	18.633	18.484	18.239	18.629	18.475
Leverage	0.277***	0.152***	0.148***	0.145***	0.152***	0.148***
	18.717	9.762	9.516	9.352	9.749	9.515
Loss	0.117***	0.072***	0.071***	0.071***	0.072***	0.072***
	9.973	5.806	5.785	5.774	5.791	5.794
Develop	0.043***	0.030**	0.028**	0.028**	0.029**	0.028**
	3.755	2.418	2.266	2.312	2.414	2.268
Client_Age	0.031**	0.017	0.017	0.015	0.017	0.016
	2.387	1.238	1.191	1.075	1.186	1.174
PCIM	0.100***			0.118***		
	4.472			4.607		
MCIM		0.012			0.032	
		0.436			1.089	
SCIM			0.123***			0.128***
			4.045			4.453
AFCIM	0.008	-0.004	-0.003	-0.003	-0.003	-0.003
	0.710	-0.310	-0.278	-0.273	-0.255	-0.251
SGROW	0.048***	0.026**	0.025**	0.024**	0.026**	0.025**
	4.419	2.216	2.176	2.119	2.247	2.174
state	-0.052***	-0.028**	-0.028**	-0.026*	-0.027**	-0.028**

	-4.001	-2.025	-2.042	-1.924	-1.992	-2.046
Adj R^2	0.174	0.076	0.082	0.084	0.077	0.082
Observations	6,971	6,971	6,971	6,971	6,971	6,971

Table notes: Variables are defined in Table 2. Year and industry fixed effects included in all models. Two-tailed significance is indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Table 11: Descriptive Statistics of Gender and Age of Signing Auditors in our Sample

Age	Engagement partner (N = 6,971)						Engagement manager (N = 6,971)						Total by Age Group	
	Male		Female		Total		Male		Female		Total			
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Under 30	24	0.3%	8	0.1%	32	0.4%	254	3.7%	197	2.8%	451	6.5%	483	3.5%
30-34	129	1.9%	45	0.6%	174	2.5%	1,026	14.7%	665	9.5%	1,691	24.2%	1,865	13.4%
35-39	758	10.9%	210	3.0%	968	13.9%	1,151	16.5%	746	10.7%	1,897	27.2%	2,865	20.5%
40-44	1,618	23.2%	616	8.8%	2,234	32.0%	1,003	14.4%	639	9.2%	1,642	23.6%	3,876	27.8%
45-49	1,682	24.1%	501	7.2%	2,183	31.3%	511	7.3%	350	5.0%	861	12.3%	3,044	21.8%
Over 50	1,112	16.0%	268	3.9%	1,380	19.9%	277	4.0%	152	2.2%	429	6.2%	1,809	13.0%
Total	**5,323**	**76.4%**	**1,648**	**23.6%**	**6,971**	**100.0%**	**4,222**	**60.6%**	**2,749**	**39.4%**	**6,971**	**100.0%**	**13,942**	**100.0%**

Table 12: Model (1): Effects of Auditor Busyness and Accumulated Experience on Audit Quality by Gender and Age Groups

Panel A: Results by Gender

	absDA - Male		*absDA* - Female	
Variables	Partner	Manager	Partner	Manager
Busy	0.177***	0.013	0.053	-0.007
	7.006	0.342	0.971	-0.186
Experience	-0.092***	-0.072***	-0.075***	-0.067***
	-6.922	-4.999	-2. 878	-3.316
Lnfee	-0.009	-0.006	-0.004	-0.025
	-0.615	-0.382	-0.124	-1.037
Big4	-0.001	-0.005	-0.036	-0.017
	-0.092	-0.359	-1.374	-0.838
Inventory	0.007	-0.019	0.047	0.077***
	0.381	-0.933	1.166	2.923
Receivables	-0.011	-0.013	0.052*	0.016
	-0.831	-0.849	1.868	0.771
Size	-0.181***	-0.196***	-0.092**	-0.065**
	-10.659	-10.637	-2.476	-2.266
ROA	0.434***	0.494***	0.014	0.053**
	31.377	32.505	0.426	2.105
Leverage	0.320***	0.373***	0.072**	0.040
	19.507	21.047	2.087	1.466
Loss	0.105***	0.126***	0.126***	0.083***
	8.086	8.796	4.154	3.543
Develop	0.030**	0.042***	0.084***	0.029
	2.345	2.970	3.220	1.483
Client_Age	0.031**	0.020	0.072**	0.079***
	2.098	1.231	2.430	3.563
PCIM	0.112***		0.037	
	4.513		0.680	
MCIM		-0.027		-0.037
		-0.697		-0.912
AFCIM	0.010	0.005	0.021	0.014
	0.812	.351	0.832	0.742
SGROW	0.048***	0.032**	0.031	0.116***
	3.957	2.367	1.253	6.199
State	-0.058****	-0.056***	-0.053*	-0.048**
	-3.997	-3.468	-1.845	-2.144
Adj R^2	0.211	0.247	0.540	0.540
Observations	5,323	4,222	1,648	2,749

