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ABSTRACT

Auditors typically separate into different auditor subgroups within the offices of audit firms. The interaction between informal subgroups significantly affects the audit process and audit quality. In this paper, we examine the effect of auditor subgroup status on audit quality in the context of Chinese culture, and study the moderating effect of positive direct contact on the relationship between group status and audit quality. Based on 50 mergers of Chinese audit firms between 1990 and 2016, we identify 106 auditor subgroups in 53 offices located in China. With this data, we find that the clients' earnings management of low-status auditor subgroups is significantly higher after mergers compared with that of high-status auditor subgroups. In addition, when there is positive direct contact between auditor subgroups within an office, the deterioration extent of clients' earnings management of low-status auditor subgroups declines compared with that of high-status auditor subgroups. The results of our analyses indicate that: (1) low-status auditor subgroups have a higher motivation to maintain or improve their position within the office and to safeguard their interests, they are more likely to behave opportunistically, and their audit quality will be worse; and (2) positive direct contact can effectively improve intergroup relationships and mitigate the adverse effects of auditor subgroup status on audit quality. Our research on subgroup status and intergroup contact extends the existing research boundaries of audit quality, and also provides more direct and reliable empirical evidence for the interaction between subgroups within the same office.

KEYWORDS

auditor subgroup; group status; positive direct contact; audit quality; audit firm mergers

1. Introduction

Subgroups exist widely in formal organisations. Due to differences in the demographic or non-demographic characteristics among organisational members, these differences alone, or combined, will form one or more hidden fault lines in an organisation (Lau & Murnighan, 1998). These fault lines divide an organisation into different subgroups that are relatively homogeneous internally and heterogeneous to each other externally. Minichilli, Corbetta, and MacMillan (2010) find that kinship in family businesses divides management into family and non-family cliques. Li and Hambrick (2005) also find that, in joint ventures, management is divided into different flows due to differences

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in nationality. Like other organisations, it is possible that the offices in audit firms may be divided into different auditor subgroups based on demographic or non-demographic characteristics. Since the end of the last century, the merging trend of Chinese audit firms has led, to some extent, to the separation of subgroups in these offices. After a merger, auditors from both parties within each office may form their own auditor subgroups based on their identification with the original organisation.

Under a rapidly changing business environment, the impact of the interaction between auditor subgroups within an office, on the audit process and audit quality, is of increasing importance. Thus, for the sake of effective integration and coordination of subgroups and the improvement of audit quality, understanding the interaction mechanisms of audit subgroups within an office is an important theoretical and practical question that needs to be answered. However, the extant literature on audit quality pays more attention to the demand and supply factors influencing audit quality from the perspectives of the audit organisation and the auditor (DeFond & Zhang, 2014; Francis, 2011), but pays little attention to the auditor subgroup perspective and neglects the influence of the interaction among the auditor subgroups on audit quality. To the best of our knowledge, only Cao (2016) examines the effect of auditor subgroup interaction on the comparability of clients' financial reports. He finds that auditor subgroups' locality, industry reputation, and the balance between subgroups affect the interactions among subgroups, which in turn affect the comparability of clients' financial reports. Cao (2016) distinguishes between the auditor subgroups based on the merger events of audit firms. He divides the pre-merger auditors into different groups based on the name of the pre-merger audit firm, and further divides the post-merger auditors into corresponding groups based on the names of the pre-merger auditors. This partition method has some problems (i.e. there is deep interaction only between the auditor subgroups in the new offices) because the merger of accounting firms is more the integration of participating parties' offices.

On the other hand, the existing research on organisational behaviour provides limited knowledge about the interaction and its effect between subgroups in organisations. In other words, the prior research is more likely to assume that the status of subgroups is balanced, that is, there is no significant difference in the status of subgroups within an organisation (Homan, Van Knippenberg, Van Kleef, & De Dreu, 2007; Jehn & Bezrukova, 2010). However, in practice, subgroups in organisations are not in a balanced position. Under the unbalanced status structure of different subgroups, it is important to understand: whether there are significant differences in the interactions between subgroups; whether the low-status subgroups come into conflict with the high-status subgroups in order to improve their status, thus triggering opportunistic behaviour; or, if they will defer to the high-status subgroups and make group interaction more harmonious. Finally, how does the change of the interaction relationship caused by the differences of subgroup status structure affect group performance? Up until now, no research has been done this deeply. Moreover, the existing research on organisational behaviour mainly focuses on the relationship between the intra-organisational subgroups in a western cultural background, but lacks the corresponding research in the Chinese cultural context. Compared with western culture, informal cliques are more likely to form in China. In the context of Chinese culture, people show not only a high degree of collectivism toward insiders,

but they also show extreme individualism toward outsiders (Raisch, Birkinshaw, Probst, & Tushman, 2009). Therefore, the interaction between subgroups and the management methods to improve subgroup relations in the Chinese cultural background may be quite different from that in a western cultural background.

Given the above-mentioned reasons, in this paper we investigate the effect of auditor subgroup status on audit quality in the context of Chinese culture, and further study the moderating effect of positive direct contact on this relationship. We believe this analysis will fill the gap of existing audit quality research and organisational behaviour literature. Based on 50 audit firm mergers that occurred in China between 1990 and 2016, we identify 106 auditor subgroups in 53 offices.

We find that the clients' earnings management of low-status auditor subgroups significantly increases after a merger, compared with that of high-status auditor subgroups. In addition, our empirical results indicate that when there is positive direct contact between the auditor subgroups within an office, the deterioration extent of clients' earnings management of low-status auditor subgroups declines compared with that of high-status auditor subgroups. In all, our results show that: low-status auditor subgroups have more motivation to maintain or improve their position within an office and to safeguard their interests; they are more likely to behave opportunistically; and their audit quality is worse. In addition, we also demonstrate that positive direct contact can effectively improve intergroup relationships and mitigate the adverse effect of auditor subgroup status on audit quality.

The contributions of this research are as follows. First, this article expands the boundary of audit quality research from the perspective of auditor subgroup interaction. The extant empirical audit quality research mainly focuses on institutional structures and individual auditor characteristics. The former adopts the synthesis model to examine the organisational nature of auditors (i.e. the homogeneity of auditors). The latter adopts the compilation model to study the variation of an individual auditor in the audit organisation (i.e. the auditor's heterogeneity). However, De Jong and Dirks (2012) find that both the homogeneity and heterogeneity of organisational members have a significant impact on the organisational process and results, and that there is a significant interaction between homogeneity and heterogeneity. Many inconsistencies in previous audit quality studies are likely attributed to ignorance of this interaction of auditors' homogeneity and heterogeneity. For their inherent ecological characteristics, auditor subgroups can simultaneously capture the commonness and variations of organisation members, and its interaction effect will have an important impact on audit quality. This study extends the field of empirical audit quality research from that of isolated individual and organisation research to the study of the relationship between subgroups, and fills the research gap in this area.

Second, we investigate the effect of the non-balanced status of subgroups on group performance and extend the boundary of research on the interaction of subgroups. Most of the existing studies on subgroup interaction in organisations assume that the configuration of subgroups within a team is balanced (Homan et al., 2007; Jehn & Bezrukova, 2010). Only a few scholars have examined the influence of different configurations on the process of group interaction from the perspective of the number of member subgroups in an organisation (O'Leary & Mortensen, 2010; Phillips, Mannix, Neale, & Gruenfeld, 2004). Compared with the balanced subgroup assumption,

subgroups will experience different interaction processes under different unbalanced subgroup assumptions. Moreover, the imbalance of status may have a deeper impact on the interaction process of subgroups than the imbalance of quantity and scale. Therefore, we present the ability of subgroups to compete for resources in the organisation to characterise its status in the organisation, and examine how the status of subgroups affects the interaction process of subgroups that then impact the behaviour and performance of subgroups. Previous studies have been limited to the subgroup equilibrium hypothesis; the relaxation of this hypothesis will also help to explain the inconsistencies of previous studies.

Last, we clarify the moderating effect of intergroup contact on the relationship between auditor subgroup status and audit quality. The status gap of subgroups in the offices and the resulting inter-group threat pose a very serious challenge to the internal quality control of accounting firms. In the rapidly changing internal and external environments, to improve auditor quality, auditor subgroups must be coordinated and integrated effectively. Clarifying the role of intergroup contact is an important prerequisite, and a basis for harmonising and integrating auditor subgroups.

The rest of this paper is organised as follows: the second section is a review of the current literature and our hypothesis development; [Section 3](#) details our research design; [Section 4](#) includes the empirical results, robust tests, and further analysis; and the final section presents our discussion and conclusion.

2. Literature review and hypothesis development

2.1. Auditor subgroup status and audit quality

The extant research on the interaction between subgroups in organisations is mainly carried out from the perspective of social classification. According to the theory of social classification, if there are different subgroups within an organisation, intergroup bias may occur. Members of an organisation may be more inclined to positively evaluate the groups that they belong to, while showing more prejudice and hostility toward the external groups (Hogg & Terry, 2000; Hornsey & Hogg, 2000). This kind of prejudice and hostility will lead to fierce conflicts between subgroups, and hinder beneficial organisational processes, such as information sharing and mutual learning between the groups (Jehn & Bezrukova, 2010; Kane, Argote, & Levine, 2005). More importantly, with the intensification of conflicts caused by group prejudices, subgroups may harm the interests of outside groups and even the overall organisation benefits for their inner groups' interests (Chen & Chen, 2009). Therefore, social classification theory and the empirical research literature on this theory show that the separation and opposition of different subgroups within an organisation will have a negative impact on organisational performance. However, the existing research on the interaction of subgroups in organisations is based on the balanced status of subgroups, while ignoring the influence of each subgroup's different status within the organisation (Homan et al., 2007; Jehn & Bezrukova, 2010). At the same time, the existing research focuses mainly on the impact of subgroup interaction on the overall performance of the organisation, but fails to consider the impact of subgroup interaction on group performance differences.

