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Corporate power centralisation, geographic dispersion, and audit fees

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Corporate Power Centralisation, Geographic Dispersion, and Audit Fees

Abstract

This study investigates the individual and interactive effects of corporate power centralisation (CPC) and corporate geographic dispersion (CGD) on the audit fees of group companies. According to agency theory, higher CPC limits agency behaviour of subsidiaries by reducing the delegation of authority from the parent company whereas greater CGD exacerbates intra-group monitoring costs and agency conflicts by lowering the parent–subsidiary geographical proximity. Our analyses of Chinese data indicate that increasing CPC reduces the audit fees of group companies while greater CGD increases them, consistent with internal agency conflicts heightening audit engagement risk. We also find that the negative association between CPC and audit fees is more pronounced when CGD is greater, while the positive effect of CGD on audit fees is weakened by increasing CPC. Moreover, such individual and interactive effects of CPC and CGD are partially mediated by client financial reporting risk and business risk. Overall, our work advances the extant knowledge on the impact of complex group structures on group audits.

Keywords: Audit fees; corporate power centralisation; corporate geographic dispersion; group audit; group structure; internal agency costs

1. Introduction

Group audits are a salient component of audit services. For their conduct, a group can be structured by geographic locations, economic units like branches and divisions, or actual business activities, but can also be organised by separate legal entities such as a parent company and subsidiaries (International Standard on Auditing [ISA] 600 revised, Para. A6, IAASB, 2022). Given the complexities inherent in the organisational structure of client firms, ISA 600 *Special Considerations – Audits of Group Financial Statements (including the Work of Component Auditors)* stipulates that auditors should gain a comprehensive and profound understanding of diverse factors introduced by intricate group structures. This knowledge is necessary because these factors may affect client firms' susceptibility to material misstatements and auditors' exercise of professional scepticism (ISA 600 revised, Para. 9, IAASB, 2022). In response to and support of the updated ISA 600, impartial evaluation of the influence of intricate group structures of client firms on auditors' professional judgement is warranted.

According to the revised ISA 600, corporate power centralisation (CPC) and corporate geographic dispersion (CGD), as the core variables investigated in our study, are two key group structure factors that may impact auditors' assessment of the resources required to conduct group audits (ISA 600 revised, Para. 22[b], IAASB, 2022). Adhering to the ISA 600 guidelines, auditors would thus evaluate client firms' CPC and CGD when exercising professional scepticism in determining audit procedures and audit fees.

However, findings yielded by the existing audit fee research do not provide sufficient evidence on how auditors judge client firms' CPC and CGD in practice. Although

complex group structures can significantly influence operating activities and thus audit engagement risk of client firms, extant audit fee studies mostly view the group company as a single unit and rarely investigate the influence of group structure factors (Gul et al., 2018), especially those (e.g., CPC and CGD) recognised by current standard-setters as highly influential on group audits.

Notably, some studies have indeed explored the implications of client firms' group structures, concluding that auditors could plan and organise audit services in line with group structures to ensure audit effectiveness (e.g. Downey & Westermann, 2021; Stewart & Kinney, 2013; Sunderland & Trompeter, 2017). However, although insightful, these studies are usually not archival-based and do not focus on specific factors regarding group structures. Thus, it is still challenging to ascertain how auditors assess the risk introduced by diversified group structures factors, and whether they assess the impact of these factors separately or comprehensively. This could be a prominent auditing issue that requires clarification, as auditors often need to decide whether it is more efficient to acquire audit evidence by planning and performing group audits based on locations, functions, or activities of subsidiaries (ISA 600 revised, Section B, IAASB, 2022).

Overall, to uphold the practical utilisation of the updated ISA 600 and fill the aforementioned gap in pertinent auditing literature, this study examines the individual and interactive effects of two distinct factors of the parent–subsidiary structure—CPC and CGD—on audit fees, as well as the mediating role of audit engagement risk.

CPC, reflecting the allocation of decision rights between the parent company and its subsidiaries, is chosen for this investigation because the revised ISA 600 pays attention

to the influence of centralisation of the client firm's control system (ISA 600 revised, Para. 22[b], IAASB, 2022). The effect of CPC on group audit fees, however, is not straightforward because CPC may relate to information transfer costs and internal agency costs.

The information transfer cost argument suggests that, owing to subsidiaries' unique information advantages, higher CPC can intensify decision-related information transfer costs and impair decision-making efficiency (Dessein, 2002; Harris & Raviv, 2005), thereby increasing client business risk. Besides, higher CPC hinders the timely adjustment of decision-making processes to adapt to market changes, which heightens the likelihood that the client firm would distort financial reporting to meet its performance targets. In summary, this argument suggests that increasing CPC may exacerbate the reporting and operating risk of client firms.

However, the intra-group agency cost argument points out that subsidiaries as agents may not operate in the best interest of the parent company as the principal, and hence delegation of authority expands the opportunities for subsidiaries' self-serving behaviour (Kostova et al., 2018). By reducing internal agency issues, increasing CPC likely promotes component-level information quality and curbs group reporting risk (Kostova et al., 2018). This scenario is realistic, as the revised ISA 600 warns that pressures on group components to fulfil performance targets set by top management may increase the likelihood of misstatements (ISA 600 revised, Para. 30 [a], IAASB, 2022). Higher CPC could also decrease group operating risk by reducing subsidiary decision-making that deviates from group goals and guidelines. Overall, from the perspective of client financial

reporting risk and business risk as the main drivers of higher audit fees (e.g., Kim et al., 2012; Lyon & Maher, 2005), the association between CPC and audit fees is unclear.

Audit fees may also vary with CGD, which reflects the geographical proximity between the parent company and its subsidiaries. Geographically dispersed firms usually possess a wider base of investors from diversified regions, gaining higher investor recognition (Garcia & Norli, 2012). As a result, such firms are subject to greater scrutiny by market participants, which reduces the scope of top management's manipulative financial reporting and thereby reporting risk (Ma et al., 2020; Shi et al., 2015). The portfolio effect argument also predicts that increasing CGD may lower group operating risk by attenuating the correlation among cash flows of dispersed business units (Amit & Livnat, 1988; Platikanova & Mattei, 2016).

Nonetheless, by extending within-group information asymmetry, increasing CGD may exacerbate the costs of monitoring and coordinating subsidiary operations (Chen et al., 2022; Ma et al., 2020), which likely expands the opportunities for agency behaviour by subsidiaries. As suggested by the intra-group agency cost argument, increasing CGD may also aggravate the group reporting and operating risk, necessitating empirical evaluation of the relationship between CGD and audit fees.

In addition to testing the influence of CPC and CGD on audit fees individually, as an important part of this study, we aim to ascertain whether there is any interactive effect of CPC and CGD on audit fees, as the revised ISA 600 guidelines call for auditors to exercise professional scepticism from different perspectives when conducting group audits. An interactive effect likely exists because both CPC and CGD are related to intra-group

agency conflicts. For example, when auditing geographically dispersed firms, less delegation (i.e., higher CPC) lessens the potential for self-serving actions by remote subsidiaries, and thus lowers the audit risk premiums related to greater CGD. However, as it is not presently known whether internal agency issues dominate auditors' risk assessment of CPC or CGD, the interactive effect cannot be assumed *a priori*.

To gain insights into these phenomena, we empirically test the individual and interactive effects of CPC and CGD on audit fees in the China setting for three key reasons. First, China operates a double disclosure system in which A-share listed companies are required to disclose both the parent company's financial statements and the group company's consolidated financial statements, enabling us to quantify centralisation of authority (Kong et al., 2022; Liu et al., 2018).

Second, China offers a favourable setting to examine the role of group structures in shaping auditors' professional judgement. For instance, since different entities within Chinese business groups could be exposed to considerable regional variations in the economic mechanism and institutional development (Fan et al., 2011), auditors in China need to strengthen the risk assessment of group structure factors.

Third, the China Standards on Auditing (CSA) No. 1401 – Special Considerations for the Auditing of Group Financial Statements have fully converged to ISA 600 (IAASB, 2010). Although both standards define groups and components similarly and make analogous requirements on auditors to evaluate group structures, specific group structure factors (e.g., CPC and CGD) are discussed in more detail in ISA 600. Hence, for future

revisions of CSA No. 1401, it is beneficial to show how auditors in China consider group structure factors both individually and jointly.

Using a large sample of Chinese A-share listed observations from the 2007–2020 period, we find that higher CPC decreases while greater CGD increases audit fees. The results of the individual effects of CPC and CGD support the argument that intra-group agency conflicts bring about higher audit engagement risk and thus audit fees. Further, we show that rising CGD expands the inhibitory effect of CPC on audit fees, which is consistent with the individual effect of CPC being more prominent in the presence of greater intra-group agency conflicts. Likewise, when CPC increases, the positive nexus between CGD and audit fees is less pronounced, which is expected due to the inhibition of possible agency behaviour by geographically dispersed subsidiaries. In sum, the results of the interactive effect of CPC and CGD affirm the role of intra-group agency conflicts in establishing their individual effects on audit fees.

Our mechanism tests also yield several important results. First, increasing CPC (CGD) curbs (heightens) client financial reporting risk, as represented by a lower (higher) likelihood of financial restatements, a more (less) effective internal control system, and a higher (lower) information disclosure rating issued by regulators. Second, rising CPC (CGD) decreases (increases) business risk proxied by earnings volatility and operating cash flow volatility. Third, a path analysis indicates that client financial reporting risk and business risk are partial mediators of the individual effects of CPC and CGD on audit fees. Additionally, higher CPC may alleviate the positive effect of CGD on the group reporting and business risk, while greater CGD may strengthen the negative relationship between

CPC and these risks. These results regarding audit engagement risk help elucidate how CPC and CGD can affect audit fees individually and interactively, aligning with the intra-group agency cost argument.

Moreover, our results are robust to a battery of endogeneity tests, including the inclusion of additional fixed effects (i.e., firm fixed effects, industry-year fixed effects, and province-year fixed effects), the change analysis, the entropy balancing method, and the impact threshold for a confounding variable (ITCV) test. They are also robust to alternative CPC and CGD metrics, the double-cluster method for standard errors, and an alternative sampling period.

Finally, our results indicate that when the subsidiary cash allocation increases, which may imply greater internal agency issues (e.g., Amberger et al., 2021; Harford et al., 2017), the individual effects of CPC and CGD become more pronounced. We also show that audit effort likely increases with lower CPC and greater CGD, indicating that the higher risk of internal agency conflicts potentially demands greater audit effort. These results further support our core argument regarding internal agency costs.

