# *Audit Firm Mergers and Low Balling*

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### Abstract

**Motivation:** This paper investigates whether audit firm mergers affect audit fee discounts in the initial year. The numerous mergers of audit firms in China's capital market provide a quasi-natural experiment to investigate this issue.

**Premise:** The merger of audit firms can increase the firm size, thereby improving quasi-rents that are required by auditors. Therefore, we argue that the merger of audit firms will improve the auditor independence, thereby reducing the behavior of low balling.

**Approach:** We select samples from 43 cases of audit firm mergers that occurred between 2005 and 2013 in China and use ordinary least squares (OLS) regressions on 5,552 listed firm-years observations during the period from two years before to two years after the merger.

**Results:** We find audit firms would offer an initial fee discount to the clients, and the merging of audit firms can dramatically reduce the discounts on audit fees for new clients. We also show the treatment effect is more pronounced for non–state-owned enterprises (non-SOEs) and the merger between large audit firm and small ones.

**Conclusion:** The results suggest that low balling exists in China's audit market. The merger of audit firms can curtail low balling, but only exists in non-SOEs. Moreover, the restraining effect of audit firm mergers on the low balling lies in the merger between large audit firms and small ones.

**Consistency:** The findings in this paper can advance the understanding of the recent strategy raised by related regulators attempting to enhance audit quality.

Keywords: audit firm mergers, audit fees, low-balling, quasi-rent

JEL Classification Codes: M42, L11

#### INTRODUCTION

The low-balling behavior of audit firms has long been of great concern to regulators, such as the Securities and Exchange Commission (2000), fearing that the reduction of audit fees for new clients may affect audit independence and thus

Wenjun Liu, PhD, Fujian Agricultural and Forestry University, wjliu@fafu.edu.cn June Cao, PhD, Curtin University, june.cao@curtin.edu.au impair audit quality. Concerned regulatory authorities in China's capital market also attach great importance to the price-competition behavior of audit firms. For example, the Ministry of Finance of the People's Republic of China released the "Administrative Fees Management Measures for Audit Firms" document in 2011, which clearly states that all localities should curb the low-price negative competition of audit firms and standardize the audit fees. Yugui Chen, Secretary General of the Chinese Institute of Certified Public Accountants (CICPA), also believes that the audit fees of China's audit firms are low, and the problem of unfair competition in the industry is prominent.<sup>1</sup> Low balling is particularly outstanding in China's capital market due to the fragmented audit market structure, low market concentration, and fierce competition among audit firms to survive. Recently, to promote the industrialization and sound development of audit firms, concerned departments have pushed audit firms to become bigger and stronger and encouraged mergers among audit firms, as seen in "Guideline to Promote Audit Firms to Be Bigger and Stronger" issued by CICPA in 2007. Audit firm mergers have been raging in recent years. Although regulators have expressed great concern about whether the merger of audit firms can inhibit low-balling practices, the related literature is scarce.

Low balling has also caught academia's attention. DeAngelo (1981a) proposes that it is a pricing strategy adopted by audit firms in fierce market competition, expecting to earn quasi-rents from clients in the future. Additionally, the initial fee reductions are sunk costs and thus do not impair the audit independence. Current literature agrees on the existence of audit firm low balling but varies on its exact impact on audit quality. Earlier research suggests that low balling does not affect, and will even improve, audit quality (Deis and Giroux 1996; Gul, Fung, and Jaggi 2009). Recent studies, however, have come to the opposite conclusion (Stanley, Brandon, and McMillan 2015; Huang et al. 2015).

Despite the increasing number of studies arguing that this pricing practice may lead to a lessening of the audit quality, whether the merger of audit firms can indeed affect low-balling behavior is theoretically uncertain. A merger of audit firms can curb low balling in at least two aspects. First, the audit fee reductions on the initial engagement are not sunk costs in future periods. Those incumbent audit firms who expect to earn future quasi-rent from a particular client have increased incentives to acquiesce in the client's fraud, implying absence of auditor independence. Moreover, with the firm unfamiliar with new clients during the initial engagement, discounted audit fees restrain the audit budget and further increase the risk of audit failure. It is plausible that audit firm mergers will likely inhibit low balling, which is a threat, formally or substantially, to audit quality. Since the size of audit firms has increased after the merger, larger quasi-rents are required. Even if the low balling itself does not influence audit quality, the merger of the firms increases audit market concentration and reduces peer competition, strengthening audit firms' bargaining power over the initial discount reduction. However, the merger of audit firms may not be able to affect the low-balling practice for at least three reasons. First, the litigation risk in the Chinese audit market is relatively low, which will reduce the probability of the firms' quasi-rent loss caused by audit failure. Second, because China's

<sup>&</sup>lt;sup>1</sup>Quoted from Chen Yugui's speech at the Beijing CPA Institute's fee training class on February 23, 2016.

audit market is fiercely competitive and fragmented, the merger of audit firms has limited effect on enhancing market concentration and substantial bargaining power improvement. Third, the public firms care more about the audit fees than the quality, resulting in lack of market demand for high audit quality. Therefore, such mixed results call for empirical data to test whether the merger of audit firms can constrain low balling.

This paper examines the impact of audit firms' merger on the discounting of audit fees for new clients received during the period from two years before to two years after the merger, taking samples from 2005 through 2013, with the number of clients engaged without changing auditor before and after the merger as the control samples. We find that audit firms indeed charge lower audit fees for a newly accepted client, which indicates that the practice of low balling exists in the audit market. The discounts decline considerably after the merger of audit firms, and *ceteris paribus* the audit fees increase, which further reveals that the merger of audit firms with defective mergers and re-examined the window period before and after the mergers, and our research conclusions remain unchanged.

In addition, compared with non-state-owned enterprises (non-SOEs), the autonomy of auditors in state-owned enterprises (SOEs) is relatively low. Because the State-owned Assets Supervision and Administration Commission of the State Council (SASAC) and the local government will intervene in the selection and appointment of state-owned enterprise auditors, for example, a unified audit bidding will be conducted for state-owned enterprises, and certain audit firms will be designated for state-owned enterprises to choose. Therefore, it is difficult for audit firms to undertake auditing services for state-owned enterprises through low prices. We further test by dividing the sample into two separate groups, SOEs and non-SOEs. The results show that low balling does not exist with SOEs, nor does the merger of audit firms affect the audit fees for new SOEs clients as it does to non-SOE clients. Specifically, only when the quasi-rents of the audit firms involved in the merger are sufficiently large will the merger increase the audit independence and thus inhibit the low-balling behavior of the audit firm. The merger of audit firms in China can be split into two types: mergers of large and small firms ("LS mergers"), and mergers of small ones ("SS mergers"). Compared to SS mergers, whose growth in size is limited, we posit that the LS mergers can increase the total quasi-rents and restrict low balling to a greater extent. By dividing the sample according to the two types, we find supportive evidence suggesting that the merger of large and small audit firms, rather than the one of small firms, can inhibit the low balling of audit firms.

