

Non-standard audit opinions and earnings management of listed companies——Evidence from China

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Abstract. Numerous academics domestically and internationally have focused on the relationship between earnings management and audit views; nevertheless, much of the literature now in circulation focuses on the effect of earnings management on audit opinions, with little or no emphasis paid to the opposite relationship. Using the enterprise's non-standard audit views from the prior period as a basis, this article explores the influence on the current period's earnings management. Based on data from a sample of all A-share listed companies in China from 2010 to 2021, it has been discovered that non-standard audit opinions will hinder enterprise earnings management. This effect is more pronounced in state-owned businesses and businesses audited by the Big Four accounting firms. Furthermore, this article discovers that audit fees are an important tool for firms to get non-standard audit opinions, which are then employed as intermediary factors to influence corporate earnings management. This paper's research framework organically integrates audit opinions, earnings management, and audit fees, expanding and deepening theoretical research on earnings management and audit opinions.

Keywords: Audit Opinion, Audit Fee, Earning Management.

1. Introduction

The state has vigorously implemented the reform of state-owned enterprises and the improvement of pertinent laws and regulations in response to China's economy's rapid development. This has significantly raised the management level of Chinese enterprises, and the audit market in China is also growing quickly, propelled by the securities market. (Niu, 2015) [Niu Wei. Research on the correlation between genuine surplus management, audit opinion, and internal control deficiencies[D]. Beijing Jiaotong University claims that the standard of auditing in China has significantly increased in recent years as a result of the growth of the number of certified public accountants and the size of accounting firms. This is when the CPA may sacrifice audit quality to cater to the requirements of the listed company or succumb to its pressure, in which case the company is likely to engage in accrual surplus management and true surplus management activities. As a result, the fraud cases of Enron, WorldCom, and other large enterprises, which are well known to all of us, have exposed the situation that the auditing unit and the audited unit know the law and the management system are in disorder, which makes the CPA industry damaged and the credibility in the mind of the public is greatly reduced, and even questioned by the public (Li, 1993)¹. Therefore, this paper contributes to the better development of enterprises and can have an important impact on investors' decision-making behavior through an in-depth analysis of the mechanism of the influence of audit opinions on surplus management.

This paper finds that This study concludes that audit fees and non-standard audit opinions have a significant impact on how corporate surplus is managed. The related literature (Xu, 2018)² uses panel

data of A-share listed businesses in China's Shanghai and Shenzhen markets from 2012 to 2016, introduces audit fees as a moderating variable to explore its effect on surplus management and audit opinions, and proposes that audit fees have the effect of audit fees on the correlation between surplus management and non-standard audit opinions are negatively moderated by audit fees, i.e., there is audit opinion buying behavior through audit fees. (Shuo,2017)³ explores empirically the relationship between audit opinion and excess management, as well as the modifying impact of audit fees, showing that the degree of surplus management is significantly positively related to non-standard audit opinion, and audit fees are significantly negatively related to obtaining non-standard audit opinion. Audit fees reduce the correlation between surplus management and non-standard audit opinion. (Wang,2015)⁴ grouped the selected sample into different categories based on the different audit opinion findings and concluded that the relationship between the degree of surplus management present in the firm and the receipt of an opinion with emphasis on the matter paragraph in the annual audit showed a positive direction. This shows that corporate surplus management is influenced by the issuance of non-standard audit opinions and audit fees.

Due to the imperfect system of the Chinese capital market, imperfect market supervision mechanism, and relatively backward accounting standards, many companies in China are listed after packaging, and their actual financial status does not meet the requirements of a listing. Meanwhile, by analyzing and processing the data of Chinese listed companies, it is found that surplus management is common among Chinese listed companies, so it is very helpful for this paper to specifically study the impact of a company's non-standard audit opinion issued in the previous period on its corporate surplus management, and the results are more general. Therefore, based on various reasons, we selected the data of Chinese listed companies as the sample.

This paper investigates the mechanism of audit opinion on true surplus management and accrued surplus management by collecting relevant financial data of Chinese listed companies from 2010 to 2021. Accrued surplus management has a significant negative relationship, i.e., a non-standard audit opinion issued to a firm in the previous year will reduce the true surplus management and accrued surplus management in the following year. Then the empirical results of this paper are shown to be more robust by adding province-fixed effects and conducting variable substitutability tests. After that, the paper concludes through heterogeneity test that state-owned enterprises strengthen the effect of audit opinion on accrued surplus management compared with private enterprises; the nature of property rights does not change the effect of audit opinion on true surplus management and the effect of companies not audited by Big 4 firms is more prominent in both accrued and true surplus management. Finally, the intermediary effect analysis leads to a path of "companies with non-standard opinions → (increase) audit fees → (suppress) true surplus management".

