

**The Spillover Effects of Audit Firms' Engagement in Government Audits:
Evidence from China**

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Abstract

This study investigates whether and how private sector audit firms’ engagement in government audits influences their audit decisions for local publicly listed firms in China. Although such engagement may enhance auditors’ understanding of the local business and regulatory environment, it may also create economic incentives that compromise auditor independence. We find that audit firms involved in government audits issue fewer modified audit opinions and tend to charge higher audit fees to local publicly listed clients. These findings highlight a potential unintended consequence of government procurement of audit services: economic ties formed through government audit contracts may spill over into private audit firms’ commercial audit engagements, affecting audit quality and pricing. Our study has important implications for policymakers and regulators designing procurement, oversight, and rotation policies for government audit engagements, and offers insights for capital market participants relying on auditors who engage in government audits.

Keywords: Audit quality, Audit fees, Government audit, Knowledge spillover, Rent-seeking

Declaration of Generative AI and AI-Assisted Technologies in the Writing Process

The authors declare that they do not use any Generative AI and AI-Assisted Technologies in the writing process.

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I. INTRODUCTION

Government audits are part of the national supervision system to prevent government failure. Government audit departments are authorized by law to audit the budget, revenue, and expenditure of all types of public sector organizations (e.g., governmental departments, state-owned enterprises [SOEs]), the implementation and compliance of laws and regulations, and the accounts of relevant individual government officials (Liang, Xue, and Lin 2024). Because of the shortage of audit professionals and expertise in government audit departments, to achieve cost-efficiency, it is a common practice worldwide for government audit authorities to outsource part of their audit tasks to private sector audit firms (Chong, Dolley, Houghton, and Monroe 2009; Ferguson 2023).

The increasing involvement of private audit firms in government audits raises an important question: does participation in government audits influence auditors' work for their publicly listed clients? The answer is *ex ante* unclear. On the one hand, government-audit engagements may provide auditors with valuable information about local economic conditions, government spending, and regulatory priorities. This "knowledge spillover effect" may improve auditors' understanding of clients' operating environments and enhance audit effectiveness and efficiency. On the other hand, close relationships with government entities may create incentives that affect auditor independence, particularly when future government-audit opportunities are economically important. This "reciprocal rent-seeking effect" could thus impair private audit-firm independence. Consequently, government-audit engagement may generate both beneficial and potentially adverse effects on audit outcomes, making the overall effect an empirical question.

We use Chinese data for this study for two reasons. First, China is one of the world's

largest economies, and in recent years, government policy has encouraged private sector audit firms to engage in government audits to optimize the allocation of auditing resources (National Audit Office 2021). Second, market players in China are significantly influenced by their local government authorities. We choose the sample period from 2016 to 2023. The China Government Procurement Website is the only platform designated by the Ministry of Finance in China for publishing government procurement audit service information. Because of data gaps in government procurement before 2015, detailed and complete procurement contract information has only been available since 2015 (Liang and Guo 2023).

We find that if audit firms are engaged in local government audits, they issue fewer MAOs and charge higher audit fees to local publicly listed clients. Our further analyses show that the results are more significant for non-Big 4 audit firms and SOEs. We conduct robustness and sensitivity tests to confirm our main findings. In particular, we employ propensity score matching (PSM) and entropy balancing, use data on first-time engagement in government audits only, use data on cities with more than one private auditor engaged in government audits only, add firm fixed effects, adopt a lagged variables model, and use alternative measures for audit quality and engagement in government audits. Our robustness tests are similar to the main results and further demonstrate that the effect of government audit participation remains robust after controlling for individual auditors' political connections.

This paper contributes to several streams of literature and has implications for stakeholders. First, we contribute to the government audit literature and practice by providing novel evidence on the spillover effects of private sector audit firms' involvement in government audit tasks. Prior government audit literature generally focuses on government audit independence, the quality of government auditors' work (Brown and Raghunandan 1995; Lowensohn, Johnson, Elder, and Davies 2007; Funnell 2011), and the relationship between government audit and macro-level outcomes such as fiscal sustainability (Cao, Li, Lu, and Xu

2022), corruption (Liu and Lin 2012; Avis, Ferraz, and Finan 2018), and urban energy efficiency (Liu, Nie, and Lin 2024). No studies have examined the impact of private sector audit firms' engagement in government audits on audit outcomes for local publicly listed firms. Our findings have important implications for policymakers in that they should pay attention to the potential negative consequences of recruiting private sector audit firms to audit government projects. Policymakers may consider requiring local governments to rotate private sector audit firms to reduce the potential unfavorable spillover effects of government audit engagements.

Second, we contribute to the literature on the economic implications of auditor–government connections. Prior studies document that auditors establish political connections through past and/or current work experience in politically connected institutions (Yang 2013), which may facilitate rent-seeking interactions between auditors and politicians (e.g., Knechel and Park 2022; Krishnan, Li, and Park 2025; He et al. 2022). These traditional political connections rely on personal relationships between connected auditors and politicians they know personally, and such ties have weakened in the post–anti-corruption era in China (He et al. 2022).

We complement this literature by identifying a new form of auditor–government connection, namely engagement in government audit tasks at the audit firm level. This form of connection is rooted in economic ties rather than personal relationships. In particular, our study differs from He et al. (2022) in the underlying mechanism of government influence. Whereas He et al. (2022) examine individual auditors' political connections based on prior government-related employment, we focus on audit firms' economic ties to the government, proxied by their participation in government audit engagements. We posit and find evidence that such economic connections can also facilitate reciprocal rent-seeking behaviors between audit firms and local governments, as reflected in fewer MAOs to local publicly listed firms. The findings have implications for capital market participants in that they should pay attention to the

economic connections between audit firms and local governments when analyzing the financial report quality of local publicly listed firms.

Third, we provide new empirical evidence on the determinants of audit independence. Prior literature generally focuses on auditors' past work experience in business fields and government agencies (Ocak and Can 2019) or engagement in non-audit consulting services (Lim and Tan 2008), which may impair audit independence. We complement the literature by identifying audit firms' direct economic connections with governments as a new influencing factor. Audit firms' engagement in government audits may compromise their independence in auditing for local publicly listed clients.

The remainder of this study is organized as follows. Section II reviews the relevant literature. Section III introduces the institutional background and develops hypotheses. Section IV introduces research models. The data and results are presented and discussed in Section V, and the last section concludes.

II. LITERATURE REVIEW

Literature on Government Procurement of Audit Services

The broader government audit (or public sector audit) literature has investigated government audit quality (Lowensohn et al. 2007; Mattei, Grossi, and Guthrie 2021) and the social impacts of government audits (e.g., Cao et al. 2022; Avis et al. 2018; Liu et al. 2024). Because governments across the world are spending an increasing proportion of their budgets on purchasing audit services from the private sector (The Centre for Public Integrity 2023; Ferguson 2023), a stream of literature investigates the costs and benefits of outsourced audits to provide insights into the efficiency of such government spending. Brown and Raghunandan (1995) find that the quality of audits performed by private sector audit firms is lower than that performed by government auditors. They argue that low-quality audits are due to audit firms

facing minimal threat of litigation arising from government audit failures. Chong et al. (2009) evaluate the cost-efficiency of government audits outsourced to private sector audit firms in Western Australia and find that outsourced audits are more costly than in-house audits. They argue that the costs related to outsourced audits can arise from audit specialization development, contract bidding, and setup processes.

So far, few studies have explored the government procurement of external audit services in China. Similar to studies in the international context, current discussions about government audit procurement in China also focus on the government. There is still a lack of understanding of how engagement in government audits would affect private sector audit firms' audit decisions for local publicly listed firms.

Literature on the Connections between Auditors/Audit Firms and the Government

A stream of literature discusses the consequences of auditors/audit firms with connections to the government. Some studies focus on the general government affiliation/work experience of auditors. For example, DeFond, Wong, and Li (2000) find that government-affiliated auditors are more visible and attract greater regulatory attention than nonaffiliated auditors. Ocaik and Can (2019) argue that auditors with past government work experience are more familiar with tax-related issues than with International Financial Reporting Standards. He et al. (2022) use Chinese data to identify individual auditors' prior work experience that cultivates political connections. They document lower audit quality among politically connected auditors, which supports the argument of reciprocal rent-seeking between politicians and individual auditors. According to regulatory capture theory and motivated reasoning theory, Knechel and Park (2022) hypothesize and find that politically connected audit firms tend to receive less harsh inspection reports from the Public Company Accounting Oversight Board.