Our paper contributes to the auditing research mainly in the following aspects:

1. Some prior literature studies on the audit fees in the initial engagement year, attempting to examine whether low balling exists in audit firms, as a large stream of research has supported, yet the perspective of studying low balling is still limited, either from the size of the firm (Ghosh and Lust-garten, 2006), the Sarbanes-Oxley Act (SOX) (Huang, Raghunandan, and Rama 2009; Desir, Casterella, and Kokina 2014), or the replacement of

signing auditors (Huang et al. 2015). Our study adds additional evidence to the growing literature on low balling;

- 2. This paper also contributes to the study of the merger of audit firms. Prior research on the merger of audit firms focuses on whether the merger of audit firms affects audit independence and audit quality (Chan and Wu 2011; Gong et al. 2016), audit fees (Li, Zhang, and Liu 2012; Gong et al. 2016) and audit efficiency (Gong et al. 2016), most of which pay particular attention to the clients who do not switch the incumbent audit firm before and after the merger. Few studies, however, document the impact of the firms' merger on their following pricing strategy for the new client. Therefore, to some extent, this paper can advance our current understanding of the merger of audit firms;
- 3. Furthermore, our study provides a credible support for regulatory authorities. In recent years, China's regulatory authorities have rolled out an array of policies aiming to supervise and direct the fees of audit firms by constraining the low balling resulting from excessive competition in audit market. Our findings indicate that the merger of firms plays a role in standardizing the pricing behavior in the audit market, hinting that the regulatory authorities should adhere to the very strategy to boost audit firms.

The remainder of the paper is organized as follows. Comprehensive Review recaps the related literature. The next section develops the hypotheses concerning the impact of audit firm mergers on low balling in audit market. Following that, Research Design describes the data and sample selection procedure and discusses the main and control variables. The next sections presents the empirical results, including robustness tests, followed by additional analysis, and conclusion.

#### **COMPREHENSIVE REVIEW**

The term *low balling* refers to a practice wherein audit firms offer a price which is lower than the audit costs to obtain the clients in the initial engagement year. However, given that the audit firm cannot be observed, academia generally uses the initial audit fee discounts for the new clients as a substitute (Huang et al. 2015). Ghosh and Lustgarten (2006) document that the initial audit fee discounts appear to be a common practice in the audit market, which seem to be more serious in highly competitive markets than the monopolistic market. By comparing the fee discounts on initial engagement before and after the introduction of SOX in U.S. capital market, Huang, Raghunandan, and Rama (2009) find that the Big 4 audit firms provided fee discounts in the first year of audit before SOX was introduced, and there were fee premiums after SOX, illustrating that the introduction of SOX has increased audit independence and pushed the audit firms to be more cautious in audit pricing. However, Desir, Casterella, and Kokina (2014) found that even after the introduction of SOX, both Big 4 and non-Big 4 firms are still providing fee discounts for the initial audit engagement, which in fact means that SOX does not constrain the low balling of audit firms. Highly concentrated as the audit market is in United States, the low balling still occurs, not to mention China's more competitive audit market. In line with our prediction, low balling is also found in China's audit market, as surveyed by Huang et al. (2015), but he claims that no initial engagement fee discounts are granted by the audit firm if the clients simply switch to a new firm without changing the incumbent auditors.

The regulatory authority has expressed great concerns on the low balling of audit firms, for the fear that it may undermine the audit quality. Presumably, the fee discounts in the initial period can negatively affect the audit independence since they are set to obtain the clients and gain profits when the audit firms recoup the investment in the subsequent period. Moreover, considering that the firm is unfamiliar with the new client's business, and the reason that the client would switch to a new audit firm is that the former one did not acquiesce to the company's misreporting and underreporting, the firm's audit risk is higher. The audit fees below the normal level will limit the audit budget and increase potential possibility of audit failure. Both SEC (2000) and GAO suppose that the low balling is likely to impair audit independence. China's regulatory authorities have expressed the same concern because the Chinese audit market is more fragmented and competitive. Aiming to suppress excessive price competition in the audit market, the China Securities Regulatory Commission and the CICPA have paid specific attention to the audit fees and closely monitored the low balling issue of audit firms. The price departments across the country have also introduced the pricing standards of audit firms to prevent audit firms from competing at low prices.

Despite regulatory concerns, DeAngelo (1981a) argues that low balling audit firms is a market competition strategy to earn expected future quasi-rents since the clients are subject to transaction costs of switching auditors. She addresses that the discount for the initial year is essentially a sunk cost, thus low balling will not affect audit independence. Lee and Gu (1998) even propose that low balling raises the level of audit independence. Whether low balling audit firms affects the audit quality is still contentious in the empirical research. When investigating the government audit of the school districts in Texas, Deis and Giroux (1996) note that although there was a higher audit quality with audit fee discounts on the initial engagement, Gul, Fung, and Jaggi (2009) do not find a significant link between the low fees of audit firms in the short tenure and the accrual profits of clients. Yet recent studies suggest that low balling can lessen the audit quality. Ettredge, Fuerherm, and Li (2014) do not directly test the impact of low balling on audit quality, but the results indicate that the reduction in audit fees during the economic downturn will increase the probability of financial restatement of the company, implying that low balling may impair the audit quality. Stanley, Brandon, and McMillan (2015) provide direct evidence that low balling undermines the audit quality by discovering the positive correlation between audit firms' low balling behavior and the practice that clients use the discretionary accruals to meet the analyst's forecast, and the link is more obvious before SOX. Huang et al. (2015) suggest that in China's audit market, when a public firm has two new signing auditors in the initial year of audit engagement and simultaneously conducted an audit fee discount, the probability of the company being punished for audit problems is raised, drawing a conclusion that low balling can reduce the audit quality to some extent for the audit firms in China.

Cultivating audit market concentration may be a way to improve audit independence and curb low balling behavior. DeAnglo (1981b) believes that large audit firms have better audit independence due to the higher quasi-rents, and to earn quasi-rents in the future, the audit firms will place more emphasis on their reputation, and thus the audit quality will be higher, the theory of which has directed the merger of audit firms promoted by concerned government departments. Existing literature uses the background of the firm's merger to study the impact of the merger of audit firms on audit quality, audit independence and audit fees. For example, Zeng and Zhang (2010) find that the merger of audit firms can improve the audit quality, while Li and Liu (2015) argue that the merger can reduce the audit quality horizontally and vertically. The reason behind the diametrically opposite research conclusions of the two studies above probably lies in the differences in the sample selection of the audit firm merger, the measure of audit quality, and the research design. Based on data of the merger of the audit firms in China's capital market, Chan and Wu (2011) state that the audit independence increases as the merger enriches the quasi-rents, and *ceteris paribus*, the auditors issue a higher probability of modified audit opinions after the merger. While according to their paper, the merger fails to affect the audit pricing, Li, Zhang, and Liu (2012), in contrast, propose that the audit fees have increased significantly following the merger after studying the influence of the merger on audit fees. Gong et al. (2016) demonstrate that the merger of audit firms improves audit efficiency, along with audit quality and audit fees. However, aforementioned literature rarely discusses whether the merger of audit firms can restrain low balling to explore the impact of the merger on the audit fee discounts for new clients' initial engagement.