The innovation of this paper lies in the systematic discussion of the impact of a non-standard audit opinion issued in the previous period on earnings management, and the further measurement of surplus management to explore the impact mechanism from two aspects. In terms of the research intention, the relationship between audit opinion and surplus management is explored from a new perspective, breaking through the singularity of previous research in this area. In terms of the research paradigm, a "benchmark analysis - heterogeneity test - mechanism analysis" framework is provided, and the influence mechanism is further investigated through a three-step mediation mechanism. The heterogeneity test also reveals that the influence of audit opinion on surplus management is more significant among state-owned enterprises audited by Big Four accounting firms. Second, this paper not only studies the state of corporate surplus management based on the two independent variables of non-standard audit opinions and audit fees, but also strengthens the control of province-fixed effects and individual effects, and clarifies the relationship between variables, making the conclusions more relevant and adequate.

2. Research hypotheses

According to the literature published from 2007 to 2022 on the study of non-standard audit opinions and enterprise earnings management, based on the financial data and types of audit opinions of listed companies in one of the two places, Companies found to have a higher degree of earnings management are more likely to be issued an unqualified audit opinion with an emphasis paragraph (Cheng et al., 2019)⁵. From another perspective, the audit opinion can adjust the relationship between real earnings management and stock price collapse, and the standard unqualified audit opinion weakens the positive relationship between real earnings management and stock price crash risk. Further research on the marginal effect of real earnings management on stock price collapse at the two levels of standard unqualified opinion and non-standard unqualified opinion is further studied, and it is found that under the level of non-standard unqualified opinion, real earnings management has a significant stimulating effect on stock price collapse, while under the standard unqualified opinion level, the stimulating effect is not obvious (Zhao, 2018)⁶. Earnings management indicators such as controllable accrued profit and non-recurring profit and loss ratio profit have a certain impact on the issuance of non-standard audit opinions; The higher the controllable accrued profit and non-recurring profit ratio profit indicators, the greater the likelihood that the financial report will be subject to a non-standard audit opinion; The type of audit opinion of the listed company, earnings per share and other indicators are significantly related to the non-standard audit opinion; The worse the financial position and operating performance of a listed company, the higher the degree of earnings management, and the greater the possibility that the financial report will be subject to a non-standard audit opinion (Bai et al., 2012; Wang, 2014)⁷. From the perspective of studying the types of audit opinions and identifying earnings management, it is clear that there is a correlation between audit opinions and earnings management. Based on this, this paper puts forward the following assumptions:

Hypothesis 1: Non-standard audit opinions inhibit corporate earnings management

State-owned holding is the characteristic of China's capital market. The state-owned economy exists in almost all industries. First of all, compared with non-state-owned enterprises, state-owned enterprises pay less attention to business performance (Meng, 2019)⁸. State-owned holding enterprises are generally larger, both government support, but also have sufficient resources and capacity to invest in the construction of internal control systems. Due to the limited management ability and management level, the scale and strength of private enterprises are difficult to compare with state-owned enterprises, resulting in the relative disadvantage of their internal control level in the construction process, and the impact on earnings management is also small; compared with non-state-owned enterprises, the management of state-owned enterprises has the motivation to establish and improve the internal control system for their own interests such as political promotion, implement the government's policies, and devote themselves to designing a more perfect internal control system. The possibility of improving the quality of existing internal control has also greatly increased. Auditors tend to issue standard unqualified opinions, which is more conducive to curbing earnings management behavior (Li, 2017)⁹.

Secondly, (Li and Jiang, 2018)¹⁰ proposed that government audits will improve the audit quality of certified public accountants through the role of 'deterrence'. Since the government will conduct spot checks on state-owned enterprises every year in order to supervise the operation and development of state-owned enterprises, state-owned enterprises may accept the dual supervision of government audits and external audits of accounting firms during a certain accounting period. The role of 'deterrence' refers to the fact that due to the authority of government audit, the transparency of audit results announcement is stronger. Therefore, in the face of the high earnings management behavior of state-owned enterprises, auditors will be more pressured. At the same time, under such

pressure, it is less likely for accounting firms to conspire with executives of state-owned enterprises to purchase audit opinions. In addition, companies with the same property rights have different levels of internal control and earnings management (Zhang and Xiong,2017)¹¹.