Some studies focus on a specific type of connection between auditors/audit firms and the government. Yang (2013) documents that when audit firms have partners appointed to the Stock

Issuance Examination and Verification Committee, they are more likely to charge higher audit fees and attract more clients for their initial public offering service. Krishnan et al. (2025) use auditors' political action committee contributions to capture audit firm political connections and document a positive association between audit firm political connections and the level of scrutiny the Securities and Exchange Commission applies to audit clients.

Overall, existing studies have focused on the personal government work experience of auditors and provided mixed evidence about its influence on audit outcomes. There has been little empirical evidence on the spillover effects of audit firms' direct economic ties with the government (e.g., government procurement of audit services) on the audit outcomes of local publicly listed clients.

III. INSTITUTIONAL BACKGROUND AND HYPOTHESES DEVELOPMENT

Government Audits in China

In China, government audits are governed by the Audit Law and the Regulations for the Implementation of the Audit Law. According to the Audit Law, the State Council and local governments at or above the county level shall establish auditing agencies. These auditing agencies are responsible for auditing the revenue and expenditure of State Council departments, local governments, and SOEs (National Audit Office 2021). They will check the authenticity, legality, and effectiveness of these items. Under the leadership of the premier of the State Council, the National Audit Office is in charge of public sector audit work according to the Audit Law and the State Council. Local audit offices at all levels, under the leadership of the administrative head of the government at the same level and the audit agency at the next higher level, are responsible for audit work in their respective administrative regions and perform the duties stipulated by laws, regulations, and the government at the same level (The State Council 2010).

The “Regulations for recruiting external auditors to participate in government audit work” (the “Regulations”) by the National Audit Office specifies that external relevant professionals can be recruited to engage in audit tasks such as fixed asset investment audits; audits of the assets, liabilities, profits, and losses of enterprises and financial institutions, and the economic responsibility of their principal persons in charge; audits of the financial revenues and expenditures of public institutions, social groups, and other social organizations, and the economic responsibilities of their principal persons; resource and environment project audits; audits of social security projects; and audits of foreign loan and aid projects (National Audit Office 2010).

According to “the Regulations,” externally recruited professionals are responsible for their work results; government audit offices will evaluate the quality of audit work by the external professionals and are responsible for the final audit conclusions. There are some general requirements for externally recruited audit professionals: they need to have professional skills and qualifications appropriate to audit matters, be engaged in relevant professional work for more than three years, have good professional ethics and have not been punished in the past three years, and have not been subject to disciplinary or administrative sanctions (National Audit Office 2010).

In 2020, the Ministry of Finance issued the Measures for the Administration of Government Procurement of Services (Order No. 102), which established a comprehensive nationwide framework for local governments to procure services from external providers, including social audit services. Following this policy, local governments increasingly turned to private audit firms to supplement government audit capacity. In June 2021, the National Audit Office released the 14th Five-Year Plan for the Development of National Government Audit Work, which explicitly emphasized the need to “optimize the allocation of audit resources, including purchasing audit services from private audit firms.” Additionally, during a research

visit to the National Audit Office, Premier Li Keqiang highlighted the importance of leveraging social audit resources and encouraging private audit firms to participate more actively in government audits (National Audit Office 2021).

Currently, there are no laws or regulations specifying the detailed requirements for government audit service procurement in China. For example, there are no explicit requirements governing the duration of external audit firms' engagement in government audit work, and no quality evaluation framework exists for government audit work conducted by external professionals. According to the "Notice of the Ministry of Finance on Disclosure of Government Procurement Information," the results of the recruitment of external private sector audit firms will be published on the designated official website of government procurement (www.ccgp.gov.cn) (Ministry of Finance 2015).

Hypotheses Development

Engagement in Government Audits and Audit Quality of Local Publicly Listed Clients

Audit quality is determined jointly by audit competence and independence, representing the probability that auditors discover and report issues in client firms' financial situations (DeAngelo 1981). According to this theory, we argue that private sector audit firms' engagement in government audits may improve audit competence and/or compromise audit independence when auditing local publicly listed clients as follows.

China is well known for its socialist market economy, in which governments at different levels have the power to affect the economy through their "visible hand," such as through government subsidies, tax preferences, or government procurement (Dou et al. 2019). During engagement in government audits, private sector audit firms may better understand the local business and political environments. In particular, they can gain knowledge of factors that might influence the business risks of local publicly listed firms. Such knowledge could help

audit firms better estimate the financial reporting quality of local publicly listed firms. Knowledge of corruption among politicians, obtained through the government audit process (Avis et al. 2018; Liu and Lin 2012), can also help audit firms identify risks in the financial statements of local clients, improving audit judgment and audit quality.

Thus, from the perspective of the knowledge spillover effect, when private sector audit firms are engaged in government audits, they can use their deep understanding of local businesses and the political environment to identify business risks for local publicly listed clients more effectively, thereby enhancing audit competence and audit quality.

However, private sector audit firms' engagement in government audits is a new and growing revenue source for private sector audit firms. This economic connection may lead to reciprocal rent-seeking activities between engaged audit firms and local governments, impairing audit independence. Publicly listed firms have contributed significantly to local tax revenues and GDP growth in recent years. Thus, local governments have strong incentives to influence the reputation and performance of listed firms in their jurisdictions (Chen et al., 2020). Connected auditors may be asked by politicians to avoid issuing MAOs to local publicly listed firms,¹ attracting more capital market investment to facilitate local economic development (He et al., 2022; Jiang and Jia, 2025).

Hence, from the perspective of this reciprocal rent-seeking effect, when private sector audit firms are engaged in government audits, they may issue fewer MAOs to their local publicly listed clients.

Based on the above arguments, we propose the following hypothesis in the null form:

H1: Engagement in local government audits does not affect private sector audit firms' issuance of MAOs to local publicly listed clients.

¹ Prior China-related auditing research has documented negative economic consequences for publicly listed firms receiving MAOs (Simunic and Wu 2009). In addition, publicly listed firms receiving MAOs may attract more regulatory attention in China. For example, firms receiving adverse or disclaimer audit opinions may face the risk of delisting.

Engagement in Government Audits and Audit Fees of Local Publicly Listed Clients

From a theoretical perspective, audit fees reflect auditors' assessments of client business risks, the level of audit effort required, and potential legal liabilities (Simunic 1980; Chan, Jiang, Mo, and Zhang 2025). As discussed earlier, private sector audit firms engaged in government audits may gain deeper insights into the economic and political environments of local publicly listed clients. Enhanced familiarity with the local business landscape can reduce auditors' uncertainty regarding clients' operational risks. Prior studies show that reduced uncertainty about client risks can lead to lower audit fees (e.g., Jiang and Ye 2024). Furthermore, better contextual knowledge may reduce auditors' information-gathering time and audit effort, potentially resulting in lower audit fees (Dou et al. 2019). From this perspective, one might expect private audit firms engaged in government audits to charge lower audit fees to local publicly listed clients.

Conversely, to secure government audit contracts, private sector audit firms may face incentives to avoid issuing MAOs to local publicly listed clients. If audit firms refrain from issuing MAOs when warranted, they may be exposed to heightened legal liability and litigation risks should audit failures occur (Kaplan and Williams 2013). Prior research indicates that sanctions, litigation, and reputational damage can impose substantial direct and indirect costs on audit firms (DeFond and Zhang 2014). To compensate for these potential risks, private audit firms engaged in government audits may charge higher audit fees to local publicly listed firms.

From the above counterarguments, we present the following hypothesis in the null form:
H2: Engagement in local government audits does not affect private sector audit firms' audit fee charges to local publicly listed clients.

IV. RESEARCH MODELS

We establish a probit model to test H1; that is, engagement in local government audits does not affect private sector audit firms' issuance of MAOs to local publicly listed clients:

$$\begin{aligned} \text{MAO}_{it} = & \beta_0 + \beta_1 \text{Gov_audit}_{it} + \text{Auditfirm and client firm characteristics} \\ & + \text{Industry fixed effects} + \text{year fixed effects} + \varepsilon_{it} \end{aligned} \quad (1)$$

The dependent variable is MAO_{it} . Following previous studies (e.g., Chan et al. 2025), we classify the following opinions as MAOs: unqualified with an explanatory paragraph, qualified, disclaimer, and adverse opinions. MAO_{it} is an indicator variable that equals 1 for the issuance of an MAO and 0 otherwise.

Gov_audit_{it} is the main test variable for model (1), a dummy variable that equals 1 if the audit firm of firm i in year t is engaged in the local government audit at the city level. We have no expectations for the coefficient of Gov_audit_{it} .