Our investigation makes several contributions to the literature. First, it extends the current knowledge on auditors' professional judgement of client firms' complex parent-subsidiary structures (Gul et al., 2018), unlike most audit fee studies that treat the whole client firm as a single unit. The key extension is that this study takes a deeper view of whether and how distinct factors (i.e. CPC and CGD) regarding the parent-subsidiary structure individually and interactively affect audit engagement risk and further audit fees. The research findings are consistent with the conjecture that intra-group agency conflicts

could intensify auditors' risk perceptions, which is not well researched in the auditing literature. Meanwhile, our study provides the needed empirical evidence to support an argument advanced in the literature that auditors could tailor audit plans to the structure of client firms for better achieving the assurance objectives (e.g. Downey & Westermann, 2021; Stewart & Kinney, 2013; Sunderland & Trompeter, 2017).

Second, this study provides valuable insights into the external stakeholders' assessment regarding CPC. Our results indicate that auditors charge lower fees for client firms with higher CPC, since higher CPC mitigates the reporting and operating risk of client firms. These results corroborate those of Liu et al. (2018) that over-decentralisation decreases firm performance more than over-centralisation. Likewise, we document that internal agency costs, rather than information transfer costs, are the main factor contributing to the negative link between CPC and audit fees.

Third, by recording a positive association between CGD and audit fees, we enrich the literature on the consequences of CGD. The mechanism analyses further manifest that greater CGD increases audit fees by intensifying the group reporting and business risk. These results suggest that auditors are more concerned with intra-group agency conflicts than outside investor recognition when evaluating the audit engagement risk of geographically dispersed firms. Hence, our results complement the present view that CGD affects the parent company's and subsidiaries' misstatements in opposite ways (Ma et al., 2020).

Although Gul et al. (2018) have already established a positive relationship between the number of parent–subsidiary investment layers and audit fees, our research is novel

and unique in several respects. First, the number of investment layers depends on corporate ownership structures (Gul et al., 2018). In contrast, CPC and CGD are primarily related to firms' actual business activities (Chen et al., 2022; Liu et al., 2018). Second, our results are supported by the intra-group agency cost argument (Kostova et al., 2018), whereas Gul et al. (2018) attribute their findings to the greater opaqueness of firms' external information environment and the occurrence of abnormal related-party transactions. Hence, by verifying the exacerbating effect of intra-group agency conflicts on the audit risk premiums, we introduce a new source of audit engagement risk. Finally, we confirm that distinct group structure factors could interact to affect audit engagement risk and audit fees, thereby making an incremental contribution to Gul et al. (2018).

2. Background, related studies, and hypothesis development

2.1. Group companies in China

Group companies usually consist of multiple legally independent firms with a common controlling shareholder that distributes managerial and economic resources to group members. Many Chinese companies have adopted a group structure following the reforms of state-owned enterprises (SOEs) in the 1980s. During this period, many SOEs were inspired by the government to constitute business groups and operate diverse businesses under the control of one company with the aim of enhancing corporate performance (Keister, 1998). The development of the A-share market also promoted the emergence of group companies in China, since many companies would choose to go public through spin-offs or backdoor listings. One manifestation of this phenomenon is that about 40% of A-share listed firms belong to a larger business group (Sun et al., 2020).

Group companies are instrumental in driving the economic growth of China, where institutions are still relatively underdeveloped and non-arm's length transactions can be prevalent. This can be seen from the extensive and frequent intra-group economic transactions of Chinese group companies documented in prior studies (e.g. He et al., 2013; Jian & Wong, 2010; Jia et al., 2013). Recent A-share fraud cases (see Cases 1 and 2 in the supplementary material) also highlight the extent of internal agency problems for Chinese group companies. Hence, within-group governance has been a crucial issue for group companies in China.

Furthermore, CPC and CGD are directly related to this issue. China is the fourth largest country by geographic landmass and the second largest economy with the largest number of companies in the world. It also exhibits significant institutional differences across geographical regions. Accordingly, CPC and CGD may serve as prominent group structure factors that affect intra-group governance practices of client firms and thus auditors' professional judgement in China.

2.2. Chinese standards on group audits

As in China business groups are prominent economic players, group audits are highly important, which could be manifested in the stipulation of China Standard of Auditing (CSA) No. 1401 on group audits in 2006 and its subsequent amendments. This standard fully converged to ISA 600 based on a joint statement of IAASB and Chinese Auditing Standards Board (CASB) released in November 2010 (IAASB, 2010). With multiple iterations, CSA No. 1401 and its guidelines have become more detailed in elaborating group structures. For instance, in the update published in 2023, the role of group structures

in identifying components is explained and auditors are now required to understand client firms' legal group structures. These issues are in line with the revised ISA 600 but were not incorporated into the initial version in 2006. Since the parent company and subsidiaries are recognised as legal entities, this change may indicate that it is important for auditors in China to inspect parent-subsidiary structures of client firms.

Moreover, since 2006, CSA No. 1401 has consistently stressed the influence of ineffective group-level controls and inadequate access for the group to component operating information on misreporting risk, which potentially requires auditors to consider internal agency problems by examining group structures of client firms.

Consequently, we believe that the ongoing CSA No. 1401 revisions reflect Chinese standard-setters' emphasis on the impact of complex group structures. To support further amendments to the CSA No. 1401 and understand the audit practices, it is useful to examine how distinct group structure factors (e.g., CPC and CGD) could affect audit engagement risk and audit fees in China both individually and interactively.

2.3. Corporate power centralisation and audit fees

Subsidiary management generally has a better grasp than top management of the local operating environment and is more adept at responding to lower-level market changes, particularly during turbulent times (Aghion et al., 2021). The information transfer cost argument indicates that when rising CPC results in more delays and losses in internal information transfer, it is more difficult for top management to timely and appropriately respond to dynamic changes in lower-level markets, decreasing group decision-making efficiency (Dessein, 2002; Jensen & Meckling, 1992). Consequently, over centralisation

may hinder the group's ability to act on business prospects and achieve its established strategic goals, which could aggravate its operating risk. Furthermore, when top management cannot effectively adjust group strategies, they may distort financial reporting to meet performance targets. This behaviour is more likely to occur in client firms characterised by higher CPC, as greater information transfer issues impede the timely correction of group decision-making. Accordingly, CPC may be positively related to both client financial reporting risk and business risk, as suggested by the information transfer cost argument.

However, higher CPC likely reduces audit engagement risk by mitigating intra-group agency costs. The intra-group agency cost argument indicates that subsidiaries acting as agents could exhibit self-serving behaviour towards their principal (the parent company), giving precedence to their private interests and thereby causing internal agency conflicts (Kostova et al., 2018).

As part of internal agency issues, subsidiaries may intentionally distort financial reports, shrink productive capability and withhold undesirable project outcomes to facilitate their extraction of benefits from the parent company (Kostova et al., 2018). Consistent with the notion that subsidiaries may offer deceptive, misleading, or selective facts, the revised ISA 600 reminds auditors that pressures on group components to realise performance targets set by top management may increase the likelihood of misstatements (ISA 600 revised, Para. 30 [a], IAASB, 2022). Hence, internal agency conflicts sourced from lower CPC likely reduce subsidiary information quality and intensify financial reporting risk of the client firm.

Besides, subsidiaries may be prone to pseudo-compliance or the so-called ceremonial adherence to the group's goals, guidelines and practices without actual implementation (Kostova et al., 2018). Moreover, when CPC declines, subsidiaries may not work towards the fulfillment of group goals and may exploit the allocated decision rights to extract benefits that jeopardise the group's success (Jensen & Meckling, 1992; Kostova et al., 2018).¹ Such opportunistic behaviour caused by lower CPC could increase the uncertainty of group operational prospects and exacerbate client business risk.

Audit pricing theory suggests that audit fees are the compensation for the effort that auditors exert and the risk that they take in the audit engagement (Simunic, 1980). Thus, auditors will charge larger audit fees as a premium to compensate for higher client financial reporting risk and business risk. However, the arguments presented above do not provide a clear direction for the influence of CPC on audit fees. The information transfer cost argument indicates that higher CPC increases audit fees, whereas the intra-group agency cost argument suggests a negative effect of CPC on audit fees. Hence, we propose the following competing hypotheses:

H1a: *Increasing corporate power centralisation increases audit fees.*

H1b: *Increasing corporate power centralisation decreases audit fees.*

2.4. Corporate geographic dispersion and audit fees

When subsidiaries as agents are geographically dispersed, it is more costly for the principal (i.e., the parent company) to coordinate and monitor their operations (Agarwal

¹Case 1 in the supplementary material demonstrates that internal agency issues induced by lower CPC likely serve as impetus for financial misreporting.

& Hauswald, 2010; Kang & Kim, 2008). Accordingly, the scope for subsidiaries' opportunistic behaviour and internal agency problems could increase with CGD.² Building on the intra-group agency cost argument presented earlier, greater CGD may aggravate the group reporting and operating risk, thus causing a positive relationship between CGD and audit fees.

Nonetheless, greater CGD may also mitigate client financial reporting risk as it results in a larger investor base and higher investor recognition (Ma et al., 2020; Shi et al., 2015), which means stricter market scrutiny. Extant evidence shows that greater CGD decreases accrual-based earnings management (Shi et al., 2015) and the likelihood of the parent company's financial misstatements (Ma et al., 2020). Besides, greater CGD increases the difficulty of subsidiary coordination and thus reduces related-party transactions within the group (Chen et al., 2022), which may alleviate the reporting risk. In most cases, increasing CGD also tends to decrease the correlation among cash flows of subsidiaries in various areas (Platikanova & Mattei, 2016). Since the portfolio effect stipulates that the overall risk would decline when changes in one asset in the portfolio do not perfectly affect the risk and return associated with other assets (Amit & Livnat, 1988), rising CGD may reduce client business risk.

The arguments presented above suggest that, from the perspective of the group reporting and operating risk, it is not readily apparent how CGD influences audit fees. The intra-group agency cost argument implies that increasing CGD exacerbates audit fees,

²Case 2 in the supplementary material shows that intra-group agency problems caused by greater CGD could lead to financial misconduct.

whereas the inverse relationship is supported by the investor recognition argument and the portfolio effect argument about CGD. Hence, we also present two competing hypotheses below:

H2a: *Increasing corporate geographic dispersion increases audit fees.*

H2b: *Increasing corporate geographic dispersion decreases audit fees.*

3. Research design

3.1. Sample construction and data source

Our initial sample includes all firms listed on the A-share market of the Shanghai and Shenzhen stock exchanges between 2007 and 2020. To exclude the impact of changes in accounting standards on our research, our sampling period starts in 2007, when new accounting standards were formally implemented. Following the approach adopted in prior studies, we delete observations related to companies operating in the financial industry due to their atypical financial reporting and operating features. We also exclude observations with ‘Special Treatment’ (ST) designations by stock exchanges, since this is a signal that the capital markets pay special attention to ST firms, which may lead to systematic differences in audit fees compared to those charged to unsigned firms. We further exclude observations for firms that have been listed for fewer than 12 months, and those with missing values in the variables used in the regression. After applying these criteria, we gather 27,657 (27,750) firm-year observations to examine the individual effect of CPC (CGD) on audit fees. All the continuous variables are winsorised at the 1% and 99% percentiles to minimise the effect of outliers. The financial data, as well as the

location information of listed firms and their subsidiaries, is sourced from the CSMAR database.

