Audit partner tenure and earnings management: Evidence from Vietnam

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Abstract

Purpose: This study examines the relationship between audit partner tenure and earnings management of companies listed on Vietnamese stock exchanges.

Design/methodology/approach: We use a sample 1,363 observations from 2016 to 2019. We manually collect data on audit partner tenure. Using Datastream financial data, we calculate abnormal accruals using the modified-Jones models (Jones, 1991; Dechow et al., 1995; Kothari et al., 2005), which are used as the proxy for earnings management. We run OLS regressions to test our hypothesis.

Findings: The results show that audit partner tenure is positively related to abnormal accruals. Cross-sectional analyses indicate that the relationship between audit partner tenure and abnormal accruals is more pronounced for firms that are audited by non-Big Four auditors and for firms that have CEO-chairperson duality, suggesting that weak corporate governance is a channel for the established relationship. The evidence also shows that audit partner tenure is negatively associated with the magnitude of income-decreasing accruals but has no relationship with income-increasing accruals. Our findings are robust for several tests, including using the propensity score matching approach.

Originality/value: We are the first to provide evidence on the relationship between audit partner tenure on earnings management in Vietnam.

Keywords: Audit-partner tenure, accrual earnings management, Vietnam

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1. Introduction

The literature documents mixed evidence on the impact of auditor tenure on earnings management (Carey and Simnett, 2006; Chen et al., 2008; Manry et al., 2008; Knechel et al., 2012; Tepalagul and Lin, 2015; Garcia-Blandon and Argilés-Bosch, 2016; Garcia-Blandon et al., 2020). This paper aims to investigate the audit partner tenure and earnings management in Vietnam, where major accounting and auditing standards were passed in recent years.

Previous studies show that auditor tenure may increase or decrease earnings management. On the one hand, the literature shows that long auditor tenure causes higher earnings management, e.g. higher abnormal accruals (Carey and Simnett, 2006; Knechel et al., 2012; DeFond and Zhang, 2014; Tepalagul and Lin, 2015). That is because longer auditor tenure creates familiarity threats and thus compromises their independence, leading to lower audit quality and higher earnings management in audited clients. On the other hand, the existing literature documents that auditor tenure does not increase earnings management (Chen et al., 2008; Manry et al., 2008; DeFond and Zhang, 2014; Tepalagul and Lin, 2015; Garcia-Blandon et al., 2020; Jadiyappa et al., 2021). The general argument is that long tenure provides auditors with more understanding of their clients so that they can employ better audit risk assessments and audit procedures, which result in higher audit quality and less earnings management in their clients. Regardless of the aforementioned debate, it is obvious that most nations require audit partner rotation after a certain number of years of auditing for the same clients. It means that regulators believe the costs of long audit partner tenure on financial reporting quality are higher than the benefits.

In this paper, we do not attempt to reconcile the mixed literature above, but we investigate the relationship between audit partner tenure and earnings management in the context of Vietnam. The study is interesting because Vietnam recently passed key accounting

and auditing regulations with an expectation to improve the financial reporting of listed companies. Vietnam is a developing market in the Southeast Asian region, which is normally vulnerable to fraud due to weak corporate governance (Hasnan, 2020). Countries with less investor protection and weak corporate governance, like Vietnam, are vulnerable to fraudulent activities (La Porta et al., 2000). Therefore, audit partner tenure may be positively related to earnings management. This argument is consistent with the argument that long audit partner tenure results in lower audit quality and higher earnings management (Carey and Simnett, 2006; Chen et al., 2008; Manry et al., 2008; Knechel et al., 2012; DeFond and Zhang, 2014; Tepalagul and Lin, 2015; Garcia-Blandon et al., 2020; Jadiyappa et al., 2021).

We contribute to the literature in several ways. First, we extend the literature on the relationship between audit partner tenure and earnings management, by conducting research using a sample from Vietnam. While Vietnam is a developing country, it has significantly contributed to the world economy and supply chain in recent years. Understanding more about earnings management could help capital investments in the future. Second, we are different from some recent accounting studies using Vietnamese data (e.g., Khanh and Nguyen, 2018; Le and Moore, 2021; Ngo and Nguyen, 2022). We differ from Le and Moore (2021) and Khanh and Nguyen (2018) who examine the effect of audit quality and audit firm rotation on earnings management. In this study, we analyse audit partner-level data. Our study is also different from the work of Ngo and Nguyen (2022) which investigates financial-expert CEOs and earnings management. Third, we conduct our research using a sample for the period after all major accounting and auditing legislations have been passed, hence avoiding any potential biases in the prior studies using Vietnamese data.

Using a sample of 1,363 observations of Vietnamese-listed companies from 2016 to 2019, we find that audit partner tenure is *positively* associated with abnormal accruals. The relationship is statistically and economically significant. Additional analyses show that the

relationship between audit partner tenure and earnings management is more pronounced for firms that are audited by non-Big Four auditors and for firms that have CEO-chairperson duality, suggesting that weak corporate governance is a channel for the established relationship. We further find that audit partner tenure is *negatively* associated with the magnitude of *income-decreasing* accruals but has no relationship with income-increasing accruals. The evidence implies that the companies in the sample inflate profits by recognising less expenses and losses (e.g. the recognition of accrued expenses or unrealised losses decreases) as audit partner tenure increases. The findings are robust for alternative measures of abnormal accruals and for the propensity-score-matched method. Overall, the analyses confirm our hypothesis that there is a positive relationship between audit partner tenure and abnormal accruals.

Our paper proceeds as follows. Section 2 provides a literature review and hypothesis development, while section 3 explains the sample and research methodologies. Section 4 provides the findings and discussions. Section 5 concludes the paper.

2. Literature review and hypothesis development

2.1 Information asymmetry and the role of auditors

According to agency theory (Jensen and Meckling, 1976), information asymmetry exists between managers and shareholders. Due to the separation of ownership and management control, the agent (managers) with more information may pursue their self-interest at the expense of the principal (shareholders), who have less information. A mechanism to reduce agency problems is to hire external auditors to audit the firm's financial statements, reducing information asymmetry. External auditors and their independence help safeguard the integrity of financial statements prepared by the management. External auditors help to reduce earnings management (Becker et al., 1998). However, partners in an audit firm are compensated based on observable factors such as audit revenues and winning new clients. This

may motivate audit partners to sacrifice the unobservable audit quality, thus intensifying agency problems (Lennox and Wu, 2018). Furthermore, in an audit firm, the reputation and litigation effect of inferior audit quality will be borne by all partners, not just the partner who conducted the audit (Miller, 1992; Bazerman et al., 1997), leading to compromised audit quality in individual partners' audit engagements.

2.2 Empirical evidence on audit partner tenure and earnings management

The literature of archival auditing research has documented mixed evidence on whether audit partner tenure leads to lower audit quality and higher earnings management in audited clients. On the one hand, there is evidence that long auditor tenure (audit firms/audit partners) leads to higher earnings management (Carey and Simnett, 2006; Davis et al., 2009; Knechel et al., 2012; DeFond and Zhang, 2014; Tepalagul and Lin, 2015). The argument is that when auditors have a long tenure, their independence decreases due to familiarity with the management (familiarity threats), leading to lower audit quality and higher earnings management in clients.