We include several control variables. We control for Big4_{it} to consider the effect of the Big 4 firms' reputation on audit opinions. Big4_{it} is an indicator variable that equals 1 for the hiring of Big 4 audit firms and 0 otherwise. We control for client importance (CI_{it}) and expect the coefficient of CI_{it} to be positive (Chang, Guo, and Mo 2019; Chan et al. 2025). CI_{it} is the ratio of a client's audit fees to the audit fees of all clients for an audit firm. What is more, we control for size_{it} (the natural logarithm of the client's total assets) and expect the coefficient of size_{it} to be negative. Moreover, we control for financial risks: leverage (Lev_{it}) and cash flow from operations (CFO_{it}). Firms with higher leverage and lower cash flow from operations are expected to have a higher likelihood of receiving MAOs. We also include liquidity (Liquid_{it}) and profitability (RoE_{it}), and their coefficients are expected to be negative. Companies with negative earnings in the previous year may have greater incentives to engage in earnings management. Hence, we control for Loss_{it-1} , an indicator variable that equals 1 if

the firm's net earnings in the previous year are negative and 0 otherwise. We also control for the impact of sales growth ($sales_{it}$) on earnings quality and the impact of a firm's age (Age_{it}) on the issuance of MAOs. In addition, we control for soE_{it} because the incentives for conducting earnings management for SOEs and non-SOEs differ. Finally, following prior literature (e.g., Firth, Mo, and Wong 2012), we include industry fixed effects to control for unobservable and time-invariant industry characteristics that may influence audit opinions. We also include year fixed effects to capture unobservable factors common to all firms in a given year, thereby eliminating annual shocks such as macroeconomic fluctuations or regulatory changes.² The definitions of all variables are presented in the Appendix.

We establish an ordinary least squares model to test H2; that is, engagement in local government audits does not affect private sector audit firms' audit fee charges to local publicly listed clients:

$$\begin{aligned} Auditfee_{it} = & \beta_0 + \beta_1 Gov_audit_{it} + \text{Auditfirm and client firm characteristic} \\ & + \text{Industry fixed effects} + \\ & \text{year fixed effects} + \varepsilon_{it} \end{aligned} \quad (2)$$

The dependent variable is $Auditfee_{it}$, the natural logarithm of audit fees, and the main test variable is Gov_audit_{it} . We have no expectations for the coefficients of Gov_audit_{it} .

We control for variables that may affect $Auditfee_{it}$. We control for $Big4_{it}$, and the Big 4 audit firms are expected to charge higher audit fees. We include auditor opinions (MAO_{it}) and restatement ($Restate_{it}$) to control for the financial reporting quality of clients. We expect the coefficients of MAO_{it} and $Restate_{it-1}$ to be positive. We control for $size_{it}$ and expect a positive association between client size and audit fees. We also include financial leverage (Lev_{it}) and expect that clients with higher leverage are riskier. In addition, we include liquidity

² In addition, we conduct a robustness test excluding both sets of fixed effects, and the untabulated results remain consistent with the main findings.

(Liquid_{it}) and profitability (ROE_{it}) and expect their coefficients to be negative. We also control for sales growth (salesg_{it}) and firm age (Age_{it}) and expect that the coefficients of salesg_{it} and Age_{it} are positive and negative, respectively. Following Chan et al. (2025), we include the number of subsidiaries (sub_{it}) to control for the client firm's operational complexity. We also control for client complexity (Ext_{it}), calculated as extraordinary items divided by the absolute value of net profit. Audit firms may charge higher fees for more complex business activities. Thus, we expect that the coefficients of sub_{it} and Ext_{it} are positive. We also control for Report_lag_{it}, calculated as the natural logarithm of the number of days between the end of the fiscal year and the audit report release date, and expect that the coefficient of Report_lag_{it} is positive. Finally, we include industry and year fixed effects. The definitions of all variables are presented in the Appendix.

V. SAMPLE AND EMPIRICAL RESULTS

Sample Selection

Following previous Chinese market research (Chang et al. 2019; Chan et al. 2025), we obtain data on audit opinions, audit fees, and client financial variables from the China Stock Market & Accounting Research Database. We collect information on the engagement of private sector audit firms in government audits from the China Government Procurement Website (<http://htgs.ccgp.gov.cn/GS8/contractpublish/search>). The China Government Procurement Website is the only platform designated by the Ministry of Finance in China to publish government procurement information. Because of serious data gaps in government procurement before 2015, detailed and complete procurement contract information has only been available since 2015 (Liang and Guo 2023).

Table 1 displays the sample selection process. The initial sample comprises publicly listed firms on the Shanghai Stock Exchange and the Shenzhen Stock Exchange from 2016 to 2023,

totaling 32,565 firm-year observations. Following prior literature (e.g., Johnstone, Li, and Luo 2014), we then exclude 841 observations for the financial industry because this sector exhibits unique characteristics, such as complex financial instruments, stringent regulatory oversight, and distinct risk profiles, that differentiate auditors' judgments and reporting behaviors from those in nonfinancial industries.³ We further exclude observations for which private sector audit firms engaged in government audits at the provincial level because our study focuses on government audits at the city level. Finally, we exclude 2,120 observations with missing variables from the MAO and audit fee models. Our final sample includes 28,930 observations, of which 2,612 observations are private sector audit firms engaged in government audits at the city level.

Table 2, Panel A, presents the distribution of the sample by year. From 2016 to 2023, we observed a significant increase in the number of firms whose audit firms are engaged in government audits. Table 2, Panel B, reports the distribution of the sample by industry. The distribution is similar across the $\text{Gov_audit}_{it} = 1$ and $\text{Gov_audit}_{it} = 0$ subsamples, except that for the $\text{Gov_audit}_{it} = 1$ subsample, there is a relatively higher proportion of firms in the information technology and software industry.

[Insert Table 2 here]

Descriptive Statistics

Table 3, Panel A, reports descriptive statistics for the full sample. All continuous variables are winsorized at the 1st and 99th percentiles. A total of 5.4 percent of observations in the sample received MAOs, and the average value of the natural logarithm of audit fee (Auditfee_{it}) is 13.837 (the average value of audit fee is CNY 1,324,222, which is approximately USD

³ We also conduct a robustness test that includes financial industry observations, and the untabulated results remain consistent with our main findings.

181,853). Around 9.0 percent of observations include audit firms engaged in government audits at the city level.

Table 3, Panel B, reports descriptive statistics of the sample partitioned by $\text{Gov_audit}_{it} = 1$ and $\text{Gov_audit}_{it} = 0$. The univariate tests show that the $\text{Gov_audit}_{it} = 1$ subsample tends to receive fewer MAOs and pay higher audit fees than the $\text{Gov_audit}_{it} = 0$ subsample. The result is consistent with the rent-seeking effect argument. To maintain auditing contracts with local governments, private sector audit firms are less likely to issue MAOs to local publicly listed clients. They also charge higher audit fees to compensate for potential legal risks. In general, the $\text{Gov_audit}_{it} = 1$ subsample is larger, more liquid, less profitable, and grows more slowly than the $\text{Gov_audit}_{it} = 0$ subsample. In addition, the $\text{Gov_audit}_{it} = 1$ subsample has more subsidiaries and longer time lags in issuing audit reports.

[Insert Table 3 here]

Main Regression Results

Table 4 reports the results relating to H1 on the impact of audit firms engaged in government audits on the issuance of MAOs to local publicly listed clients. We present the results both with and without control variables to ensure robustness, and the results are similar and highly significant. The results analyzed here are based on the models with control variables. In column (2), the coefficient of Gov_audit_{it} is significantly negative at the 1 percent level (coefficient = -0.341 , z -statistic = -5.152). The marginal effect is -0.025 , indicating that the probability of issuing MAOs decreases by 2.5 percentage points on average when Gov_audit_{it} changes from 0 to 1. This magnitude is economically meaningful because 2.5 percentage points represent approximately 46.3 percent ($= 0.025/0.054$) of the sample's mean MAO rate. The results support the rent-seeking explanation: to satisfy the local government and maintain

government auditing contracts, private sector audit firms are less likely to issue MAOs to local publicly listed firms.

The control variable coefficients are generally consistent with the predicted signs. The positive coefficients of CI_{it} indicate that auditors are more likely to issue MAOs to more important clients. The coefficients of $Size_{it}$ are significantly negative, suggesting that large firms receive fewer MAOs. The coefficients of Lev_{it} are significantly positive, while those of CFO_{it} are significantly negative, showing a positive association between financial risk and the issuance of MAOs. The coefficient of ROE_{it} ($Loss_{it-1}$) is significantly negative (positive), which indicates that auditors issue fewer (more) MAOs to clients that are more (less) profitable. The coefficient of Age_{it} is significantly positive, suggesting a positive association between life cycle and the likelihood of MAOs. The coefficient of SOE_{it} is significantly negative, consistent with the notion that SOEs have less incentive to conduct earnings management and are therefore less likely to receive MAOs (Chen, Chen, Lobo, and Wang 2011).