#### HYPOTHESIS DEVELOPMENT

Chung and Kallapur (2003) construct the following model according to DeAngelo's (1981b) theoretical interpretation and analysis framework for auditors' quasi-rents:

$$V = QR_C + QR_O \tag{1}$$

Where

V is the value of an audit firm  $QR_C$  is the present value of the future quasi-rent of a client C $QR_O$  is the present value of the future quasi-rent of other clients

The model is derived from DeAnglo (1981a), who suggests that the audit firm's charge for the initial year engagement is a sunk cost and does not affect the value of the firm and the auditor's behavior. As more and more studies find that the initial audit fee discounts reduce the audit quality, it is plausible that the discounts reduce the value of audit firms. In addition, research in the field of organizational behavior proposes that sunk costs should not be ignored, and actually affect behavior (Straw 1976; Arkes and Blumer 1985). Simon and Francis (1988) also believe that this sunk cost is a discount granted by the firm to strengthen its business relationship with clients. Therefore, we assume that the audit firm's fee discounts in the initial year affect the value of the firm and modify the initial model of Chung and Kallapur (2003) as follows:

$$V^{A} = AF_{C1}^{A} - AC_{C1}^{A} + QR_{C}^{A} + QR_{O}^{A}$$
<sup>(2)</sup>

 $AF_{C1}^{A}$  and  $AC_{C1}^{A}$  in model (2) refer to the audit fees and audit costs in the first year of the audit firm A's client C, and  $QR_{C}^{A}$  is the present value of the

quasi-rent earned by the audit firm A following the first year from the client C. The definitions of other variables are the same as the model (1). Assume that the audit risk assessed by the audit firm in advance for client C is P, and the proportion of quasi-rent loss after the disclosure of material misstatement of client C is *a*. When the firm decides to undertake the audit business of client C, then audit fee the first year for client C must satisfy:

$$AF_{C1}{}^{A} - AC_{C1}{}^{A} + (1 - P\alpha) (QR_{C}{}^{A} + QR_{O}{}^{A}) > QR_{O}{}^{A}$$
(3)

Model (3) shows that the condition for the firm A to undertake the C client business is that the value of firm A after the project should exceed the value before. By simplifying the model (3), we can conclude that the firm A's initial year audit fee for client C must meet:

$$AF_{C1}^{A} > P\alpha QR_{O}^{A} - (1 - P\alpha) QR_{C}^{A} + AC_{C1}^{A}$$

$$\tag{4}$$

And after the merger of the firm A and firm B, the audit fees charged by the new audit firm for the initial engagement are required to meet the following conditions:

$$AF_{C1}^{AB} - AC_{C1}^{AB} + (1 - P\alpha)(QR_C^{AB} + QR_O^A + QR_O^B) > QR_O^A + QR_O^B$$
(5)

In model (5),  $AF_{C1}{}^{AB}$  and  $AC_{C1}{}^{AB}$  are the audit fees and audit costs for the first year of the newly contracted client C after the merger of audit firms A and B, and  $QR_{C}{}^{A}$  is the present value of the quasi-rents earned from client C following the first year. Assume that the cost, technology, and auditor's ability of the audit firm A and B after the merger has not improved,<sup>2</sup> then  $AC_{C1}{}^{AB}$  is equal to  $AC_{C1}{}^{A}$ ,  $QR_{C1}{}^{AB}$  is equal to  $QR_{C}{}^{A}$ ;  $QR_{O}{}^{B}$  is the present value of future quasi-rents of other clients of the original audit firm B. Simplifying the model (5), it can be concluded that the initial audit fees of the client C after the merger of the audit firm A and B are met:

$$AF_{C1}^{AB} > P\alpha QR_O^A + P\alpha QR_O^B - (1 - P\alpha) QR_C^A + AC_{C1}^{AB}$$
(6)

Comparing the model (4) with the model (6), the difference between the two is that  $P\alpha QR_O^B$  is added to the left side of the model (6) inequality, and since  $P\alpha QR_O^B$  is positive, we posit that the threshold for the initial audit fees for new clients after the merger of audit firms is higher than before the merger of audit firms, which makes sense because the merger raises the quasi-rents. Thus, we can further estimate that  $AF_{C1}^{AB}$  is likely to be greater than  $AF_{C1}^A$ , in other words, the audit fees for new clients are higher than they are before the merger. The audit fees increase insofar as the audit costs are held constant, suggesting that the merger of audit firms inhibits the low-balling practice. Moreover, the merger of firms promotes the concentration of the audit market, which enhances the bargaining power of the firms, and the increase in bargaining power will also suppress the low balling (Dye 1991).

Based on the above analysis, we develop our hypothesis 1 as follows.

<sup>&</sup>lt;sup>2</sup>In order to control the impact of the improvement of the auditor's cost, technology, and audit capability on the audit fees after the merger of audit firms, we only compare the audit fees of new clients received during the period from two years before to two years after the merger.

### **Hypothesis 1:** The merger of audit firms can restrain the low-balling behavior of the audit market.

However, it should be noted that the merger of the audit firms may not affect the low-balling practice. There are three reasons for this. First, weak protection for investors and the low risk of audit litigation in China's capital market result in the situation that audit risk of the firm, namely P in our model, is pretty low. Second, China's audit market lacks the demand for high-quality audits. It is often the case that the demand for audit by listed companies is only due to the mandatory requirements of the regulatory authorities, which indicates that the value of  $\alpha$  is essentially low. Third, the audit market in China is too fragmented and the market competition is fierce so that several large firms can hardly monopolize the audit market. Indeed, most of the audit firms are small in size, which means that the value of  $QR_O^B$  is low. To summarize, the three aspects mentioned above suggest that the value of  $P\alpha QR_O^B$ , the threshold for the increase in audit fees after the merger of the firms, is likely to be rather low, and thus may not necessarily inhibit the discounts on new client audit fees. In this case, the research of our paper is necessary.

#### **RESEARCH DESIGN**

#### Data and Sample Selection

This paper selects client data before and after the merger to examine the impact of audit firms' merger on the low balling, taking samples from 43 cases of the audit firm merger that occurred between 2005 and 2013.<sup>3</sup> Our sample screening criteria are as follows.

- 1. To control the impact of audit technology and ability improvement caused by the merger of audit firms on audit fees, we only select the public company clients obtained during the period from two years before to two years after the merger as research samples.
- 2. Given that some listed companies switch the audit firm only but retain the incumbent signing auditor, which is not a real change of audit firms, and as such a new client has no access to initial audit fee discounts as Huang (2015) documents, we eliminate those firms' data.
- 3. We exclude the firms whose clients are in the financial industry.
- 4. Observations with missing data for required variables are removed. The final sample is 5,552 public firms. We collect the merger case information of the audit firm comes from the website of the China Association of Investors and the manual sorting through Baidu search and obtain the financial data from the CSMAR database. Specifically, the standard errors of all the models in this paper are corrected for the firm-level clustering.

The merger among audit firms can enlarge the size of the firm. Table 1 shows the changes in the average size of the firms the year preceding the merger

<sup>&</sup>lt;sup>3</sup>Of the 43 merger cases selected in this paper, all the audit firms involved in the merger have securities qualifications, for Chan and Wu (2011) find that the merger of audit firms without securities qualification, which can't increase the quasi-rents, thus does not affect audit independence.