For example, using a sample of Australian listed companies, Carey and Simnett (2006) find that long audit partner tenure reduces the probability of issuing going concern audit opinion for companies that face financial distresses and increase the probability of beating or meeting earnings benchmarks, suggesting that audit partner tenure reduces audit quality. Similarly, Davis et al. (2009) find that audit firm tenure is associated with higher abnormal accruals for the period with less auditing legislation, e.g. before the passage of the Sarbanes-Oxley Act in the US (2002).

On the other hand, the existing literature documents that auditor tenure does not increase earnings management (Johnson et al., 2002; Myers et al., 2003; Stanley and DeZoort, 2007; DeFond and Zhang, 2014; Tepalagul and Lin, 2015; Garcia-Blandon et al., 2020). The

general argument is that long tenure provides auditors with more understanding of their clients so that they can employ better audit risk assessments and audit procedures, which results in higher audit quality and less earnings management. For example, using abnormal accruals as measures of earnings management, Johnson et al. (2002) find that short and medium tenure of audit firms are related to less earnings management, but long firm tenure is not related to more earnings management. Similarly, using two different measures of accruals (discretionary and current), Myers et al. (2003) find that audit firm tenure is negatively associated with the magnitude of accruals and with extreme accruals, suggesting that audit firm tenure does not lead to higher earnings management. Manry et al. (2008) find that audit partner tenure is associated with lower earnings management, and the relationship is stronger for small firms with audit partner tenure greater than seven years. Examining data from Taiwanese firms, Chen et al. (2008) find that audit partner tenure is surprisingly negatively related to absolute values of accruals and income-increasing accruals, suggesting that audit partner tenure reduces earnings management. Using a sample of European markets, Garcia-Blandon et al. (2020) recently show that firms with audit partner tenure more than ten years do not exhibit higher earnings management. The evidence raises questions about the effectiveness of the recent mandatory rotation of audit firms in European countries. For Indian markets, Jadiyappa et al. (2021) find that long audit firm tenure increases audit quality, e.g. less earnings management.

The debate for and against long auditor tenure and audit rotation is based on analyses of related costs and benefits (Xie et al., 2009). Auditor rotation may negatively affect audit quality in the first few years because arriving auditors may not sufficiently understand their clients. However, auditor rotation can help to safeguard auditors' independence. Regardless of the above debate, it has been clear that most countries mandate auditor rotation after a number of years. It implies that regulators view the advantages of auditor rotation exceed the costs and that auditor rotation improves audit quality. The rotation requirements restrict the number of

years that auditors audit the same companies. Auditor rotation helps to mitigate the familiarity threats and thus enhance auditors' independence, which in turn increases audit quality and reduces earnings management in clients.

This study does not attempt to reconcile different views of auditor tenure and earnings management or the benefits and costs of auditor rotation. Instead, we aim to investigate the relationship between audit partner tenure and earnings management in Vietnam after the passages of key accounting and auditing regulations.

2.3 The Vietnamese context

In this study, we examine audit partner tenure and earnings management using data from companies listed on Vietnamese stock exchanges for several reasons. First, Vietnam is one of the world's fast-growth economies, with a 7% GDP growth rate in 2017 (World Bank, 2021). Vietnam is an important country of the Association of Southeast Asian Nations (ASEAN), which as a whole contributed $3.0 trillion GDP to the global economy (ASEAN Secretariat, 2019) and is the fifth-largest economic zone in the world (just after the United States, China, Japan, and Germany) (World Bank, 2021). It is expected that ASEAN's GDP may reach $4 trillion in 2022 (PricewaterhouseCoopers, 2018). Also, there is increasing evidence that Vietnam will be an important country in the global supply chain and may benefit from supply chain movements after the Covid-19 Pandemic (Bloomberg, 2021). Therefore, examining the earnings quality of companies listed in Vietnam becomes important for future international capital movements.

Second, Vietnam has passed three key legal requirements for the accounting and auditing profession in recent years. The Vietnamese Congress mandated the Law on independent auditing in 2011 (Congress of the Socialist Republic of Viet Nam, 2011). The Government issued Decree 17/2012/ND-CP, which provides more guidance on the

independent auditing law and mandates audit partner rotation after three years of auditing for the same company. Next, the Ministry of Finance issued professional, ethical standards for accountants and auditors, effective 1st January 2016, indicating that audit partners are not allowed to sign audit reports after three consecutive years, implying mandatory audit partner rotation (Vietnamese Ministry of Finance, 2015). Unlike in other countries where professional bodies issue professional ethics standards, the Ministry of Finance issued accounting, auditing and professional ethics standards, which have been viewed as both professional and legal requirements. Furthermore, the Ministry of Finance issued Circulars 200 and 202/2014/TT-BTC with new accounting requirements, effective from 1st January 2015. This is a transitional step with the expectation of bringing Vietnamese accounting standards closer to international standards. The above regulations also increase the responsibilities of auditors and managers of companies listed on Vietnamese stock exchanges. Therefore, it is important and interesting to understand the audit quality and earnings management after these key regulations were passed.

2.4 Hypothesis development

There are some studies on the relationship between audit quality and earnings management in Vietnam, but the evidence is mixed. Le and Moore (2021) use a sample of companies listed in Vietnam from 2007 to 2017 and find that audit quality is negatively associated with accrual earnings management. Using a sample from 2010 to 2016, Khanh and Nguyen (2018) find no evidence of the relationship between Big Four audit firms and real earnings management. A major concern regarding these papers is that their samples cover the transition period of the Vietnamese accounting and auditing system; thus, the findings could be biased or difficult to interpret. Also, there is no evidence of how the audit partner tenure is related to earnings management.

We aim to fill the literature gap by investigating audit partner tenure and earnings management after the passage of important accounting and auditing regulations in Vietnam. While there are some studies suggesting that auditor tenure does not increase earnings management (Johnson et al., 2002; Myers et al., 2003; Stanley and DeZoort, 2007; DeFond and Zhang, 2014; Tepalagul and Lin, 2015; Garcia-Blandon et al., 2020), these studies are mainly conducted in developed markets where there are great investor protection and good corporate governance (La Porta et al., 2000). Vietnam is a developing market in the Southeast Asian region, which is normally vulnerable to fraud due to weak corporate governance (Hasnan, 2020). Recently, using data from Vietnam, Ngo and Nguyen (2022) find that CEOs with financial and accounting knowledge have greater influence and involvement in earnings management, which has a negative impact on financial reporting quality. They argue that due to limited legal sanctions, financial-expert CEOs have more opportunity to manipulate financial statements. Therefore, in the context of Vietnam, we hypothesise audit partner tenure is positively related to earnings management. Our hypothesis is consistent with the argument that long audit partner tenure results in lower audit quality and higher earnings management (Carey and Simnett, 2006; Davis et al., 2009; Knechel et al., 2012; DeFond and Zhang, 2014; Tepalagul and Lin, 2015). We present our hypothesis in an alternative form as follows:

Hypothesis 1: There is a positive relationship between audit partner tenure and earnings management.