The status of subgroups in an organisation may have a significant impact on group performance. When a subgroup is formed in an organisation, its existence, development, and goals may be threatened by the resources, behaviour, beliefs, and values of other subgroups within the organisation (Riek, Mania, Gaertner, McDonald, & Lamoreaux, 2010). This threat, whether it is real or imagined, is a subjective conflict perceived by the group members (Stephan & Stephan, 2000). In general, Zhang, Feng, and Wang (2009) argue that a group may face a realistic threat, cultural threat, and/or identity threat from other groups. In this article, we mainly study group relations under the same cultural background, so we discuss only the realistic threat and the identity threat. Due to scarcity of resources, groups compete for realistic interests and are therefore threatened by other groups. Jackson (1993) calls this threat a realistic threat. The resources in each office are also scarce. When competing for realistic economic benefits, low-status subgroups face a realistic threat from high-status subgroups. In the context of Chinese culture, it is difficult to change the patterns of subgroups once they are formed (Xie, Zhang, & Wang, 2012). Therefore, it may be very difficult for a low-status auditor subgroup to break the existing interest pattern through conventional ways. At this point, low-status auditor subgroups may be more inclined to defend or improve their group interests through opportunistic behaviour. In addition, the realistic threat also leads to the prejudice and hostility of low-status subgroups to high-status subgroups, which provides a better rationalisation for the opportunistic behaviour of low-status subgroups within offices.

Except for the realistic threat, low-status subgroups within an office will also be threatened by the identity of high-status subgroups. According to social identity theory, when an individual identifies with a group, he or she further integrates this identity into their self-concept. Group members try to maintain or achieve positive group identification to improve their self-esteem. Positive group identity stems from the advantages perceived by the group members after comparing the inner group and the outer group (Tajfel, 1978). When the high-status auditor subgroups in an office may threaten the self-esteem of the low-status auditor subgroups, the identity threat will be felt by the low-status auditor subgroups. When the auditor subgroups' boundaries can be changed, auditors in low-status subgroups may choose to disengage from the group to which they belong. However, in the context of Chinese culture, Raisch et al. (2009) find that people show not only a high degree of collectivism to their inner circle, but also extreme individualism to the outer circle. That is to say, in the context of Chinese culture, the boundaries of groups are very clear and difficult to change. In this case, low-status auditor subgroups may be more motivated to engage in opportunistic behaviour to maintain their group identity. In the same way, identity threat leads to prejudice and hostility of the low-status auditor subgroups to the high-status auditor subgroups, which further rationalises the opportunistic behaviour of the low-status auditor subgroups.

From the above analysis, it is possible that low-status auditor subgroups in offices are threatened by the realistic and identity threats of high-status auditor subgroups, which trigger them into more likely adopting opportunistic behaviours that eventually decrease audit quality.

Hypothesis 1: Contrary to high-status subgroups, low-status subgroups in offices are more likely to adopt opportunistic behaviours with the result that audit quality declines.

2.2. Moderating effect of positive contact

Paolini, Harwood, and Rubin (2010) believe that one of the reasons for the long-term existence of intergroup threats is the lack of positive intergroup contact among subgroups. Positive intergroup contact can help enhance communication and interaction between groups, promote mutual understanding between groups, and thus reduce, to some extent, any unnecessary sense of threat (Davis & Stephan, 2011; Dhont & Van Hiel, 2011; Mallett & Wilson, 2010; Pettigrew & Tropp, 2008). Current studies show that positive intergroup contact is the most effective method to reduce intergroup threat (Koschate & Van Dick, 2011; Pettigrew & Tropp, 2006). This method has been applied in different social groups that are differentiated by the characteristics of religion, nationality, age and sexual orientation, and has achieved great success. Among the various contact modes, direct contact is very effective in reducing inter-group threats. Pettigrew, Christ, Wagner, & Stellmacher (2007) find that direct contact has a sound moderating effect on both individual threats and group threats. Dhont & Van Hiel (2011) reach the same conclusion through the survey analysis of 1,238 Dutchmen. If there is positive direct contact between subgroups within an office, the realistic and identity threats felt by low-status auditor subgroups from high-status subgroups will be reduced due to positive direct contact, although the low-status auditor subgroups also feel these threats, which partly alleviates the opportunism motivation of the low-status auditor subgroups and weakens the adverse effect of the auditor subgroup status on audit quality. Therefore, we propose Hypothesis 2.

Hypothesis 2: When there is positive direct contact between subgroups within an office, compared with the high-status subgroup, the degree of deterioration of the audit quality of the low status subgroup is reduced.

3. Research design

3.1. Identification of subgroups within an office

In the context of the merger of audit firms, we take the auditor's organisational identification as the fault line, identify the subgroups in the offices, and investigate the subgroup interaction in the realistic audit scenario. Before a merger, due to the existence of clear organisational boundaries, auditors belong to different regional audit organisations, namely the office of the audit firm or the headquarters of the regional audit firm. Auditors identify with their respective regional audit organisations. According to the theory of organisational identity (Brown & Starkey, 2000; Dutton, Dukerich, & Harquail, 1994; Empson, 2000, 2001; Erikson, 1968; Weick, 1995), auditors have an inherent need to perceive and experience the continuity and consistency of organisational identity. Once their organisational identity changes, auditors may experience negative feelings including mental conflict, anxiety, discomfort, pain and an overall loss of self-esteem. Therefore, when the identity of the original organisation is seriously threatened by a merger of audit firms, auditors will express their identification with the original organisation more clearly. Further, organisational identification has the characteristic of persistence (Gioia, Schultz, & Corley, 2000). Organisational identification of auditors cannot change in the short term. Even if the original firm no longer exists in

form, the auditors' identification with the original organisation will continue to play a role. Therefore, although the original organisational boundary is broken after a merger, the auditor's identification of the original organisation may not change in the short term. In the new offices established after a merger, the auditors from both parties may form a fault line based on the identification of the original regional audit organisation, and then form auditor subgroups.

We identify the auditor subgroups in the combined office in two cases. First, before the merger, both parties had offices in a certain region, and the two offices became one after the merger. For example, before the merger in 2011, both the Tianjian-Zhengxin Audit Firm and the Beijing-Jingdu-Tianhua Audit Firm had offices in Nanjing. After the merger, Tianjian-Zhengxin's Nanjing office and the Nanjing office of Beijing-Jingdu-Tianhua were integrated into the Nanjing office of the Zhitong Audit Firm. Then, the newly established Nanjing office of Zhitong contains two auditor subgroups, one is formed by the former Nanjing office of Tianjian-Zhengxin and the other is formed by the former Nanjing office of the Beijing-Jingdu-Tianhua Audit Firm. In this case, we classify the auditors in the merged office into two auditor subgroups based on each auditor's original office. Second, before the merger, one party had an office in a certain region and the other party had headquarters in the same region. After merging, the office of one party was merged with the headquarters of the other party to become an office of the new firm. For example, prior to the merger between ShineWing Audit Firm and Sichuan Junhe Audit Firm, the ShineWing Audit Firm had an office in Chengdu and Sichuan Junhe Audit Firm was headquartered in Chengdu. After the merger, the former ShineWing Audit Firm's Chengdu office merged with Sichuan Junhe's headquarters to form a new Chengdu office. In this case, we classify the auditors in the merged office into two subgroups based on each auditor's original office and the headquarters of the audit firm.

The common feature of these two situations is that after the merger a new office is formed in a certain region, and importantly, both parties had formal audit organisations in that region prior to the merger. Therefore, it was easier to form two auditor subgroups in the newly established office after the merger. Table 1 describes the conception differences between the office and the subgroups within the office. The office of an audit firm is a formal, institutionalised organisation. The auditor subgroup is an informal organisation. It is formed spontaneously in the newly established office based on the auditors' identification of the regional audit organisation before the merger.

In order to identify the auditor subgroup in the merged office, we first need to identify the clients and auditors of the merged office. The merged office can be grouped into four categories by name. The first category is named after its municipality (e.g. the Ruihua audit firm's Shanghai office). The second is named after the province or autonomous region (e.g.

Table 1. Differences between local offices and auditor subgroups.

	Classification	
	Local offices	Auditor subgroups
Characteristics and organizational properties Formation	Formal organisation Established by the audit firm	Informal organisation Emerged based on the identification of the pre-merger regional audit organisations
Definition	Name of local offices	Pre-merger regional audit organisations

the Ruihua audit firm's Zhejiang office). The third is named after the provincial city (e.g. the Ruihua audit firm's Guangzhou office) and the fourth is named after the deputy provincial cities or important prefecture cities (e.g. the Ruihua audit firm's Dalian office).

Confirmation of each office's clients and their auditors after merging can be divided into four cases. First, the office is named after the municipality directly. In this case, there is no other office in the municipality. We identify the clients whose business address is in the municipality as the clients of the office. Second, the office is named after the province, autonomous region, or provincial city and there is no other office in the province or autonomous region. Therefore, we identify the clients whose business address is in the province or autonomous region as the clients of the office. Third, the office is named after a province, autonomous region, or provincial capital city and there are other offices in the province or autonomous region. Under this situation, we first confirm the clients whose business address is in the city where the office is located or in the prefecture city that is near the office location as the clients of the office. For clients that cannot be confirmed by this method, we distinguish them by the distance between the client's business address and the office's address. Compared with other offices, if the office is closer to the client, the client will belong to it. Fourth, the office is named after a deputy provincial city or important prefecture city and there are usually other offices in the province or autonomous region. Under this situation, we first confirm the clients whose business address is in the city where the office is located or in the prefecture city that is near the office location as the clients of the office. For clients that cannot be confirmed by this method, we distinguish them by the distance between the client's business address and the office's address. Compared with other offices, if the office is closer to the client, the client will belong to it.

After confirming the clients of the office, we can determine the auditors who are subordinate to the office according to each Certified Public Accountant's (CPA's) signature. Next, we divide the auditors in the merged office into different subgroups based on the regional audit organisation to which the auditors belonged before the merger and determine the clients of the auditor subgroups. At the same time, we can distinguish the auditors of the parties before the merger into the corresponding auditor subgroups and identify their corresponding clients.

For auditors having no signature before a merger, we use the Chinese CPA website to find the auditor's profession number and confirm the audit firm in which they were registered through their profession number. If the audit firm where the auditor was registered is one party of the merger, we include them in the corresponding subgroups. Second, for auditors that are still not identified, we identify their pre-merger audit firms by looking for auditor registration information published by the local CPA institute as well as through an internet search of the auditors' names. If the auditor firm is one part of the merger, we include it in the corresponding subgroups. Through these efforts, we have basically identified the subgroups to which the combined auditors belong, except for a very small number of unconfirmed and job-hopping auditors. We find that after a merger, the clients in the office are still largely audited by their two auditor subgroups. Conservatively, our samples are limited to those offices where the number of clients audited by the auditor subgroups account for more than 90% after the merger.