[Insert Table 4 here]

Table 5 presents the impact of audit firms engaged in government audits on audit fees for local publicly listed clients. The results with and without control variables are displayed to ensure robustness. In column (2), the coefficient of Gov_audit_{it} is significantly positive at the 1 percent level (coefficient = 0.028, t-statistic = 3.250), indicating that private audit firms engaged in government auditing charge higher fees to compensate for potential legal risks. To assess the economic magnitude, given the mean audit fee of RMB 1,297,954, private auditors involved in government audits charge, on average, an additional RMB 36,862 ($= 1,297,954 * [\exp(0.028) - 1]$).

We further estimate the audit fee model within the subsample of firms receiving clean opinions ($MAO_{it} = 0$). As reported in column (3) of Table 5, the coefficient of Gov_audit_{it} remains significantly positive (coefficient = 0.024, t-statistic = 2.727). This result suggests that

private sector audit firms engaged in government audits charge a fee premium even when issuing clean opinions, likely reflecting compensation for perceived legal or reputational risks.

The control variable coefficients are generally consistent with the predicted signs. For example, $Big4_{it}$ charge higher audit fees. Audit fees are positively related to MAOs (MAO_{it}), restatement ($Restatement_{it}$), client size ($size_{it}$), financial leverage (Lev_{it}), operational complexities (sub_{it} and Ext_{it}), and report lags ($Report_lag_{it}$) and negatively related to liquidity ($Liquid_{it}$), profitability (ROE_{it}), life cycle (Age_{it}), and SOEs (sOE_{it}).

[Insert Table 5 here]

Additional Analysis

Different Categories of MAOs

In an additional analysis, we reclassify MAOs into distinct categories to examine whether the effect varies across MAO types. Specifically, according to the content of audit reports and consistent with prior literature, we classify MAOs into three categories (Butler, Leone, and Willenborg 2004; Chen, He, Ma, and Stice 2016): limitations-of-scope opinions, which are issued when auditors cannot obtain sufficient appropriate audit evidence; opinions with an emphasis on uncertain matters, which are issued to highlight material uncertainties, such as unresolved litigation or regulatory investigations; and going-concern opinions, which are issued when substantial doubt exists regarding a firm's ability to continue as a going concern, often due to financial distress.

We present the category-specific results in Panel A of Table 6. For going-concern opinions, we further distinguish between financially distressed and non-distressed firms. Following Chen, Martin, and Wang (2013), we classify firms as financially distressed if their net profit is less than zero or their net cash flow from operations is less than zero. The dependent variable in column (1) is $scope_{it}$, an indicator variable that equals 1 for limitations-of-scope opinions and 0 otherwise. The dependent variable in column (2) is Mu_{it} , an indicator variable that equals 1

for opinions with an emphasis on uncertain matters and 0 otherwise. The dependent variable in columns (3) and (4) is Gc_{it} , an indicator variable that equals 1 for going-concern opinions and 0 otherwise.

The coefficients of Gov_audit_{it} are significantly negative at the 1 percent level for both limitations-of-scope opinions and opinions with an emphasis on uncertain matters. For going-concern opinions, the coefficient on Gov_audit_{it} is significantly negative at the 5 percent level among financially distressed firms but is insignificant among nonfinancially distressed firms. Overall, these findings indicate that private audit firms engaged in government audits are less likely to issue MAOs across all three categories.

[Insert Table 6 here]

Comparison with He et al. (2022)

He et al. (2022) find that politically connected auditors are significantly less likely to issue MAOs from 2008 to 2013. They classify an auditor as politically connected if the auditor has significant work experience in government agencies or government-related institutions. He et al. (2022) measure political connections via personal networks between auditors and politicians, and these traditional political connections weakened following China's anti-corruption campaign.⁴ Unlike their study, we propose a novel measure rooted in economic ties: an audit firm's participation in government audit assignments.

To distinguish our findings from those of He et al. (2022), we conduct additional tests incorporating political connections at the individual auditor level. Consistent with He et al. (2022), we construct $Audconnected_{it}$, an indicator equal to 1 when the signing auditor has political connections, as defined in their study,⁵ and 0 otherwise. We then reestimate the MAO

⁴ Never-ending anti-corruption efforts are growing stronger in recent years. The total number of officials disciplined for corruption increased significantly from 182,000 in 2013 to 889,000 in 2024 (Central Discipline Inspection Commission 2025).

⁵ Following He et al. (2022), we identify the following four sources for individual auditors to cultivate political connections: (1) worked as partners in the startup phase of affiliated audit firms; (2) worked as a director of the Chinese Institute of Certified Public Accountants or local Certified Public Accountant institutes; (3) member of

model with this new control and further divide the sample into two subperiods, 2016–2020 and 2021–2023, to compare the evolution of political versus economic ties over time.

The results are reported in Panel B of Table 6. In the full sample (column 1), the coefficient on Gov_audit_{it} remains significantly negative at the 1 percent level even after controlling for Audconnected_{it} , indicating that politically connected individual auditors cannot explain our main findings. The coefficient on Audconnected_{it} is marginally significant ($p \approx 0.11$).

In the 2016–2020 subsample (column 2), both Gov_audit_{it} and Audconnected_{it} are significantly negative.

In contrast, in the 2021–2023 subsample (column 3), Gov_audit_{it} remains significantly negative at the 1 percent level, while Audconnected_{it} becomes insignificant. Chow tests further indicate significant differences across periods: the effect of Gov_audit_{it} becomes more negative in 2021–2023 than in 2016–2020 ($\text{Chi}^2 = 5.246$), and the effect of Audconnected_{it} becomes less negative over time ($\text{Chi}^2 = 3.443$).

Overall, these results suggest that the mechanism documented in our study reflects economic ties strengthened by recent policies encouraging the procurement of private audit services. At the same time, the traditional influence of political connections appears to be weakening. These contrasting trends help clarify how our findings differ from those of He et al. (2022) and highlight the unique nature of the setting.⁶

Cross-Sectional Tests

Big 4 and Non-Big 4 Audit Firms

the National People's Congress or Chinese People's Political Consultative Conference; (4) worked in the issuance committee of the China Securities Regulatory Commission.

⁶ For the $\text{Gov_audit}_{it} = 1$ subsample, only 11.12 percent of observations have political connections ($\text{Audconnected}_{it} = 1$).

The auditing literature indicates that Big 4 audit firms are more independent and deliver higher quality audits. We expect that Big 4 audit firms are less likely to be affected by the rent-seeking effect. Thus, the results reported in Tables 4 and 5 are expected to be more pronounced for non-Big 4 audit firms. We rerun the MAO model and the audit fee model separately for the Big 4 and non-Big 4 audit firms. As shown in Table 7, Panel A, the coefficient of Gov_audit_{it} is significantly negative (positive) for the non-Big 4 audit firm subsample in the MAO (audit fee) model in columns (2) and (4) but is not significant for the Big 4 audit firm subsample. The Chow tests show that the difference between the Big 4 and non-Big 4 audit firms is significant ($Chi2 = 3.347$ and 4.160 , respectively). In general, the results indicate that non-Big 4 firms engaged in government audits are more likely to be affected by local governments, issuing fewer MAOs and charging higher audit fees to local publicly listed firms.⁷

[Insert Table 7 here]

SOEs and Non-SOEs

Prior literature indicates that the government is more likely to protect SOEs because the career evaluation of government officials is more closely linked to SOE performance (Jiang and Jia, 2025). We separate the sample into SOEs and non-SOEs and rerun the MAO and audit fee models. The results are presented in Table 7, Panel B. For the MAO model, the coefficient of Gov_audit_{it} is more significantly negative for the SOE subsample than for the non-SOE subsample (Chow test $Chi2 = 4.269$). For the audit fee model, the coefficient of Gov_audit_{it} is significantly positive for the SOE subsample only. In summary, the results indicate that the main findings are more salient for the SOE subsample than for the non-SOE subsample.⁸

⁷ In the Big 4 firm subsample, the proportion of $Gov_audit_{it} = 1$ is 2.83 percent, whereas in the non-Big 4 subsample, it is 9.42 percent, indicating that local governments are more likely to select domestic audit firms rather than Big 4 international audit firms.