3. Sample and research methodologies

3.1 Sample selection

In this paper, we use a sample of companies listed on Vietnamese stock exchanges for the period from 2016 to 2019. Our sample starts from 2016 because we wanted to study earnings management after Vietnam mandated important regulations on the accounting and

auditing profession. Also, we end our sample in 2019 to avoid the possible impacts of the Covid-19 Pandemic on the earnings management. Our sample selection also helps mitigate omitted variables' effects on audit tenure and earnings management due to changes in accounting and auditing standards.

We collect financial statement data from Datastream by Thomson Reuters. We start with all companies listed in Ho Chi Minh City and Ha Noi Stock Exchanges and then exclude financial institution firms because these organisations have different financial statement formats. We manually obtain auditor data from annual reports downloaded from CafeF.vn, a popular website for the investor community in Vietnam. We exclude industries with less than five observations in a particular year when we run cross-sectional regressions to estimate abnormal accruals. We also remove observations with missing data. Our final sample has 1,363 observations from 346 unique firms. All continuous variables are winzorised at the 1st and 99th percentiles.

3.2 Earnings management measures

We measure earnings management by using abnormal accruals, as documented in recent studies (e.g., Yung and Root, 2019; El Diri et al., 2020; Saona et al., 2020; Grabiński and Wójtowicz, 2022; Kayed and Meqbel, 2022; Lin and Wu, 2022). We estimate abnormal accruals using the Jones (1991)'s model and the modified-Jones models following Dechow et al. (1995) and Kothari et al. (2005). Jones (1991)'s model estimates normal accruals based on firm characteristics, including changes in revenues and gross property, plant and equipment changes. Dechow et al. (1995) modify the Jones model to address the scenarios where firms manage earnings by manipulating sales revenues. Kothari et al. (2005) further modify the model by considering returns on assets that represent performance and affect normal accruals. Abnormal accruals are the difference between actual and normal (predicted) accruals.

In particular, we run the following regressions for each industry each year. We require at least five observations for each regression.

Jones (1991)'s model

$$\frac{AC_{it}}{A_{it-1}} = \alpha + \beta_1 \left(\frac{1}{A_{it-1}}\right) + \beta_2 \left(\frac{\Delta SALE_{it}}{A_{it-1}}\right) + \beta_3 \left(\frac{PPE_{it}}{A_{it-1}}\right) + \varepsilon_{it} \quad \text{(Equation 1)}$$

Where AC_{it} is the total accruals of firm i in year t, which is equal to income before extraordinary items minus operating cash flows. $\Delta SALE_{it}$ is the changes in sales of firm i from year t-1 to year t. PPE_{it} is the gross property, plant, and equipment of firm i at the end of year t. A_{it-1} is the total assets of firm i at the end of year t-1. The residual from Equation (1) is abnormal accruals, denoted DAC_J_{it}.

Jones-modified model (Dechow et al., 1995)

$$\frac{AC_{it}}{A_{it-1}} = \alpha + \beta_1 * \left(\frac{1}{A_{it-1}}\right) + \beta_2 * \left(\frac{\Delta SALE_{it} - \Delta REC_{it}}{A_{it-1}}\right) + \beta_3 * \left(\frac{PPE_{it}}{A_{it-1}}\right) + \varepsilon_{it} \quad \text{(Equation 2)}$$

Where ΔREC_{it} is the changes in receivables of firm i from year t-1 to year t. The residual from Equation (2) is abnormal accruals, denoted DAC_D_{it}.

Performance-matched model (Kothari et al., 2005)

$$\frac{AC_{it}}{A_{it-1}} = \alpha + \beta_1 * \left(\frac{1}{A_{it-1}}\right) + \beta_2 * \left(\frac{\Delta SALE_{it} - \Delta REC_{it}}{A_{it-1}}\right) + \beta_3 * \left(\frac{PPE_{it}}{A_{it-1}}\right) + \beta_4 * ROA_{it-1} + \varepsilon_{it} \quad \text{(Equation 3)}$$

Where ROA_{it} is the returns on assets of firm i in year t-1. The residual from Equation (3) is abnormal accruals, denoted DAC_K_{it}.

In our main regression, we present the results with DAC_K_{it}. We also present the findings with DAC_J_{it} and DAC_D_{it} in robustness tests.

3.3 Empirical model

To test our hypothesis, we follow previous studies (Carey and Simnett, 2006; Chen et al., 2008; Manry et al., 2008; Wang et al., 2015) and run the following regression:

$$Y_{it} = \alpha + \beta_1 * TENURE_{it} + \beta_2 * BIG4_{it} + \beta_3 * SIZE_{it-1} + \beta_4 * ROA_{it-1} + \beta_5 * GROWTH_{it-1}$$

$$+ \beta_6 * LEV_{it-1} + \beta_7 * CFO_{it-1} + \beta_8 * ZSCORE_{it-1} + \beta_9 * LOSS_{it-1} + \beta_{10} * SEO_{it}$$

$$+ \text{Firm Fixed Effect} + \text{Year Fixed Effect} + \varepsilon_{it} \qquad \text{(Equation 4)}$$

In Equation (4), Y_{it} stands for DAC_K_{it}, which is abnormal accruals measured by the performance-match model (Kothari et al., 2005). $TENURE_{it}$ is the number of years of audit partner tenure of firm i in year t. $BIG4_{it}$ is an indicator equal to 1 if firm i is audited by a Big Four auditor in year t, and zero otherwise. $SIZE_{it-1}$ is firm size, which is the natural log of lagged total assets of firm i. ROA_{it-1} is the returns on assets, which is equal to the net income of firm i in year t-1 divided by lagged total assets. $GROWTH_{it-1}$ is sales growth, which is sales of firm i in year t minus sales in year t-1, divided by lagged total. LEV_{it-1} is financial leverage, which is the total debts of firm i in year t-1, divided by lagged total assets. CFO_{it-1} is the operating cash flows of firm i in year t-1 divided by lagged total assets. $ZSCORE_{it-1}$ is the Zscore following Pham et al. (2018) of firm i in year t-1. $LOSS_{it-1}$ is an indicator equal to 1 if the operating incomes of firm i in both years t-1 and t-2 are negative, and zero otherwise. SEO_{it} is an indicator equal to 1 if changes in equity from year t-1 to year t are greater than 5% and proceed from share issuance are greater than 0, and zero otherwise. In Equation (4), we also control for year and firm-fixed effects to mitigate the impacts of in-variant factors. In all regressions, standard errors are robust and clustered at the firm level.

4. Findings and discussions

4.1 Descriptive statistics and correlations

Table 1 reports the descriptive statistics of selected variables. The findings show that the medians of abnormal accruals DAC_K, DAC_D, and DAC_J are -0.006, 0.001, and 0.001, respectively. Next, we find that the mean and median of audit partner tenure are 1.842 and 2 years, respectively. Most companies are audited by non-Big Four firms, do not suffer losses in the last two years, and do not have equity issuance. On average, we find that firms have a ROA of 7.3%, a growth rate of 9.8%, and an operating cash flow rate of 7%. The average financial leverage is 20.5%.