3.2. Research methodology

3.2.1. Definition of corporate power centralisation

Our definition of CPC is consistent with Cai et al.'s (2013) survey results and the strategy of the related literature (e.g. Arora et al., 2014; Kong et al., 2022; Liu et al., 2018), which utilises the double disclosure system to quantify centralisation of authority. By interviewing about 1600 Chinese senior managers, Cai et al. (2013) find that personnel administration power, including hiring and firing employees and determining the salaries of subordinates, is a suitable proxy for corporate decision rights. Inspired by this finding, previous studies (e.g. Kong et al., 2022; Zhu & Kong, 2022) measure centralisation of authority via estimating Model (1) by industry and year, presented below:

$$P_EM_{i,t} = \alpha_0 + \alpha_1 P_ASSET_{i,t} + \varepsilon_{i,t} \quad \text{Model (1)}$$

Consistent with these studies, we take the estimated residual of Model (1) as the proxy for CPC. P_EM refers to the cash paid to and for employees in the parent company's cash flow statement divided by the counterpart in the consolidated cash flow statement. P_ASSET is the ratio of the parent company's assets to total assets in the consolidated balance sheet. P_ASSET plausibly reflects the internal allocation of resources, which may basically determine the level of centralisation. A larger value in CPC (i.e. the residual of Model (1)) signifies that more decision rights over personnel administration are allocated to the parent company after considering its economic position

within the group company, thus indicating a more centralised power structure (Cai et al., 2013).

3.2.2. Definition of corporate geographic dispersion

In accordance with the approach adopted in prior research (e.g., Landier et al., 2009; Ma et al., 2020), we employ the average geographic distance between the parent company and its subsidiaries as the proxy for CGD, whereby geographic distance is calculated based on the latitude and longitude of corresponding locations and is expressed in kilometres. A greater CGD value reflects a lower geographical proximity of the parent company to subsidiaries, and hence greater geographic dispersion within the group.

3.2.3. Definition of control variables

Our selection of the control variables is guided by previous audit fee studies (e.g., Chang et al., 2019; Hay et al., 2006; Kim et al., 2012). To capture audit complexity, we include the natural logarithm of total assets (*SIZE*), the ratio of the amount of related-party transactions to total assets (*RPT*), a dummy variable for reporting foreign sales (*FORE*), and the number of geographical segments (*NGS*) and subsidiaries (*NSUB*). To account for client business risk, we add the ratio of total liabilities to total assets (*LEV*), returns on assets (*ROA*), and a dummy variable for the operating loss (*LOSS*). To reflect corporate liquidity, we also control for the accounts receivable scaled by total assets (*REC*), the inventory scaled by total assets (*INV*), and the quick ratio (*QUICK*). We further include the book-to-market ratio (*BTM*) to indicate growth opportunities and the ratio of property, plant, and equipment to total assets (*PPE*) to represent corporate tangibility. With respect to corporate governance, we include a dummy variable for state-owned firms (*SOE*), a

dummy variable for CEO duality (*DUAL*), and the shareholding ratio of institutional investors (*INS*). In addition, we include a dummy variable for Chinese domestic Big 10 audit firms (*BIG10*) to control for the audit firm size and consider the audit reporting lag (*LAG*) as a proxy for audit effort. Finally, we control for province, as well as industry and year fixed effects. We show the detailed descriptions of all variables in Appendix A.

3.2.4. Model specification

We estimate Model (2) to test H1 and H2.

$$\begin{aligned}
AUDFEE_{i,t} = & \beta_0 + \beta_1 CPC_{i,t} (CGD_{i,t}) + \beta_2 SIZE_{i,t} + \beta_3 NSUB_{i,t} + \beta_4 NGS_{i,t} \\
& + \beta_5 FORE_{i,t} + \beta_6 RPT_{i,t} + \beta_7 LEV_{i,t} + \beta_8 ROA_{i,t} + \beta_9 LOSS_{i,t} + \beta_{10} REC_{i,t} \\
& + \beta_{11} INV_{i,t} + \beta_{12} QUICK_{i,t} + \beta_{13} BTM_{i,t} + \beta_{14} PPE_{i,t} + \beta_{15} SOE_{i,t} \\
& + \beta_{16} DUAL_{i,t} + \beta_{17} INST_{i,t} + \beta_{18} BIG10_{i,t} + \beta_{19} ALAG_{i,t} \\
& + PROVINCE + YEAR + INDUSTRY + \varepsilon_{i,t}
\end{aligned} \tag{Model (2)}$$

where $AUDFEE_{i,t}$ refers to the natural logarithm of total audit fees charged to the group company i in year t . The estimated coefficient β_1 is of particular interest, as it should be significantly positive to support H1a and H2a, while its significantly negative value would uphold H1b and H2b.

To test the interactive effect of CPC and CGD on audit fees, we expand Model (2) by adding the interaction term $CPC*CGD$, resulting in Model (3) shown below.³

$$\begin{aligned}
AUDFEE_{i,t} = & \beta_0 + \beta_1 CPC_{i,t} + \beta_2 CGD_{i,t} + \beta_3 CPC_{i,t} * CGD_{i,t} + \beta_4 SIZE_{i,t} + \beta_5 NSUB_{i,t} \\
& + \beta_6 NGS_{i,t} + \beta_7 FORE_{i,t} + \beta_8 RPT_{i,t} + \beta_9 LEV_{i,t} + \beta_{10} ROA_{i,t}
\end{aligned}$$

³Following Aiken and West (1991), in all empirical tests conducted in this study, mean-centred continuous variables are included in the interaction terms to mitigate the multicollinearity concerns.

$$\begin{aligned}
& + \beta_{11}LOSS_{i,t} + \beta_{12}REC_{i,t} + \beta_{13}INV_{i,t} + \beta_{14}QUICK_{i,t} + \beta_{15}BTM_{i,t} \\
& + \beta_{16}PPE_{i,t} + \beta_{17}SOE_{i,t} + \beta_{18}DUAL_{i,t} + \beta_{19}INST_{i,t} + \beta_{20}BIG10_{i,t} \\
& + \beta_{21}ALAG_{i,t} + PROVINCE + YEAR + INDUSTRY \\
& + \varepsilon_{i,t}
\end{aligned}
\tag{Model (3)}$$

Specifically, to establish how CPC and CGD interact to affect audit fees, we concurrently refer to the coefficients of β_1 , β_2 , and β_3 . When estimating Models (2) and (3), we cluster the standard errors at the firm level.

4. Empirical results

4.1. Descriptive statistics and correlation matrix

The descriptive statistics for the variables incorporated in Model (2) are presented in Table 1. We find that the mean (median) of *AUDFEE* is 13.620 (13.528), and the mean (median) of *CPC* is -0.007 (-0.007). These values are comparable to those reported by Lou and Zhu (2021), suggesting that A-share listed firms, on average, exhibit a slight preference for decentralisation during our sample period. Moreover, the mean (median) of *CGD* is 0.488 (0.416), implying that A-share listed firms have a tendency to spread their subsidiaries geographically. The statistics of the control variables are also similar to those obtained in previous studies (e.g., Chang et al., 2019; Li & Wang, 2024).

[INSERT TABLE 1 HERE]

As indicated by the correlation matrix of the variables featured in Model (2) provided in Table 2, the correlation coefficient between *CPC* and *AUDFEE* is -0.227 and is significant at the 1% level. Moreover, the correlation coefficient between *CGD* and

AUDFEE is 0.162 and is also significant at the 1% level. These results offer initial support for H1b and H2a.⁴

[INSERT TABLE 2 HERE]

4.2. Hypothesis testing: The individual effects of CPC and CGD on audit fees

We report baseline regression results in Table 3. The estimation results of Model (2) are provided in Columns (1) ~ (4), while those pertaining to Model (3) are reported in Columns (5) and (6). According to the results shown in Columns (1) and (2), where control variables are excluded, *CPC* (*CGD*) is negatively (positively) associated with audit fees. In Columns (3) and (4), reflecting the estimations when control variables are included, the coefficient on *CPC* is significantly negative at the 1% level [-0.1975 , $t = -7.27$ in Column (3)]. These results support the prediction that auditors charge lower fees for more power centralised groups because higher *CPC* helps alleviate intra-group agency issues. Given that the coefficient on *CGD* is positive and significant at the 1% level [0.0555 , $t = 3.55$ in Column (4)], greater *CGD* likely increases audit fees by augmenting agency conflicts between the parent company and subsidiaries. Regarding economic implications, we find that one standard deviation (1 SD) increase in *CPC* is related to a decrease of 7.07% in the SD pertaining to audit fees ($0.232 \times -0.1975 / 0.648$). Similarly, 1 SD increase in *CGD* corresponds to a 3.33% increase in the SD related to audit fees ($0.389 \times 0.0555 / 0.648$). Overall, these results provide sufficient support for H1b and H2a.

⁴As the coefficient of correlation between *CPC* and *CGD* is -0.111 , it suggests a negative link between corporate power centralisation and geographic dispersion, which is consistent with information advantages of geographically dispersed subsidiaries leading to delegation. Although this correlation coefficient is significant, its magnitude manifests weak correlation, indicating that *CPC* and *CGD* cannot be substituted for each other in empirical tests.

The coefficients of other control variables are comparable to those reported in prior studies (e.g., Chang et al., 2019; Kim et al., 2012; Li & Wang, 2024). In addition, as the average (the largest) VIF of variables included in Model (2) is 1.49 (2.71), the OLS regression is not likely to be affected by multicollinearity.

[INSERT TABLE 3 HERE]

4.3. The interactive effect of CPC and CGD on audit fees

Since the revised ISA 600 guidelines have strengthened the auditors' responsibilities of planning and performing group audits, it is necessary to ascertain whether and how CPC and CGD interact to impact group audits. Particularly, these guidelines suggest that, when evaluating the intricate group structure and its impact on group audits, auditors should concurrently inspect multiple factors, such as locations, functions, and activities of subsidiaries. To support the updated ISA 600 mandates, we expand the results drawn from Model (2) by elucidating how auditors incorporate multiple group structure features into their professional judgement, which is achieved through testing the interactive effect of CPC and CGD on audit fees.