3.2. Sample selection

Based on the 'Listed Chinese Companies' Audit Opinion Database' of the Market and Accounting Research database (CSMAR) from 1990 to 2016, we manually track the audit trail of each audit firm in the A-share market and identify a total of 50 merger events involving two or more audit firms that qualified for securities. In terms of the number of merger parties, there are nine cases involving three audit firms and 41 cases involving two audit firms. In addition, there are three mergers involving international audit firms, among which two cases involve the 'Big Four' audit firms and one case that involves the former 'Big Five' audit firms. Using the method of identifying the auditor subgroups, we find that there are two auditor subgroups in 53 offices one year after the merger. These offices have audited a total of 894 listed clients in the year after the merger. After stripping out the newly added listed clients, there are still 676 listed clients. In China, the annual report audit of listed clients usually requires two auditors. After the merger, some clients may be audited by auditors from different subgroups. Therefore, we further exclude 47 listed clients that are not audited by the same auditor subgroup one year after the merger, and obtain 629 listed clients. Accordingly, there are 629 corresponding listed clients in the year before the merger. Further, we exclude 197 A-share listed clients with incomplete research data in the year before or after the merger, and obtain 432 listed clients before and after the merger, respectively. The sample selection process is detailed in [Table 2](#).

3.3. Research design

3.3.1. Measurement of auditor subgroup status

In the existing research on social groups, scholars use questionnaire surveys to measure the sense of group status by social group self-esteem (Leondardelli & Tormala, 2003; Tom, 2006). However, this method encounters some difficulties when it is applied to the measurement of subgroups in an office. The auditors may be reluctant to acknowledge the faction ecological pattern in the office, in which case the subgroup status will be unknown. Even if auditors acknowledge the subgroups differentiation in the office, they may be reluctant to state the status of their subgroup in the office due to self-esteem or other reasons. In this paper, referencing Carton and Cummings (2012), we use the ability of subgroups to occupy organisational resources to represent their status. In our samples, there are two subgroups in a new office. In defining the low-status subgroup, we use the proportion of clients' assets of the specific auditor subgroup to the total

Table 2. Sample selection.

Listed clients audited by local offices that have two auditor subgroups in the year after the merger	894
Deleted new listed clients in the year after the merger	218
Listed clients in the year before the merger retained by local offices that have two auditor subgroups in the year after the merger	676
Deleted listed clients that were not audited by the same auditor subgroup in the year after the merger	47
Listed clients that were audited by the same auditor subgroup in the year after the merger	629
Corresponding listed clients in the year before the merger	629
Deleted listed clients that do not have relevant data in the year before and the year after the merger	197
Final listed clients in the year before the merger	432
Final listed clients in the year after the merger	432

There are two or three audit firms with a licence to audit listed companies involved in each merger in [Table 2](#).

clients' assets of the two subgroups before the merger to determine their relative status in the office. If the proportion is less than 50%, the subgroup is a low-status group; otherwise, it is a high-status group. Clients' asset size is measured by the natural log of the total clients' assets. On this basis, we set the variable of subgroups status *STATUS_CGROUP*, which is a dummy variable. If the client is audited by the low-status auditors in the office, the value of *STATUS_CGROUP* is 1; otherwise, it is 0.

3.3.2. Measurement of audit quality

In the audit literature, researchers mainly use the absolute value of discretionary accruals to measure audit quality (DeFond & Zhang 2014; Francis, 2011). We calculate the discretionary accruals of listed companies using the Modified Jones Model (Dechow, Sloan, & Sweeney, 1995) in the same year and the same industry. In terms of the industries' classifications, we classify the observations of listed manufacturing companies using a two-digit classification and classify the other observations in other industries using a one-digit classification according to the 'Industry Classification Guidelines for Listed Companies' issued by the China Securities Regulatory Commission in 2001. After controlling for other influencing factors, a greater absolute value of the client's discretionary accruals means less audit quality.

3.3.3. Measurement of positive direct intergroup contact

Dhont and Van Hiel (2011) use questionnaires to evaluate intergroup contact. The questionnaire survey method, as mentioned previously, is deficient in its ability to evaluate the subgroup relationship in an office. Therefore, here we measure positive intergroup contact between groups through directly observed intergroup cooperation. If the new client after a merger is co-audited by auditors from different subgroups, we believe there is positive direct contact between the subgroups in that office. On this basis, we set a positive direct contact variable, *CONTACT*, which is a dummy variable. If a client is audited by the office where there is direct contact between subgroups, then *CONTACT* equals 1, otherwise it equals 0.

In addition, there are two cases of intergroup contact. First, the low-status subgroup in the office participates in auditing the retained clients of the high-status subgroup. Second, the high-status subgroup in the office participates in auditing the retained clients of the low-status subgroup. The first may be affected by auditor rotation and other factors. In the second case, even if the high-status auditor subgroup is well-intentioned, the low-status subgroup may still have the feeling that its client resources are occupied by the high-status subgroup, thus deepening the negative attitude of the low-status subgroup toward the high-status subgroup and the feeling of being threatened. Therefore, in both cases, we will not identify them as positive direct intergroup contact. As mentioned above, except for a small number of unconfirmed auditors, we have basically identified the subgroup to which the auditors belong, which allows us to make a good distinction between those offices where there is positive direct contact between the subgroups and those where there is no positive direct contact between the subgroups.

3.3.4. Empirical model

Relying on existing literature (Lambert, Brazel, & Jones, 2008; Li & Song 2010), we construct the following empirical model in the background of audit firm mergers to test Hypothesis 1 (i.e. to test whether the audit quality of a low-status subgroup becomes worse after a merger compared with the high-status subgroup). The model is as follows:

$$ABSDA_CH = \beta_0 + \beta_1 STATUS_CGROUP + OTHER_CONTROLS + \varepsilon \quad (1)$$

where *ABSDA_CH* is the change of discretionary accruals of listed clients before and after the merger, which measures the changes in audit quality. More specifically, *ABSDA_CH* is the difference between the absolute value of the discretionary accruals in one year after the merger and the absolute value of the discretionary accruals in the previous year of the same listed client. The higher the value of *ABSDA_CH*, the worse the audit quality of the listed clients after the merger compared with that before the merger. *STATUS_CGROUP* is the status of subgroups within an office, which is consistent with the foregoing. If Hypothesis 1 holds, we expect the coefficient of *STATUS_CGROUP* to be positive.

In Model 1, we introduce a series of control variables to eliminate the influence of other disturbance factors. *ABSDA_MIN* is the minimum value of absolute discretionary accruals of the same listed client before and after the merger. This variable is introduced to control the effect of the actuarial level before and after the merger (Francis, Pinnuck, & Watanabe, 2014). *TA_CH* is the difference between the total accruals of the year after the merger and the total accruals of the year before the merger for the same listed client. This variable is introduced to control the effect of the total accrual variations. *LNASSET_CH* represents the difference between the natural log of the total assets at the end of the period after the merger and the natural log of the total assets at the end of the period before the merger of the same listed client. This variable is used to control the impact of each client's size (Francis et al., 2014). *CFO_CH* is the difference between the cash flow of operating activities after the merger and the cash flow of operating activities before the merger of the same listed client. The cash flow of operating activities (*CFO*) is the result after the standardisation of the total beginning assets. This variable is used to control the impact of the changes in cash flow in the operating activities of the listed client (DeFond & Subramanyam, 1998; Frankel, Johnson, & Nelson, 2002; Myers, Myers, & Omer, 2003). We introduce *LEV_CH* and *ROA_CH* in Model 1 to control the impact of the changes in the financial conditions and operation results of the listed client (Kothari, Leone, & Wasley, 2005). At the same time, *REVDIF_CH*, *CURRENT_CH*, *REVSTOR_CH* and *TURN_CH* are introduced to further control the impact of the changes in the financial condition and operating results of the listed client. Where *LEV_CH* represents the difference between the leverage after and before the merger of the same listed client, *ROA_CH* represents the difference between the return on assets (*ROA*) after and before the merger of the same listed client. *REVDIF_CH* represents the difference between the *REVDIF* after and before the merger of the same listed client. *REVDIF* represents an increase in the revenue relative to the previous fiscal year standardised by the total assets at the beginning of the period. *CURRENT_CH* represents the difference between the current ratio after and before the merger of the same listed client. *REVSTOR_CH* represents the difference between the *REVSTOR* after and before the merger of the same listed client. *REVSTOR* indicates the

proportion of accounts receivable and inventory to the total assets of the listed client. *TURN_CH* represents the difference between the total assets turnover after and before the merger of the same listed client.

In addition, we also introduce *BORDER_CH* and *MAOF_CH* in Model 1 to control the impact of the changes in the listed clients' motives of reversing the loss and the changes in the severity of audit opinions. *BORDER_CH* is an ordered class variable, which represents the change in the earnings management motivation of the listed client before and after the merger. If the earnings management motivation of the listed client after the merger weakens, the value of *BORDER_CH* is -1; if the earnings management motivation remains unchanged, *BORDER_CH* is 0, and if the earnings management motivation increases, *BORDER_CH* is 1. We measure the earnings management motivation of each listed client based on the return on equity (*ROE*). If the *ROE* is in the range of (0, 1%), we assume the client has earnings management motivation. *MAOF_CH* is also an ordered class variable, which represents the changes in the severity of audit opinions issued by auditors after and before the merger. According to the severity of the audit opinion, it is divided into standard unqualified opinions, unqualified opinion with emphasis paragraph, qualified opinion, qualified opinion with emphasis paragraph, or explanatory note and disclaimer of opinion. No adverse opinion is found during the sample period. If the severity of the audit opinion does not change, the value of *MAOF_CH* is 0. If the severity of the audit opinion is increased, the value of *MAOF_CH* is 1, 2, 3 and 4, respectively, according to the magnitude of the increase. If the severity of the audit opinion decreases, the value of *MAOF_CH* is -1, -2, -3 and -4, respectively, according to the magnitude of the decrease. Finally, we control the impact of the year (*FE_{YEAR}*) and the industry (*FE_{INDUSTRY}*) fixed effects.