⁸ In the SOE subsample, the proportion of $Gov_audit_{it} = 1$ is 11.58 percent, compared with 7.85 percent in the non-SOE subsample, suggesting that governments are more likely to engage audit firms that audit publicly listed SOEs.

Robustness Tests of Sample Selection

PSM and Entropy Balancing

Table 3, Panel B, demonstrates that the fundamental characteristics of the $Gov_audit_{it} = 1$ subsample may differ from the $Gov_audit_{it} = 0$ subsample. To partially mitigate potential selection bias, we use PSM. In the first stage, we estimate the propensity score by establishing a probit model. We then match the $Gov_audit_{it} = 1$ subsample with the $Gov_audit_{it} = 0$ subsample using the closest propensity score (0.001). Finally, we rerun both models using the matched samples. Table 8, Panel A, presents descriptive statistics for the PSM sample. The univariate test shows that after PSM, the $Gov_audit_{it} = 1$ subsample still receives a significantly lower frequency of MAOs and pays significantly higher audit fees than the $Gov_audit_{it} = 0$ subsample. The results also show no significant differences in other firm characteristics between these two subsamples of firms, except for the $Loss_{it-1}$ variable.

Columns (1) and (2) of Table 8, Panel B, present the regression results for the MAO and the audit fee models using the PSM-matched samples. In column (1), the coefficient of Gov_audit_{it} is significantly negative at the 1 percent level (coefficient = -0.329 ; z -statistic = -4.120), showing that private sector audit firms engaged in government audits issue fewer MAOs to local publicly listed clients. Meanwhile, the significantly positive coefficient of Gov_audit_{it} (coefficient = 0.040 , t -statistic = 3.476) presented in column (2) suggests that audit firms engaged in government audits charge higher audit fees to local publicly listed clients to compensate for potential legal risks.

As a robustness check, we further conduct entropy balancing method. After entropy balancing, the mean, variance, and skewness of the distribution for each matched variable in the control sample are similar to those in the treatment sample. We rerun both models using the entropy-balancing sample. The results are presented in columns (3) and (4) of Table 8, Panel B, and are consistent with our main findings and PSM results.

[Insert Table 8 here]

First-Time Engagement in Government Audits

To better understand the change effect of engaging in government audits, we conduct a robustness test comparing samples with first-time engagement in government audits and samples without engagement in government audits.⁹ Using change effects may mitigate endogeneity by controlling for time-invariant unobserved factors that may affect engagement in government audits and audit outcomes for publicly listed clients simultaneously. The change-effect analysis better shows how auditors alter their audit decisions for local publicly listed firms after their audit firms transition from nonengagement to engagement in government audits. The results are displayed in Panel C of Table 8 and are similar to our main results.

Cities with More Than One Private Auditor Engaged in Government Audits

It is possible that the main results are driven by systematic differences in the cities where local governments choose to use or not use private auditors. Thus, we restrict the sample to cities with more than one private auditor engaged in government audits. The results of the restricted subsample are reported in Table 8, Panel D, and are consistent with the main results. The results alleviate concerns that our results might be driven by systematic differences in audit market characteristics or local government selection patterns.

Additional Robustness Tests for Mitigating Endogeneity

Firm Fixed Effects

Although the above PSM and entropy-balancing results provide some comfort with respect to observable differences between treatment and control observations, some factors

⁹ In our change-effect test, the treatment group consists of audit firm-year observations engaging in government audits for the first time, while the control group comprises all firm-year observations not involved in government audits. We also conduct an additional robustness check, in which the control group is strictly restricted to the preengagement years of the treated audit firms (acting as their own control). The untabulated results remain robust and consistent with our primary findings.

remain unobservable. As a robustness test, we include client firm fixed effects rather than client industry fixed effects in the regression models. Including client firm fixed effects controls for the unobservable, time-invariant characteristics of a specific client firm that may influence audit opinions and audit fees. Some observations in the MAO model are automatically dropped when there is no variation in the dependent variable (MAO_{it}) over time for a specific client firm. The results with client firm fixed effects are displayed in the first two columns of Table 9, Panel A, and are similar to the main results in Tables 4 and 5.

It is possible that private auditors selected by the government are fundamentally different from auditors who do not perform government audits. Thus, as an additional robustness check, we conduct tests controlling for audit firm fixed effects. The results with audit firm fixed effects are displayed in the last two columns of Table 9, Panel A, and are consistent with the main results.

[Insert Table 9 here]

Lagged Variables Model

To further mitigate the endogeneity issues, we adopt a lagged variables model. Although not an ideal solution, lagging variables may, to some extent, alleviate endogeneity issues. The results of the lagged variables model are presented in Table 9, Panel B. The coefficients of $Gov_audit_lag_{it}$ are significantly negative in the MAO model in column (1) and significantly positive in the audit fee model in column (2), similar to our main results in Tables 4 and 5.

Difference-in-Differences Analysis

We further use a difference-in-differences approach to measure the impact of increased market potential for government audits involving private audit firms on audit decisions for local publicly listed companies. As noted in the institutional background section, the National Audit Office issued a policy in June 2021 that formally encouraged the procurement of audit

services from private audit firms. This policy substantially increased opportunities for private audit firms to obtain government audit contracts, thereby strengthening their incentives to engage in rent-seeking behavior. Cities that never recruited private audit firms for government audits during the sample period are assigned to the control group ($Treat_{it} = 0$), while cities that recruited private audit firms at least once are assigned to the treatment group ($Treat_{it} = 1$). The $post_{it}$ indicator equals 1 for years 2021–2023 and 0 for years 2016–2020.

The results, reported in Panel C of Table 9, show that the interaction $Treat_{it} * post_{it}$ is significantly negative in the MAO model and significantly positive in the audit fee model. These findings suggest that after the policy, private audit firms had stronger incentives to issue clean opinions and charge higher audit fees to local publicly listed clients, consistent with an economic incentive mechanism.

To further strengthen our arguments, we run an additional model to test whether audit firms that deliver more (fewer) MAOs are then less (more) likely to obtain a government audit contract. The dependent variable is Gov_audit_{it} , and the test variable is MAO_lag_{it} (the lag value of MAO_{it}). We also include all control variables from the main model. The untabulated results show that the coefficient of MAO_lag_{it} is significantly negative (coefficient = -0.211 , z -statistic = -3.358), indicating that audit firms issuing more (fewer) MAOs in the previous year are less (more) likely to obtain a government audit contract.

Alternative Measures of Audit Quality

As a robustness check, we use absolute discretionary accruals to proxy for audit quality. We calculate discretionary accruals as the residual from the performance-adjusted Jones model for each industry–year combination (Kothari, Li, and Park 2005). The dependent variable is the absolute value of discretionary accruals ($DAab_{it}$), while the test variable is Gov_audit_{it} . We include the same control variables as in the MAO model. The results are shown in Table 10,

Panel A. The coefficient of Gov_audit_{it} (coefficient = 0.013, t-statistic = 2.070) is significantly positive, suggesting that local publicly listed clients of audit firms engaged in local government audits exhibit more discretionary accruals and lower audit quality. In general, the results from the discretionary accruals model show that local publicly listed clients of audit firms engaged in government audits have lower audit quality.

[Insert Table 10 here]

Alternative Measures of Government Audits

The test variable in the main result is a dummy variable. As a robustness check, we use continuous measures of government audit contract value ($Govaudit_value_{it}$) to calculate the degree of engagement in government audits. The results in Panel B of Table 10 are consistent with our main results that the contract value of government audits is negatively associated with the issuance of MAOs to local publicly listed clients and positively associated with the charge of audit fees.

VI. CONCLUSIONS

In this study, we examine whether and how private sector audit firms' engagement in government audits influences audit decisions for local publicly listed clients. We establish two theoretical arguments to develop hypotheses. From the perspective of the knowledge spillover effect, private sector audit firms may gain more knowledge about local publicly listed clients' business and political environments. This knowledge will help audit firms better understand and estimate the business risks of local publicly listed clients, improving audit judgment and audit efficiency. However, from the perspective of the rent-seeking effect, to maintain government audit contracts, private sector audit firms may protect local publicly listed firms from the issuance of MAOs and charge higher audit fees to offset potential legal risks.

We use data from Chinese publicly listed firms from 2016 to 2023 and find that when private sector audit firms engage in government audits, they issue fewer MAOs to local publicly listed firms and charge higher audit fees. The results, in general, support the rent-seeking argument. This paper contributes to a more comprehensive understanding of the economic influences of government procurement of audit firm services and how social and political institutions influence audit outcomes.