Moreover, such an examination may lend further support to the conjecture about intra-group agency conflicts. Based on this conjecture, the individual effects of CPC and CGD will be stronger if internal agency conflicts increase. Thus, we predict that when greater CGD exacerbates the costs of monitoring self-serving behaviour by subsidiaries, the inhibitory effect of CPC on audit fees will be more pronounced. Likewise, since rising CPC reduces the delegation to lower-level managers as agents and constrains their

potential agency behaviour, we argue that higher CPC attenuates the positive nexus between CGD and audit fees.

The estimation results of Model (3) displayed in Columns (5) and (6) of Table 3 support these predictions. The coefficients on CPC*CGD are significant and negative [-0.2200, $t = -2.40$ in Column (5) without the control variables, and -0.1941, $t = -3.40$ in Column (6) with the control variables]. Moreover, the coefficient on CPC (CGD) remains negative (positive) and significant at the 1% level. The negative coefficients on both CPC*CGD and CPC imply that the negative relationship between CPC and audit fees is strengthened by greater CGD. Likewise, the negative coefficient on CPC*CGD and the positive coefficient on CGD jointly suggest that the positive nexus between CGD and audit fees is less prominent when CPC increases. Hence, the results pertaining to the interactive effect of CPC and CGD further uphold the conjecture about internal agency conflicts.

4.4. The mediating effect of client financial reporting risk and business risk

The hypothesis development about the intra-group agency cost argument suggests that lower CPC or greater CGD augments audit fees by exacerbating audit engagement risk. To support the individual effects of CPC and CGD on audit fees, we perform a path analysis to investigate whether client financial reporting risk and business risk function as indirect paths via which CPC (CGD) decreases (increases) audit fees (DeFond et al., 2016; Hayes, 2017).

Guided by prior studies (e.g., Dunn et al., 2021; Hu et al., 2021), we construct three variables—*Restatement*, *IC*, and *DisRating*—to proxy for client financial reporting risk.

Restatement is an indicator variable that equals 1 when the group company's financial report is subsequently restated, and 0 otherwise. *IC* is represented by the internal control index issued by DIB database (Chan et al., 2021; Xiang & Song, 2021).⁵ *DisRating* is coded as 1–4 to reflect, in turn, the D–A ratings released by the disclosure ranking system launched by Shenzhen Stock Exchange (SZSE) and Shanghai Stock Exchange (SSE).⁶ We argue that a lower *Restatement* value and a higher *IC* or *DisRating* value can signal decreased client financial reporting risk. Referring to Bryan and Mason (2020), we adopt the volatility of earnings (*VOLROA*) and operating cash flows (*VOLOCF*) to reflect client business risk. We define *VOLROA* (*VOLOCF*) as the standard deviation of return on assets (cash flows from operating activities divided by total assets) from year t-2 to t+2. A larger *VOLROA* or *VOLOCF* value represents higher operating uncertainty and thus greater client business risk.

Next, we estimate the following structural equation models to examine the mediating effect:

$$\begin{aligned} AUDFEE_{i,t} = & \beta_0 + \beta_1 CPC_{i,t} (CGD_{i,t}) + \beta_2 ClientFinancialReportingRisk_{i,t} \\ & + \beta_3 ClientBusinessRisk_{i,t} + \sum \beta_i Controls_{i,t} + \varepsilon_{i,t} \end{aligned} \quad \text{Model (4A)}$$

$$ClientFinancialReportingRisk_{i,t} = \alpha_0 + \alpha_1 CPC_{i,t} (CGD_{i,t}) + \sum \alpha_i Controls_{i,t} + \varepsilon_{i,t}$$

Model (4B)

$$ClientBusinessRisk_{i,t} = \delta_0 + \delta_1 CPC_{i,t} (CGD_{i,t}) + \sum \delta_i Controls_{i,t} + \varepsilon_{i,t}$$

⁵The DIB database is the first professional Chinese database in the field of internal control and risk management with an internal control scoring system design based on the *Basic Standard of Enterprise Internal Control*.

⁶The disclosure ranking is based on the quantity and quality of the disclosed accounting information during a fiscal year (Hu et al., 2021) and is summarised into four types: excellent (A), good (B), pass (C), and fail (D).

We refer to the path coefficients $\alpha_1 * \beta_2$ and $\delta_1 * \beta_3$ to interpret the mediating effect of client financial reporting risk and business risk, respectively.⁷ Further, we rely on the Sobel (1982) test statistics to check the significance of the mediating effect. In Figure 1, we exhibit the path analysis framework.

[INSERT FIGURE 1 HERE]

We display the related results in Table 4. For brevity, our discussion focuses on *DisRating* as the mediator of the individual effect of CPC, with the corresponding path coefficients shown in Column (3) of Panel A. The significantly positive $P(CPC, DisRating)$ and negative $P(DisRating, AUDFEE)$ indicate that information disclosure rating increases with CPC, and that auditors charge lower audit fees to client firms with higher information disclosure rating. The Sobel (1982) test results further confirm the indirect effect of *DisRating* on the negative relationship between CPC and audit fees. The findings reported in the other columns of Table 4 are consistent with the prediction. To conclude, our path analysis supports the prediction that client financial reporting risk and business risk act as partial mediators of the curbing (exacerbating) effect of CPC (CGD) on audit fees, upholding the intra-group agency cost argument.⁸

[INSERT TABLE 4 HERE]

⁷We estimate structural equation models to ascertain how a source variable (e.g., CPC and CGD) influences an outcome variable (e.g., audit fees) by uncovering intermediary paths involving mediators (e.g., audit engagement risk). An intermediary path comprises a path coefficient between the source variable and a mediator, as well as a path coefficient linking the mediator and the outcome variable. We employ the product of these two path coefficients to measure the overall influence of the intermediary path.

⁸In Sup-Tables 1 and 2, we also demonstrate that the negative (positive) effect of CPC (CGD) on audit engagement risk is robust to the inclusion of firm fixed effects.

4.5. The interactive effect of CPC and CGD on audit engagement risk

To support the interactive effect of CPC and CGD suggested by Model (3), we investigate how CPC and CGD interactively influence audit engagement risk. Consistent with the intra-group agency cost argument, we find that audit engagement risk increases with lower CPC and greater CGD and partially mediates the individual effects of CPC and CGD. Hence, we further expect that the negative association between CPC and audit engagement risk may be reinforced by greater CGD, whereas the positive link between CGD and such risk may be reduced by higher CPC. Specifically, we anticipate the coefficient on $CPC*CGD$ to be negative when the dependent variable is *Restatement*, *VOLROA*, or *VOLOCF*, whereas it should be positive when the dependent variable is *IC* or *DisRating*.

The results reflecting the interactive effect of CPC and CGD on audit engagement risk are reported in Table 5. In Column (1), where the dependent variable is *Restatement*, the $CPC*CGD$ coefficient is significant and negative. In comparison, this coefficient is significant and positive in Column (2), where the dependent variable is *IC*. When the dependent variable is *DisRating* in Column (3), this coefficient is positive, consistent with the prediction, although it is not statistically significant. In Columns (4) and (5), we observe a significant and negative value in the $CPC*CGD$ coefficient when client business risk is reflected by *VOLROA* and *VolCOF*, respectively. Besides, the coefficients of CPC and CGD reported in Table 5 are qualitatively consistent with those shown in the baseline regression results. Given the mediating role of audit engagement risk confirmed

by the path analyses, the interactive effect of CPC and CGD on audit fees established by Model (3) is supported by the results in Table 5.

[INSERT TABLE 5 HERE]

The above empirical results are depicted in Figure 2, visually demonstrating how CPC and CGD individually and interactively affect audit engagement risk and thereby audit fees.

[INSERT FIGURE 2 HERE]

4.6. Endogeneity tests

Since omitted variables can be a major source of endogeneity problems, we control for firm fixed effects in Models (2) and (3), which allows us to rule out the interference of unobserved time-invariant corporate factors on the obtained results. As indicated in Columns (1) ~ (3) of Table 6, findings yielded by these models when firm fixed effects are incorporated remain robust. Furthermore, to reduce the concern that some unobserved industrial and regional factors could invalidate our findings, we control for time-varying industry and province fixed effects. After adding the interactive dummies of industry-year and province-year into Models (2) and (3), we obtain qualitatively similar results, as shown in Columns (4) ~ (6) in Table 6.

[INSERT TABLE 6 HERE]

Following current auditing research (e.g., DeFond et al., 2016; Hasan et al., 2024), we also conduct a change analysis for Models (2) and (3) to reduce endogeneity issues arising from omitted variables and reverse causality. Prior audit fee studies (e.g., Hasan et al., 2024) argue that the change analysis could provide a more reliable assessment of a

causal link between two factors than a straightforward association. We therefore regress changes in audit fees on variations in the extent of CPC (CGD), controlling for the variations in the values of the control variables specified in Model (2). As confirmed by results reported in Columns (7) and (8) of Table 6, a decline in audit fees is associated with an increase in CPC or a decline in CGD, supporting H1b and H2a. The interactive effect is also robust to the change analysis, as exhibited in Column (9) of Table 6.

Our findings could be affected by the random and systematic discrepancies in observable characteristics between observations with higher CPC (CGD) and those with lower CPC (CGD). Following the strategy of prior research (e.g., Chen et al., 2022), we adopt the entropy balancing method to alleviate this concern. This method helps adjust the random and systematic differences in variable distribution between the treatment and the control group by assigning a continuous weight to each observation in the control group, thereby balancing the distribution of all covariates across the two groups. In this analysis, both control variables and the fixed effects defined in Model (2) are taken as covariates. [Respectively, we divide our sample into the treatment and control groups based on the annual median of CPC \(CGD\).](#) We then balance the treatment and control groups by adjusting the first (mean), second (variance) and third (skewness) moment for all covariates. As exhibited in Table 7, the individual and interactive effects are valid to the use of the entropy balancing method.

[INSERT TABLE 7 HERE]

Last, referring to Larcker and Rusticus (2010), we compute the impact threshold for a confounding variable (ITCV) to show how severe the correlated-omitted-variable issue

needs to be to invalidate the findings. The ITCV is the minimum product of the partial correlation between CPC (CGD) and the omitted variable and the partial correlation between *AUDFEE* and the omitted variable, rendering the coefficient of CPC (CGD) insignificant. Our findings are less likely to be overturned by omitted variables, when the ITCV is higher than the control variable's impact (i.e. the product of the control variable's partial correlations with CPC (CGD) and *AUDFEE*).