Next, we also construct the following model in the context of an audit firm merger to test Hypothesis 2. That is, if there is positive direct contact between subgroups in the office, the deterioration degree of audit quality of the low-status subgroup is reduced after the merger compared with that of the high-status subgroup.

$$ABSDA_CH = \beta_0 + \beta_1 STATUS_CGROUP + \beta_2 STATUS_CGROUP * CONTACT + \beta_3 CONTACT + OTHER_CONTROLS + \varepsilon \quad (2)$$

Among these variables, *STATUS_CGROUP*CONTACT* is the variable of concern. *CONTACT* is a dummy variable. If the client is audited by an office with positive direct contact, as described above, between the subgroups, the value of *CONTACT* is 1; otherwise, it is 0. If Hypothesis 2 holds, we expect the coefficient of *STATUS_CGROUP*CONTACT* to be significantly negative. All of the other variables in Model 2 are the same as in Model 1.

4. Empirical results

4.1. Descriptive statistics

Table 3 shows the descriptive statistical results of the variables related to Models 1 and 2. For the related variables in Model 1 and Model 2, we truncate the continuous variables before and after the merger by the upper and lower 1% quintiles based on the industry to eliminate the extreme values of the observations. That is, the samples

below the lower 1% percentile are valued by the lower 1% percentile, and the samples above the upper percentile are valued by the upper 1% percentile. On this basis, we calculate the related variables of Model 1 and Model 2, and eliminate the extreme values of the related continuous variables of Models 1 and 2 by the same method. Table 3 shows that the mean value of *STATUS_CGROUP* is 0.236, which suggests that 23.6% of the total observations are audited by low-status auditors. The mean value of *CONTACT* is 0.252, which indicates that the offices with positive direct contact between subgroups have audited 25.2% of the observations.

Pearson correlation analysis is also performed for the main variables in Model 1. The results are listed in Table 4. As shown in Table 4, there is a significant positive correlation between *STATUS_CGROUP* and *ABSDA_CH* at the 1% level, which provides preliminary data support for Hypothesis 1. Analysis of the control variables indicates that *ABSDA_CH* is positively correlated with *TA_CH* at the 1% level and *LNASSET_CH* at the 5% level. In addition, *ABSDA_CH* is negatively correlated with *CFO_CH* and *ROA_CH* at the 1% level and *REVSOR_CH* at the 10% level. It can also be seen from Table 4 that the correlation between the test variables and the control variables is relatively low and that the correlation between the control variables is not high. The correlation between *TA_CH* and *CFO_CH* is the highest, but it is also only 0.563. We further calculate the variance inflation factor (VIF) of the test variables and the control variables in Models 1 and 2. The VIF of *TA_CH* in Model 2 is the largest, which is only 2.46. This indicates that there is no significant collinearity in Models 1 and 2.

4.2. Empirical results

In Table 5, we present the linear regression results of auditor subgroup status, positive direct contact, and audit quality. According to the results of Model 1, as shown in Table 5, the coefficient of *STATUS_CGROUP* is 0.012, and it is significantly greater than 0 at the 1% level, which means that the audit quality of the low-status auditor subgroup become worse after a merger compared with that of the high-status auditor subgroup. These results also show that the low-status auditor subgroup in an office is more likely to take opportunistic actions to protect or improve their group's interests, thus making its audit

Table 3. Descriptive statistics of variables.

Variables	Mean	Medium	Std.	Min	Max	P10	P90
<i>ABSDA_CH</i>	0.002	0.000	0.078	-0.200	0.229	-0.104	0.100
<i>STATUS_CGROUP</i>	0.236	0.000	0.425	0.000	1.000	0.000	1.000
<i>CONTACT</i>	0.252	0.000	0.384	0.000	1.000	0.000	1.000
<i>ABSDA_MIN</i>	0.064	0.045	0.056	0.005	0.208	0.008	0.154
<i>TA_CH</i>	-0.005	-0.003	0.073	-0.161	0.149	-0.107	0.089
<i>LNASSET_CH</i>	0.120	0.096	0.172	-0.164	0.545	-0.083	0.362
<i>LEV_CH</i>	0.011	0.011	0.074	-0.134	0.167	-0.096	0.112
<i>CFO_CH</i>	0.004	0.004	0.074	-0.160	0.153	-0.085	0.108
<i>ROA_CH</i>	-0.008	-0.005	0.043	-0.115	0.094	-0.061	0.041
<i>REVDIF_CH</i>	-0.063	-0.038	0.235	-0.623	0.398	-0.383	0.219
<i>CURRENT_CH</i>	-0.063	-0.023	0.514	-1.247	0.996	-0.815	0.588
<i>REVSOR_CH</i>	-0.003	-0.003	0.054	-0.117	0.109	-0.071	0.072
<i>BORDER_CH</i>	0.020	0.000	0.270	-1.000	1.000	0.000	0.000
<i>TURN_CH</i>	-0.022	-0.013	0.151	-0.370	0.256	-0.234	0.180
<i>MAOF_CH</i>	0.034	0.000	0.460	-3.000	4.000	0.000	0.000

This table shows the descriptive statistics of 432 listed clients in the year before and the year after the merger.

Table 4. Pearson correlations.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)
ABSDA_CH	1.000													
STATUS_CGROUP	0.068	1.000												
ABSDA_MIN	0.034	0.038	1.000											
TA_CH	0.856	0.044	0.016	1.000										
LNASSET_CH	0.092	0.036	0.085	0.106	1.000									
LEV_CH	0.060	0.077	0.054	0.020	0.308	1.000								
CFO_CH	-0.576	0.012	0.095	0.563	0.137	-0.028	1.000							
ROA_CH	-0.133	-0.006	0.047	-0.053	0.031	-0.266	0.117	1.000						
REVDIF_CH	0.061	0.015	0.056	0.074	0.179	0.065	0.172	0.273	1.000					
CURRENT_CH	-0.014	0.019	0.030	0.042	-0.080	-0.521	0.025	0.182	0.01	1.000				
REVTOR_CH	-0.073	0.027	-0.019	-0.048	0.012	0.167	-0.139	-0.017	0.103	-0.050	1.000			
BORDER_CH	0.005	-0.015	0.034	-0.035	-0.016	-0.025	-0.025	-0.007	-0.014	-0.010	-0.068	1.000		
TURN_CH	-0.087	0.003	-0.012	-0.062	-0.280	-0.118	0.036	0.185	0.461	0.018	0.063	-0.023	1.000	
MAOF_CH	0.055	-0.018	0.064	0.029	-0.054	0.164	0.003	-0.178	-0.013	-0.090	0.039	-0.031	0.051	1.000

This sample includes 432 listed clients in the year before and the year after the merger. Correlations significant at the 1% level are in bold.

Table 5. Empirical results for the relationship among subgroup status, intergroup contact and audit quality.

Variables	Model 1	Model 2
<i>STATUS_CGROUP</i>	0.012*** (3.25)	0.007*** (3.90)
<i>STATUS_CGROUP *CONTACT</i>		-0.006** (2.13)
<i>CONTACT</i>		0.005 (0.69)
<i>ABSDA_MIN</i>	-0.064 (-1.38)	-0.071 (-1.52)
<i>TA_CH</i>	0.797*** (22.77)	0.794*** (22.78)
<i>LNASSET_CH</i>	0.003 (0.21)	0.003 (0.18)
<i>LEV_CH</i>	0.021 (0.55)	0.011 (0.29)
<i>CFO_CH</i>	-0.201*** (-5.83)	-0.197*** (-5.74)
<i>ROA_CH</i>	-0.152*** (-2.60)	-0.153*** (-2.63)
<i>REVDIF_CH</i>	0.006 (0.56)	0.006 (0.51)
<i>CURRENT_CH</i>	-0.001 (-0.29)	-0.002 (-0.31)
<i>REVSTOR_CH</i>	0.011 (0.280)	0.02 (0.48)
<i>BORDER_CH</i>	0.012 (1.55)	0.012 (1.55)
<i>TURN_CH</i>	-0.018 (-1.00)	-0.015 (-0.82)
<i>MAOF_CH</i>	0.004 (0.88)	0.005 (1.13)
<i>INTERCEPT</i>	0.008 (0.43)	-0.003 (-0.18)
FE _{YEAR}	Yes	Yes
FE _{INDUSTRY}	Yes	Yes
<i>N</i>	432	432
<i>R</i> ²	0.775	0.778

In this table, the dependent variable is *ABSDA_CH*. *STATUS_CGROUP* and *STATUS_CGROUP*CONTACT* are the explanatory variables. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

quality worse. Therefore, Hypothesis 1 holds. Model 2 in Table 5, shows that the coefficient of *STATUS_CGROUP *CONTACT* is -0.006, and it is significantly less than 0 at the 5% level. This indicates that when there is positive direct contact between the subgroups in an office, the deterioration degree of audit quality of the low-status auditor subgroups after the merger is weakened. As such, Hypothesis 2 is also verified.

Table 5 presents the results of our control variables, which show that the coefficient of *TA_CH* is significantly greater than 0 at the 1% level, which indicates that the greater the change of total accruals after the merger, the more the discretionary accruals increase. The coefficients of *CFO_CH* and *ROA_CH* are significantly less than 0 at the 1% level. These results indicate that the greater the reduction in operating cash flow and profitability compared with that before the merger, the more the discretionary accruals increase. Other control variables have no significant impact on the change in the discretionary accruals before and after the merger.

In Table 5, we investigate the subgroups within the office of 'non-Big4' accounting firms and the subgroups within the office of 'Big4' audit firms together. There may be systemic differences between the two auditor subgroups, which could have an impact on the results. Therefore, we further investigate the subgroups in the office of 'non-Big4' audit firms. The results are listed in Table 6, which shows that the coefficient of *STATUS_CGROUP* is still significantly greater than 0 at the 1% level and that the coefficient of *STATUS_CGROUP *CONTACT* is also significantly less than 0 at the 5% level. This provides further empirical evidence for both Hypothesis 1 and Hypothesis 2.