In practice, our study sheds light on the recent policy encouraging private sector audit firms to participate in government audits. Government audits are a new revenue source for private sector audit firms. To maintain this economic tie and satisfy the local government, private sector audit firms may compromise their independence to protect local publicly listed firms. Prior research and discussion on government audits focus on government audit efficiency and quality. Our study provides new insights into this discussion by showing that the economic connection between private sector audit firms and local governments may have side effects that compromise the independence of private sector audit firms in capital markets. Thus, regulators may consider a more detailed policy on the engagement of private sector audit firms in government audits. For example, the policy may require the rotation of recruited external audit firms. Moreover, our study has some implications for capital market shareholders and stakeholders in that they should pay attention to the economic connections between audit firms and the government.

Despite the contributions of this paper, several limitations remain and offer avenues for future research. First, our measurement of engagement in government audits relies on a dummy variable and total contract value. Future work may develop more comprehensive measures, such as incorporating the number or types of government agencies with which private auditors engage. Second, although we employ several approaches to mitigate endogeneity concerns, it is still possible that private audit firms participating in government audits differ systematically

from those that do not. Future studies may consider identifying a cleaner empirical setting to facilitate a difference-in-differences design. Third, subject to data availability, future research may further explore this topic at the individual audit-partner level to gain more granular insights into the mechanisms at play.

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TABLE 1
Sample Selection

	Observations
Initial sample from 2016 to 2023	32,565
(-) Observations in the financial industry	-841
(-) Observations with audit firms engaged in government audits at the province level	-674
(-) Observations with missing variables in the models	<u>-2,120</u>
(=) Final sample observations	28,930
Of which	
Firm-year observations with audit firms engaged in government audits at the city level	2,612
Firm-year observations without audit firms engaged in government audits at the city level	26,318

TABLE 2

Distribution of Samples

Panel A. Distribution of Samples by years

Year	Gov_audit _{it} =1		Gov_audit _{it} =0		Total	
	(1) Obs.	(2) Percent	(3) Obs.	(4) Percent	(5) Obs.	(6) Percent
2016	73	2.79%	2,615	9.94%	2,688	9.29%
2017	125	4.79%	2,794	10.62%	2,919	10.09%
2018	149	5.70%	3,147	11.96%	3,296	11.39%
2019	293	11.22%	3,091	11.74%	3,384	11.70%
2020	341	13.06%	3,255	12.37%	3,596	12.43%
2021	513	19.64%	3,547	13.48%	4,060	14.03%
2022	533	20.41%	3,814	14.49%	4,347	15.03%
2023	585	22.40%	4,055	15.41%	4,640	16.04%
Total	2,612	100%	26,318	100%	28,930	100%

Panel B. Distribution of Samples by industries

Industry	Gov_audit _{it} =1		Gov_audit _{it} =0		Total	
	(1) Obs.	(2) Percent	(3) Obs.	(4) Percent	(5) Obs.	(6) Percent
Transportation	80	3.06%	696	2.64%	776	2.68%
Hotel and Restaurant	12	0.46%	51	0.19%	63	0.22%
Information Technology and Software	449	17.19%	1,846	7.01%	2,295	7.93%
Agriculture	22	0.84%	305	1.16%	327	1.13%
Manufacturing	1,246	47.70%	17,620	66.95%	18,866	65.21%
Public hygiene	6	0.23%	81	0.31%	87	0.30%
Household	1	0.04%	5	0.02%	6	0.02%
Construction	96	3.68%	648	2.46%	744	2.57%
Real estate	113	4.33%	808	3.07%	921	3.18%
Wholesale and Retail	124	4.75%	1,179	4.48%	1,303	4.50%
Education	10	0.38%	47	0.18%	57	0.20%
Entertainment	64	2.45%	368	1.40%	432	1.49%
Public utilities	48	1.84%	407	1.55%	455	1.57%
Electric power, steam and hot water production	103	3.94%	759	2.88%	862	2.98%
Scientific research	75	2.87%	373	1.42%	448	1.55%
Commercial service	70	2.68%	347	1.32%	417	1.44%
Mining	54	2.07%	508	1.93%	562	1.94%
Comprehensive	39	1.49%	270	1.03%	309	1.07%
Total	2,612	100%	26,318	100%	28,930	100%

Note: Table 2 presents the distribution of samples. Panel A reports the distribution of samples by year. Columns (1) and (2) present the number of observations and the proportion for each year for the Gov_audit_{it} = 1 subsample. Columns (3) and (4) report the year distribution for the Gov_audit_{it} = 0 subsample. Columns (5) and (6) present the year distribution for the full sample. Panel B presents the distribution of samples by industry. Columns (1) and (2) report the number of observations and the proportion in each industry for the Gov_audit_{it} = 1 subsample. Columns (3) and (4) present the industry distribution for the Gov_audit_{it} = 0 subsample. Columns (5) and (6) report the industry distribution for the full sample.

TABLE 3
Descriptive Statistics

Panel A. Descriptive Statistics for the Full Sample

Variable	N	Mean	Std. Dev.	25 th Percentile	Median	75 th Percentile
MAO _{it}	28,930	0.054	0.227	0	0	0
Auditfee _{it}	28,930	13.837	0.626	13.385	13.732	14.187
Gov_audit _{it}	28,930	0.090	0.287	0	0	0
Big4 _{it}	28,930	0.061	0.239	0	0	0
CI _{it}	28,930	0.010	0.016	0.002	0.004	0.01
size _{it}	28,930	22.336	1.330	21.406	22.141	23.066
Lev _{it}	28,930	0.428	0.210	0.263	0.416	0.575
CFO _{it}	28,930	0.047	0.070	0.009	0.046	0.087
Liquidity _{it}	28,930	2.455	2.408	1.171	1.694	2.774
ROE _{it}	28,930	0.033	0.209	0.020	0.063	0.110
Loss _{it-1}	28,930	0.138	0.345	0	0	0
salesg _{it}	28,930	0.149	0.436	-0.049	0.087	0.249
Age _{it}	28,930	11.335	8.294	4	9	19
sOE _{it}	28,930	0.300	0.458	0	0	1
Restate _{it}	28,930	0.094	0.292	0	0	0
sub _{it}	28,930	24.663	30.577	7	15	29
Ext _{it}	28,930	0.498	1.310	0.055	0.136	0.353
Report_lag _{it}	28,930	4.633	0.165	4.500	4.700	4.762

Panel B. Descriptive Statistics for the sample of Gov_audit_{it}=1 and the sample of Gov_audit_{it}=0

	Gov_audit _{it} =1	Gov_audit _{it} =0	Difference in mean
	(1)	(2)	(1)-(2)
MAO _{it}	0.029	0.057	-0.028***
Auditfee _{it}	13.914	13.830	0.084***
Big4 _{it}	0.020	0.065	-0.045***
CI _{it}	0.009	0.010	-0.001*
size _{it}	22.516	22.318	0.198***
Lev _{it}	0.422	0.429	-0.007
CFO _{it}	0.042	0.047	-0.005***
Liquidity _{it}	2.663	2.435	0.228***
ROE _{it}	0.020	0.034	-0.014***
Loss _{it-1}	0.160	0.136	0.024***
salesg _{it}	0.127	0.151	-0.024***
Age _{it}	11.613	11.307	0.306*
sOE _{it}	0.392	0.291	0.101***
Restate _{it}	0.092	0.095	-0.003
sub _{it}	30.152	24.118	6.034***
Ext _{it}	0.483	0.499	-0.016
Report_lag _{it}	4.646	4.632	0.014***

Note: Table 3, Panel A, presents descriptive statistics for each variable in the full sample, including the number of observations, the mean value, the standard deviation, the 25th percentile, the median value, and the 75th percentile. Panel B compares the Gov_audit_{it} = 1 subsample and the Gov_audit_{it} = 0 subsample for the mean value of each variable. The Appendix presents all variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. All p-values are two-tailed. In Panel B, ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively.