[Insert Table 1 about here]

[Insert Table 2 about here]

Table 2 shows Pearson correlations of selected variables. The evidence shows that three different measures of abnormal accruals are strongly correlated, as expected. DAC_K, DAC_D, and DAC_J are positively associated with TENURE, providing preliminary evidence that there is a positive relationship between audit partner tenure and earnings management. The table shows that DAC_K is negatively associated with BIG4, ROA, and GROWTH. Also, most correlation coefficients among independent variables are small, while the variance inflation factors (VIF) range between 1.01 and 1.92, indicating that multicollinearity is not a concern.

4.2 Baseline regression results

[Insert Table 3 about here]

Table 3 reports the baseline regression results. We present findings of OLS regressions with year and firm-fixed effects (column [1]), firm-fixed effects (column [2]), year-fixed effect

(column [3]), and without fixed effects (column [4]). In columns [1], we find that the coefficient on TENURE is positive and statistically significant at 1% level (coef. = 0.010 and t-statistic = 2.66). In terms of economic significance, the coefficient on TENURE means that when the audit partner tenure increases one year, the ratio of accruals to total assets rises 1%, which is non-trivial.[2] The findings support our hypothesis that there is a positive association between abnormal accruals and audit partner tenure. The evidence is supported by previous studies that when auditors have a long tenure, their independence decreases, leading to lower audit quality and higher earnings management in audited clients (Carey and Simnett, 2006; Davis et al., 2009; Knechel et al., 2012; DeFond and Zhang, 2014; Tepalagul and Lin, 2015).

Turning to control variables, for example in Column [1], we find that abnormal accruals are negatively related to Big Four auditor (BIG4 coef. = -0.033 and t-statistic = -1.84), returns on assets (ROA coef. = -0.175 and t-statistic = -1.81), growth opportunities (GROWTH coef. = -0.023 and t-statistic = -2.19), financial leverage (LEV coef. = -0.278 and t-statistic = -4.38). Abnormal accruals are positively associated with operating cash flows (CFO coef. = 0.175 and t-statistic = 4.53) and seasoned equity offerings (SEO coef. = 0.016 and t-statistic = 2.06).

4.3 Cross-sectional tests

4.3.1 The role of Big Four auditors

This section investigates whether Big-Four auditors affect the relationship between audit partner tenure and earnings management. The existing literature shows that big auditor is positively related to audit quality, thus constraining earnings management (DeAngelo, 1981; Becker et al., 1998; Krishnan, 2003). Therefore, we conjecture that the relationship between

[2] *In international and Vietnamese auditing standards, 1% of total assets is considered as material.*

audit partner tenure and earnings management is more pronounced for firms that are audited by non-Big Four auditors.

To test this conjecture, we classify observations into two subsamples: firms that are audited by Big Four auditors and firms that are audited by non-Big Four auditors. We then re-run the main regression using these subsamples. [3] As reported in Table 4, we find that the coefficient on TENURE of the subsample of non-Big Four auditors (column [2]) is about three times larger than that of the subsample of Big Four auditors (column [1]). Importantly, we find that the coefficient on TENURE is positive and statistically significant in column [2], while it is not significant in column [1]. Overall, the finding supports our conjecture that the relationship between audit partner tenure and earnings management is more pronounced for firms that are audited by non-Big Four auditors.

[Insert Table 4 about here]

4.3.2 CEO-chairperson duality

Next, we investigate whether CEO-chairperson duality (the CEO also serves as chairperson of the board of directors) affects the relationship between audit partner tenure and earnings management. When CEO serves as the chairperson of the board of directors, he has much power to dominate other directors (Dunn, 2004). In these circumstances, powerful CEOs are more likely to negatively affect the board of directors' ability to safeguard the integrity of financial statements, including monitoring the independence and work of auditors. Therefore, we conjecture that the relationship between audit partner tenure and earnings management is more pronounced for firms with CEO-chairperson duality.

[3] *In this regression, we do not include BIG4 as a control.*

To test this conjecture, we create an indicator variable which takes the value of one if the CEO also serves as the chairperson, and zero otherwise. We re-run the main regression using the subsamples of firms that have CEO-chairperson duality (DUALITY = 1) and firms that do not have CEO-chairperson duality (DUALITY = 0).

As reported in Table 5, we find that the coefficient on TENURE of the subsample with CEO-chairperson duality (column [1]) is about three times larger than that of the subsample without CEO-chairperson duality (column [2]). Importantly, we find that the coefficient on TENURE is positive and statistically significant in column [1], while it is not significant in column [2]. Overall, the finding supports our conjecture that the relationship between audit partner tenure and earnings management is more pronounced for firms that have CEO-chairperson duality.

[Insert Table 5 about here]

Overall, the findings of this section suggest that weak corporate governance is a channel for the relationship between audit partner tenure and earnings management.

4.4 Additional analyses

4.4.1 Alternative measures of abnormal accruals

In the main tests, we use abnormal accruals (DAC_K) estimated by the performance-matched model (Jones, 1991; Dechow et al., 1995; Kothari et al., 2005). In this robustness check, we run regressions with abnormal accruals calculated by the original Jones (1991)'s model (DAC_J) and Dechow et al. (1995)'s modified-Jones model (DAC_D). As reported in Table 6, we show that audit partner tenure is positively associated with the alternative measures of abnormal accruals. The relationships are statistically significant at the 5% level. Overall, our findings are not sensitive to measurement choices.

[Insert Table 6 about here]

4.4.2 Propensity score matching

To account for possible confounding characteristics associated with both audit partner tenure and earnings management, researchers used the propensity score matching (PSM) approach (Shipman et al., 2017). To begin, we create an indicator variable ROTATION which takes the value of one if TENURE of firm i in year t is equal to one year, and zero if TENURE is equal to two or three years. We then divide our sample into treatment group (observations with ROTATION = 1) and control group (observations with ROTATION = 0). Next, to determine the probability of having audit partner rotation, we run a probit regression between ROTATION and control variables, including $SIZE_{it-1}$, ROA_{it-1}, $GROWTH_{it-1}$, LEV_{it-1}, CFO_{it-1}, $ZSCORE_{it-1}$, $LOSS_{it-1}$, and SEO_{it}. Based on the odd ratios of having audit partner rotation, we match each treatment with one control using a caliper of 0.001 and no replacement. The PSM sample has 918 observations. Closely following Shipman et al. (2017)'s recommendations, we perform two tests to make sure that the PSM matching process is reliable: (i) we re-run the probit regression with the PSM sample, and we observe that the significance of control variables disappear in the PSM sample, and (ii) we perform t-tests for mean differences in firm characteristics between treatment and control in the PSM sample, and we find that the differences are not statistically significant. Finally, we re-run the main regression using the PSM sample.