4.3. Robustness test

In the above analysis, we mainly measure the audit quality by the discretionary accruals, and measure the audit quality change by the difference of the discretionary accruals before and after the merger. To further verify the robustness of our research results, we

Table 6. Non-Big4 empirical results for the relationship among local subgroup status, intergroup contact and audit quality.

Variables	Model 1	Model 2
<i>STATUS_CGROUP</i>	0.012** (3.21)	0.007*** (3.78)
<i>STATUS_CGROUP *CONTACT</i>		-0.006** (2.25)
<i>CONTACT</i>		0.005 (0.70)
<i>ABSDA_MIN</i>	-0.058 (-1.19)	-0.065 (-1.34)
<i>TA_CH</i>	0.791*** (22.21)	0.789*** (22.21)
<i>LNASSET_CH</i>	0.004 (0.31)	0.004 (0.27)
<i>LEV_CH</i>	0.019 (0.48)	0.010 (0.25)
<i>CFO_CH</i>	-0.214*** (-6.10)	-0.210*** (-6.00)
<i>ROA_CH</i>	-0.147** (-2.46)	-0.147** (-2.49)
<i>REVDIF_CH</i>	0.001 (0.07)	0.000 (0.04)
<i>CURRENT_CH</i>	-0.002 (-0.34)	-0.002 (-0.34)
<i>REVSTOR_CH</i>	0.008 (0.20)	0.016 (0.39)
<i>BORDER_CH</i>	0.012 (1.57)	0.012 (1.57)
<i>TURN_CH</i>	-0.013 (-0.67)	-0.01 (-0.51)
<i>MAOF_CH</i>	0.004 (0.84)	0.005 (1.08)
<i>INTERCEPT</i>	0.015 (0.57)	-0.004 (-0.23)
FE _{YEAR}	Yes	Yes
FE _{INDUSTRY}	Yes	Yes
N	412	412
R ²	0.774	0.778

In this table, the dependent variable is *ABSDA_CH*. *STATUS_CGROUP* and *STATUS_CGROUP*CONTACT* are the explanatory variables. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

reconstruct the research model using discretionary accruals and audit opinions to measure audit quality.

$$ABSDA = \beta_0 + \beta_1 POST + \beta_2 POST * STATUS_CGROUP + \beta_3 STATUS_CGROUP + OTHER_CONTROLS + \varepsilon \quad (3)$$

$$MAOZ = \beta_0 + \beta_1 POST + \beta_2 POST * STATUS_CGROUP + \beta_3 STATUS_CGROUP + OTHER_CONTROLS + \varepsilon \quad (4)$$

In Model 3, *ABSDA* is the dependent variable, representing the absolute value of the discretionary accruals of a listed client. The measurement method of *ABSDA* is the same as above. *POST*STATUS_CGROUP* is the test variable in Model 3, where, *POST* is a dummy variable, which equals 1 when the observation is in the post-merger period; otherwise, it is 0. The definition of *STATUS_CGROUP* is consistent with Models 1 and 2. If Hypothesis 1 holds, we expect *POST*STATUS_CGROUP* to be significantly positive. In Model 3, we introduce related control variables to control the influence of other factors. *LNASSET* represents the natural log of the total assets at the end of the period. *LEV* represents the leverage of the listed client. *CFO* is the operating cash flow standardised by the total beginning assets. *ROA* is the return of total assets. *REVDIF* is the growth of the revenue standardised by the beginning total assets relative to that of the last fiscal year. *CURRENT* is the current ratio of the listed client. *REVSTOR* is the ratio of accounts receivable and inventories to total assets. *BORDER* is a dummy variable. If the *ROE* is in the range of (0, 1%), *BORDER* is 1; otherwise, *BORDER* is 0. *TURN* is the turnover of total asset. *MAOF* is the type of audit opinion. More specifically, if auditors issue a standard unqualified opinion, *MAOF* is 0; an unqualified opinion with an emphasis paragraph, *MAOF* is 1; a qualified opinion, *MAOF* is 2; a qualified opinion with emphasis or an explanatory paragraph, *MAOF* is 3; and a disclaimer of opinion, *MAOF* is 4. No adverse opinion is found during the sample period.

In Model 4, the dependent variable is *MAOZ*. If the auditor issues a non-standard unqualified audit opinion, *MAOZ* is 1; otherwise *MAOZ* is 0. The test variable is *POST*STATUS_CGROUP*. Its definition is the same as Model 3. If Hypothesis 1 holds, we expect *POST*STATUS_CGROUP* to have a significantly negative coefficient. *PREMAO* indicates the type of audit opinion before the merger. If the previous audit opinion is a qualified opinion, *PREMAO* is 1; otherwise, *PREMAO* is 0. Other variables in Model 4 are consistent with Model 3. The samples of Models 3 and 4 have 864 (432*2) observations before and after the merger.

The empirical results of Model 3 are shown in Table 7. According to Panel A of Table 7, the coefficient of *POST*STATUS_CGROUP* is positive and is significantly greater than 0 at the 1% level. These results support Hypothesis 1. When we divide the total samples into samples with intergroup contact and samples without intergroup contact, we find that the coefficient of *POST*STATUS_CGROUP* is significantly greater than 0 at the 1% level when the clients are audited by an office with no positive contact between the subgroups. The coefficient of *POST*STATUS_CGROUP* is negative when the clients are audited by an office with positive contact between the subgroups. Further, we use the Z statistic constructed by Clogg, Petkova, and Haritou (1995) to test the difference in the coefficient of *POST*STATUS_CGROUP* between the two

Table 7. Empirical non-difference results of abnormal accrual

Variables	Whole sample	Contact sample	Non-contact sample
Panel A: Empirical results of the relationship between subgroup status and audit quality			
<i>POST</i>	-0.008** (-2.16)	-0.000 (-0.06)	-0.013** (-2.54)
<i>POST*STATUS_CGROUP</i>	0.009*** (2.89)	-0.002 (-0.18)	0.014*** (3.80)
<i>STATUS_CGROUP</i>	-0.008 (-1.62)	-0.000 (-0.06)	-0.012** (-2.05)
<i>LNASSET</i>	0.021*** (10.05)	0.026*** (8.26)	0.020*** (7.69)
<i>LEV</i>	-0.033** (-2.02)	0.032 (1.22)	-0.058*** (-2.94)
<i>CFO</i>	-0.665*** (-15.15)	-0.701*** (-14.90)	-0.640*** (-12.38)
<i>ROA</i>	0.941*** (17.15)	0.963*** (12.22)	0.938*** (14.06)
<i>REVDIF</i>	0.048*** (2.94)	0.02 (1.02)	0.046** (2.09)
<i>CURRENT</i>	-0.001 (-0.69)	0.004 (1.13)	-0.004* (-1.770)
<i>REVSTOR</i>	0.044*** (2.86)	-0.003 (-0.17)	0.063*** (3.71)
<i>BORDER</i>	-0.001 (-0.30)	0.001 (0.12)	-0.005 (-0.78)
<i>TURN</i>	-0.005 (-0.84)	0.007 (0.73)	-0.011* (-1.67)
<i>MAOF</i>	-0.002 (-0.47)	-0.012* (-1.74)	0.004 (0.57)
<i>INTERCEPT</i>	-0.457*** (-10.13)	-0.573*** (-8.94)	-0.446*** (-7.62)
<i>FE_{YEAR}</i>	Yes	Yes	Yes
<i>FE_{INDUSTRY}</i>	Yes	Yes	Yes
<i>N</i>	864	218	646
<i>R²</i>	0.844	0.898	0.833

The contact sample versus the non-contact sample

Variables	Difference of coefficients	Z Statistics
Panel B: Analysis of the difference between the contact sample and the non-contact sample		
<i>POST*STATUS_CGROUP</i>	0.016***	6.06

In this table, the dependent variable is *ABSDA*. *POST*STATUS_CGROUP* is the explanatory variable. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

groups of samples. These test results are listed in Panel B of Table 7, which shows that the coefficient of *POST*STATUS_CGROUP* in the non-contact samples is significantly higher than that of *POST*STATUS_CGROUP* in the contact samples. These results support Hypothesis 2.

The empirical results of Model 4 are listed in Table 8, which shows that the coefficient of *POST*STATUS_CGROUP* is negative and is significantly less than 0 at the 5% level. These results support Hypothesis 1. After differentiating the contact samples and the non-contact samples, we find that the coefficient of *POST*STATUS_CGROUP* is significantly less than 0 at the 1% level when the client is audited by an office with no positive contact between the subgroups, while the coefficient of *POST*STATUS_CGROUP* is positive when the client is audited by an office with positive intergroup contact. Further, we used the Z statistic constructed by Clogg et al. (1995) to test the difference in the coefficient of *POST*STATUS_CGROUP* between the two groups of samples, and the test results

Table 8. Empirical non-difference results of audit opinion

Variables	Whole sample	Contact sample	Non-contact sample
Panel A: Empirical results of the relationship between subgroup status and audit quality			
<i>POST</i>	0.307 (0.66)	-1.639* (-1.83)	1.594** (1.98)
<i>POST*STATUS_CGROUP</i>	-0.175** (-2.38)	1.797 (1.38)	-2.129*** (-2.88)
<i>STATUS_CGROUP</i>	0.389 (0.66)	-0.522 (-0.53)	1.369 (1.35)
<i>LNASSET</i>	-0.543*** (-2.66)	-0.341 (-0.99)	-0.809** (-2.24)
<i>LEV</i>	2.474 (1.38)	4.296 (1.40)	4.172 (1.50)
<i>CFO</i>	-3.374** (-2.04)	-5.078 (-1.55)	-2.265 (-1.35)
<i>ROA</i>	-9.927* (-1.85)	-32.530*** (-2.66)	-4.86 (-0.57)
<i>REVDIF</i>	-0.688 (-0.61)	1.813 (1.06)	-1.988 (-0.88)
<i>CURRENT</i>	-0.746 (-1.13)	-2.153*** (-2.62)	-0.13 (-0.23)
<i>REVSTOR</i>	-0.035 (-0.02)	1.694 (0.69)	-4.587* (-1.81)
<i>BORDER</i>	1.030* (1.65)	0.755 (0.74)	1.439 (1.55)
<i>TURN</i>	-0.374 (-0.57)	-2.265* (-1.87)	1.382 (1.51)
<i>ABSDA</i>	-0.833 (-0.23)	-5.586 (-0.75)	2.72 (0.52)
<i>PREMAO</i>	2.595*** (6.48)	2.324*** (3.25)	3.206*** (4.84)
<i>INTERCEPT</i>	7.757 (1.63)	7.165 (0.84)	9.551 (1.32)
<i>FE_{YEAR}</i>	Yes	Yes	Yes
<i>FE_{INDUSTRY}</i>	Yes	Yes	Yes
<i>N</i>	864	218	646
<i>R²</i>	0.373	0.477	0.461

The contact sample versus the non-contact sample

Variables	Difference of coefficients	Z Statistics
Panel B: Analysis of the difference between the contact sample and the non-contact sample		
<i>POST*STATUS_CGROUP</i>	-3.926**	-2.52

In this table, the dependent variable is *MAOZ*. *POST*STATUS_CGROUP* is the explanatory variable. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The Z statistics are reported in parentheses.

are listed in Panel B of Table 8. According to Panel B of Table 8, the coefficient of *POST*STATUS_CGROUP* in the non-contact samples is significantly lower than that of the contact samples at the level of 5%, which supports Hypothesis 2.