	The Year before the Merger	The Year after the Merger	Increased Percentage
Total assets of the clients (billion RMB)	202	364	80.19%
Total audit fees of the firms (million RMB)	22.5	37.6	67.11%
Number of clients	41	63	53.66%

### **TABLE 1.** Changes in the Average Size of Audit Firms before and after the Merger

and the year following the merger.<sup>4</sup> We compare the changes in the size with three dimensions: total assets,<sup>5</sup> total audit fees, and the number of public company clients audited by the firm. As illustrated in Table 1, the client's total assets on average increase by 80.19 percent, from 202 billion RMB before the merger to 364 billion RMB after the merger. And the client's audit fees on average increase by 67.11 percent, growing from 22.5 million RMB to 37.6 million RMB. As for the number of clients, it rises from 41 to 63 at a percentage of 53.66. Consistent with our assumption, the merger between audit firms is a crucial way to enlarge the size of the firm.

#### **Empirical Model and Variable Definitions**

Extant studies on the low-balling practice of the audit firm basically adopt the initial audit fee discounts for the new client as an alternative. Paralleling to the methodology of Huang et al. (2015), we construct the following model to test our hypothesis.

 $LNFEE = \alpha_{0} + \alpha_{1}INITIAL + \alpha_{2}POST + \alpha_{3}INITIAL \times POST + \alpha_{4}RECTA$  $+ \alpha_{5}INVTA + \alpha_{6}QUICK + \alpha_{7}GROWTH + \alpha_{8}LNSIZE + \alpha_{9}LEV + \alpha_{10}ROA$  $+ \alpha_{11}LOSS \alpha_{12} + OPINION + \alpha_{13}CI + \alpha_{14}INDSPE + \alpha_{15}STATE$  $+ \alpha_{16}MKT + IND + YEAR + \varepsilon$ (7)

In model (7), the dependent variable is the audit fee (LNFEE), measured as the natural logarithm of the audit fees paid by the public company to the audit firm. INITIAL is an indicator variable equal to 1 if it's the first year for the client to hire the audit firm, and 0 otherwise. POST is an indicator variable equal to 1 if the client firm merges, and 0 otherwise. Following prior literature, we control the complexity of the company's business, including the proportion of accounts receivable to total assets (RECTA) and the proportion of inventory to total assets (INVTA). The more complex the company's business is, the higher the auditor's investment and the audit fees will be. Thus, we speculate that the coefficients of RECTA and INVTA to be significantly positive.

We also control the company's audit risk, including the company's acid-test ratio (QUICK, quick assets divided by current liabilities), financial leverage (LEV, liabilities divided by total assets), firm's growth (GROWTH,

<sup>&</sup>lt;sup>4</sup>In order to reflect the changes in the size of the audit firm before and after the merger more roundly, the sample we used for comparison is the company with no missing data in total assets, audit fees, and the company name in the CSMAR database.

<sup>&</sup>lt;sup>5</sup>Considering that some public companies do not disclose the audit fees paid to the audit firms, we use the total assets of the company as a substitute indicator of its size.

growth rate of income), firm size (LNSEZE, the natural logarithm of total assets), and company performance (ROA, net profit divided by total assets; LOSS, an indicator variable equal to 1 if the firm reports a loss for the year, and 0 otherwise). To our knowledge, the stronger the company's short-term liquidity and long-term liquidity are, the smaller the firm size, the better the company's performance and the lower the audit risk will be, which leads to lower audit fees. In this case, we assume that the QUICK coefficient is negative, the LEV, LNSIZE, and LOSS coefficient are significantly positive, and the ROA coefficient is significantly negative.

We control the auditors' opinions on the company (OPINION), which is an indicator variable equal to 1 if the auditor issues an unmodified opinion, and 0 otherwise and its coefficient is expected to be significantly negative. The auditor characteristics, which incorporate client importance (CI, the ratio of the client's total assets to the sum of all client assets of the audit firm) and auditor industry expertise (INDSPE, the auditor's industry market share), are also controlled. Generally, audit firms tend to have more audit input for important clients and auditors with industry expertise will have an audit premium, so the coefficients of both CI and INDSPE are expected to be significantly positive.

We further control the property right character of the company (STATE, an indicator variable equal to 1 if it's a SOE company, and 0 otherwise). Compared with non-SOE enterprises, SOE enterprises have stronger demand for high-quality audits because the competent departments of state-owned enterprises hope to supervise the management of SOE enterprises with high-quality audits, indicating that the coefficient of STATE should be significantly positive. Moreover, we control the market transition process of the company's location (MKT) (Fan, Wang, and Zhu 2011), whose coefficient is predicted to be significantly positive based on the inference that where there is more advanced market transition process, there is better corporate governance and more potential demand for high-quality audits, thus creating more incentives to purchase audit services. Finally, the industry (IND) and year fixed effects are included in all tests.

#### **EMPIRICAL RESULTS**

#### **Descriptive Statistics of Main Variables**

Table 2 presents the descriptive statistics for the main variables used in this paper. As can be seen in the table, the average audit fees (FEE) of the audit firms involved in the merger is 68,6877.9 RMB, with a median of 500,000 RMB. The average natural logarithm (LNFEE) of audit fees is approximately 13.2323 and the median is 13.1224. The value of INITIAL on average is 0.0893, indicating that 8.93 percent of the companies in the sample are new clients of the audit firms. The mean POST is 46.49 percent, suggesting that the number of clients after the audit firm's merger accounts for 46.49 percent of the total. The mean RECTA is 0.0263 and the median is 0.0107. The mean INVTA is 0.17 and the median is 0.1320. The GROWTH, on average, is 0.2295 and the median is 0.1347, implying that the sample firms are growing rapidly. The mean natural logarithm (LNSIZE) of the company's size is 21.6337, with a median of 21.5051.

Variables	N	Mean	S.D.	25th	Median	75th
LNFEE	5,552	13.2323	0.5375	12.8992	13.1224	13.5278
INITIAL	5,552	0.0893	0.2853	0	0	0
POST	5,552	0.4649	0.4988	0	0	1
RECTA	5,552	0.0263	0.0452	0.0043	0.0107	0.0262
INVTA	5,552	0.1700	0.1551	0.0662	0.1320	0.2186
GROWTH	5,552	0.2295	0.6341	-0.0103	0.1347	0.2988
LNSIZE	5,552	21.6337	1.1783	20.8353	21.5051	22.3411
QUICK	5,552	1.5664	2.2764	0.5394	0.8809	1.5302
LEV	5,552	0.4912	0.2399	0.3188	0.4903	0.6495
ROA	5,552	0.0343	0.0661	0.0119	0.0346	0.0634
LOSS	5,552	0.1097	0.3125	0	0	0
OPINION	5,552	0.9391	0.2391	1	1	1
CI	5,552	0.0395	0.1103	0.0022	0.0078	0.0262
INDSPE	5,552	0.0481	0.0554	0.0121	0.0258	0.0658
STATE	5,552	0.5285	0.4992	0	1	1
MKT	5,552	8.5160	2.0438	7.18	8.78	10.42

#### **TABLE 2.** Descriptive Statistics

Note: N is the number of observations. LNFEE is the natural logarithm of the audit fees paid by the public company to the audit firm. INITIAL is an indicator variable equal to 1 if it's the first year for the client to hire the audit firm, and 0 otherwise. POST is an indicator variable equal to 1 if the client firm mergers, and 0 otherwise. RECTA, INVTA are the proportion of accounts receivable and inventory to total assets, respectively. GROWTH is growth rate of income. LNSIZE is the natural logarithm of total assets. QUICK is quick assets divided by current liabilities, LEV is total liabilities divided by total assets, ROA is net income divided by total assets and LOSS is an indicator variable equal to 1 if the firm reports a loss for the year, and 0 otherwise. OPINION is an indicator variable equal to 1 if the auditor issues an unmodified opinion, and 0 otherwise, CI is the ratio of the firm's total assets to the sum of all client assets of the audit firm and INDSPE is the auditor's industry market share. STATE is an indicator variable equal to 1 if it's a SOE company, and 0 otherwise. MKT is the marketization index where the firm is located.