The ITCV analysis shows that 73.05% (44.74%) of observations would have to be replaced by cases with a zero effect to overturn the effect of CPC (CGD) on audit fees, which involves 20,135 (12,415) observations in the baseline regression. However, it is highly impossible that 73.05% or 44.74% of the estimation is owing to bias.⁹ Moreover, in Table 8, we find that the ITCV for CPC (-0.0323) or CGD (0.0096) is larger in magnitude than the impact of all control variables (except for *SIZE* and *NSUB* as among the foremost determinants of audit fees) in Model (2). Given that we have added a reasonable set of control variables, it can be hard to find an uncontrolled confounding variable to overturn our causal inference, thereby alleviating omitted variable concerns.

[INSERT TABLE 8 HERE]

4.7. Robustness tests

In robustness tests, we provide evidence that the main findings are not sensitive to alternative proxies for CPC and CGD, the double cluster method, and alternative

⁹These statistics are larger than the thresholds accepted in prior research using the ITCV test (e.g., Li et al., 2022; Wang et al., 2023).

sampling period. We show the related discussion and results in Sup-Table 3 in the supplementary file.

4.8. Additional tests

4.8.1. Further analysis of internal agency conflicts: the role of internal cash allocation

Agency theory suggests that excess cash holdings can cause agency problems by giving self-interested managers access to greater discretionary economic resources to undertake empire building or sustain unprofitable projects (e.g., Jensen, 1986). Indeed, prior empirical studies in this domain show that subsidiary cash holdings can trigger internal agency issues (e.g., Amberger et al., 2021; Harford et al., 2017), thereby damaging the overall group's interests.

To further verify the intra-group agency cost argument, we also examine how the individual effects of CPC and CGD are conditional on internal cash allocation (ICA). We employ ICA at the beginning of the fiscal year to reflect the risk of internal agency conflicts during the reporting period. To build the ICA variable (*ICA*), we compute the ratio of cash and cash equivalents of the parent company to those of the whole group (*P_CASH*), and the ratio of non-cash and cash equivalents (the difference between assets and cash and cash equivalents) of the parent company to those of the whole group (*P_NCASH*). *ICA* refers to the division of *P_CASH* by *P_NCASH*. Specifically, a lower value in *ICA* suggests that the parent company holds a smaller component of the group's cash assets compared to non-cash assets, which corresponds to larger subsidiary cash allocation.

When subsidiary cash allocation increases, there could be greater internal agency conflicts that serve as the underlying mechanism through which CPC (CGD) decreases (increases) audit fees, thereby reinforcing the individual effect of CPC (CGD). The results presented in Table 9 suggest that, when the *ICA* value declines—reflecting increased cash allocation to subsidiaries—the negative (positive) influence of CPC (CGD) on audit fees becomes more prominent. Hence, we support the intra-group agency cost argument by exhibiting that the strength of the individual effects of CPC and CGD likely varies with *ICA*.¹⁰

[INSERT TABLE 9 HERE]

4.8.2. Corporate power centralisation, geographic dispersion, and audit effort

Finally, we examine how CPC and CGD may change auditors' actual behaviour. Using the audit reporting lag (*ALAG*) to measure audit effort (He et al., 2017), we find that higher CPC decreases while greater CGD increases the audit reporting lag, which is shown in Table 10 with the estimations including firm fixed effects. These results indicate that auditors may exert greater effort and diligence when client firms are less power centralised or more geographically dispersed. Thus, our conjecture that auditors can be concerned with greater internal agency conflicts caused by decreasing CPC or increasing CGD is supported.

[INSERT TABLE 10 HERE]

¹⁰Consistent with the intra-group agency cost argument, our path analysis indicates that increased subsidiary cash allocation (i.e., a lowered *ICA* value) may augment the audit fees charged to the group company by exacerbating both client financial reporting risk and business risk (as shown in Sup-Table 4). In Sup-Tables 5 and 6, we also show that the inhibitory effect of CPC and the exacerbating effect of CGD on the client financial reporting risk and business risk may be stronger when subsidiary cash allocation increases. These results further confirm that internal agency costs act as the mechanism through which CPC and CGD exhibit their individual effects.

5. Conclusion

Based on a sample of Chinese A-share observations spanning the period from 2007 to 2020, we find a negative (positive) association between CPC (CGD) and audit fees. We further demonstrate that the positive link between CGD and audit fees is attenuated by higher CPC, whereas the inhibitory effect of CPC on audit fees is more pronounced when CGD increases. These individual and interactive effects align with the intra-group agency conflict perspective, according to which, if CPC decreases or CGD increases, there will be greater internal agency conflicts that exacerbate the group reporting and operating risk, leading to higher audit fees.

Drawing on the path analysis, we further document the partial mediating role of client financial reporting risk and business risk on the individual effects of CPC and CGD. Moreover, we show that increasing CPC may mitigate the positive influence of CGD on both risk types, while greater CGD likely reinforces the curbing effect of CPC on these risks. Although we are unable to identify an exogenous shock and construct a DID design that may further strengthen these causal inferences, our findings are robust to various endogeneity and robustness tests. In addition, we show that the individual effects of CPC and CGD may be stronger when subsidiary cash allocation expands, and that audit effort decreases with CPC but increases with CGD.

In sum, we provide evidence demonstrating the individual and interactive effects of CPC and CGD on audit engagement risk and audit fees. The findings yielded by our study should enhance the understanding of the role of group structure factors in shaping auditors' risk assessment and support the relevant requirements stipulated by the current ISA 600.

References

- Agarwal, S., & Hauswald, R. (2010). Distance and private information in lending. *The Review of Financial Studies*, 23(7), 2757–2788.
- Aghion, P., Bloom, N., Lucking, B., Sadun, R., & Van Reenen, J. (2021). Turbulence, firm decentralization, and growth in bad times. *American Economic Journal: Applied Economics*, 13(1), 133–169.
- Aiken, L. S., & West, S. G. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.
- Amberger, H. J., Markle, K. S., & Samuel, D. M. (2021). Repatriation taxes, internal agency conflicts, and subsidiary-level investment efficiency. *The Accounting Review*, 96(4), 1–25.
- Amit, R., & Livnat, J. (1988). Diversification and the risk-return trade-off. *Academy of Management Journal*, 31(1), 154–166.
- Arora, A., Belenzon, S., & Rios, L. A. (2014). Make, buy, organize: The interplay between research, external knowledge, and firm structure. *Strategic Management Journal*, 35(3), 317–337.
- Bryan, D. B., & Mason, T. W. (2020). Earnings volatility and auditor risk assessments: Evidence from auditor resignations. *Accounting Horizons*, 34(4), 33–56.
- Cai, H., Li, H., Park, A., & Zhou, L. A. (2013). Family ties and organizational design: Evidence from Chinese private firms. *Review of Economics and Statistics*, 95(3), 850–867.
- Chan, K. C., Chen, Y., & Liu, B. (2021). The linear and non-linear effects of internal control and its five components on corporate innovation: Evidence from Chinese firms using the COSO framework. *European Accounting Review*, 30(4), 733–765.
- Chang, H., Guo, Y., & Mo, P. L. L. (2019). Market competition, audit fee stickiness, and audit quality: Evidence from China. *Auditing: A Journal of Practice & Theory*, 38(2), 79–99.

- Chen, H., Liu, S., Wang, J., & Wu, Z. (2022). The effect of geographic proximity on corporate tax avoidance: Evidence from China. *Journal of Corporate Finance*, 72, 102–131.
- DeFond, M. L., Lim, C. Y., & Zang, Y. (2016). Client conservatism and auditor–client contracting. *The Accounting Review*, 91(1), 69–98.
- Dessein, W. (2002). Authority and communication in organizations. *Review of Economic Studies*, 69(4), 811–838.
- Downey, D. H., & Westermann, K. D. (2021). Challenging global group audits: The perspective of US group audit leads. *Contemporary Accounting Research*, 38(2), 1395–1433.
- Dunn, R. T., Lundstrom, N. G., & Wilkins, M. S. (2021). The impact of mandatory auditor tenure disclosures on ratification voting, auditor dismissal, and audit pricing. *Contemporary Accounting Research*, 38(4), 2871–2917.
- Fan, S., Kanbur, R., & Zhang, X. (2011). China’s regional disparities: Experience and policy. *Review of Development Finance*, 1(1), 47–56.
- Garcia, D., & Norli, Ø. (2012). Geographic dispersion and stock returns. *Journal of Financial Economics*, 106(3), 547–565.
- Gul, F. A., Hsu, W. H., & Liu, H. T. (2018). Parent–subsidiary investment layers and audit fees. *Journal of Accounting, Auditing and Finance*, 33(4), 555–579.
- Harford, J., Wang, C., & Zhang, K. (2017). Foreign cash: Taxes, internal capital markets, and agency problems. *The Review of Financial Studies*, 30(5), 1490–1538.
- Harris, M., & Raviv, A. (2005). Allocation of decision-making authority. *Review of Finance*, 9(3), 353–383.
- Hasan, I., Micale, J. A., & Wu, Q. (2024). Disentangling stock return synchronicity from the auditor's perspective. *Journal of Business Finance & Accounting*, 51(5-6), 1467-1507.
- Hay, D. C., Knechel, W. R., & Wong, N. (2006). Audit fees: A meta-analysis of the effect of supply and demand attributes. *Contemporary Accounting Research*, 23(1), 141–191.

- Hayes, A. F. (2017). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. Guilford publications.
- He, J., Mao, X., Rui, O. M., & Zha, X. (2013). Business groups in China. *Journal of Corporate Finance*, 22, 166–192.
- He, X., Pittman, J. A., Rui, O. M., & Wu, D. (2017). Do social ties between external auditors and audit committee members affect audit quality? *The Accounting Review*, 92(5), 61–87.
- Hu, S., Liu, M., Sohn, B. C., & Yuen, D. C. (2021). The impact of disclosure quality on analyst forecasts in China. *Accounting Forum*, 45(4), 411–434.
- International Auditing and Assurance Standards Board (IAASB). (2010, Nov 10). Chinese Auditing Standards Board and International Auditing and Assurance Standards Board Issue Joint Statement Regarding Convergence of International Standards. <https://www.iaasb.org/news-events/2010-11/chinese-auditing-standards-board-and-international-auditing-and-assurance-standards-board-issue>
- International Auditing and Assurance Standards Board (IAASB). (2022). *ISA 600, special considerations—Audits of group financial statements (Including the Work of Component Auditors)*. International Federation of Accountants.
- Jensen, M. C. (1986). Agency costs of free cash flow, corporate finance, and takeovers. *The American economic review*, 76(2), 323–329.
- Jensen, M. C., & Meckling, W. H. (1992). Specific and general knowledge and organizational structure. In H. W. L. Werin (Ed.), *Contract Economics* (pp. 251–274). Blackwell.
- Jia, N., Shi, J., & Wang, Y. (2013). Coinsurance within business groups: Evidence from related party transactions in an emerging market. *Management Science*, 59(10), 2295–2313.
- Jian, M., & Wong, T. J. (2010). Propping through related party transactions. *Review of Accounting Studies*, 15(1), 70–105.
- Kang, J. K., & Kim, J. M. (2008). The geography of block acquisitions. *Journal of Finance*, 63(6), 2817–2858.