TABLE 4
Regression Results of the MAO Model

	Predicted Sign	MAO _{it} (1)	MAO _{it} (2)
Gov_audit _{it}	-	-0.387*** (-7.379)	-0.341*** (-5.152)
Big4 _{it}	+		-0.077 (-0.890)
CI _{it}	+		8.791*** (12.301)
size _{it}	-		-0.233*** (-16.084)
Lev _{it}	+		1.819*** (16.970)
CFo _{it}	-		-1.723*** (-7.694)
Liquid _{it}	-		0.013 (1.332)
RoE _{it}	-		-0.607*** (-11.901)
Loss _{it-1}	+		0.647*** (18.470)
salesg _{it}	+		-0.021 (-1.363)
Age _{it}	+		0.036*** (17.166)
soE _{it}	?		-0.754*** (-16.460)
Constant	?	-1.461*** (-9.293)	1.634*** (4.540)
Industry/Year dummy		Yes	Yes
Pseudo R ²		0.025	0.337
Sample Size		28,930	28,930

Note: Table 4 presents the results of the MAO model. The dependent variable is MAO_{it}, an indicator variable that equals 1 for an MAO and 0 otherwise. The test variable is Gov_audit_{it}, an indicator variable that equals 1 if the audit firm is engaged in the local government audit at the city level and equals 0 otherwise. Column (1) reports the results without control variables, while column (2) presents the results with all control variables. Industry and year fixed effects are included in both columns. The Appendix presents all variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. All p-values are two-tailed. In Panel B, ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively. z-statistics are based on standard errors adjusted for firm-year-level clustering.

TABLE 5
Regression Results of the Audit Fees Model

	Predicted Sign	Auditfee _{it} (1)	Auditfee _{it} (2)	Auditfee _{it} (3)
Gov_audit _{it}	+	0.030** (2.316)	0.028*** (3.250)	0.024*** (2.727)
Big4 _{it}	+		0.570*** (46.231)	0.558*** (45.000)
MAO _{it}	+		0.185*** (14.475)	
Restate _{it}	+		0.048*** (5.506)	0.020** (2.180)
size _{it}	+		0.263*** (86.669)	0.274*** (86.624)
Lev _{it}	+		0.080*** (4.320)	0.017 (0.863)
Liquid _{it}	-		-0.014*** (-11.913)	-0.015*** (-12.444)
ROE _{it}	-		-0.148*** (-10.289)	-0.249*** (-14.087)
salesg _{it}	+		0.009 (1.411)	0.022*** (3.304)
Age _{it}	-		-0.002*** (-6.347)	-0.002*** (-6.602)
sub _{it}	+		0.004*** (35.776)	0.004*** (34.689)
Ext _{it}	+		0.011*** (5.708)	0.013*** (6.484)
Report_lag _{it}	+		0.166*** (11.039)	0.163*** (10.775)
sOE _{it}	?		-0.118*** (-18.166)	-0.118*** (-17.905)
Constant	?	14.309*** (134.956)	7.850*** (72.503)	7.662*** (68.588)
Industry/Year dummy		Yes	Yes	Yes
Adj. R ²		0.056	0.611	0.621
Sample size		28,930	28,930	27,357

Note: Table 5 presents the results of the audit fee model. The dependent variable is Auditfee_{it}, which is the natural logarithm of audit fee. The test variable is Gov_audit_{it}, an indicator variable that equals 1 if the audit firm is engaged in the local government audit at the city level and equals 0 otherwise. Column (1) reports the results without control variables for the full sample. Column (2) presents the results with all control variables for the full sample. Column (3) reports the results with control variables for the subsample preceded by clean audit opinions. The industry and year fixed effects are included in both columns. The Appendix presents all variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. All p-values are two-tailed. In Panel B, ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively. t-statistics are based on standard errors adjusted for firm-year-level clustering.

TABLE 6

Regression Results of additional analysis

Panel A. Different types of MAOs

	Full sample	Full sample	Financially distressed sample	Non-Financially distressed sample
	scope _{it}	Mu _{it}	Gc _{it}	Gc _{it}
	(1)	(2)	(3)	(4)
Gov_audit _{it}	-0.464*** (-4.311)	-0.287*** (-3.289)	-0.250** (-2.484)	0.016 (0.068)
Control variables	Yes	Yes	Yes	Yes
Industry/Year dummy	Yes	Yes	Yes	Yes
Pseudo R ² / Adj. R ²	0.283	0.221	0.380	0.472
Sample Size	28,930	28,930	8,642	20,288

Panel B. Comparison with He et al. (2022) for the MAO model

	Full sample	Years 2016-2020	Years 2021-2023
MAO _{it}	(1)	(2)	(3)
Gov_audit _{it}	-0.334*** (-5.066)	-0.278*** (-2.826)	-0.603*** (-6.038)
Audconnected _{it}	-0.399 (-1.573)	-0.798** (-2.003)	-0.136 (-0.461)
Control variables	Yes	Yes	Yes
Industry/Year dummy	Yes	Yes	Yes
Pseudo R ² / Adj. R ²	0.335	0.359	0.337
Sample Size	28,930	15,891	13,039
Chow test Chi2 (Gov_audit _{it})			5.246**
Chow test Chi2 (Audconnected _{it})			3.443*

Note: Panel A of Table 6 presents the results for all MAO types. Column (1) presents the results for scope_{it}, an indicator variable that equals 1 for limitation-of-scope opinions and 0 otherwise. Column (2) reports the results for Mu_{it}, an indicator variable that equals 1 for opinions with an emphasis on uncertain matters and 0 otherwise. Columns (3) and (4) present the results for Gc_{it}, an indicator variable that equals 1 for going-concern opinions and 0 otherwise. Column (3) presents the results for Gc_{it} for the subsample of financially distressed firms, while Column (4) reports the results for the subsample of nonfinancially distressed firms. Panel B presents the regression results for the MAO model including a new control variable Audconnected_{it}, an indicator variable that equals 1 if the individual auditor of the publicly listed firm is politically connected, as defined in He et al. (2022), and 0 otherwise. The Appendix presents all variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. All p-values are two-tailed. In Panel B, ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively. t-statistics and z-statistics are based on standard errors adjusted for firm-year-level clustering.

TABLE 7**Regression Results of Cross-sectional tests****Panel A. Cross-sectional tests (Big4_{it}=1 vs. Big4_{it}=0)**

	MAO _{it} Big4 _{it} =1 (1)	MAO _{it} Big4 _{it} =0 (2)	Auditfee _{it} Big4 _{it} =1 (3)	Auditfee _{it} Big4 _{it} =0 (4)
Gov_audit _{it}	0.507 (1.076)	-0.364*** (-5.356)	-0.122 (-1.629)	0.030*** (3.452)
Control variables	Yes	Yes	Yes	Yes
Industry/Year dummy	Yes	Yes	Yes	Yes
Pseudo R ² / Adj. R ²	0.429	0.347	0.648	0.531
Sample Size	1,766	27,164	1,766	27,164
Chow test Chi2	3.347*		4.160**	

Panel B. Cross-sectional tests (SOE_{it}=1 vs. SOE_{it}=0)

	MAO _{it} SOE _{it} =1 (1)	MAO _{it} SOE _{it} =0 (2)	Auditfee _{it} SOE _{it} =1 (3)	Auditfee _{it} SOE _{it} =0 (4)
Gov_audit _{it}	-0.688*** (-3.682)	-0.272*** (-3.630)	0.052*** (3.166)	0.005 (0.524)
Control variables	Yes	Yes	Yes	Yes
Industry/Year dummy	Yes	Yes	Yes	Yes
Pseudo R ² / Adj. R ²	0.285	0.356	0.654	0.577
Sample Size	8,691	20,239	8,691	20,239
Chow test Chi2	4.269**		6.061**	

Note: Panel A of Table 7 presents the results of the cross-sectional test for Big 4 and non-Big 4 firms. Columns (1) and (3) present the results for Big 4 firms, while Columns (2) and (4) report the results for non-Big 4 firms. Panel B presents the regression results of the cross-sectional test for SOEs and non-SOEs. Columns (1) and (3) present the results for SOEs, while columns (2) and (4) report the results for non-SOEs. The Appendix presents all variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. All p-values are two-tailed. In Panel B, ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively. t-statistics and z-statistics are based on standard errors adjusted for firm-year-level clustering.