In the above analysis, we mainly measure audit quality using discretionary accruals estimated by the Modified Jones Model (Dechow et al., 1995). In order to avoid the influence of discretionary accruals on our results, we recalculate the discretionary accruals and carry out the regression analysis of Models 1 and 2 using the Jones Model (Jones, 1991), the Jones Model with intercept item, and the Modified Jones with intercept item. The results are listed in Table 9. After changing the measurement method of audit quality, the empirical results do not change significantly and still support Hypothesis 1 and Hypothesis 2. In addition, based on the method of Kothari et al. (2005), we introduce the *ROA* into the discretionary accrual model to

Table 9. Empirical results under different abnormal accruals

Variables	Jones		Jones_intept		Mod.Jones_intept	
	Model 1	Model 2	Model 1	Model 2	Model 1	Model 2
<i>STATUS_CGROUP</i>	0.012*** (3.00)	0.007*** (3.42)	0.012*** (3.34)	0.016*** (3.79)	0.011*** (2.79)	0.007*** (3.31)
<i>STATUS_CGROUP*CONTACT</i>		-0.006** (2.14)		-0.014** (-2.04)		-0.006** (2.16)
<i>CONTACT</i>		-0.005 (-0.86)		-0.005 (-0.72)		-0.005 (-0.94)
<i>ABSDA_MIN</i>	-0.045 (-1.18)	-0.047 (-1.23)	-0.071 (-1.51)	-0.078* (-1.65)	-0.05 (-1.31)	-0.052 (-1.43)
<i>TA_CH</i>	0.783*** (28.56)	0.782*** (28.51)	0.802*** (22.62)	0.800*** (11.64)	0.788*** (28.08)	0.787*** (28.03)
<i>LNASSET_CH</i>	-0.01 (-0.89)	-0.01 (-0.89)	0.002 (0.11)	0.001 (0.08)	-0.012 (-1.06)	-0.012 (-1.05)
<i>LEV_CH</i>	0.052* (1.75)	0.047 (1.56)	0.022 (0.57)	0.012 (0.30)	0.047 (1.54)	0.042 (1.36)
<i>CFO_CH</i>	-0.230*** (-8.55)	-0.228*** (-8.47)	-0.190*** (-5.44)	-0.186*** (-5.350)	-0.215*** (-7.79)	-0.213*** (-7.71)
<i>ROA_CH</i>	-0.085* (-1.86)	-0.085* (-1.86)	-0.145** (-2.44)	-0.146** (-2.46)	-0.083* (-1.77)	-0.083* (-1.77)
<i>REVDIF_CH</i>	0.000 (0.00)	0.000 (-0.05)	0.007 (0.65)	0.007 (0.60)	0.002 (0.190)	0.001 (0.14)
<i>CURRENT_CH</i>	-0.002 (-0.46)	-0.002 (-0.42)	-0.002 (-0.41)	-0.002 (-0.43)	-0.002 (-0.63)	-0.002 (-0.58)
<i>REVSTOR_CH</i>	-0.032 (-1.00)	-0.026 (-0.81)	0.015 (0.37)	0.024 (0.58)	-0.017 (-0.51)	-0.01 (-0.32)
<i>BORDER_CH</i>	0.008 (1.24)	0.008 (1.24)	0.011 (1.43)	0.011 (1.43)	0.007 (1.16)	0.007 (1.16)
<i>TURN_CH</i>	-0.012 (-0.85)	-0.01 (-0.67)	-0.02 (-1.09)	-0.017 (-0.90)	-0.016 (-1.08)	-0.013 (-0.88)
<i>MAOF_CH</i>	0.001 (0.33)	0.002 (0.47)	0.004 (0.83)	0.005 (1.08)	0.001 (0.37)	0.002 (0.49)
<i>INTERCEPT</i>	0.017 (1.20)	0.012 (0.78)	0.009 (0.51)	-0.002 (-0.11)	0.018 (1.25)	0.013 (0.85)
FE _{YEAR}	Yes	Yes	Yes	Yes	Yes	Yes
FE _{INDUSTRY}	Yes	Yes	Yes	Yes	Yes	Yes
<i>N</i>	432	432	432	432	432	432
<i>R</i> ²	0.849	0.85	0.769	0.772	0.841	0.842

In this table, the dependent variable is *ABSDA_CH*. *STATUS_CGROUP* and *STATUS_CGROUP*CONTACT* are the explanatory variables. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

further consider the impact of performance factors. After considering the performance factors, we re-perform regression analysis on Models 1 and 2, and the empirical results remain unchanged.

We measure the status of the auditor subgroup by the size of the total assets of the listed client. The larger the total size of the listed clients that the auditor subgroup has in the office, the higher is its status in the office. To further verify the robustness of our results, we also measure the status of the auditor subgroup within the office by the number of listed clients. The empirical results are shown in Table 10. We can see that after changing the measurement of auditor subgroup status, the empirical results remain significantly unchanged and still support Hypotheses 1 and 2.

An important assumption of linear regression modelling is that there is no heteroscedasticity in the residual. Here we use the Breush-Pagan and NCVtest methods to determine whether there is heteroscedasticity in Models 1 and 2. The P values of the two

Table 10. Empirical results of measuring subgroup status with the number of clients.

Variables	Model 1	Model 2
<i>STATUS_CGROUP</i>	0.006*** (3.02)	0.005*** (4.34)
<i>STATUS_CGROUP *CONTACT</i>		-0.016** (-2.42)
<i>CONTACT</i>		-0.015* (-1.90)
<i>ABSDA_MIN</i>	-0.028 (-0.64)	-0.031 (-0.70)
<i>TA_CH</i>	0.758*** (20.57)	0.761*** (20.67)
<i>LNASSET_CH</i>	0.001 (0.09)	0.000 (0.04)
<i>LEV_CH</i>	-0.041 (-1.15)	-0.04 (-1.11)
<i>CFO_CH</i>	-0.244*** (-6.85)	-0.235*** (-6.59)
<i>ROA_CH</i>	-0.239*** (-4.47)	-0.236*** (-4.43)
<i>REVDIF_CH</i>	0.000 (0.01)	0.001 (0.06)
<i>CURRENT_CH</i>	-0.003 (-0.67)	-0.002 (-0.49)
<i>REVTOR_CH</i>	-0.076* (-1.94)	-0.070* (-1.79)
<i>BORDER_CH</i>	0.010 (1.53)	0.011 (1.65)
<i>TURN_CH</i>	-0.004 (-0.21)	-0.003 (-0.17)
<i>MAOF_CH</i>	0.004 (1.07)	0.004 (0.93)
<i>INTERCEPT</i>	0.001 (0.05)	0.01 (0.46)
FE _{YEAR}	Yes	Yes
FE _{INDUSTRY}	Yes	Yes
<i>N</i>	432	432
<i>R</i> ²	0.775	0.778

In this table, the dependent variable is *ABSDA_CH*. *STATUS_CGROUP* and *STATUS_CGROUP*CONTACT* are the explanatory variables. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

tests are all greater than 0.1, so we can accept the null hypothesis that the residual variance is constant, and infer that there is no heteroscedasticity in Model 1 and Model 2. However, to be prudent, we use the heteroscedasticity-robust standard error method to make further regressions for Model 1 and Model 2, to avoid the impact of possible heteroscedasticity problems. The results are listed in Table 11, which shows that the empirical results remain unchanged and still support Hypotheses 1 and 2.

In order to prevent the subgroup status and group relationship from being affected by the original firm status of the auditor subgroup, we further control the influence of this factor in Model 1 and Model 2. In the specific measurement, we set the status variable of the firm as *STATUS_FIRM*, which is a dummy variable, and the value of *STATUS_FIRM* is 1 if the firm is of higher status before the merger, otherwise it is 0. We determine the firm's status by using the ratio of the firm's asset size before the merger to the asset size of all of the merger parties. If the proportion is less than 50%, the firm belongs to the low-status firm, otherwise it

Table 11. Empirical results of controlling possible heteroscedasticity

Variables	Model 1	Model 2
<i>STATUS_CGROUP</i>	0.013*** (2.87)	0.008*** (3.44)
<i>STATUS_CGROUP *CONTACT</i>		-0.007** (-2.40)
<i>CONTACT</i>		-0.005 (-0.79)
<i>ABSDA_MIN</i>	-0.064 (-1.38)	-0.071 (-1.55)
<i>TA_CH</i>	0.797*** (14.97)	0.794*** (15.06)
<i>LNASSET_CH</i>	0.003 (0.16)	0.003 (0.14)
<i>LEV_CH</i>	0.021 (0.58)	0.011 (0.31)
<i>CFO_CH</i>	-0.201*** (-3.59)	-0.197*** (-3.57)
<i>ROA_CH</i>	-0.152** (-2.27)	-0.153** (-2.29)
<i>REVDIF_CH</i>	0.006 (0.48)	0.006 (0.43)
<i>CURRENT_CH</i>	-0.001 (-0.31)	-0.002 (-0.32)
<i>REVSTOR_CH</i>	0.011 (0.26)	0.02 (0.43)
<i>BORDER_CH</i>	0.012*** (2.61)	0.012** (2.42)
<i>TURN_CH</i>	-0.018 (-0.85)	-0.015 (-0.72)
<i>MAOF_CH</i>	0.004 (0.50)	0.005 (0.66)
<i>INTERCEPT</i>	0.008 (0.42)	-0.003 (-0.18)
FE _{YEAR}	Yes	Yes
FE _{INDUSTRY}	Yes	Yes
<i>N</i>	432	432
<i>R</i> ²	0.775	0.778

In this table, the dependent variable is *ABSDA_CH*. *STATUS_CGROUP* and *STATUS_CGROUP*CONTACT* are the explanatory variables. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

belongs to the high-status firm. Client's asset size is measured by the natural log of the total assets. These results are listed in Table 12. After controlling for the firm's status, our empirical results remain unchanged and still support Hypotheses 1 and 2.