Table 7 reports the findings of Equation (4) using the PSM sample. We report the results for the main dependent variable DAC_K in column [1] and the alternative dependent variable DAC_D in column [2]. Overall, the evidence is consistent with our baseline results.

[Insert Table 7 about here]

4.4.3 Additional analysis: positive and negative abnormal accruals

In Table 3 above, our baseline results show a positive association between audit partner tenure and abnormal accruals. The findings suggest that firms inflate earnings in the increase of audit partner tenure. In this additional test, we investigate how firms use income-increasing accruals (positive values of abnormal accruals) and income-decreasing accruals (negative values of abnormal accruals).

Table 8 reports the findings of Equation (1), where the dependent variable is the positive values of DAC_K (column [1]) or the absolute values of negative DAC_K values (column [2]). [4] In column [1], the coefficient on TENURE is positive but not significant (coef. = 0.001 and t-statistic = 0.29). The evidence suggests no relationship between audit partner tenure and income-increasing abnormal accruals. In contrast, in column [2], the coefficient on TENURE is negative and statistically significant at 1% level (coef. = 0.012 and t-statistic = -3.07). It suggests that when audit partner tenure increases, the levels of income-decreasing accruals decrease (e.g. less recognition of accrued expenses or unrealised losses).

[Insert Table 8 about here]

5. Conclusions

This paper investigates the relationship between audit partner tenure and abnormal accruals. We use a sample of 1,363 observations from 2016 to 2019 of firms listed on Vietnamese stock exchanges. We estimate abnormal accruals using Jones-modified models (Jones, 1991; Dechow et al., 1995; Kothari et al., 2005). We find that audit partner tenure is positively related to abnormal accruals, and the relationship is statistically and economically

[4] We use the absolute values of negative DAC_K values to ease interpretation. Removing absolute value equation does not change the statistical results.

significant. Cross-sectional analyses show that the relationship between audit partner tenure and earnings management is more pronounced for firms that are audited by non-Big Four auditors and for firms that have CEO-chairperson duality, suggesting that weak corporate governance is a channel for the observed relationship. Further analyses show that audit partner tenure is negatively related to income-decreasing accruals (e.g. there is less recognition of accrued expenses or unrealised losses when audit partner tenure increases). However, we do not find evidence for the relationship between audit partner tenure and income-increasing accruals. Our main results strongly hold for several robustness tests.

We make several contributions to the literature. First, we provide further evidence consistent with the argument that when audit partner tenure increases, client firms engage in higher earnings management due to the compromised independence of their auditors (Carey and Simnett, 2006; Knechel et al., 2012; DeFond and Zhang, 2014; Tepalagul and Lin, 2015). Second, our research is different from recent studies which explore Vietnamese data (e.g., Khanh and Nguyen, 2018; Le and Moore, 2021; Ngo and Nguyen, 2022). We differ from Le and Moore (2021) and Khanh and Nguyen (2018) who investigate the impact of audit quality and audit firm rotation on earnings management. In our study, we examine audit partner-level data. We also differ from Ngo and Nguyen (2022) who study the impact of financial-expert CEOs on earnings management. Third, because we do analyses with a sample (2016-2019) after the important regulations on accounting and auditing were passed in Vietnam, our research overcomes potential biases in previous studies.

Our paper also has policy implications. With the evidence on the positive relationship between audit partner tenure and earnings management, we suggest that Vietnam's recent auditing regulations, which require audit partner rotation after three years, have not been effective in preventing earnings management in audited firms. In that sense, we are in line with Ngo and Nguyen (2022) who argue that earnings management exists partly due to a weak legal

framework in Vietnam. Therefore, we recommend that, in order to reduce earnings management in listed companies and to protect investors, the Vietnamese Government should not only rely on accounting and auditing standard reforms but also improve the general legal system, e.g. by imposing stronger litigations on directors.

Regardless of the interesting results, the study has some limitations. First, our study is based on a small sample size from 2016 to 2019. Future studies could re-investigate the topic using a different sample, e.g. for the period from 2020 and beyond covering the Covid-19 Pandemic. There is increasing evidence that the Pandemic affects accounting and finance practices, thus it is interesting to know how it drives the relationship between audit partner tenure and earnings management. Second, our study focuses on abnormal accruals as a proxy for earnings management. Future research could examine the impact of audit partner tenure on real earnings management, which is not investigated in this study. Managers might strategically trade-off between accrual and real earnings management. Third, the results of our study may be affected by omitted variables related to regulatory changes and other endogeneity concerns. Future studies could re-examine the topic by employing better methodologies.

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Appendix: Variable definitions

Variable	Definition
DAC_J_{it}	abnormal accruals following Jones (1991). Estimation is described in Equation (1) of this study.
DAC_D_{it}	abnormal accruals following Dechow et al. (1995). Estimation is described in Equation (2) of this study.
DAC_K_{it}	abnormal accruals following Kothari et al. (2005). Estimation is described in Equation (3) of this study.
$TENURE_{it}$	The number of years of audit partner tenure of firm i in year t.
$SIZE_{it-1}$	firm size, which is the natural log of lagged total assets of firm i.
ROA_{it-1}	returns on assets, which is equal to the net income of firm i in year t-1 divided by lagged total assets.
$GROWTH_{it-1}$	sales growth, which is sales of firm i in year t minus sales in year t-1, divided by lagged total.
LEV_{it-1}	financial leverage, which is the total debts of firm i in year t-1, divided by lagged total assets.
CFO_{it-1}	operating cash flows of firm i in year t-1 divided by lagged total assets.
$ZSCORE_{it-1}$	financial distress, measured by the Zscore following Pham et al. (2018) of firm i in year t-1.
$LOSS_{it-1}$	indicator equal to 1 if operating incomes of firm i in both years t-1 and t-2 are negative, and zero otherwise.
SEO_{it}	indicator equal to 1 if changes in equity from year t-1 to year t are greater than 5% and proceed from share issuance are greater than 0, and zero otherwise.
$BIG4_{it}$	indicator equal to 1 if firm i is audited by a Big Four auditor in year t, and zero otherwise.
$DUALITY_{it}$	indicator variable which takes the value of one if the CEO also serves as the chairperson of the board of directors of firm i in year t, and zero otherwise.
$ROTATION_{it}$	indicator variable which takes the value of one if TENURE of firm i in year t is equal to one year, and zero if TENURE is equal to two or three years.

Table 1: Descriptive statistics

The table provides descriptive statistics of the variables used in our regressions, including observations, mean (MEAN), standard deviation (STD), minimum (MIN), 25th percentile (P25), median (MEDIAN), 75th percentile (P75), and maximum (MAX). Variable definitions are in the Appendix.