Private enterprises face serious financing discrimination and market competition pressure, and the state-owned enterprise financing environment and competitive position are superior. At the same time, because the management of state-owned enterprises adopts the appointment system, in order to achieve self-interest, the management will strengthen the effect of audit opinion on accrued earnings management compared with private enterprises. The manipulation of real earnings management is more concealed, which makes it difficult for auditors to find clues from audit reports, so it is difficult to exert the inhibitory effect on real earnings management, and the supervision of relevant departments is more difficult. Therefore, the nature of property rights will not change the impact of audit opinions on real earnings management. Based on this, this paper proposes the following hypothesis:

Hypothesis2: Compared with private enterprises, state-owned enterprises will strengthen the effect of audit opinion on earnings management.

With China's accession to the World Trade Organization, the domestic audit market has been further opened to the outside world, and internationally renowned accounting firms have entered the domestic market for development, which has posed a great threat and challenge to the developing CPA industry in China. In the face of the development trend of today's economic globalization, the requirements of enterprises for the business level of accounting firms are bound to converge with international standards. Since the dominant position of the internationally renowned "Big Four" accounting firms in the global audit services market has been formed, they have been gaining a lot of market experience, leading audit technology, strong international background, a multinational business network, and convincing reputation since they entered the Chinese market. (DeAngelo,1981)¹², from the perspective of reputation theory, argues that large accounting firms are more inclined to maintain independence, that the size of an accounting firm affects audit quality, and that, all else being equal, larger accounting firms can provide a higher level of audit quality. Based on this, this paper proposes the following hypothesis:

Hypothesis 3: Companies audited by Big 4 accounting firms will weaken the effect of audit opinions on surplus management.

3. Study design

3.1. Data sources and sample selection

This article selects the 2010-2021 data of all A-share listed companies in China as a sample, and the financial data, corporate governance data, and registration place of the sample companies are collected in the CSMAR Database. After excluding the samples from the financial industry and the missing samples of data, 9146 records remain. In this paper, all continuous variables were reduced to 1% and 99% positions, and the data analysis was performed using Stata software.

3.2. Definition of key variables

3.2.1 Measurement of earnings management

Measurement of accrued earnings management: De chow et al. proposed the modified Jones model, in addition to the K-S model, which is a commonly used accrued earnings management measure model in research. This paper draws on the modified Jones model, first calculates the uncontrollable part of the accrued item, subtracts the uncontrollable part from the total accrued item, and obtains the manipulative accrual, which represents the accrued surplus management.

Measurement of real earnings management: According to Roychowdhury's research, manipulative sales and manipulative production costs and manipulative discretionary expenses are calculated

respectively, manipulative sales refers to the use of discounts or relaxation of credits to expand the number of sales, thereby increasing profits; Manipulative production cost refers to the expansion of production by enterprises to reduce unit fixed costs, thereby increasing the sales profit of unit products; Discretionary expenses refer to adjusting R&D expenditure, advertising expenses, sales expenses, and management expenses to adjust profits. Controlled sales minus handling production costs minus handling discretionary expenses are calculated to obtain real earnings management.

3.2.2 Measurement of Audit Opinions

China distinguishes between two types of audit opinions, standard unqualified opinions, and non-standard unqualified opinions.

3.3. Interpreted variable

Drawing on Roychowdhury's econometric model to measure real earnings management, REM is the real earnings management; The manipulability accrued profit DA calculated by section-modified Jones model regression is the explanatory variable and is used as a proxy variable for the degree of accrued earnings management.

3.3.1 Explanatory variables

Whether or not a non-standard unqualified opinion is issued as the explanatory variable is expressed as a dumb variable, and if a non-standard reservation is issued, the Type value is assigned to 1, otherwise, it is 0.

3.2.2 Control variables

Table 1. Variable definition table

Variable properties	Variable name	Variable symbol	Variable definitions
Interpreted variable	True earnings management	REM	
	Accrued surplus management	DA	
Explanatory variables	Audit opinion	Type	Dummy variables that are issued are standardly unqualified as 1, otherwise 0
Control variables	Gearing ratio	Lev	Reflects the financial leverage of the enterprise, which is negatively correlated with earnings management
	Total assets	Size	Different business sizes have different impacts on earnings management
	The net profit margin on total assets	ROA	A comprehensive measure of a company's profitability
	The growth rate of operating income	Growth	The different growth rate of operating income of enterprises also has an impact on earnings management
	Asset turnover	ATO	
	Audit fees	Fee	Audit costs are negatively correlated with earnings management
	Number of board members	Board	The number of boards of directors is negatively correlated with earnings management