Our research contains a total of 106 offices that are both large and small in size. In order to avoid the decisive effect of a single office on the research results, we remove one office at a time and perform regression analysis on Model 1 and Model 2. The empirical results are not changed significantly and still support Hypothesis 1 and Hypothesis 2.

We also perform the relevant robustness tests in identifying the office's clients and auditors. First, if the office is named after a province, autonomous region, or provincial capital city, and there are no other offices in the province or autonomous region, we confirm the clients whose business addresses are in the city where the office is located or in the prefecture city, which is near the office location, as the clients of the office. If

Table 12. Empirical results of controlling the status of the audit firm which the subgroup belongs to in the pre-merger period.

Variables	Model 1	Model 2
<i>STATUS_CGROUP</i>	0.011*** (3.02)	0.007*** (3.54)
<i>STATUS_CGROUP *CONTACT</i>		-0.006** (1.99)
<i>CONTACT</i>		-0.007 (-0.94)
<i>STATUS_FIRM</i>	-0.013** (-2.27)	-0.013** (-2.16)
<i>ABSDA_MIN</i>	-0.065 (-1.39)	-0.07 (-1.50)
<i>TA_CH</i>	0.790*** (22.65)	0.788*** (22.65)
<i>LNASSET_CH</i>	0.001 (0.10)	0.001 (0.09)
<i>LEV_CH</i>	0.027 (0.71)	0.018 (0.47)
<i>CFO_CH</i>	-0.211*** (-6.11)	-0.207*** (-6.02)
<i>ROA_CH</i>	-0.159*** (-2.73)	-0.159*** (-2.74)
<i>REVDIF_CH</i>	0.007 (0.66)	0.006 (0.59)
<i>CURRENT_CH</i>	-0.002 (-0.33)	-0.002 (-0.31)
<i>REVSTOR_CH</i>	0.002 (0.05)	0.011 (0.28)
<i>BORDER_CH</i>	0.012 (1.51)	0.012 (1.51)
<i>TURN_CH</i>	-0.02 (-1.10)	-0.016 (-0.88)
<i>MAOF_CH</i>	0.003 (0.65)	0.004 (0.86)
<i>INTERCEPT</i>	0.007 (0.40)	-0.003 (-0.15)
FE _{YEAR}	Yes	Yes
FE _{INDUSTRY}	Yes	Yes
N	432	432
R ²	0.778	0.781

In this table, the dependent variable is *ABSDA_CH*. *STATUS_CGROUP* and *STATUS_CGROUP*CONTACT* are the explanatory variables. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

the office is named after a deputy provincial city or an important prefectural city, we confirm the clients whose business addresses are in the city where the office is located or in the prefecture city, which is near the office location, as the clients of the office. If the office is named after a province, autonomous region, or provincial capital city, and there are other offices in the province or autonomous region, we confirm the clients whose business addresses are in the city where the office is located as the clients of the office. If the office is named after a sub-provincial capital city or an important prefectural city, we confirm the clients whose business addresses are in the city where the office is located as the clients of the office. There is no significant change in the empirical results after changing the confirmation methods of the office's clients and auditors.

Finally, we conduct a battery of robust tests for subgroup status and positive direct contact. First, we determine the demarcation ratio of low-status groups as 45% and the

demarcation ratio of high-status groups as 55%. In other words, according to the ratio of the clients' assets of the special auditor subgroup to the clients' assets of all of the auditor subgroups before the merger, if the ratio is less than 45%, the subgroup status is defined as low-status; if the ratio is greater than 55%, the subgroup status is defined as high-status. Next, we determine the demarcation ratio of low-status groups as 40% and the demarcation ratio of high-status groups as 60%. Finally, we measure auditor subgroup status in terms of continuous variables. Further, after excluding clients audited by a cooperation audit, we determine the subgroup status by the ratio of the clients' assets of the special auditor subgroup to the clients' assets of the office before the merger. Hypothesis 1 and Hypothesis 2 still hold after changing the measurement method and the measurement period of the auditor subgroup status. In addition, we also confirm the situation that the low-status subgroups participate in the audit of high-status subgroups' retained clients as positive direct contact; Hypothesis 2 still holds in this case.

4.4. Further discussion

First, we consider whether the development level in different regions affects the relationship between subgroup status and audit quality. We introduce regional development level variables in Model 1. *CITYCLASS1* is a dummy variable. If an office's registered city is a first-tier city, the value of *CITYCLASS1* is 1; otherwise, it is 0. *CITYCLASS2* is also a dummy variable. If an office's registered city is a second-tier city, the value is 1; otherwise, it is 0. The identification of first-tier cities and second-tier cities is based on the 2017 business glamour ranking of Chinese cities published by 'China Business News'. In the ranking, Beijing, Shanghai, Guangzhou, and Shenzhen are first-tier cities. Chengdu, Hangzhou, Wuhan, Chongqing, Nanjing, Tianjin, Suzhou, Xi'an, Changsha, Shenyang, Qingdao, Zhengzhou, Dalian, Dongguan, and Ningbo are second-tier cities. Our empirical results, at the different regional development levels, are listed in Table 13, which shows that although the coefficients of *STATUS_CGROUP***CITYCLASS1* and *STATUS_CGROUP***CITYCLASS2* are both negative, they are not statistically significant. Therefore, we do not find that the level of a region's development has a significant impact on the relationship between subgroup status and audit quality.

Second, in this hypothesis section, we believe that as low-status auditor subgroups are threatened by the realistic and identity threats of high-status auditor subgroups, the low-status auditor subgroups are more likely to engage in opportunistic behaviour that ultimately leads to a negative impact on audit quality. However, the question remains: is it possible that a low-status subgroup in an office may raise its position by improving the professional standard and audit quality, and perform more professionally than a high-status subgroup? If this happens, the low-status subgroup will be better off. However, we think this is less likely to happen. First of all, improvement of the professional level and professional quality are not achieved overnight, which requires the condensation, absorption, and sublimation of client knowledge and industry knowledge over a long period of time. No matter what the professional competence of the low-status subgroup is before the merger, it cannot cope with the short-term threat by significantly improving its professional competence. Second, similar to the overall audit market position of the audit firm, the status of an office subgroup is mainly determined by the economic value created by the subgroup for the office. For example, audit

Table 13. Empirical results under different city development levels.

Variables	Model 1	Model 2
<i>STATUS_CGROUP</i>	0.012*** (3.36)	0.014*** (3.65)
<i>STATUS_CGROUP *CITYCLASS1</i>		-0.017 (-0.95)
<i>STATUS_CGROUP *CITYCLASS2</i>		-0.011 (-1.05)
<i>CITYCLASS1</i>	0.007 (1.20)	0.011 (1.55)
<i>CITYCLASS2</i>	0.002 (0.36)	0.006 (0.91)
<i>ABSDA_MIN</i>	-0.064 (-1.36)	-0.065 (-1.39)
<i>TA_CH</i>	0.796*** (22.63)	0.800*** (22.77)
<i>LNASSET_CH</i>	0.003 (0.20)	0.001 (0.04)
<i>LEV_CH</i>	0.021 (0.54)	0.018 (0.46)
<i>CFO_CH</i>	-0.200*** (-5.82)	-0.193*** (-5.57)
<i>ROA_CH</i>	-0.149** (-2.53)	-0.145** (-2.48)
<i>REVDIF_CH</i>	0.006 (0.54)	0.005 (0.49)
<i>CURRENT_CH</i>	-0.002 (-0.41)	-0.002 (-0.39)
<i>REVSTOR_CH</i>	0.010 (0.24)	0.012 (0.29)
<i>BORDER_CH</i>	0.012 (1.55)	0.011 (1.45)
<i>TURN_CH</i>	-0.018 (-0.98)	-0.014 (-0.77)
<i>MAOF_CH</i>	0.004 (0.98)	0.005 (1.08)
<i>INTERCEPT</i>	0.015 (0.77)	0.008 (0.39)
FE _{YEAR}	Yes	Yes
FE _{INDUSTRY}	Yes	Yes
<i>N</i>	432	432
<i>R</i> ²	0.776	0.779

In this table, the dependent variable is *ABSDA_CH*. *STATUS_CGROUP*, *STATUS_CGROUP *CITYCLASS1*, and *STATUS_CGROUP*CITYCLASS2* are the explanatory variables. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

income is the decisive factor, and it is the only factor to be considered after 2017, for the top 100 ranking CICPA accounting firms. Therefore, enhancement of professional competence may have a limited effect on the enhancement of auditor subgroup status.

Third, we analyse how auditor subgroup status affects the combination between auditor subgroups and their clients. The relationship between auditor subgroup status and client changes is shown in Table 14. The dependent variable *CHANGE* equals 1 if the clients of the subgroup change after a merger; otherwise it equals 0. The coefficient of *STATUS_CGROUP* is significantly greater than 0 at the 1% level, which suggests that the clients of a low-status auditor subgroup are more likely to change after a merger. Moreover, we also find that the low-status auditor subgroup has no advantage in

Table 14. Subgroup status and the change of clients.