	Observations	MEAN	STD	MIN	P25	MEDIAN	P75	MAX
DAC_K_{it}	1,364	-0.009	0.103	-0.331	-0.063	-0.005	0.045	0.293
DAC_D_{it}	1,364	0.002	0.105	-0.297	-0.059	0.001	0.060	0.336
DAC_J_{it}	1,364	0.001	0.104	-0.284	-0.059	0.001	0.058	0.341
$TENURE_{it}$	1,364	1.842	0.865	1.000	1.000	2.000	3.000	3.000
$BIG4_{it}$	1,364	0.265	0.441	0.000	0.000	0.000	1.000	1.000
$SIZE_{it-1}$	1,364	27.016	1.360	23.773	26.124	26.991	27.982	30.454
ROA_{it-1}	1,364	0.073	0.071	-0.075	0.025	0.058	0.100	0.357
$GROWTH_{it-1}$	1,364	0.098	0.377	-1.271	-0.049	0.064	0.233	1.446
LEV_{it-1}	1,364	0.205	0.188	0.000	0.019	0.169	0.354	0.650
CFO_{it-1}	1,364	0.070	0.126	-0.317	-0.004	0.064	0.144	0.427
$ZSCORE_{it-1}$	1,364	8.177	5.379	2.231	4.961	6.642	9.475	34.358
$LOSS_{it-1}$	1,364	0.015	0.123	0.000	0.000	0.000	0.000	1.000
SEO_{it}	1,364	0.432	0.496	0.000	0.000	0.000	1.000	1.000

Table 2: Pearson Correlations

The table reports Pearson correlations of variables of the variables used in our regressions. *, **, and *** indicates that the coefficients are statistically significant at the 1%, 5%, and 10% level. VIF reports the variance inflation factor for independent variables.

		[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	VIF
[1]	DAC_K_{it}	1.00													
[2]	DAC_D_{it}	0.88***	1.00												
[3]	DAC_J_{it}	0.84***	0.95***	1.00											
[4]	$TENURE_{it}$	0.06**	0.06**	0.07**	1.00										1.01
[5]	$BIG4_{it}$	-0.05*	-0.02	-0.02	-0.04	1.00									1.24
[6]	$SIZE_{it-1}$	-0.02	0.01	-0.01	-0.03	0.41***	1.00								1.56
[7]	ROA_{it-1}	-0.10***	0.10***	0.09***	0.00	0.03	-0.01	1.00							1.92
[8]	$GROWTH_{it-1}$	-0.06**	-0.02	-0.03	-0.04	0.02	0.09***	0.16***	1.00						1.09
[9]	LEV_{it-1}	0.03	-0.08***	-0.09***	-0.01	0.02	0.41***	-0.38***	0.05*	1.00					1.78
[10]	CFO_{it-1}	-0.03	0.07***	0.08***	0.01	-0.01	-0.05*	0.46***	-0.04	-0.24***	1.00				1.30
[11]	$ZSCORE_{it-1}$	-0.00	0.09***	0.10***	0.02	-0.10***	-0.27***	0.51***	-0.09***	-0.56***	0.22***	1.00			1.19
[12]	$LOSS_{it-1}$	-0.01	-0.05**	-0.05*	-0.04	-0.02	-0.04	-0.15***	-0.04	0.05**	-0.02	-0.08***	1.00		1.04
[13]	SEO_{it}	0.00	0.13***	0.09***	0.02	0.04	0.19***	0.24***	0.16***	0.08***	0.12***	-0.01	-0.02	1.00	1.14

Table 3: Baseline regression results

This table reports the OLS regression results of Equation (4) on the relationship between audit partner tenure and abnormal accruals for the sample period from 2016-2019.

$$Y_{it} = \alpha + \beta_1 * TENURE_{it} + \beta_2 * BIG4_{it} + \beta_3 * SIZE_{it-1} + \beta_4 * ROA_{it-1} + \beta_5 * GROWTH_{it-1} + \beta_6 * LEV_{it-1} + \beta_7 * CFO_{it-1} + \beta_8 * ZSCORE_{it-1} + \beta_9 * LOSS_{it-1} + \beta_{10} * SEO_{it} + \text{Firm Fixed Effect} + \text{Year Fixed Effect} + \varepsilon_{it} \quad \text{(Equation 4)}$$

In Equation (4), Y_{it} stands for DAC_K_{it}, which is abnormal accruals measured by the performance-match model (Kothari et al., 2005). $TENURE_{it}$ is the number of years of audit partner tenure of firm i in year t. $BIG4_{it}$ is an indicator equal to 1 if firm i is audited by a Big Four auditor in year t, and zero otherwise. $SIZE_{it-1}$ is firm size, which is the natural log of lagged total assets of firm i. ROA_{it-1} is the returns on assets, which is equal to the net income of firm i in year t-1 divided by lagged total assets. $GROWTH_{it-1}$ is sales growth, which is sales of firm i in year t minus sales in year t-1, divided by lagged total. LEV_{it-1} is financial leverage, which is the total debts of firm i in year t-1, divided by lagged total assets. CFO_{it-1} is the operating cash flows of firm i in year t-1 divided by lagged total assets. $ZSCORE_{it-1}$ is the Zscore following Pham et al. (2018) of firm i in year t-1. $LOSS_{it-1}$ is an indicator equal to 1 if the operating incomes of firm i in both years t-1 and t-2 are negative, and zero otherwise. SEO_{it} is an indicator equal to 1 if changes in equity from year t-1 to year t are greater than 5% and proceed from share issuance are greater than 0, and zero otherwise. We report regression results with year and firm-fixed effects in column [1], firm-fixed effects in column [2], year-fixed effects in column [3], and without fixed effects in column [4]. In all regressions, standard errors are robust and clustered at the firm level. Figures in parentheses are *t*-statistics. ***, **, and * indicate that the coefficients are statistically significant at the 1%, 5%, and 10% levels of significance, respectively.

	DAC_K_{it}			
	[1]	**[2]**	**[3]**	**[4]**
$TENURE_{it}$	**0.010*** **	**0.008** **	**0.009** **	**0.007** **
	(2.66)	**(2.42)**	**(2.55)**	**(2.31)**
$BIG4_{it}$	-0.033*	-0.034*	-0.007	-0.008
	(-1.84)	(-1.90)	(-1.01)	(-1.08)
$SIZE_{it-1}$	-0.009	0.003	-0.000	-0.000
	(-0.44)	(0.16)	(-0.18)	(-0.06)
ROA_{it-1}	-0.175*	-0.193**	-0.197***	-0.201***
	(-1.81)	(-2.05)	(-3.03)	(-3.08)
$GROWTH_{it-1}$	-0.023**	-0.024**	-0.009	-0.009
	(-2.19)	(-2.30)	(-0.78)	(-0.86)
LEV_{it-1}	-0.278***	-0.293***	0.015	0.014
	(-4.38)	(-4.65)	(0.63)	(0.59)
CFO_{it-1}	0.175***	0.176***	0.014	0.015
	(4.53)	(4.49)	(0.39)	(0.42)
$ZSCORE_{it-1}$	0.002	0.002	0.001	0.001
	(0.82)	(0.94)	(1.51)	(1.53)
$LOSS_{it-1}$	-0.035	-0.035	-0.028	-0.029
	(-1.26)	(-1.28)	(-1.45)	(-1.54)
SEO_{it}	0.016**	0.016**	0.008	0.007
	(2.06)	(2.04)	(1.22)	(1.16)
Constant	0.253	-0.048	-0.013	-0.018
	(0.49)	(-0.10)	(-0.20)	(-0.27)
Firm FE	Yes	Yes	No	No
Year FE	Yes	No	Yes	No
Observations	1363	1363	1363	1363
Adjusted R^2	0.191	0.192	0.015	0.015
F-value	10.52***	10.43***	2.11**	2.19**