Table 12 (Continued):
Panel B: Results by Age Groups for Engagement Partners

	absDA				
Variables	Under35	35 to 39	40 to 44	45 to 49	Over 50
Busy	0.219	0.098	0.097**	0.268***	0.088**
	1.285	1.221	2.186	6.252	2.411
Experience	-0.265***	-0.086**	-0.098***	-0.114***	-0.041**
	-3.460	-2.503	-4.311	-4.858	-2.064
Lnfee	-0.203*	-0.040	0.007	-0.063*	0.032
	-1.716	-1.105	0.272	-1.916	1.399
Big4	-0.076	0.008	0.002	0.010	-0.027
	-0.935	0.231	0.105	0.466	-1.432
Inventory	0.009	0.086*	.060*	0.050	-0.043
	0.087	1.836	1.907	1.647	-1.591
Receivables	0.056	0.006	0.020	0.019	-0.039*
	0.663	0.173	0.842	0.797	-1.868
Size	0.326**	-0.022	-0.121***	-0.017	-0.214***
	2.500	-0.503	-3.975	-0.452	-8.599
ROA	0.071	-0.166***	-0.008	0.012	0.783***
	0.780	-4.178	-0.268	0.444	36.203
Leverage	-0.128	-0.084*	0.052*	0.003	0.627***
	-1.235	-1.915	1.754	0.084	25.957
Loss	0.166*	0.044	0.050*	0.096***	0.090***
	1.722	1.136	1.866	3.790	4.667
Develop	0.068	0.040	0.011	.050**	0.031
	0.845	1.209	0.498	2.190	1.598
Client_Age	0.189*	0.060	0.054**	0.074***	-0.015
	1.933	1.544	2.184	2.895	-0.692
PCIM	0.147	0.072	0.059	0.185***	0.037
	0.853	0.936	1.340	4.407	1.023
AFCIM	-0.069	-0.002	0.005	.039*	-0.008
	-0.801	-0.048	0.230	1.756	-0.444
SGROW	-0.041	.088***	-0.010	0.097***	0.042**
	-0.544	2.830	-0.462	4.653	2.310
State	-0.161*	-0.134***	-0.057**	-0.038	-0.079***
	-1.867	-3.509	-2.285	-1.541	-3.537
Adj R^2	0.043	0.081	0.045	0.060	0.547
Observations	206	968	2,234	2,183	1,380

Table 12 (Continued):
Panel C: Results by Age Groups for Engagement Managers

	absDA					
Variables	Under 30	30 - 34	35 to 39	40 to 44	45 to 49	Over 50
Busy	-0.323*	0.028	0.045	-0.046	0.121	0.009
	-1.889	0.423	0.846	-0.974	1.191	0.056
Experience	-0.046	-0.049*	-0.062***	-0.080***	-0.138***	-0.117**
	-0.937	-1.922	-3.362	-3.067	-3.810	-2.462
Lnfee	-0.013	-0.071**	-0.002	-0.019	-0.049	0.004
	-0.219	-2.077	-0.078	-0.582	-1.167	0.077
Big4	0.013	0.083***	-0.067***	0.010	0.037	-0.063
	0.252	3.285	-3.665	0.403	1.058	-1.351
Inventory	0.117*	0.148***	0.003	0.046	0.033	0.029
	1.667	4.404	0.126	1.322	0.685	0.440
Receivables	-0.013	-0.006	0.027	0.035	0.071*	-0.081
	-0.226	-0.234	1.403	1.267	1.884	-1.617
Size	-0.150**	-0.018	-0.063***	-0.082**	0.021	-0.099*
	-2.168	-0.460	-2.618	-2.152	0.436	-1.734
ROA	0.050	-0.279***	0.663***	-0.051	-0.064	-0.321***
	0.783	-6.861	38.267	-1.522	-1.512	-5.006
Leverage	0.138**	-0.009	0.038*	0.083**	-0.066	0.187***
	1.992	-0.203	1.679	2.348	-1.481	2.784
Loss	0.107*	0.033	0.147***	0.100***	0.040	-0.021
	1.882	1.359	8.141	3.302	0.976	-0.402
Develop	0.021	0.003	0.043**	0.035	-0.007	0.058
	0.426	0.141	2.325	1.347	-0.195	1.256
Client_Age	0.026	0.074***	0.062***	0.006	0.149***	-0.058
	0.441	2.656	2.968	0.221	3.736	-1.053
MCIM	-0.401**	-0.014	0.006	-0.080*	0.092	0.025
	-2.347	-0.212	0.122	-1.667	0.911	0.153
AFCIM	-0.038	0.032	0.003	0.023	0.075**	-0.051
	-0.796	1.339	0.199	0.918	2.163	-1.092
SGROW	0.128***	0.025	0.0615***	0.014	0.151***	-0.095**
	2.708	1.063	3.598	0.578	4.534	-2.101
State	-0.114*	-0.095***	-0.004	-0.098***	-0.103***	0.020
	-1.853	-3.397	-0.207	-3.413	-2.694	0.376
Adj R^2	0.072	0.131	0.462	0.066	0.082	0.218
Observations	451	1,691	1,897	1,642	861	429