	The largest shareholder	Top1	The shareholding ratio/total number of shares held by the largest shareholder
	Top five shareholders	Top5	The shareholding ratio/total number of shares held by the top five shareholders
	Top ten shareholders	Top10	Shareholding ratio/total number of shares held by the top ten shareholders
		Balance1	
	Funding occupancy	Occupy	

3.4. Design of regression models

Since this paper empirically studies both real earnings management and accrued earnings management, two types of earnings management methods are modeled:

Accrued earnings management can be controlled:

$$DA_{i,t+1} = \varphi + \varphi_1 Type_{i,t} + \Sigma\varphi CV_s + \Sigma Year + \Sigma Ind + \varepsilon \tag{1}$$

True earnings management:

$$REM_{i,t+1} = \varphi + \varphi_1 Type_{i,t} + \Sigma\varphi CV_s + \Sigma Year + \Sigma Ind + \varepsilon_1 \tag{2}$$

Among them, because this paper studies the impact of non-standard opinions on earnings management in the current period in the previous period, the explanatory variables lag by one period, and the control variables include asset-liability ratio, total assets, asset turnover ratio, operating income growth rate, fixed costs, audit fees, number of boards of directors, number of shares held by the largest shareholder/total number of shares, number of shares/total number of shares held by the top five shareholders, number of shares/total number of shares held by the top ten shareholders, and asset occupancy rate.

4. Empirical analysis

4.1. Descriptive statistics

Table 2 reports the descriptive statistical results of the main variables in this paper. According to table 2, the mean, standard deviation, and maximum value of real earnings management (REM) in 9146 samples are 0.027, 0.214 and 0.445, respectively, and the mean, standard deviation, and maximum value of accrued earnings management (DA) are 0.008, 0.072 and 0.240, respectively, indicating that there is still a certain gap between real earnings management and accrued earnings management. The standard deviation and maximum value of REM are higher than DA, indicating that real earnings management of listed companies is more common; size mean, standard deviation, and maximum is 23.130, 1.278, and 26.25, indicating that the size of the sample companies are different but the difference is small; the mean value, minimum value and maximum value of the asset-liability ratio are 0.481, 0.077 and 0.871, respectively. Although the mean value is less than 50 %, the difference between the maximum value and the minimum value is obvious, indicating that there is insufficient capital utilization among the selected sample companies. The average return on the profitability of listed companies is 4.6 %, and the average growth rate of operating income is 14.8 %, but the standard deviation is large, indicating a significant difference in growth between companies. The mean value of audit fees is 14.698, and the standard deviation is 15.482. The difference between the maximum and minimum values is large, indicating that the audit fees of the selected sample companies are quite different. The maximum number of board members in the sample company is

2.708. The number of shares held by the largest shareholder / the total number of shares, the number of shares held by the top five shareholders / the total number of shares, and the number of shares held by the top ten shareholders / the total number of shares accounted for 36.9 %, 54.5 %, and 59.1 % respectively. The proportion of shares held by the second largest shareholder divided by the proportion of shares held by the largest shareholder and the standard deviation of capital occupation rate is 28.5 % and 2.3 %. The descriptive statistical results are basically consistent with other literature and are within a reasonable range.

Table 2. Descriptive statistics

Variable	N	Mean	SD	Min	p50	Max
TP	9146	0.020	0.139	0	0	1
REM	9146	-0.027	0.214	-0.686	0.005	0.445
DA	9146	0.008	0.072	-0.214	0.006	0.240
Size	9146	23.130	1.278	20.54	23.02	26.25
Lev	9146	0.481	0.198	0.077	0.493	0.871
ROA	9146	0.046	0.057	-0.149	0.038	0.209
ATO	9146	0.674	0.458	0.092	0.566	2.469
FIXED	9146	0.230	0.176	0.002	0.190	0.698
Growth	9146	0.148	0.339	-0.491	0.098	1.896
Board	9146	2.180	0.201	1.609	2.197	2.708
Fee	9146	14.698	15.482	11.849	14.078	19.402
Top1	9146	0.369	0.158	0.090	0.356	0.743
Top5	9146	0.545	0.158	0.207	0.543	0.882
Top10	9146	0.591	0.155	0.241	0.594	0.903
Occupy	9146	0.016	0.023	0	0.008	0.133
Balance1	9146	0.331	0.285	0.010	0.236	0.982