Variables	CHANGE
<i>STATUS_CGROUP</i>	0.242** (2.07)
<i>LNASSET</i>	-0.141* (-1.78)
<i>LEV</i>	0.831* (1.78)
<i>ROA</i>	0.128 (0.77)
<i>CURRENT</i>	0.043 (0.95)
<i>REVDIF</i>	0.489* (1.70)
<i>REVGROW</i>	-0.516** (-2.51)
<i>REVSTOR</i>	0.212 (0.38)
<i>CFO</i>	-1.509* (-1.90)
<i>BORDER</i>	0.090 (0.24)
<i>ABSDA</i>	-0.704 (-0.65)
<i>MAOF</i>	0.207 (1.54)
<i>TURN</i>	0.010 (0.39)
<i>INTERCEPT</i>	2.080 (1.20)
FE_{YEAR}	Yes
$FE_{INDUSTRY}$	Yes
<i>N</i>	495
R^2	0.206

In this table, the dependent variable is *CHANGE*. *STATUS_CGROUP* is the explanatory variable. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The z statistics are reported in parentheses.

drawing new clients. Therefore, in such a situation, low-status auditors are more likely to engage in opportunistic behaviours in order to cope with the threat that they face, which will ultimately have a negative impact on audit quality.

Fourth, we include other types of auditor subgroups in the context of a merger into the scope of our empirical analysis. In the above analysis, we mainly discuss subgroups in an office. There may also be auditor subgroups in the combined audit firm. For example, the Shanghai Lixin Audit Firm and the Shanghai Changjiang audit firm merged into the Shanghai Lixin-Changjiang Audit Firm. Before this merger, the two firms were both located in Shanghai, which belonged to a merger of two local accounting firms. The merged Shanghai Lixin-Changjiang Audit Firm may thus form two auditor subgroups. After considering this situation, we further increase our study samples. We conduct additional regression analysis for Models 1 and 2. The empirical results, as listed in Table 15, show that auditor subgroup status still affects audit quality, and the moderating effect of intergroup contact remains.

Fifth, we conduct our analyses using the Heckman two-stage approach in order to control the endogenous nature of positive and direct contact. In the first stage

Table 15. Empirical results after considering other types of auditor subgroups in the context of merger.

Variables	Model 1	Model 2
<i>STATUS_PGROUP</i>	0.009*** (3.39)	0.014*** (4.48)
<i>STATUS_PGROUP *CONTACT</i>		-0.012** (2.49)
<i>CONTACT</i>		-0.005 (-0.96)
<i>ABSDA_MIN</i>	0.002 (0.05)	-0.009 (-0.28)
<i>TA_CH</i>	0.838*** (35.93)	0.839*** (35.70)
<i>LNASSET_CH</i>	-0.018* (-1.85)	-0.016 (-1.64)
<i>LEV_CH</i>	0.006 (0.25)	0.003 (0.14)
<i>CFO_CH</i>	-0.161*** (-6.79)	-0.160*** (-6.75)
<i>ROA_CH</i>	-0.173*** (-4.89)	-0.175*** (-4.87)
<i>REVDIF_CH</i>	0.009 (1.25)	0.007 (0.90)
<i>CURRENT_CH</i>	-0.005 (-1.39)	-0.005 (-1.61)
<i>REVSTOR_CH</i>	-0.022 (-0.83)	-0.019 (-0.69)
<i>BORDER_CH</i>	0.009* (1.65)	0.010* (1.94)
<i>TURN_CH</i>	-0.036*** (-3.27)	-0.030*** (-2.58)
<i>MAOF_CH</i>	0.003 (0.77)	0.002 (0.47)
<i>INTERCEPT</i>	0.008 (1.04)	-0.004 (-0.28)
FE _{YEAR}	Yes	Yes
FE _{INDUSTRY}	Yes	Yes
<i>N</i>	461	461
<i>R</i> ²	0.794	0.798

In this table, the dependent variable is *ABSDA_CH*. *STATUS_CGROUP* and *STATUS_CGROUP*CONTACT* are the explanatory variables. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

regression, we construct a model of positive and direct contact using all of the implied characteristic variables in Model 2 and two instrumental variables. Our sample is 432 observations of value of the listed clients audited by 106 subgroups in 53 audit offices. The first instrumental variable is *STRUCTURE*, which is an indicator variable set to 1 if the post-merger office is made up of pre-merger headquarters of one audit firm and pre-merger office of the other audit firm, 0 if the post-merger office is made up of the two pre-merger offices. The second instrumental variable is *CITYCLASS*, which is an ordered multinomial classification variable set to 1 if the city registered by the post-merger office is a first-tier city, 2 if the city is a second-tier city, and 3 otherwise. If the post-merger office is made up of the pre-merger headquarters of one audit firm and pre-merger office of the other audit firm, the auditor subgroup formed by the pre-merger headquarters may have a stronger identification with the original organisation, and therefore be less inclined to contact other auditor subgroups. The higher the level of

city development, the greater the possibility of acquiring new clients after a merger, and the greater the possibility of inter-group contact.

The results of our first stage regressions suggest that these two instrumental variables are negatively related to *CONTACT* at less than 5%. Meanwhile, these two instrumental variables are insignificantly associated with the residual of our regression of Model 2 on all of the exogenous variables. Therefore, our Heckman two stage regression models are relatively reliable based on these instrumental variables. In the second stage, we estimate Model 2 including the Inverse Mills Ratio (IMR) obtained from the model of the positive and direct contact. We report the second stage results in Table 16. The results do not change significantly. Because the results of the Selection Models are vulnerable to multicollinearity, we calculate the Variance Inflation Factor (VIF) of all of the variables including in the second stage regressions. All of the VIF results are less than 10, which suggests that multicollinearity does not exist in our Selection Models. Based on the above analysis, our Selection Models are relatively effective. Meanwhile, the results of our Selection Models further support our hypotheses. Because the coefficients of the IMRs are neither significantly negative nor positive, an endogenous problem may not exist in the financial restatement.

5. Conclusions and discussion

Based on the subgroups in an office identified by the merger of audit firms, our study finds that the audit quality of low-status auditor subgroups is significantly lower after the merger compared with that of high-status auditor subgroups. In addition, we also find that when there is positive direct contact between the auditor subgroups within an office, the deterioration extent of low-status subgroups' audit quality eases compared with that of high-status auditor subgroups' audit quality. Our results show that low-status auditor subgroups have a higher motivation to maintain or improve their position within an office, that in order to safeguard their interests they are more likely to behave opportunistically, and that their audit quality will be worse. Our results also show that positive direct contact can effectively improve the intergroup relationship and reduce the reduction extent of low-status subgroups' audit quality. After eliminating the influence of the 'Big Four' subgroups, applying different measurement methods of audit quality and subgroup status, and controlling the possible heteroscedasticity of the model and the influence of original firms' status to which the subgroups belong, our empirical results are still relatively stable without significant changes.

We carry out our auditor subgroup interaction study from the perspective of subgroup status, which further expands the boundary of audit quality and group interaction studies. We also clarify the moderating effect of intergroup contact on the relationship between auditor subgroup status and audit quality. Our research results show that the status of subgroups in an office has an important impact on the relationship between subgroups, which in turn affects the behaviour and performance of audit subgroups. Therefore, managers should pay particular attention to the status structure of subgroups and eliminate the negative reaction of low-status subgroups due to the disparity of interests. At the institutional level, managers can reduce the conflicts of interest caused by status differences between subgroups through the design of benefit distribution mechanisms and incentives. Moreover, while strengthening institutional governance,

Table 16. Two-stage empirical results for the relationship among subgroup status, intergroup contact and audit quality.

Variables	Model 1	Model 2
<i>STATUS_CGROUP</i>	0.013*** (3.16)	0.008*** (3.43)
<i>STATUS_CGROUP *CONTACT</i>		-0.005** (2.03)
<i>CONTACT</i>		-0.002 (-0.25)
<i>ABSDA_MIN</i>	-0.067 (-1.43)	-0.075 (-1.60)
<i>TA_CH</i>	0.799*** (22.84)	0.796*** (22.83)
<i>LNASSET_CH</i>	0.002 (0.15)	0.002 (0.11)
<i>LEV_CH</i>	0.016 (0.43)	0.007 (0.18)
<i>CFO_CH</i>	-0.199*** (-5.78)	-0.195*** (-5.69)
<i>ROA_CH</i>	-0.149** (-2.55)	-0.151** (-2.58)
<i>REVDIF_CH</i>	0.008 (0.73)	0.007 (0.67)
<i>CURRENT_CH</i>	-0.001 (-0.18)	-0.001 (-0.25)
<i>REVSTOR_CH</i>	0.016 (0.38)	0.021 (0.52)
<i>BORDER_CH</i>	0.012 (1.52)	0.012 (1.53)
<i>TURN_CH</i>	-0.019 (-1.05)	-0.017 (-0.93)
<i>MAOF_CH</i>	0.004 (0.86)	0.005 (1.14)
<i>IMR</i>	-0.258 (-0.40)	-0.241 (-0.25)
<i>INTERCEPT</i>	0.018 (0.94)	0.007 (0.33)
FE _{YEAR}	Yes	Yes
FE _{INDUSTRY}	Yes	Yes
N	432	432
R ²	0.776	0.779

In this table, the dependent variable is *ABSDA_CH*. *STATUS_CGROUP* and *STATUS_CGROUP*CONTACT* are the explanatory variables. ***, **, and * denote two-tailed statistical significance at the 1%, 5%, and 10% levels. The t statistics are reported in parentheses.

managers should also strengthen 'human relationship governance' to dissolve the disharmonious factors that typically exist in inter-group relations. The results of this study show that positive direct contact is a direct and effective management method to mitigate the adverse effects of low-status subgroups on audit quality. Therefore, managers should organise various collective activities to promote communication and mutual understanding between auditor subgroups. In the process of direct contact, managers should also encourage members to think more from the perspective of the organisation, and safeguard the common interests of the organisation by emphasising shared organisational goals and members' organisational identity.

Our research examines the influence of the relationship between subgroups in an office on the behaviour and performance of subgroups in the context of organisational change. In the context of organisational change, the differentiation of auditor subgroups

is not generated gradually in an office, but formed as a consequence of significant organisational change. Therefore, subgroups identified in the context of organisational change may have different characteristics than subgroups that exist in the absence of organisational change. This distinction may affect the results of this study, and thus limit the generality of our conclusions.

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