TABLE 8**Robustness Tests of Sample Selection****Panel A. Descriptive Statistics (Mean) of the Propensity Score Matching (PSM) Sample**

	Gov_audit _{it} =1 (1)	Gov_audit _{it} =0 (2)	Difference (1)–(2)
MAo _{it}	0.029	0.045	-0.016***
Auditfee _{it}	13.914	13.872	0.042**
Big4 _{it}	0.021	0.026	-0.005
CI _{it}	0.009	0.009	0.000
size _{it}	22.515	22.504	0.011
Lev _{it}	0.423	0.423	0.000
CFO _{it}	0.042	0.043	-0.001
Liquidity _{it}	2.659	2.728	-0.069
RoE _{it}	0.020	0.026	-0.006
Loss _{it-1}	0.158	0.142	0.016*
salesg _{it}	0.127	0.132	-0.005
Age _{it}	11.617	11.935	-0.318
soE _{it}	0.391	0.397	-0.006
Restate _{it}	0.092	0.090	0.002
sub _{it}	30.195	29.643	0.552
Ext _{it}	0.483	0.452	0.031
Report_lag _{it}	4.646	4.643	0.003

Panel B. Regression Results for the PSM Sample and Entropy Balance (EB) Sample

	MAo _{it} PSM (1)	Auditfee _{it} PSM (2)	MAo _{it} EB (3)	Auditfee _{it} EB (4)
Gov_audit _{it}	-0.329*** (-4.120)	0.040*** (3.476)	-0.295*** (-4.759)	0.021** (2.356)
Control variables	Yes	Yes	Yes	Yes
Industry/Year dummy	Yes	Yes	Yes	Yes
Pseudo R ² /Adj. R ²	0.325	0.573	0.318	0.581
Sample Size	5,210	5,210	28,930	28,930

Panel C. Regression Results for the first time engagement in government audits

	MAo _{it} (1)	Auditfee _{it} (2)
Gov_audit _{it}	-0.421** (-2.111)	0.049** (2.346)
Control variables	Yes	Yes
Industry/Year dummy	Yes	Yes
Pseudo R ² /Adj. R ²	0.347	0.615
Sample Size	26,627	26,627

Panel D. Regression Results of cities with more than one auditor engaged in government audits

	MAo _{it} (1)	Auditfee _{it} (2)
Gov_audit _{it}	-0.310*** (-4.554)	0.018** (2.031)
Control variables	Yes	Yes
Industry/Year dummy	Yes	Yes
Pseudo R ² /Adj. R ²	0.332	0.641
Sample Size	16,301	16,301

Note: Table 8 presents the robustness tests of the sample selection. Panel A presents the univariate results for the $\text{Gov_audit}_{it} = 1$ and $\text{Gov_audit}_{it} = 0$ firm subsamples matched by PSM. Panel B presents the regression results of the MAO and audit fee models under PSM and entropy balancing. Panel C reports the results of the MAO and audit fee models for first-time engagement in government audits. Panel D reports the results for the subsample of cities with more than one private auditor engaged in government audits. The Appendix presents all variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. All p-values are two-tailed. In Panel B, ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively. t-statistics and z-statistics are based on standard errors adjusted for firm-year-level clustering.

TABLE 9**Additional robustness tests for mitigating endogeneity issues****Panel A. Regression Results with Firm Fixed Effects**

	MAO _{it} (1)	Auditfee _{it} (2)	MAO _{it} (3)	Auditfee _{it} (4)
Gov_audit _{it}	-0.364*** (-2.824)	0.061*** (9.846)	-0.300*** (-4.344)	0.061*** (5.935)
Control variables	Yes	Yes	Yes	Yes
Firm dummy	Yes	Yes	No	No
Audit firm dummy	No	No	Yes	Yes
Year dummy	Yes	Yes	Yes	Yes
Pseudo R ² /Adj. R ²	0.342	0.913	0.359	0.478
Sample Size	4,599	28,650	28,892	28,923

Panel B. Regression Results with lagged variables

	MAO _{it} (1)	Auditfee _{it} (2)
Gov_audit_lag _{it}	-0.147** (-2.302)	0.022** (2.431)
Control variables	Yes	Yes
Industry/Year dummy	Yes	Yes
Pseudo R ² /Adj. R ²	0.375	0.611
Sample Size	28,930	28,930

Panel C. Regression Results of the difference-in-difference analysis

	MAO _{it} (1)	Auditfee _{it} (2)
Treat _{it}	-0.177*** (-4.432)	0.062*** (9.538)
post _{it}	-0.283*** (-4.112)	0.082*** (7.184)
Treat _{it} * post _{it}	-0.127** (-2.025)	0.021** (2.261)
Control variables	Yes	Yes
Industry/Year dummy	Yes	Yes
Pseudo R ² /Adj. R ²	0.350	0.616
Sample Size	28,930	28,930

Note: Table 9 presents the results of additional robustness tests to mitigate endogeneity. The first two columns of Panel A report the results of the MAO and audit fee models with client firm fixed effects, and the last two columns present the results with audit firm fixed effects. Panel B presents the results of the MAO and audit fee models with lagged variables. Panel C presents the results of the difference-in-differences analysis. Treat_{it} = 0 for firms located in cities that never recruited private audit firms for government audits, and Treat_{it} = 1 for firms located in cities that ever recruited private audit firms for government audits. post_{it} = 0 for years 2016–2020, while post_{it} = 1 for years 2021–2023. The Appendix presents all variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. All p-values are two-tailed. In Panel B, ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively. t-statistics and z-statistics are based on standard errors adjusted for firm-year-level clustering.

TABLE 10
Regression Results for Alternative measures of audit quality and government audits

Panel A. Regression Results for the alternative measure of audit quality

	DA _{it}
Gov_audit _{it}	0.013** (2.070)
Control variables	Yes
Industry/Year dummy	Yes
Pseudo R ² /Adj. R ²	0.294
Sample Size	23,607

Panel B. Regression Results for the alternative measure of government audits

	MAo _{it} (1)	Auditfee _{it} (2)
Govaudit_value _{it}	-0.025*** (-4.839)	0.002*** (3.385)
Control variables	Yes	Yes
Industry/Year dummy	Yes	Yes
Pseudo R ² /Adj. R ²	0.344	0.611
Sample Size	28,479	28,479

Note: Panel A reports the results for using discretionary accruals as alternative measures of audit quality. DAab_{it} is the absolute value of performance-matched discretionary accruals (Kothari et al. 2005). Panel B shows the results of using continuous measures to define the contract value of government audits. Govaudit_value_{it} is the contract value of the government audit for the audit firm. The Appendix presents all variable definitions. All continuous variables are winsorized at the 1st and 99th percentiles. All p-values are two-tailed. In Panel B, ***, **, and * represent statistical significance at the 1, 5, and 10 percent levels, respectively. t-statistics and z-statistics are based on standard errors adjusted for firm-year-level clustering.

APPENDIX

Variable Definitions

Variable	Definition
MAO_{it}	An indicator variable that equals 1 for an MAO and 0 otherwise.
$Auditfee_{it}$	The natural logarithm of audit fees.
Gov_audit_{it}	An indicator variable that equals 1 if the audit firm is engaged in the local government audit at the city level and equals 0 otherwise.
$Big4_{it}$	A dummy variable that equals 1 if the firm hires a Big 4 audit firm and equals 0 otherwise.
CI_{it}	Calculated as the audit fee of the firm divided by the total audit fees of all the audit firm's clients.
$size_{it}$	The natural logarithm of total assets.
LEv_{it}	The ratio of total liabilities to total assets.
CFO_{it}	The ratio of cash flow from operations to total assets.
$Liquidity_{it}$	The ratio of current assets to current liabilities.
ROE_{it}	The ratio of net profit to total equity.
$Loss_{it-1}$	An indicator variable that equals 1 if the net profit is negative in the previous period and equals 0 otherwise.
$salesg_{it}$	Annual sales growth rate.
Age_{it}	The number of years since the initial public offering.
SOE_{it}	An indicator variable that equals 1 if the firm is an SOE and equals 0 otherwise.
$Restatement_{it}$	An indicator variable that equals 1 if a firm's financial statements are being restated in the fiscal year and 0 otherwise.
sub_{it}	The number of subsidiaries.
Ext_np_{it}	The ratio of extraordinary items over the absolute value of net income.
$Report_lag_{it}$	The natural logarithm of the number of days between the fiscal year-end and the audit report release date.
$scope_{it}$	An indicator variable that equals 1 for limitation-of-scope opinions and 0 otherwise.
Mu_{it}	An indicator variable that equals 1 for opinions with an emphasis on uncertain matters and 0 otherwise.
GC_{it}	An indicator variable that equals 1 for going-concern opinions and 0 otherwise.
$DAab_{it}$	The absolute value of performance-matched discretionary accruals (Kothari et al. 2005).
$AudConnected_{it}$	An indicator variable that equals 1 when the signing auditor has political connections as defined in their study and 0 otherwise. Following He et al. (2022), we identify the following four sources for individual auditors to cultivate political connections: (1) worked as partners in the start-up phase of affiliated audit firms; (2) worked as a director of the Chartered Institute of Certified Public Accountants or local Certified Public Accountant institutes; (3) member of the National People's Congress or Chinese People's Political Consultative Conference; (4) worked in the issuance committee of the China Securities Regulatory Commission.
$Govaudit_value_{it}$	The contract value of the government audit for the audit firm.