The average acid-test ratio (Quick) is 1.5664 and the median is 0.8809.<sup>6</sup> The average asset-liability ratio (LEV) is 0.4912, with a median of 0.4903, indicating that the company's debt level is moderate, and short-term and long-term liquidity is strong. The mean ROA is 0.0343, the median is 0.0346, and the mean value of LOSS is 0.1097, which both indicate that the sample company's performance is poor. The average value of OPINION is 0.9391, indicating that 93.91 percent of the companies in the sample are issued a standard and unqualified audit opinions. The mean CI is 0.0395, the median is 0.0078. The mean INDSPE is 0.0481, with a median of 0.0258, suggesting that the sample companies have a lower degree of industry specialization. The average value of STATE is 0.5285, which indicates that the proportion of state-owned enterprises in the selected sample is 52.85 percent. The average MKT is 8.1560, with a median of 8.78.

#### Univariate Analysis

We compare the audit fees of regular and new clients before and after the merger of audit firms, and the results of the *t*-test are shown in Table 3. It can

<sup>&</sup>lt;sup>6</sup>The wide gap between the median and the mean of the acid-test ratio indicates that there is a skewed data distribution, akin to the statistical results of Li, Zhang, and Liu (2012). We try to winsorize the variable at the top and bottom 5 percent to limit the influence of distribution asymmetry on the conclusions of our study, and it was found that the results of the study remain qualitatively similar to those reported in Table 2.

	Old Client	New Client	Difference
Before the merger	640,053.4 (2695)	542,920.3 (276)	97,133.14**
After the merger	751,748.9 (2361)	744,895.5 (220)	6,853.459
Difference	111,695.5***	201,975.2***	

### TABLE 3. Comparison of Average Audit Fees of Clients before and after the Merger of Audit Firms

Note: Sample size is shown in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively.

be seen from Table 3 that the average audit fees for the regular clients before the merger of the audit firms is 64,0053.4 RMB and increase by 11,1695.5 RMB to 75,1748.9 RMB after the merger, significant at the 1 percent level. The average audit fees for the new clients before the merger of the audit firms is 542920.3 RMB and increase by 201975.2 RMB to 744895.5 RMB after the merger, significant at the 1 percent level. Obviously, the amount of fees charged for new clients either before or after the merger is higher than that of regular clients. Judging from the gap between the regular and new clients' audit fees, the average audit fees for the regular clients before the merger of the audit firms is 97,133.14 RMB higher than the new clients' and is significant at the 5 percent level, which initially indicates that low balling exists before the merger of audit firms. After the merger, the average audit fees for regular clients exceed the new clients' by 6853.459 RMB, whereas the difference between the two is statistically insignificant, preliminarily revealing that there is no audit fee discounts for new clients after the merger of audit firms, and the phenomenon of low balling of the audit firms disappears.

#### **Multivariate Analysis**

Table 4 demonstrates the test results of regression analysis for Hypothesis 1. In column 1, the coefficient of INITIAL is negative and significant at the level of 5 percent, which, consistent with most studies at home and abroad, suggests that the audit firms would offer an initial fee discount for the clients, namely low balling. The coefficient of INITIAL is -0.0398, which can be translated as the firm's general 3.98 percent reduction on fees to newly accepted clients. The coefficient of POST in column 2 is significantly positive at the 1 percent level, consistent with relevant research findings (Li, Zhang, and Liu 2012) that audit fees increase after the merger of audit firms. The coefficient of POST is 0.0521, which indicates that the overall audit fees of the audit firms increased by 5.35 percent. As illustrated in column 3, INITIAL is still significantly negative at the 1 percent level, POST is significantly positive at the 1 percent level, and the INITIAL × POST coefficient is significantly positive at the 5 percent level, implying that the merger of audit firms can dramatically reduce the discounts on audit fees for new clients, and inhibit the low balling behavior of audit firms. Specifically, it shows that the merger increases the auditing quasi-rents and improves the audit independence, and further raises the pricing threshold when they obtain new clients. We find that the coefficient of INITIAL  $\times$  POST is 0.0719, which is a 7.45 percent reduction in the audit fee discounts for new clients after the merger of audit firms.

Variables	(1)	(2)	(3)
INITIAL	-0.0398**		-0.0761***
	(-2.17)		(-3.17)
POST		0.0521***	0.0467***
		(3.93)	(3.46)
INITIAL × POST			0.0719**
			(2.12)
RECTA	1.0901***	1.0974***	1.1007***
	(6.54)	(6.58)	(6.60)
INVTA	-0.1244*	-0.1193*	-0.1195*
	(-1.82)	(-1.75)	(-1.75)
GROWTH	-0.0064	-0.0076	-0.0064
	(-0.70)	(-0.84)	(-0.71)
LNSIZE	0.3288***	0.3283***	0.3279***
	(31.35)	(31.32)	(31.33)
QUICK	-0.0153***	-0.0150***	-0.0149***
	(-3.72)	(-3.66)	(-3.61)
LEV	-0.0101	-0.0109	-0.0068
	(-0.20)	(-0.21)	(-0.13)
ROA	0.3026	0.3048	0.3069
	(1.61)	(1.63)	(1.64)
LOSS	0.0667**	0.0660**	0.0673**
	(2.32)	(2.30)	(2.35)
OPINION	-0.1414***	-0.1408***	-0.1417***
	(-4.04)	(-4.02)	(-4.05)
CI	-0.0160	-0.0079	-0.0081
	(-0.26)	(-0.13)	(-0.13)
INDSPE	0.6428***	0.6419***	0.6356***
	(3.47)	(3.47)	(3.43)
STATE	-0.0420**	-0.0423**	-0.0410**
	(-2.11)	(-2.13)	(-2.07)
MTK	0.0400***	0.0393***	0.0392***
	(8.50)	(8.36)	(8.36)
Constant	5.9400***	5.9497***	5.9667***
	(27.80)	(27.76)	(27.89)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	5,552	5,552	5,552
R-squared	0.535	0.536	0.537

#### TABLE 4. Regression Results of the Impact of Audit Firm's Merger on Low Balling

Note: *T*-statistics based on standard errors clustered by firm are shown in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively. The dependent variable is LNFEE, which is the natural logarithm of the audit fees paid by the public company to the audit firm. INITIAL is an indicator variable equal to 1 if it's the first year for the client to hire the audit firm, and 0 otherwise. POST is an indicator variable equal to 1 if the client firm mergers, and 0 otherwise. RECTA, INVTA are the proportion of accounts receivable and inventory to total assets, respectively. GROWTH is growth rate of income. LNSIZE is the natural logarithm of total assets. QUICK is quick assets divided by current liabilities, LEV is total liabilities divided by total assets, ROA is net income divided by total assets and LOSS is an indicator variable equal to 1 if the firm reports a loss for the year, and 0 otherwise. OPINION is an indicator variable equal to 1 if the audit firm and INDSPE is the auditor's industry market share. STATE is an indicator variable equal to 1 if is a SOE company, and 0 otherwise. MKT is the marketization index where the firm is located.