- Keister, L. A. (1998). Engineering growth: Business group structure and firm performance in China's transition economy. *American Journal of Sociology*, 104(2), 404–440.
- Kim, J. B., Liu, X., & Zheng, L. (2012). The impact of mandatory IFRS adoption on audit fees: Theory and evidence. *The Accounting Review*, 87(6), 2061–2094.
- Kong, D., Zhu, L., & Qin, N. (2022). Does corruption shape firm centralisation? Evidence from state-owned enterprises in China. *Accounting & Finance*, 62(3), 3365–3395.
- Kostova, T., Nell, P. C., & Hoenen, A. K. (2018). Understanding agency problems in headquarters–subsidiary relationships in multinational corporations: A contextualized model. *Journal of Management*, 44(7), 2611–2637.
- Landier, A., Nair, V. B., & Wulf, J. (2009). Trade-offs in staying close: Corporate decision making and geographic dispersion. *Review of Financial Studies*, 22(3), 1119–1148.
- Larcker, D. F., & Rusticus, T. O. (2010). On the use of instrumental variables in accounting research. *Journal of Accounting and Economics*, 49(3), 186–205.
- Li, J., Pan, Y., Yang, Y., & Tse, C. H. (2022). Digital platform attention and international sales: An attention-based view. *Journal of International Business Studies*, 53(8), 1817–1835.
- Li, Z., & Wang, B. (2024). The influence of foreign institutional investors on audit fees: Evidence from Chinese listed firms. *Accounting Forum*, 48(1), 35–62.
- Liu, Y., Luo, T., & Yue, H. (2018). Allocation of decision rights between the parent company and its subsidiaries. *Journal of Accounting, Auditing & Finance*, 33(3), 355–381.
- Lou, Z., & Zhu, M. (2021). Decision rights allocation and innovation: Evidence from China's listed business groups. *Finance Research Letters*, 39, 101572.
- Lyon, J. D., & Maher, M. W. (2005). The importance of business risk in setting audit fees: Evidence from cases of client misconduct. *Journal of Accounting Research*, 43(1), 133–151.

- Ma, C., Li, B., & Lobo, G. J. (2020). Are geographical dispersion and institutional dispersion related to accounting misstatements? *European Accounting Review*, 29(5), 949–974.
- Platikanova, P., & Mattei, M. M. (2016). Firm geographic dispersion and financial analysts' forecasts. *Journal of Banking & Finance*, 64, 71–89.
- Shi, G., Sun, J., & Luo, R. (2015). Geographic dispersion and earnings management. *Journal of Accounting and Public Policy*, 34(5), 490–508.
- Sobel, M. E. (1982). Asymptotic confidence intervals for indirect effects in structural equation models. *Sociological methodology*, 13, 290–312.
- Simunic, D. A. (1980). The pricing of audit services: Theory and evidence. *Journal of Accounting Research*, 18, 161–190.
- Stewart, T. R., & Kinney Jr, W. R. (2013). Group audits, group-level controls, and component materiality: How much auditing is enough? *The Accounting Review*, 88(2), 707–737.
- Sun, J., Wang, J., Kent, P., & Qi, B. (2020). Does sharing the same network auditor in group affiliated firms affect audit quality? *Journal of Accounting and Public Policy*, 39(1), 106711.
- Sunderland, D., & Trompeter, G. M. (2017). Multinational group audits: Problems faced in practice and opportunities for research. *Auditing: A Journal of Practice & Theory*, 36(3), 159–183.
- Wang, D., Zhu, Q., Avolio, B. J., Shen, W., & Waldman, D. (2023). Do employees' views matter in corporate governance? The relationship between employee approval and CEO dismissal. *Strategic Management Journal*, 44(5), 1328–1354.
- Xiang, R., & Song, C. (2021). CFO narcissism and audit fees: Evidence from listed companies in China. *China Journal of Accounting Research*, 14(3), 257–274.
- Zhu, L., & Kong, D. (2022). Does government transparency shape firm decentralization? Evidence from a natural experiment in China. *Emerging Markets Review*, 53, 100915.

Appendix A. Variable definitions

Dependent Variables

AUDFEE The natural logarithm of total audit fees of the group company.

Independent Variables

CPC The residual estimated from Model (1). *P_EM*, as the dependent variable, refers to the ratio of cash paid to and for employees in the parent company's cash flow statement to the counterpart in the consolidated cash flow statement. *P_ASSET*, as the independent variable, is the ratio of assets in the parent company's balance sheet to the corresponding amount in the consolidated balance sheet.

CGD The average geographic distance between the parent company and subsidiaries, whereby geographic distance is computed according to the latitude and longitude of specific locations.

Variables in the path analysis

Restatement An indicator variable that equals 1 if the group company's financial report is subsequently restated, and 0 otherwise.

IC The natural logarithm of 1 plus the internal control index issued by the DIB database.

DisRating A numeric variable that equals 4 if the rating is A, 3 if the rating is B, 2 if the rating is C, and 1 if the rating is D. The rating is released by the disclosure ranking system of SZSE and SSE.

VOLROA The standard deviation of return on assets over the period from year t-2 to t+2, where return on assets is the ratio of net profits to total assets.

VOLOCF The standard deviation of cash flows from operating activities over the period from year t-2 to t+2 (cash flows from operating activities are divided by total assets).

Control Variables

SIZE The natural logarithm of total assets.

NSUB The natural logarithm of the number of subsidiaries.

<i>NGS</i>	The natural logarithm of 1 plus the number of geographic segments. Geographic segments emerge when a listed firm divides operating departments by geographic regions (e.g., East China, South China) in its annual reports.
<i>FORE</i>	An indicator variable that equals 1 if the group company reports foreign sales, and 0 otherwise.
<i>RPT</i>	The ratio of the amount of related-party transactions to total assets.
<i>LEV</i>	The ratio of total liabilities to total assets.
<i>ROA</i>	The ratio of net profits to total assets.
<i>LOSS</i>	An indicator variable that equals 1 if the client firm's net income is less than zero, and 0 otherwise.
<i>REC</i>	The ratio of the amount of accounts receivable to total assets.
<i>INV</i>	The ratio of the amount of inventory to total assets.
<i>QUICK</i>	The ratio of current assets to current liabilities.
<i>BTM</i>	The ratio of book value of assets to market value of assets.
<i>PPE</i>	The ratio of net property, plant, and equipment to total assets.
<i>SOE</i>	A dummy variable that equals 1 if the group company is controlled by the government, and 0 otherwise.
<i>DUAL</i>	A dummy variable that equals 1 if the chairman and CEO are the same person, and 0 otherwise.
<i>INST</i>	The ownership ratio of all institutional investors (%).
<i>BIG10</i>	A dummy variable that equals 1 if the group company is audited by a Chinese domestic Big 10 audit firm, and 0 otherwise.
<i>ALAG</i>	The natural logarithm of the number of calendar days between the audit report date and the fiscal year-end.

Figure 1. The framework of the path analysis

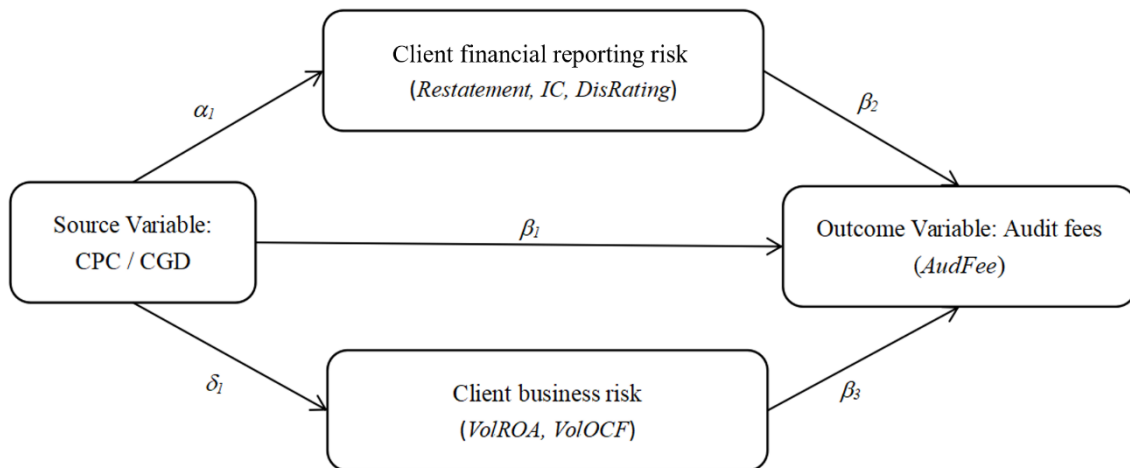
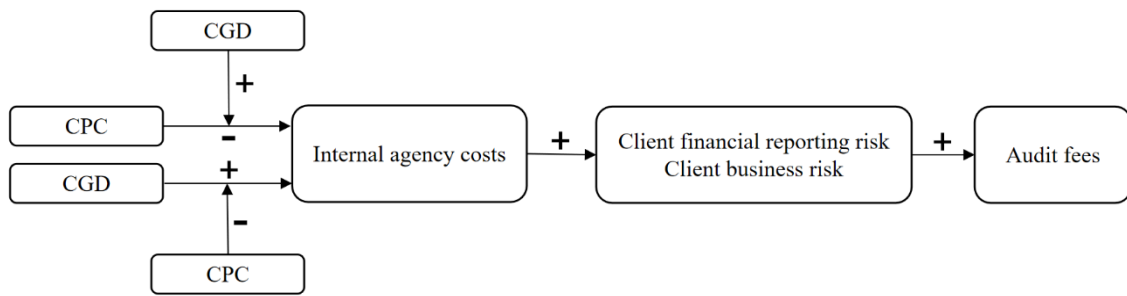


Figure 2. The individual and interactive effects of CPC and CGD



Notes: + (-) represents increase (decrease).