Table 4: Cross-sectional tests - the role of Big Four auditors

This table reports the OLS regression results of Equation (4) on the relationship between audit partner tenure and abnormal accruals for the sample period from 2016-2019.

$$Y_{it} = \alpha + \beta_1 * TENURE_{it} + \beta_2 * BIG4_{it} + \beta_3 * SIZE_{it-1} + \beta_4 * ROA_{it-1} + \beta_5 * GROWTH_{it-1} + \beta_6 * LEV_{it-1} + \beta_7 * CFO_{it-1} + \beta_8 * ZSCORE_{it-1} + \beta_9 * LOSS_{it-1} + \beta_{10} * SEO_{it} + \text{Firm Fixed Effect} + \text{Year Fixed Effect} + \varepsilon_{it} \quad \text{(Equation 4)}$$

In Equation (4), Y_{it} stands for DAC_K_{it}, which is abnormal accruals measured by the performance-match model (Kothari et al., 2005). $TENURE_{it}$ is the number of years of audit partner tenure of firm i in year t. Other variables are presented in the Appendix. We run Equation (4) using subsamples of firms that are audited by Big Four auditors (column [1]) and firms that are audited by non-Big Four auditors (column [2]). In all regressions, we include firm and year-fixed effects, and standard errors are robust and clustered at the firm level. Figures in parentheses are *t*-statistics. ***, **, and * indicate that the coefficients are statistically significant at the 1%, 5%, and 10% levels of significance, respectively.

	Big Four	**Non-Big Four**
	[1]	**[2]**
$TENURE_{it}$	**0.004**	**0.012*** **
	(0.60)	**(2.70)**
$SIZE_{it-1}$	0.044	-0.020
	(0.98)	(-0.90)
ROA_{it-1}	-0.168	-0.212*
	(-0.65)	(-1.92)
$GROWTH_{it-1}$	-0.023	-0.019
	(-0.79)	(-1.46)
LEV_{it-1}	-0.271*	-0.275***
	(-1.79)	(-3.66)
CFO_{it-1}	0.194*	0.173***
	(1.73)	(4.18)
$ZSCORE_{it-1}$	0.004	0.001
	(0.52)	(0.55)
$LOSS_{it-1}$	-0.134***	-0.006
	(-3.69)	(-0.18)
SEO_{it}	0.031*	0.014
	(1.75)	(1.54)
Constant	-1.233	0.546
	(-1.00)	(0.93)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	361	1,002
Adjusted R^2	0.141	0.204
F-value	4.38***	7.05***

Table 5: Cross-sectional tests - CEO duality

This table reports the OLS regression results of Equation (4) on the relationship between audit partner tenure and abnormal accruals for the sample period from 2016-2019.

$$Y_{it} = \alpha + \beta_1 * TENURE_{it} + \beta_2 * BIG4_{it} + \beta_3 * SIZE_{it-1} + \beta_4 * ROA_{it-1} + \beta_5 * GROWTH_{it-1} + \beta_6 * LEV_{it-1} + \beta_7 * CFO_{it-1} + \beta_8 * ZSCORE_{it-1} + \beta_9 * LOSS_{it-1} + \beta_{10} * SEO_{it} + \text{Firm Fixed Effect} + \text{Year Fixed Effect} + \varepsilon_{it} \quad \text{(Equation 4)}$$

In Equation (4), Y_{it} stands for DAC_K_{it}, which is abnormal accruals measured by the performance-match model (Kothari et al., 2005). $TENURE_{it}$ is the number of years of audit partner tenure of firm i in year t. Other variables are presented in the Appendix. We run Equation (4) using subsamples of firms with CEO duality (column [1]) and firms without CEO duality (column [2]). In all regressions, we include firm and year-fixed effects, and standard errors are robust and clustered at the firm level. Figures in parentheses are *t*-statistics. ***, **, and * indicate that the coefficients are statistically significant at the 1%, 5%, and 10% levels of significance, respectively.

	DUALITY = 1	**DUALITY = 0**
	[1]	**[2]**
$TENURE_{it}$	**0.020****	**0.007**
	(2.35)	**(1.61)**
$BIG4_{it}$	0.056	-0.054***
	(1.13)	(-2.80)
$SIZE_{it-1}$	-0.008	-0.013
	(-0.17)	(-0.57)
ROA_{it-1}	-0.059	-0.138
	(-0.26)	(-1.16)
$GROWTH_{it-1}$	-0.046**	-0.023*
	(-2.25)	(-1.89)
LEV_{it-1}	-0.094	-0.270***
	(-0.51)	(-3.61)
CFO_{it-1}	0.311***	0.166***
	(5.38)	(3.47)
$ZSCORE_{it-1}$	-0.001	0.003
	(-0.29)	(1.00)
$LOSS_{it-1}$	-0.025	-0.056**
	(-0.31)	(-2.30)
SEO_{it}	-0.033*	0.020**
	(-1.93)	(2.28)
Constant	0.171	0.388
	(0.14)	(0.61)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	279	1085
Adjusted R2	0.285	0.165
F-value	4.42***	8.89***

Table 6: Alternative measures of abnormal accruals

This table reports the OLS regression results of Equation (4) on the relationship between audit partner tenure and abnormal accruals for the sample period from 2016-2019, using alternative measures of accruals.

$$Y_{it} = \alpha + \beta_1 * TENURE_{it} + \beta_2 * BIG4_{it} + \beta_3 * SIZE_{it-1} + \beta_4 * ROA_{it-1} + \beta_5 * GROWTH_{it-1} + \beta_6 * LEV_{it-1} + \beta_7 * CFO_{it-1} + \beta_8 * ZSCORE_{it-1} + \beta_9 * LOSS_{it-1} + \beta_{10} * SEO_{it} + \text{Firm Fixed Effect} + \text{Year Fixed Effect} + \varepsilon_{it} \quad \text{(Equation 4)}$$

In Equation (4), Y_{it} stands for DAC_J_{it}, which is abnormal accruals following Jones (1991) (column [1]) or DAC_D_{it}, which is abnormal accruals following Dechow et al. (1995) (column [2]). $TENURE_{it}$ is the number of years of audit partner tenure of firm i in year t. Other variables are presented in the Appendix. In all regressions, we include firm and year-fixed effects, and standard errors are robust and clustered at the firm level. Figures in parentheses are *t*-statistics. ***, **, and * indicate that the coefficients are statistically significant at the 1%, 5%, and 10% levels of significance, respectively.