From the regression results of the control variables in Table 4, the coefficient of RECTA is significantly positive, indicating that the higher the proportion of receivables is, the higher the audit fees of audit firms will be. The coefficients of both LNSIZE and LOSS are significantly positive, indicating that if a company is large or unprofitable, then the audit fees will be higher. The coefficient of OPINION is significantly negative, showing that the audit firms charge a lower fee for companies that have been issued non-standard audit opinions. The INDSPE coefficient is positive and significant, suggesting that audit firms with industry expertise can increase audit fees. The coefficient of MTK is significantly positive, implying that the audit firm has higher audit fees for public companies in areas with advanced marketization process. The regression results of these control variables above are all consistent with expectations. But the following three variables are exceptions: INVTA, ROA, and STATE. The INVTA coefficient is negative, indicating that the greater the proportion of inventory in the company's assets are, the lower the audit fees will be. The ROA coefficient is significantly positive, indicating that the audit fees are higher for those companies with better performance. Despite the inconsistency with previous expectations, the results are comparable to the findings of Li, Zhang, and Liu (2012) and Huang et al. (2015). In addition, other control variables did not appear to be statistically significant.

#### **Robustness Tests**

#### Delete the Observations of the Defective Audit Firm Merger

In China's audit market, some audit firms have merged some other "unhealthy" audit firms, which refer to those with serious problems in terms of professional ethics, internal control, and implement quality. A typical case is the merger of Guofu Haohua with Pengcheng Audit Firm. While those primary merger firms show relatively high audit quality and independence, considering the audit firms with audit quality problems may have more serious low-balling behavior, it's plausible that the restraint on low balling found after the merger may be driven by the "ill" audit firms. We eliminate these "defective merger" observations from the sample and then re-examine the hypothesis of this paper and present the regression results in Table 5. It can be seen that the coefficient of INITIAL in column 1 is significantly negative at the level of 5 percent, the coefficient of POST in column 3 is significantly at the 5 percent level. The results above remain qualitatively similar to the primary test, which mitigates the concern that the findings in our paper are driven by the "defective merger."

#### Change the Research Window Period

We posit that the merger of audit firms enlarges the firm's size and increases the quasi-rents. This, in turn, can improve audit independence and give the firm more bargaining power by promoting market concentration, leading to the constraint on low balling of audit firms. After the merger, the original firms may undergo business restructuring, integration, and complementary advantages. This is likely to improve the audit quality and curb discounts on audit fees rather than audit independence and bargaining power resulting from the increase of the firm

Variables	(1)	(2)	(3)
INITIAL	-0.0442**		-0.0854***
	(-2.33)		(-3.41)
POST		0.0498***	0.0437***
		(3.54)	(3.04)
INITIAL × POST			0.0793**
			(2.28)
RECTA	1.0027***	1.0122***	1.0141***
	(5.95)	(6.01)	(6.02)
INVTA	-0.1341*	-0.1282*	-0.1296*
	(-1.88)	(-1.81)	(-1.82)
GROWTH	-0.0058	-0.0072	-0.0061
	(-0.58)	(-0.72)	(-0.61)
LNSIZE	0.3334***	0.3331***	0.3324***
	(30.47)	(30.44)	(30.45)
QUICK	-0.0140***	-0.0138***	-0.0136***
	(-3.08)	(-3.04)	(-2.99)
LEV	0.0041	0.0020	0.0086
	(0.07)	(0.04)	(0.16)
ROA	0.3063	0.3108	0.3160
	(1.55)	(1.57)	(1.60)
LOSS	0.0702**	0.0705**	0.0713**
	(2.35)	(2.36)	(2.39)
OPINION	-0.1313***	-0.1300***	-0.1314***
	(-3.59)	(-3.56)	(-3.60)
CI	0.0093	0.0165	0.0171
	(0.14)	(0.24)	(0.25)
INDSPE	0.6426***	0.6460***	0.6408***
	(3.37)	(3.40)	(3.37)
STATE	-0.0483**	-0.0481**	-0.0468**
	(-2.37)	(-2.36)	(-2.30)
MTK	0.0373***	0.0367***	0.0366***
	(7.58)	(7.46)	(7.46)
Constant	5.8595***	5.8621***	5.8871***
	(26.41)	(26.33)	(26.50)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	5,126	5,126	5,126
R-squared	0.539	0.540	0.541

### **TABLE 5.** Impact of the Audit Firms' Merger on Low Balling(Excluding the "Defective Merger" Sample)

Note: *T*-statistics based on standard errors clustered by firm are shown in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively. The dependent variable is LNFEE, which is the natural logarithm of the audit fees paid by the public company to the audit firm. INITIAL is an indicator variable equal to 1 if it's the first year for the client to hire the audit firm, and 0 otherwise. POST is an indicator variable equal to 1 if the client firm mergers, and 0 otherwise. RECTA, INVTA are the proportion of accounts receivable and inventory to total assets, respectively. GROWTH is growth rate of income. LNSIZE is the natural logarithm of total assets. QUICK is quick assets divided by current liabilities, LEV is total liabilities divided by total assets, ROA is net income divided by total assets and LOSS is an indicator variable equal to 1 if the firm reports a loss for the year, and 0 otherwise. OPINION is an indicator variable equal to 1 if the sudit firm and INDSPE is the auditor's industry market share. STATE is an indicator variable equal to 1 if it's a SOE company, and 0 otherwise. MKT is the marketization index where the firm is located.

size. Therefore, we set the research window of the primary test to two years before the merger and two years after the merger. To further eliminate the quality improvement hypothesis, we set the research window period to two years before the merger of audit firms and one year after the merger, consistent with Chan and Wu (2011), as it is difficult for the original audit firms to complete the restructuring, integration, and complementary advantages of the business within such a period of time after the merger and so the impact of the merger is more likely to be only an expansion of scale rather than an improvement in audit quality. Table 6 shows the regression results of the study window period as two years before the merger and one year after the merger. The coefficient of INITIAL in the column 1 is negative and significant at the level of 5 percent. The coefficient of INITIAL × POST in column 3 is significant at the 10 percent level. In addition, we also change the research period to (i) the year before and two years after the merger, (ii) the year before and the year after the merger, and then re-examine the impact of the merger on low balling. The results are shown in column 2 and column 3 of Table 6. We find no substantial changes in the conclusions. The above results reveal that it is the change of quasi-rents and the increase of market concentration rather than the improvement of audit quality after the merger that affect the low balling of audit firms, and the selection of the window period study exerts no influence on the research conclusions.