Table 1. Descriptive statistics

Variable	N	Mean	SD	P25	Median	P75
<i>AUDFEE</i>	27750	13.620	0.648	13.122	13.528	13.998
<i>CPC</i>	27657	-0.007	0.232	-0.176	-0.007	0.175
<i>CGD</i>	27750	0.488	0.389	0.170	0.416	0.723
<i>SIZE</i>	27750	22.160	1.270	21.257	22.000	22.894
<i>NSUB</i>	27750	2.439	1.038	1.792	2.485	3.135
<i>NGS</i>	27750	1.268	0.655	1.099	1.099	1.792
<i>FORE</i>	27750	0.475	0.499	0.000	0.000	1.000
<i>RPT</i>	27750	0.335	0.430	0.050	0.196	0.448
<i>LEV</i>	27750	0.445	0.208	0.281	0.440	0.599
<i>ROA</i>	27750	0.035	0.065	0.013	0.035	0.065
<i>LOSS</i>	27750	0.094	0.291	0.000	0.000	0.000
<i>REC</i>	27750	0.115	0.101	0.032	0.092	0.170
<i>INV</i>	27750	0.152	0.142	0.061	0.116	0.191
<i>QUICK</i>	27750	2.047	2.819	0.698	1.154	2.114
<i>BTM</i>	27750	0.467	0.150	0.364	0.480	0.571
<i>PPE</i>	27750	0.223	0.165	0.094	0.190	0.317
<i>SOE</i>	27750	0.410	0.492	0.000	0.000	1.000
<i>DUAL</i>	27750	0.250	0.433	0.000	0.000	0.000
<i>INST</i>	27750	46.610	24.618	27.999	48.439	66.018
<i>BIG10</i>	27750	0.527	0.499	0.000	1.000	1.000
<i>ALAG</i>	27750	4.560	0.232	4.454	4.635	4.745

Notes: This table provides the descriptive statistics of the variables used in Model (2). All continuous variables are winsorised at the 1% and 99% levels. All variables are defined in Appendix A.

Table 2. Correlation matrix

	<i>AUDFEE</i>	<i>CPC</i>	<i>CGD</i>	<i>SIZE</i>	<i>NSUB</i>	<i>NGS</i>	<i>FORE</i>	<i>RPT</i>	<i>LEV</i>	<i>ROA</i>	<i>LOSS</i>
<i>AUDFEE</i>	1										
<i>CPC</i>	-0.227***	1									
<i>CGD</i>	0.162***	-0.111***	1								
<i>SIZE</i>	0.723***	-0.099***	0.111***	1							
<i>NSUB</i>	0.622***	-0.396***	0.183***	0.590***	1						
<i>NGS</i>	0.087***	-0.044***	0.158***	0.016***	0.124***	1					
<i>FORE</i>	0.151***	-0.075***	0.072***	0.063***	0.123***	0.194***	1				
<i>RPT</i>	0.063***	-0.040***	0.019***	0.075***	0.025***	-0.014**	-0.012*	1			
<i>LEV</i>	0.272***	-0.036***	0.032***	0.425***	0.292***	-0.070***	-0.051***	0.312***	1		
<i>ROA</i>	-0.033***	0.079***	-0.054***	0.031***	-0.031***	0.011*	0.008	-0.171***	-0.352***	1	
<i>LOSS</i>	0.014**	-0.053***	0.036***	-0.057***	-0.00200	-0.002	0.004	0.101***	0.159***	-0.610***	1
<i>REC</i>	-0.032***	-0.014**	0.098***	-0.173***	-0.029***	0.150***	0.180***	0.00900	-0.018***	-0.023***	0.003
<i>INV</i>	0.006	0.034***	0.003	0.108***	0.095***	0.019***	-0.053***	0.063***	0.298***	-0.056***	-0.012*
<i>QUICK</i>	-0.207***	0.097***	0.012**	-0.286***	-0.237***	0.079***	0.028***	-0.196***	-0.568***	0.179***	-0.076***
<i>BTM</i>	0.233***	-0.018***	-0.022***	0.382***	0.164***	0.011*	0.00900	-0.041***	0.015**	-0.069***	-0.036***
<i>PPE</i>	-0.036***	0.086***	-0.100***	0.059***	-0.159***	-0.145***	-0.059***	0.042***	0.084***	-0.077***	0.065***
<i>SOE</i>	0.058***	0.068***	-0.098***	0.288***	0.030***	-0.201***	-0.202***	0.074***	0.269***	-0.065***	0.012*
<i>DUAL</i>	-0.051***	-0.008	0.023***	-0.154***	-0.034***	0.083***	0.108***	-0.046***	-0.133***	0.023***	0.000
<i>INST</i>	0.220***	0.016***	-0.014**	0.389***	0.133***	-0.167***	-0.097***	0.073***	0.187***	0.130***	-0.090***
<i>BIG10</i>	0.235***	0.017***	0.022***	0.144***	0.094***	0.068***	0.094***	-0.00100	-0.032***	0.052***	-0.018***
<i>ALAG</i>	0.153***	-0.061***	0.053***	0.057***	0.142***	0.083***	0.075***	0.007	0.00500	-0.150***	0.122***
	<i>REC</i>	<i>INV</i>	<i>QUICK</i>	<i>BTM</i>	<i>PPE</i>	<i>SOE</i>	<i>DUAL</i>	<i>INST</i>	<i>BIG10</i>	<i>ALAG</i>	

<i>REC</i>	1										
<i>INV</i>	-0.108***	1									
<i>QUICK</i>	0.039***	-0.210***	1								
<i>BTM</i>	-0.098***	0.014**	-0.034***	1							
<i>PPE</i>	-0.283***	-0.332***	-0.204***	0.091***	1						
<i>SOE</i>	-0.212***	0.042***	-0.222***	0.103***	0.199***	1					
<i>DUAL</i>	0.099***	-0.026***	0.129***	-0.069***	-0.094***	-0.296***	1				
<i>INST</i>	-0.210***	0.049***	-0.158***	0.030***	0.132***	0.409***	-0.202***	1			
<i>BIG10</i>	0.038***	-0.039***	0.031***	0.031***	-0.031***	-0.047***	0.041***	0.011*	1		
<i>ALAG</i>	0.080***	-0.031***	-0.004	0.079***	-0.093***	-0.112***	0.062***	-0.117***	0.063***	1	

Notes: This table presents the correlation matrix of the variables used in Model (2). All variables are defined in Appendix A. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 3. The individual and interactive effects of corporate power centralisation and geographic dispersion on audit fees

Variable	(1) <i>AUDFEE</i>	(2) <i>AUDFEE</i>	(3) <i>AUDFEE</i>	(4) <i>AUDFEE</i>	(5) <i>AUDFEE</i>	(6) <i>AUDFEE</i>
<i>CPC</i>	-0.6196*** (-16.48)		-0.1975*** (-7.27)		-0.4758*** (-8.98)	-0.1021*** (-2.72)
<i>CGD</i>		0.2459*** (9.19)		0.0555*** (3.55)	0.2071*** (7.95)	0.0550*** (3.51)
<i>CPC*CGD</i>					-0.2200** (-2.40)	-0.1941*** (-3.40)
<i>SIZE</i>			0.3259*** (35.03)	0.3194*** (34.42)		0.3236*** (35.00)
<i>NSUB</i>			0.1102*** (13.42)	0.1317*** (17.12)		0.1082*** (13.20)
<i>NGS</i>			-0.0013 (-0.15)	-0.0046 (-0.53)		-0.0038 (-0.44)
<i>FORE</i>			0.0129 (1.12)	0.0126 (1.09)		0.0122 (1.06)
<i>RPT</i>			0.0183 (1.46)	0.0239* (1.91)		0.0182 (1.46)
<i>LEV</i>			-0.0430 (-1.06)	-0.0701* (-1.73)		-0.0392 (-0.97)
<i>ROA</i>			-0.5985*** (-7.88)	-0.6385*** (-8.38)		-0.5638*** (-7.45)
<i>LOSS</i>			0.0106 (0.87)	0.0127 (1.04)		0.0114 (0.94)
<i>REC</i>			0.1310** (2.12)	0.1037* (1.68)		0.1198* (1.95)
<i>INV</i>			-0.1750*** (-3.53)	-0.2146*** (-4.26)		-0.1724*** (-3.48)
<i>QUICK</i>			-0.0047*** (-2.79)	-0.0065*** (-3.90)		-0.0047*** (-2.83)
<i>BTM</i>			-0.2254*** (-5.63)	-0.2169*** (-5.35)		-0.2195*** (-5.50)
<i>PPE</i>			0.0316 (0.66)	0.0085 (0.18)		0.0339 (0.71)
<i>SOE</i>			-0.1003*** (-6.74)	-0.1014*** (-6.77)		-0.0924*** (-6.17)
<i>DUAL</i>			-0.0083 (-0.78)	-0.0095 (-0.89)		-0.0088 (-0.83)
<i>INST</i>			0.0008*** (3.13)	0.0007*** (2.98)		0.0008*** (3.08)
<i>BIG10</i>			0.1130***	0.1104***		0.1133***

			(10.68)	(10.37)		(10.73)
<i>ALAG</i>			0.0692***	0.0702***		0.0678***
			(4.27)	(4.32)		(4.19)
INDUSTRY	Yes	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes	Yes
PROVINCE	Yes	Yes	Yes	Yes	Yes	Yes
N	29114	29166	27657	27750	29044	27641
Adj.R ²	0.2282	0.1980	0.6639	0.6614	0.2403	0.6654

Notes: This table presents the estimation results of the individual and interactive effects of CPC and CGD on audit fees. All variables are defined in Appendix A. The t-values in parentheses are based on heteroskedasticity-consistent standard errors clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 4. The mediating effect of client financial reporting risk and business risk

Panel A: The path analysis of the negative association between corporate power centralisation and audit fees

	(1)	(2)	(3)	(4)	(5)
	<i>Mediator = Client financial reporting risk</i>			<i>Mediator = Client business risk</i>	
Variable	<i>Restatement</i>	<i>IC</i>	<i>DisRating</i>	<i>VOLROA</i>	<i>VOLOCF</i>
$P(CPC, Mediator) = \alpha_1$	-0.0457*** (-3.30)	0.3325*** (6.03)	0.2578*** (8.39)		
$P(Mediator, AUDFEE) = \beta_2$	0.0116* (1.92)	-0.0193*** (-6.34)	-0.0200*** (-2.66)		
Indirect effect = $\alpha_1 * \beta_2$	-0.0005* (-1.66)	-0.0064*** (-4.37)	-0.0052** (-2.54)		
$P(CPC, Mediator) = \delta_1$				-0.0279*** (-9.69)	-0.0199*** (-5.89)
$P(Mediator, AUDFEE) = \beta_3$				0.6969*** (7.50)	0.1627** (1.97)
Indirect effect = $\delta_1 * \beta_3$				-0.0194*** (-5.93)	-0.0032* (-1.87)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes
INDUSTRY	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes
PROVINCE	Yes	Yes	Yes	Yes	Yes
N	27657	27647	19914	23239	23239

Panel B: The path analysis of the positive association between corporate geographic dispersion and audit fees