	DAC_J_{it}	**DAC_D_{it}**
	[1]	**[2]**
$TENURE_{it}$	**0.009****	**0.009****
	(2.36)	**(2.38)**
$BIG4_{it}$	-0.035*	-0.036*
	(-1.67)	(-1.85)
$SIZE_{it-1}$	-0.030	-0.029
	(-1.64)	(-1.51)
ROA_{it-1}	-0.029	-0.116
	(-0.25)	(-0.98)
$GROWTH_{it-1}$	-0.010	-0.015
	(-0.87)	(-1.26)
LEV_{it-1}	-0.268***	-0.291***
	(-3.96)	(-4.34)
CFO_{it-1}	0.212***	0.205***
	(5.67)	(5.23)
$ZSCORE_{it-1}$	0.000	0.002
	(0.24)	(0.92)
$LOSS_{it}$	-0.057**	-0.037
	(-2.26)	(-1.28)
SEO_{it}	0.027***	0.035***
	(3.47)	(4.30)
Constant	0.840*	0.811
	(1.70)	(1.55)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	1363	1363
Adjusted R^2	0.158	0.162
F-value	13.42***	14.49***

Table 7: Propensity score matching

This table reports the OLS regression results of Equation (4) on the relationship between audit partner tenure and abnormal accruals for the sample period from 2016-2019, using a propensity score-matched sample.

$$Y_{it} = \alpha + \beta_1 * TENURE_{it} + \beta_2 * BIG4_{it} + \beta_3 * SIZE_{it-1} + \beta_4 * ROA_{it-1} + \beta_5 * GROWTH_{it-1} + \beta_6 * LEV_{it-1} + \beta_7 * CFO_{it-1} + \beta_8 * ZSCORE_{it-1} + \beta_9 * LOSS_{it-1} + \beta_{10} * SEO_{it} + \text{Firm Fixed Effect} + \text{Year Fixed Effect} + \varepsilon_{it} \quad \text{(Equation 4)}$$

In Equation (4), Y_{it} stands for DAC_K_{it}, which is abnormal accruals measured by the performance-match model (Kothari et al., 2005) (column [1]), or DAC_D_{it}, which is abnormal accruals following Dechow et al. (1995) (column [2]). $TENURE_{it}$ is the number of years of audit partner tenure of firm i in year t. Other variables are presented in the Appendix. We create a propensity-score-matched following the steps recommended by (Shipman et al., 2017). To begin, we create an indicator variable ROTATION which takes the value of one if TENURE of firm i in year t is equal to one year, and zero if TENURE is equal to two or three years. We then divide our sample into treatment group (observations with ROTATION = 1) and control group (observations with ROTATION = 0). Next, to determine the probability of having audit partner rotation, we run a probit regression between ROTATION and control variables, including $SIZE_{t-1}$, ROA_{t-1}, $GROWTH_{t-1}$, LEV_{t-1}, CFO_{t-1}, $ZSCORE_{t-1}$, $LOSS_{t-1}$, and SEO_t. Based on the odd ratios of having audit partner rotation, we match each treatment with one control using a caliper of 0.001 and no replacement. We then run Equation (4) with the propensity-score-matched sample. In all regressions, we include firm and year-fixed effects, and standard errors are robust and clustered at the firm level. Figures in parentheses are *t*-statistics. ***, **, and * indicate that the coefficients are statistically significant at the 1%, 5%, and 10% levels of significance, respectively.

	DAC_K_{it}	**DAC_D_{it}**
	[1]	**[2]**
$TENURE_{it}$	**0.011****	**0.011*****
	(2.58)	**(2.75)**
$BIG4_{it}$	-0.008	-0.005
	(-0.70)	(-0.44)
$SIZE_{it-1}$	-0.007*	-0.003
	(-1.67)	(-0.76)
ROA_{it-1}	-0.257***	-0.015
	(-2.81)	(-0.15)
$GROWTH_{it-1}$	-0.018	-0.020
	(-1.03)	(-1.04)
LEV_{it-1}	0.030	-0.015
	(0.97)	(-0.47)
CFO_{it-1}	0.015	0.036
	(0.33)	(0.75)
$ZSCORE_{it-1}$	0.003*	0.002
	(1.96)	(1.19)
$LOSS_{it-1}$	0.000	0.000
	(.)	(.)
SEO_{it}	0.014	0.030***
	(1.53)	(3.14)
Constant	0.139	0.048
	(1.32)	(0.43)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	918	918
Adjusted R^2	0.014	0.027
F-value	2.38**	3.31***

Table 8: Regressions with positive and negative abnormal accruals

This table reports the OLS regression results of Equation (4) on the relationship between audit partner tenure and abnormal accruals for the sample period from 2016-2019, using positive and negative values of abnormal accruals.

$$Y_{it} = \alpha + \beta_1 * TENURE_{it} + \beta_2 * BIG4_{it} + \beta_3 * SIZE_{it-1} + \beta_4 * ROA_{it-1} + \beta_5 * GROWTH_{it-1} + \beta_6 * LEV_{it-1} + \beta_7 * CFO_{it-1} + \beta_8 * ZSCORE_{it-1} + \beta_9 * LOSS_{it-1} + \beta_{10} * SEO_{it} + \text{Firm Fixed Effect} + \text{Year Fixed Effect} + \varepsilon_{it} \quad \text{(Equation 4)}$$

In Equation (4), Y_{it} stands for $pDAC\_K_{it,}$ which is the positive values of abnormal accruals (column [1]), or $nDAC\_K_{it,}$ which is the absolute values of negative abnormal accruals (column [2]), where abnormal accruals are measured by the performance-match model (Kothari et al., 2005). $TENURE_{it}$ is the number of years of audit partner tenure of firm i in year t. Other variables are presented in the Appendix. In all regressions, we include firm and year-fixed effects, and standard errors are robust and clustered at the firm level. Figures in parentheses are *t*-statistics. ***, **, and * indicate that the coefficients are statistically significant at the 1%, 5%, and 10% levels of significance, respectively.

	Positive DAC_K_{it}	**Negative DAC_K_{it}**
	[1]	**[2]**
$TENURE_{it}$	**0.001**	**-0.012*** **
	(0.29)	**(-3.07)**
$BIG4_{it}$	0.016	0.006
	(0.87)	(0.33)
$SIZE_{it-1}$	-0.035*	-0.051**
	(-1.68)	(-2.45)
ROA_{it-1}	0.080	0.245**
	(0.74)	(2.44)
$GROWTH_{it-1}$	-0.011	0.019*
	(-1.13)	(1.89)
LEV_{it-1}	-0.103	0.141**
	(-1.47)	(2.18)
CFO_{it-1}	0.082*	-0.069**
	(1.84)	(-2.14)
$ZSCORE_{it-1}$	0.000	-0.001
	(0.03)	(-0.53)
$LOSS_{it-1}$	-0.134**	-0.021
	(-1.98)	(-0.69)
SEO_{it}	0.018**	-0.010
	(2.02)	(-1.30)
Constant	1.014*	1.458***
	(1.81)	(2.61)
Firm FE	Yes	Yes
Year FE	Yes	Yes
Observations	639	724
Adjusted R^2	0.255	0.267
F-value	3.73***	3.83***