4.2. Test results of audit opinion and discretionary accrual earnings management

Table 3 reports the multiple regression results of Model (1) using audit opinions to measure the discretionary accrual earnings management of enterprises. In the full sample regression results of Table 3, column (1) examines the impact of audit opinions on discretionary accrual earnings management. The results show that in the full sample regression, the coefficient between the audit opinions issued by the enterprise in the previous year and the degree of manageable accrued earnings management in the current year is -0.010, indicating that the audit opinions issued by the enterprise in the previous year are negatively correlated with the degree of manageable accrued earnings management in the current year, and it is significant at the statistical level of 5 %. This indicates that the more times an enterprise was issued non-standard audit opinions in the previous year, the less discretionary accruals earnings management the enterprise conducted this year.

Table 3 also reports the multiple regression results of Model (2) using audit opinions to measure the real earnings management of enterprises. In the full sample regression results of Table 3, Column (2) examines the impact of audit opinions on real earnings management. The results show that in the full sample regression, the coefficient of the audit opinion issued by the enterprise in the previous year and the degree of real earnings management in this year is - 0.038, indicating that the audit opinion issued by the enterprise in the previous year is negatively correlated with the degree of real earnings management in this year, and is significant at the statistical level of 1 %. This shows that the more non-standard audit opinions issued by enterprises in the previous year, the smaller the degree of real earnings management of enterprises in this year.

Table 3. Multiple Regression Results of Audit Opinion and Manipulated Earnings and real earnings management

VARIABLES	(1)	(2)
	DA	REM

TP	-0.010**	-0.038***
	(-1.962)	(-3.558)
Controls	YES	YES
Constant	-0.041*	-0.546***
	(-1.776)	(-7.335)
Observations	9,051	9,051
Year FE	YES	YES
Industry FE	YES	YES

4.3. Robustness test

Through regression tests, the research conclusion may be affected by factors such as provinces and variable changes. Therefore, this paper tests the robustness of the above conclusions by adding province fixed effect and variable substitution measurement.

4.3.1 Increase provincial fixed effect

As shown in Table 4, in order to more intuitively reflect the relationship between the province where the listed company is registered and its earnings management, and to eliminate the impact of invisible factors such as policy adjustment or provincial economic level gap on corporate earnings management, this paper adopts the method of increasing the fixed effect of the province, while controlling the year, province and industry, and conducts empirical analysis by comparing before and after control.

In the sample observation of 9051 listed companies selected in this paper, Model1 tests the fixed effect of the explanatory variable REM-controlled provinces, and the interaction coefficient with the explanatory variable TP is-0.074, which is significant at the level of 10 %. Model 2 tests the hypothesis that the explained variable DA controls the province-fixed effect. Therefore, the conclusion remains unchanged, which fully shows that the empirical results of this paper have good robustness.

4.3.2 Variable substitution test

The data of the explanatory variable DA (accrued earnings management) are available in the Jones model and the modified Jones model, respectively. Accrual earnings management as a long-term behavior, in order to further verify the feasibility of the hypothesis, in the empirical regression, this paper uses the DA under the modified Jones model to represent the DA under the Jones model.

In this paper, DA is replaced in Model 3, and the regression coefficients of interaction terms with TP and Fee are - 0.018 and - 0.010 respectively, which are significant at the 10 % level. The study found that DA under the modified Jones model after the robustness test is still negatively correlated with TP and Fee, which is consistent with the original hypothesis and descriptive test, indicating that non-standard audit opinions have an inhibitory effect on earnings management. Therefore, the surrogate variable method further validates the hypothesis of this paper.

Table 4. Robustness test: Increase the fixed effect of provinces and variable substitution test

VARIABLES	INNO		
	Model1	Model2	Model3
TP	-0.074*** (-5.268)	-0.014*** (-2.722)	-0.018*** (-3.292)
Controls	YES	YES	YES
Constant	-0.272*** (-5.887)	-0.012 (-0.718)	-0.020 (-1.171)
Observations	9,051	9051	9051
Year FE	YES	YES	YES
Industry FE	YES	YES	YES

4.4. Mediation effect analysis

The previous article only describes the impact of non-standard opinions issued by enterprises on earnings management in the next period and does not discuss the specific impact mechanism. Therefore, this part specifically identifies the channel mechanism of the impact between the two. In this paper, 'audit fees' is selected as an intermediary variable to further discuss its impact mechanism.