#### ADDITIONAL ANALYSIS

#### Impact of the Merger of Audit Firms on the Low Balling of Clients with Different Property Right Character

According to the nature of property rights, China's public companies can be divided into two groups as SOE enterprises and non-SOE enterprises, which vary greatly in hiring auditors. Compared with non-SOE enterprises, the recruiting and selecting of auditors of SOE enterprises are heavily restricted because the government intervenes in the selection to conduct closer supervision over SOE enterprises. Restrictions include a unified bidding for auditors of SOE enterprises, designation of several audit firms for state-owned enterprises to choose from, and even requiring the audit firms selected by SOE enterprises to implement mandatory rotations that cannot be dismissed at will. All of these will affect the audit demand of SOE enterprises. In contrast, non-SOE enterprises do not have the above restrictions and have access to a more market-oriented audit market. Thus, non-SOE enterprises possess a wider range of choices. Given the restriction on the auditor selection of SOE enterprises, it is difficult for audit firms to attract state-owned enterprises with low fees. Therefore, if the merger of audit firms can really inhibit the low balling, then this role is mainly reflected in non-SOE enterprises.

We divide the research sample into SOEs and non-SOEs according to the nature of the property rights, then carry out the regression and present the results in Table 7. Column 1 is the regression result of SOEs. As is shown in the table, the coefficient of neither INITIAL nor INITIAL  $\times$  POST is statistically insignificant, which indicates that the audit firm does not offer the audit fee discounts for the newly accepted SOEs before the merger, and the merger of audit firms has no effect on the audit fee discounts for new clients. Column 2

Variables	(1) 2 Years Pre-Merger and 1 Year Post-Merger	(2) 1 Year Pre-Merger and 2 Years Post-Merger	(3) 1 Year Pre-Merger and 1 Years Post-Merger
INITIAL	-0.0761***	-0.0809***	-0.0774***
	(-3.16)	(-2.77)	(-2.62)
POST	0.0276	0.0372**	0.0138
	(1.58)	(2.46)	(0.75)
$INITIAL \times POST$	0.0809*	0.0690*	0.0916*
	(1.85)	(1.88)	(1.94)
RECTA	1.0537***	1.3438***	1.2623***
	(6.13)	(6.50)	(5.89)
INVTA	-0.1433**	-0.0730	-0.0844
	(-1.98)	(-1.02)	(-1.11)
GROWTH	-0.0115	-0.0081	-0.0198*
	(-1.16)	(-0.85)	(-1.73)
LNSIZE	0.3256***	0.3287***	0.3199***
	(29.64)	(31.04)	(28.89)
QUICK	-0.0159***	-0.0142***	-0.0151***
	(-3.80)	(-3.29)	(-3.28)
LEV	-0.0036	-0.0197	-0.0121
	(-0.07)	(-0.38)	(-0.23)
ROA	0.2662	0.3146	0.2801
	(1.31)	(1.58)	(1.30)
LOSS	0.0604*	0.0722**	0.0670*
	(1.90)	(2.37)	(1.96)
OPINION	-0.1300***	-0.1425***	-0.1212***
	(-3.68)	(-3.64)	(-3.01)
CI	0.0103	-0.0444	-0.0011
	(0.15)	(-0.70)	(-0.02)
INDSPE	0.7429***	0.5947***	0.5959***
	(3.55)	(3.16)	(2.86)
STATE	-0.0330	-0.0408**	-0.0290
	(-1.59)	(-1.98)	(-1.35)
MTK	0.0390***	0.0393***	0.0374***
	(7.77)	(8.30)	(7.53)
Constant	6.0111***	5.8926***	6.0772***
	(27.13)	(26.79)	(27.09)
Industry fixed effects	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes
Observations	4,262	4,580	3,126
R-squared	0.530	0.538	0.531

# **TABLE 6.** Impact of Mergers of Audit Firms on Low Balling (-2 to 1 Year)

Note: *T*-statistics based on standard errors clustered by firm are shown in parentheses. \*\*\*, \*\*\*, and \* indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively. The dependent variable is LNFEE, which is the natural logarithm of the audit fees paid by the public company to the audit firm. INITIAL is an indicator variable equal to 1 if it's the first year for the client to hire the audit firm, and 0 otherwise. POST is an indicator variable equal to 1 if the client firm mergers, and 0 otherwise. RECTA, INVTA are the proportion of accounts receivable and inventory to total assets, respectively. GROWTH is growth rate of income. LNSIZE is the natural logarithm of total assets. QUICK is quick assets divided by current liabilities, LEV is total liabilities divided by total assets, ROA is net income divided by total assets and LOSS is an indicator variable equal to 1 if the firm reports a loss for the year, and 0 otherwise. OPINION is an indicator variable equal to 1 if the sudit firm and INDSPE is the auditor's industry market share. STATE is an indicator variable equal to 1 if it's a SOE company, and 0 otherwise. MKT is the marketization index where the firm is located.

Variables	(1) SOEs	(2) Non-SOEs
INITIAL	-0.0455	-0.1287***
	(-1.46)	(-3.66)
POST	0.0362*	0.0627***
	(1.90)	(3.25)
$INITIAL \times POST$	0.0315	0.1464***
	(0.72)	(2.94)
RECTA	1.5670***	0.7364***
	(5.58)	(3.98)
INVTA	-0.0856	-0.1283
	(-0.86)	(-1.44)
GROWTH	-0.0032	-0.0114
	(-0.21)	(-1.06)
LNSIZE	0.3501***	0.2975***
	(24.05)	(20.54)
QUICK	-0.0252***	-0.0115***
	(-3.06)	(-2.68)
LEV	-0.0952	0.0821
	(-1.09)	(1.46)
ROA	0.3180	0.2336
	(1.14)	(1.00)
LOSS	0.0734*	0.0545
	(1.79)	(1.52)
OPINION	-0.1707***	-0.0824*
	(-3.50)	(-1.77)
CI	-0.0187	-0.0366
	(-0.23)	(-0.39)
INDSPE	0.6008**	0.5089*
	(2.54)	(1.88)
TOTAL	0.0439***	0.0309***
	(6.16)	(5.34)
Constant	5.6368***	6.3472***
	(19.48)	(20.78)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	2,934	2,618
R-squared	0.563	0.494

# **TABLE 7.** Regression of Property Rights Character, Audit FirmMerger, and Low Balling

Note: *T*-statistics based on standard errors clustered by firm are shown in parentheses. \*\*\*, \*\*, and \* indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively. The dependent variable is LNFEE, which is the natural logarithm of the audit fees paid by the public company to the audit firm. INITIAL is an indicator variable equal to 1 if it's the first year for the client to hire the audit firm, and 0 otherwise. POST is an indicator variable equal to 1 if the client firm mergers, and 0 otherwise. RECTA, INVTA are the proportion of accounts receivable and inventory to total assets, respectively. GROWTH is growth rate of income. LNSIZE is the natural logarithm of total assets. QUICK is quick assets divided by current liabilities, LEV is total liabilities divided by total assets, ROA is net income divided by total assets and LOSS is an indicator variable equal to 1 if the firm reports a loss for the year, and 0 otherwise. OPINION is an indicator variable equal to 1 if the sudit firm and INDSPE is the auditor's industry market share. STATE is an indicator variable equal to 1 if it's a SOE company, and 0 otherwise. MKT is the marketization index where the firm is located.

demonstrates the regression result of non-SOEs. INITIAL is significantly negative at the 1 percent level, and the coefficient of INITIAL  $\times$  POST is significantly positive at the level of 1 percent, which suggests that the low-balling behavior of audit firms aims at non-SOEs, and the merger of audit firms can constrain this low balling of non-SOEs.