	(1)	(2)	(3)	(4)	(5)
	<i>Mediator = Client financial reporting risk</i>			<i>Mediator = Client business risk</i>	
Variable	<i>Restatement</i>	<i>IC</i>	<i>DisRating</i>	<i>VOLROA</i>	<i>VOLOCF</i>
$P(CGD, Mediator) = \alpha_1$	0.0250*** (3.00)	-0.1182*** (-3.97)	-0.0338* (-1.88)		
$P(Mediator, AUDFEE) = \beta_2$	0.0129** (2.11)	-0.0214*** (-6.99)	-0.0269*** (-3.56)		
Indirect effect = $\alpha_1 * \beta_2$	0.0003* (1.73)	0.0025*** (3.45)	0.0009* (1.67)		
$P(CGD, Mediator) = \delta_1$				0.0061*** (3.80)	0.0090*** (4.52)
$P(Mediator, AUDFEE) = \beta_3$				0.7847*** (8.32)	0.1878** (2.25)
Indirect effect = $\delta_1 * \beta_3$				0.0048*** (3.45)	0.0017** (2.01)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes
INDUSTRY	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes
PROVINCE	Yes	Yes	Yes	Yes	Yes
N	27750	27740	19969	23314	23314

Notes: This table presents the estimation results of the structural equation models (4A), (4B), and (4C). In Panel A, the source variable is CPC. In Panel B, the source variable is CGD. $P(X_1, X_2)$ represents the standardized path coefficient from variable X_1 to variable X_2 . The significance of the indirect effect is estimated with the Sobel's (1982) test statistics. Control variables and fixed effects are those specified in Model (2). All variables are defined in Appendix A. The t-values in parentheses are based on heteroskedasticity-consistent standard errors clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 5. The interactive effect of corporate power centralisation and geographic dispersion on audit engagement risk

Variable	(1) <i>Restatement</i>	(2) <i>IC</i>	(3) <i>DisRating</i>	(4) <i>VOLROA</i>	(5) <i>VOLOCF</i>
<i>CPC</i>	-0.0010 (-0.05)	0.2261*** (3.14)	0.2168*** (4.94)	-0.0225*** (-5.79)	-0.0120** (-2.49)
<i>CGD</i>	0.0264*** (3.16)	-0.1151*** (-3.82)	-0.0312* (-1.72)	0.0058*** (3.60)	0.0089*** (4.47)
<i>CPC*CGD</i>	-0.0906*** (-2.97)	0.2134* (1.76)	0.0788 (1.17)	-0.0108* (-1.85)	-0.0158** (-2.29)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes
INDUSTRY	Yes	Yes	Yes	Yes	Yes
YEAR	Yes	Yes	Yes	Yes	Yes
PROVINCE	Yes	Yes	Yes	Yes	Yes
N	27641	27631	19899	23228	23228
Adj.R ²	0.2028	0.1325	0.2326	0.1293	0.1458

Notes: This table presents the results of the interactive effect of CPC and CGD on audit engagement risk (i.e., client financial reporting risk and business risk). All variables are defined in Appendix A. The t-values in parentheses are based on heteroskedasticity-consistent standard errors clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 6. Endogeneity tests: The inclusion of additional fixed effects and the change analysis

Variable	(1) <i>AUDFEE</i>	(2) <i>AUDFEE</i>	(3) <i>AUDFEE</i>	(4) <i>AUDFEE</i>	(5) <i>AUDFEE</i>	(6) <i>AUDFEE</i>	Variable	(7) Δ <i>AUDFEE</i>	(8) Δ <i>AUDFEE</i>	(9) Δ <i>AUDFEE</i>
<i>CPC</i>	-0.2454*** (-9.82)		-0.1632*** (-4.97)	-0.2471*** (-10.03)		-0.1652*** (-5.06)	Δ <i>CPC</i>	-0.1432*** (-6.80)		- 0.1290*** (-5.91)
<i>CGD</i>		0.0429*** (2.74)	0.0466*** (3.03)		0.0392*** (2.60)	0.0421*** (2.83)	Δ <i>CGD</i>		0.0259** (2.22)	0.0200* (1.80)
<i>CPC*CGD</i>			-0.1701*** (-3.40)			-0.1688*** (-3.62)	Δ <i>CPC*CGD</i>			-0.3214** (-2.15)
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes	Yes	Δ <i>Controls</i>	Yes	Yes	Yes
INDUSTRY							INDUSTRY	Yes	Yes	Yes
YEAR	Yes	Yes	Yes				YEAR	Yes	Yes	Yes
PROVINCE							PROVINCE	Yes	Yes	Yes
FIRM	Yes	Yes	Yes	Yes	Yes	Yes				
INDUSTRY*YEAR				Yes	Yes	Yes				
PROVINCE*YEAR				Yes	Yes	Yes				
N	27448	27541	27432	27437	27530	27421	N	22872	22979	22857
Adj.R ²	0.8897	0.8877	0.8901	0.8924	0.8903	0.8927	Adj.R ²	0.1590	0.1554	0.1610

Notes: This table presents the estimation results of Models (2) and (3) when incorporating firm fixed effects in Columns (1) ~ (3) and industry-year and province-year interaction fixed effects in Columns (4) ~ (6). Also, the estimation results of the change analysis for Models (2) and (3) are displayed in Columns (7) ~ (9). All variables are defined in Appendix A. The t-values in parentheses are based on heteroskedasticity-consistent standard errors clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 7. Endogeneity tests: Entropy balancing method

	(1)	(2)	(3)	(4)
Variable	<i>AUDFEE</i>	<i>AUDFEE</i>	<i>AUDFEE</i>	<i>AUDFEE</i>
<i>CPC</i>	-0.2443*** (-8.77)	-0.1922*** (-5.10)		-0.1975*** (-5.11)
<i>CGD</i>		0.0338** (2.06)	0.0378** (2.23)	0.0405** (2.46)
<i>CPC*CGD</i>		-0.1180** (-2.30)		-0.1305** (-2.47)
<i>Controls</i>	Yes	Yes	Yes	Yes
<i>FIRM</i>	Yes	Yes	Yes	Yes
<i>YEAR</i>	Yes	Yes	Yes	Yes
<i>N</i>	27443	27427	27533	27424
<i>Adj.R²</i>	0.8915	0.8918	0.9030	0.9053

Notes: This table presents the estimation results of Models (2) and (3) when adopting the entropy balancing technique. In Columns (1) and (2), we balance the differences in covariates between firms with higher and lower CPC. In Columns (3) and (4), the discrepancies in variable distribution between firms with higher and lower CGD are balanced. All variables are defined in Appendix A. The t-values in parentheses are based on heteroskedasticity-consistent standard errors clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 8. Endogeneity tests: The ITCV analysis

	(1)		(2)	
	Independent		Independent	
	variable =		variable =	
	<i>CPC</i>		<i>CGD</i>	
	Impact	ITCV = -0.0323	Impact	ITCV = 0.0096
<i>SIZE</i>	0.0577		0.0444	
<i>NSUB</i>	-0.1155		0.0283	
<i>NGS</i>	0.0002		0.0007	
<i>FORE</i>	-0.0013		-0.0001	
<i>RPT</i>	-0.0017		0.0005	
<i>LEV</i>	-0.0056		0.0019	
<i>ROA</i>	-0.0049		0.0049	
<i>LOSS</i>	-0.0001		0.0000	
<i>REC</i>	0.0011		0.0030	
<i>INV</i>	-0.0070		0.0009	
<i>QUICK</i>	-0.0036		-0.0015	
<i>BTM</i>	0.0000		0.0042	
<i>PPE</i>	-0.0014		0.0009	
<i>SOE</i>	-0.0049		0.0095	
<i>DUAL</i>	0.0001		-0.0001	
<i>INST</i>	-0.0002		0.0004	
<i>BIG10</i>	0.0077		-0.0034	
<i>ALAG</i>	0.0016		-0.0002	

Notes: This table presents the results of the ITCV test about the effect of CPC and CGD on audit fees. All variables are defined in Appendix A. The ITCV test shows that to overturn the effect of CPC (CGD) on audit fees, 73.05% (44.74%) of the estimation should be owing to bias.

Table 9. The moderating effect of internal cash allocation (ICA) on the association between CPC (CGD) and audit fees

Variable	(1) <i>AUDFEE</i>	(2) <i>AUDFEE</i>
<i>CPC</i>	-0.3171*** (-9.17)	
<i>CPC*ICA</i>	0.1370*** (3.88)	
<i>CGD</i>		0.0727*** (3.21)
<i>CGD*ICA</i>		-0.0455** (-2.08)
<i>ICA</i>	-0.0352*** (-4.32)	-0.0342*** (-2.65)
<i>Controls</i>	Yes	Yes
<i>YEAR</i>	Yes	Yes
<i>FIRM</i>	Yes	Yes
<i>N</i>	27422	27495
<i>Adj. R²</i>	0.8902	0.8885

Notes: This table presents the results of the effect of internal cash allocation on the negative (positive) association between CPC (CGD) and audit fees. All variables are defined in Appendix A. The t-values in parentheses are based on heteroskedasticity-consistent standard errors clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.

Table 10. The effect of corporate power centralisation and geographic dispersion on audit effort

Variable	(1) <i>ALAG</i>	(2) <i>ALAG</i>
CPC	-0.0459*** (-3.29)	
CGD		0.0160* (1.69)
SIZE	0.0350*** (6.42)	0.0342*** (6.31)
NSUB	0.0187*** (4.27)	0.0216*** (4.83)
NGS	0.0013 (0.30)	0.0004 (0.10)
FORE	0.0058 (0.81)	0.0065 (0.91)
RPT	-0.0008 (-0.17)	-0.0007 (-0.13)
LEV	-0.0320 (-1.54)	-0.0431** (-2.09)
ROA	-0.4122*** (-11.43)	-0.4142*** (-11.37)
LOSS	0.0270*** (4.78)	0.0280*** (4.89)
REC	0.0803** (2.18)	0.0784** (2.13)
INV	0.0108 (0.37)	0.0071 (0.25)
QUICK	-0.0014 (-1.51)	-0.0017* (-1.91)
BTM	0.0773*** (4.43)	0.0763*** (4.35)
PPE	-0.0369 (-1.50)	-0.0356 (-1.45)
SOE	0.0092 (0.69)	0.0069 (0.52)
DUAL	-0.0006 (-0.13)	-0.0007 (-0.14)
INST	-0.0005*** (-3.17)	-0.0005*** (-3.12)
BIG10	0.0110** (2.54)	0.0100** (2.29)
FIRM	Yes	Yes
YEAR	Yes	Yes

N	27448	27541
Adj.R ²	0.3180	0.3158

Notes: This table presents the results of the effect of CPC and CGD on audit effort. All variables are defined in Appendix A. The t-values in parentheses are based on heteroskedasticity-consistent standard errors clustered by firm. ***, **, and * indicate statistical significance at the 1%, 5%, and 10% levels, respectively.