Table notes:
Variables are defined in Table 2. Year and industry fixed effects included in all models. Two-tailed significance is indicated by ***, **, and * for 1%, 5%, and 10%, respectively.

Table 13: Model (2): Interactive Effect of Auditor Busyness and Accumulated Experience on Audit Quality by Gender and Age Groups
Panel A: Results by Gender

	absDA - Male		*absDA* - female	
Variables	Partner	Manager	Partner	Manager
Busy	0.293***	0.061	0.011	0.036
	8.589	1.255	0.139	0.658
Experience	0.011	-0.027	-0.108**	-0.029
	0.436	-0.864	-2.160	-0.742
*Busy*Experience*	-0.160***	-0.067	0.053	-0.061
	-5.045	-1.595	0.773	-1.157
Lnfee	-0.008	-0.006	-0.004	-0.025
	-0.501	-0.365	-0.119	-1.033
Big4	-0.002	-0.005	-0.036	-0.016
	-0.184	-0.357	-1.369	-0.828
Inventory	0.006	-0.018	0.048	0.077***
	0.361	-0.897	1.195	2.911
Receivables	-0.012	-0.013	.051*	0.016
	-0.885	-0.868	1.834	0.764
Size	-0.182***	-0.196***	-0.092***	-0.066**
	-10.736	-10.653	-2.470	-2.294
ROA	0.431***	0.494***	0.014	0.052**
	31.246	32.518	0.426	2.054
Leverage	0.318***	0.374***	0.071**	0.039
	19.400	21.053	2.060	1.438
Loss	0.106***	0.126***	0.127***	0.082***
	8.174	8.780	4.176	3.517
Develop	0.031**	0.042***	0.085***	0.029
	2.449	2.970	3.265	1.477
Client_Age	0.030*	0.020	0.072**	0.079***
	.2.016	1.201	2.416	3.531
PCIM	0.163***		0.020	
	6.116		0.339	
MCIM		-0.010		-0.022
		-0.262		-0.521
AFCIM	0.012	0.005	0.021	0.015
	0.998	0.384	0.810	0.772
SGROW	0.048***	0.032**	0.032	0.116***
	3.939	2.402	1.299	6.198
State	-0.058***	-0.056***	-0.053*	-0.048**
	-3.998	-3.460	-1.821	-2.128
AdjR^2	0.214	0.247	0.054	0.054
Observations	5,323	4,222	1,648	2,749