#### Impact of the Type of Merger on the Low Balling

In the case of the audit firm's merger, sometimes the size of the audit firms involved in the merger doesn't match, and even has large differences. Depending on whether the audit firm involved in the merger includes the Top 10 audit firms in China,<sup>7</sup> it can be divided into two groups: merger between the large firm and the small firm (LS mergers), and the merger between small firms (SS mergers).<sup>8</sup> Although China's audit market has undergone many mergers of audit firms in recent years, the overall audit market is still fragmented. In a merger between small firms, the size of the firm is still not large enough, and therefore may not necessarily constrain the low balling of audit firms. As for mergers between the large firm and the small firm, they're more likely to curtail low balling given that the large firms attach greater importance to their reputation and audit failure will result in greater loss of quasi-rents. Based on the findings above that the impact of the merger on low balling is concentrated in non-SOEs, we exclude observations of SOEs enterprises for this part of test.<sup>9</sup> The sample is split into two groups (in accordance with the previous statement) and tested respectively. The regression results are shown in column 1 and column 2 of Table 8. In column 1, the coefficient of INITIAL is significantly negative at the level of 1 percent, and the coefficient of INITIAL  $\times$  POST is significantly positive at the 5 percent level, which indicates that the merger between the large firm and the small firm can suppress the low balling of the audit firms. In column 2, the INITIAL coefficient is significantly negative at the level of 1 percent, the coefficient of INITIAL  $\times$  POST is positive but insignificant, which is consistent with our assumption that the merger between small firms doesn't affect the low balling of audit firms.

#### CONCLUSION

The structure of China's audit market is fragmented. To contract the business, the audit firms compete to suppress prices, which seriously affects the audit quality of public companies and the sound development of the capital market and has aroused great concern of regulatory authorities and investors. In recent years, promoted by the government's policy of becoming bigger and stronger, China's audit market has experienced a wave of merging audit firms. Based on this background, this paper studies the impact of the merger of audit firms on

<sup>7</sup>The Top 10 audit firms in China defined in this paper include the Big 4 audit firms.

<sup>&</sup>lt;sup>8</sup>The merger cases of audit firms in this paper do not include the merger of the Top 10 audit firms. Due to the low ranking of Ernst & Young Dahua, we classify the merger of Ernst & Young Huaming and Dahua as the merger between the large firm and the small firm. In fact, our results are still robust after deleting this observation.

<sup>&</sup>lt;sup>9</sup>We also test the SOE sample, showing that not only the merger of audit firms but also the type of merger has no significant impact on low balling for SOE clients.

Variables	(1) Large and Small	(2) Small and Small
INITIAL	-0.1458***	-0.1355***
	(-3.16)	(-2.95)
POST	0.0928***	-0.0078
	(3.93)	(-0.24)
$INITIAL \times POST$	0.1545**	0.1170
	(2.55)	(1.34)
RECTA	1.0367***	0.5051*
	(4.22)	(1.90)
INVTA	-0.0915	-0.1757
	(-0.87)	(-1.25)
GROWTH	-0.0112	-0.0064
	(-0.81)	(-0.34)
LNSIZE	0.3189***	0.2530***
	(17.98)	(10.40)
QUICK	-0.0124**	-0.0111
	(-2.49)	(-1.54)
LEV	-0.0011	0.1836**
	(-0.02)	(2.22)
ROA	0.3304	-0.0753
	(1.13)	(-0.24)
LOSS	0.1121**	-0.0684
	(2.54)	(-1.30)
OPINION	-0.0983*	-0.0526
	(-1.80)	(-0.76)
CI	-0.1437	0.1200
	(-1.41)	(0.89)
INDSPE	0.2234	2.6438***
	(0.70)	(3.75)
STATE	0.0244***	0.0361***
	(4.08)	(3.07)
MTK	6.0956***	7.0719***
	(16.95)	(13.94)
Constant	-0.1458***	-0.1355***
	(-3.16)	(-2.95)
Industry fixed effects	Yes	Yes
Year fixed effects	Yes	Yes
Observations	1,704	914
R-squared	0.508	0.503

#### TABLE 8. Impact of the Type of Merger on the Low Balling

Note: *T*-statistics based on standard errors clustered by firm are shown in parentheses. \*\*\*, \*\*\*, and \* indicate significance at the 1 percent, 5 percent, and 10 percent level, respectively. The definition of large or small audit firms depends on whether the audit firm involved in the merger include the Top 10 audit firms in China. The dependent variable is LNFEE, which is the natural logarithm of the audit fees paid by the public company to the audit firm. INITIAL is an indicator variable equal to 1 if it's the first year for the client to hire the audit firm, and 0 otherwise. POST is an indicator variable equal to 1 if the client firm mergers, and 0 otherwise. RECTA, INVTA are the proportion of accounts receivable and inventory to total assets, respectively. GROWTH is growth rate of income. LNSIZE is the natural logarithm of total assets. QUICK is quick assets divided by current liabilities, LEV is total liabilities divided by total assets, ROA is net income divided by total assets and LOSS is an indicator variable equal to 1 if the firm reports a loss for the year, and 0 otherwise. OPINION is an indicator variable equal to 1 if the audit or issues an unmodified opinion, and 0 otherwise, CI is the ratio of the firm's total assets to the sum of all client assets of the audit firm and INDSPE is the auditor's industry market share. STATE is an indicator variable equal to 1 if it's a SOE company, and 0 otherwise. MKT is the marketization index where the firm is located.

auditors' low-balling behavior. Theoretically, the merging of firms can enlarge the size of the audit firm, thereby affecting the quasi-rents and improving the audit independence. Therefore, the merger may affect the audit firm's low balling. Using the cases of the audit firm merger from 2005 to 2013 as a research setting, we document that low balling does exist in China's audit market; that is, the fee discounts for the initial engagement offered by auditors, which, consistent with our hypothesis, can be significantly constrained by the merger of audit firms. Even after removing the "defective merger" sample and changing the research window period, the results remain robust. In addition, compared with non-SOEs, SOEs, due to the lack of autonomy in the recruiting of auditors, gain low resilience in selecting auditors. We find that audit firms do not implement the low pricing strategy to SOEs enterprises and offer no fee discounts for new SOE clients. The negative impact of the merger of audit firms on low balling is concentrated on non-SOEs. We also find that the merger between small firms cannot inhibit low balling because of the limited increase in the size of the audit firm. The merger of large audit firms and small audit firms, however, can significantly constrain low balling of the audit firms due to their greater emphasis on reputation and greater loss of quasi-rents.

This paper provides important enlightenment in following aspects. On one hand, the merger of audit firms should be regarded as a vital way to promote the concentration of audit market and improve audit independence. We suggest that concerned government departments adhere to encourage M&A between domestic audit firms, especially the merger of large firms with the small and medium-sized firms, to boost the growth of the audit firms. On the other hand, regulatory authorities should standardize the fee charged to new clients of audit firms, and further enhance guidance on audit engagement after the merger of small- and medium-sized firms and curtail the low-balling practice of audit firms.

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