Table 13 (Continued):
Panel B: Results by Age Groups for Engagement Partners

	absDA				
Variables	Under 35	35 to 39	40 to 44	45 to 49	Over 50
Busy	0.220	0.117	0.120**	0.463***	0.251***
	1.286	1.184	2.023	7.813	4.138
Experience	-0.249	-0.069	-0.075*	.080*	0.048
	-1.432	-1.103	-1.687	1.694	1.445
*Busy*Experience*	-0.018	-0.027	-0.035	-0.288***	-0.170***
	-0.104	-0.330	0.595	-4.737	-3.358
Lnfee	-0.202*	-0.040	0.007	-0.057*	0.034
	-1.688	-1.111	0.282	-1.733	1.509
Big4	-0.075	0.008	0.002	0.010	-0.027
	-0.914	0.231	0.107	0.455	-1.419
Inventory	0.008	0.087*	0.059*	0.045	-0.040
	0.076	1.843	1.892	1.497	-1.486
Receivables	0.056	0.006	0.020	0.017	-0.037*
	0.664	0.159	0.863	0.720	-1.810
Size	0.324**	-0.022	-0.121***	-0.021	-0.217***
	2.437	-0.493	-3.987	-0.570	-8.723
ROA	0.070	-0.166***	-0.008	0.010	0.774***
	0.773	-4.182	-0.267	0.353	35.576
Leverage	-0.126	-0.084*	0.052*	0.006	0.617***
	-1.200	-1.914	1.751	0.212	25.479
Loss	0.165*	0.044	0.050*	0.096***	0.090***
	1.699	1.128	1.871	3.799	4.678
Develop	0.068	0.039	0.010	.049**	0.031
	0.836	1.167	0.451	2.191	1.618
Client_Age	0.186*	0.060	0.055**	0.068***	-0.013
	1.858	1.545	2.193	2.659	-0.586
PCIM	0.143	0.081	0.066	0.271***	0.112***
	0.806	0.993	1.455	5.952	2.657
AFCIM	-0.069	-0.002	0.005	0.046**	-0.004
	-0.795	-0.058	0.254	2.075	-0.225
SGROW	-0.040	0.088***	-0.010	0.096***	0.046**
	-0.539	2.826	-0.485	4.626	2.529
State	-0.159*	-0.133***	-0.057**	-0.038	-0.080***
	-1.803	-3.502	-2.282	-1.549	-3.578
Adj R^2	0.057	0.080	0.045	0.069	0.550
Observations	206	174	968	2,234	2,183

Table 13 (Continued):
Panel C: Results by Age Groups for Engagement Managers

	absDA					
Variables	Under 30	30 - 34	35 to 39	40 to 44	45 to 49	Over 50
Busy	-0.329*	0.096	0.150*	-0.034	0.299**	0.026
	-1.701	0.958	2.044	-0.482	1.964	0.130
Experience	-0.053	-0.007	0.010	-0.069	-0.043	-0.102
	-0.443	-0.133	0.259	-1.290	-0.607	-0.895
*Busy*Experience*	.0010	-0.070	-0.113**	-0.019	-0.162	-0.022
	.0068	-0.906	-2.086	-0.247	-1.568	-0.145
Lnfee	-0.013	-0.071**	-0.001	-0.019	-0.051	0.004
	-0.221	-2.081	-0.067	0.574	-1.205	0.080
Big4	0.013	0.083***	-0.067***	0.010	0.037	-0.063
	0.254	3.320	-3.644	0.396	1.073	-1.353
Inventory	0.117*	0.149***	0.003	0.046	0.036	0.029
	1.666	4.421	0.135	1.322	0.734	0.435
Receivables	-0.013	-0.007	0.026	0.035	0.072*	-0.081
	-0.222	-0.248	1.391	1.265	1.908	-1.615
Size	-0.149**	-0.019	-0.063***	-0.082**	0.017	-0.100*
	-2.164	-0.471	-2.607	-2.161	0.367	-1.737
ROA	0.050	-0.278***	0.663***	-0.051	-0.065	-0.320***
	0.779	-6.852	38.305	-1.524	-1.536	-4.940
Leverage	0.138**	-0.008	0.036	0.083	-0.069	0.187***
	1.991	-0.180	1.593	2.353**	-1.545	2.779
Loss	0.107*	0.032	0.146***	0.100***	0.040	-0.020
	1.867	1.326	8.097	3.298	0.965	-0.379
Develop	0.006	0.004	.042**	0.035	-0.009	0.058
	0.021	0.170	2.305	1.344	-0.255	1.256
Client_Age	0.000	0.075***	0.061***	0.006	0.149***	-0.058
	0.026	2.682	2.952	0.214	3.722	-1.056
MCIM	-0.403**	0.021	0.059	-0.079	0.192	0.031
	-2.316	0.272	1.008	-1.634	1.610	0.186
AFCIM	-0.038	0.031	0.005	0.023	0.076**	-0.051
	-0.797	1.334	0.270	0.918	2.200	-1.090
SGROW	0.128***	0.025	0.063***	0.014	0.148***	-0.095**
	2.703	1.068	3.682	578.000	4.436	-2.099
State	0.007	-0.096***	-0.003	-0.098***	-0.100***	0.020
	-0.114	-3.428	-0.161	-3.402	-2.607	0.388
Adj R^2	0.070	0.131	0.463	0.065	0.084	0.216
Observations	451	1,691	1,897	1,642	861	429

Table notes: Variables are defined in Table 2. Year and industry fixed effects included in all models. Two-tailed significance is indicated by ***, **, and * for 1%, 5%, and 10%, respectively.