Manipulable accrued earnings management:

$$DA_{i,t+1} = \varphi + \varphi_1 Type_{i,t} + \Sigma\varphi CV_s + \Sigma Year + \Sigma Ind + \varepsilon \tag{3}$$

$$fee_{i,t} = \varphi + \varphi_1 Type_{i,t} + \Sigma\varphi CV_s + \Sigma Year + \Sigma Ind + \varepsilon_1 \tag{4}$$

$$DA_{i,t+1} = \varphi + \varphi_1 Type_{i,t} + \varphi_2 fee_{i,t} + \Sigma\varphi CV_s + \Sigma Year + \Sigma Ind + \varepsilon_2 \tag{5}$$

Real earnings management:

$$REM_{i,t+1} = \varphi + \varphi_1 Type_{i,t} + \Sigma\varphi CV_s + \Sigma Year + \Sigma Ind + \varepsilon \tag{6}$$

$$fee_{i,t} = \varphi + \varphi_1 Type_{i,t} + \Sigma\varphi CV_s + \Sigma Year + \Sigma Ind + \varepsilon_1 \tag{7}$$

$$REM_{i,t+1} = \varphi + \varphi_1 Type_{i,t} + \varphi_2 fee_{i,t} + \Sigma\varphi CV_s + \Sigma Year + \Sigma Ind + \varepsilon_2 \tag{8}$$

This paper selects the intermediary variable as 'audit fee', taking natural logarithm. Considering the lag of variables in the mediating effect model, the explained variables are lagged one period. This paper adopts the method of intermediary effect-three-step method. Model (3) is the regression of non-standard opinions issued to discretionary accrual earnings management. Model (4) is the regression of non-standard opinions issued to audit fees. Model (5) is the regression of non-standard opinions issued and audit fees to discretionary accrual earnings management. Model (6) is the regression of non-standard opinions to real earnings management. Model (7) is the regression of non-standard opinions to audit fees. Model (8) is the regression of non-standard opinions and audit fees to real earnings management.

The results are shown in Table 5. The study found that non-standard audit opinions issued by enterprises will increase audit fees to a large extent. When the non-standard audit opinions issued by the enterprise are satisfied, the accrued earnings management is significant, and the non-standard audit opinions issued by the enterprise are significant to the audit fees, and when the intermediary variable (fee) is added, the non-standard audit opinions issued by the enterprise are significantly reduced and the value becomes smaller, it can be considered that there is a partial intermediary effect, that is, the enterprise is issued after the non-standard audit opinions are issued by increasing the audit fees to affect the accrued earnings management. Thus, the path of 'enterprise is issued non-standard opinions → (increase) audit fees → (inhibition) accrual-based earnings management' is formed.

Table 5. Audit opinion and Accrued Earnings Management and Real Earnings Management mechanism identification analysis: audit fees

VARIABLES	DA			REM		
	(1) DA	(2) fee	(3) DA	(1) REM	(2) fee	(3) REM
TP	-0.013*** (0.00515)	0.103*** (0.0213)	-0.011** (0.00587)	-0.040*** (0.0106)	0.091*** (0.0214)	-0.039*** (0.0107)
fee			-0.015*** (0.00198)			-0.023*** (0.00486)
Controls	YES	YES	YES	YES	YES	YES
Constant	0.031 (0.0361)	2.305*** (0.128)	0.028 (0.0218)	-0.543*** (0.0590)	2.523*** (0.135)	-0.485*** (0.0603)
Observations	9110	9,018	7,864	9,111	9,018	9,018

4.5. Heterogeneity test

4.5.1 Moderating effect of property right nature

The previous theoretical analysis shows that audit opinions will also have an impact on accrued earnings management and real earnings management of listed companies. In order to study whether the nature of property rights will affect the impact of audit opinions on accrued earnings management and real earnings management, this paper divides the samples into state-owned enterprises and private enterprises according to the nature of property rights and conducts sub-sample regression on Model (1) and Model (2).

From Table 6, it can be found that in accrued earnings management, the regression coefficient of the independent variables of the state-owned enterprise sample group is significantly negative at the level of more than 5 %, while the regression coefficient of the private enterprise sample group is negative, but it fails to pass the statistical test. The results show that the effect of audit opinion on accrual earnings management is more prominent in state-owned enterprises. In real earnings management, the regression coefficients of independent variables in both the sample group of state-owned enterprises and the sample group of private enterprises were significantly negative at the level of more than 5%. The results show that the effect of audit opinion on real earnings management is the same in state-owned enterprises and private enterprises.

Based on this, this paper argues that unlike private enterprises facing serious financing discrimination and market competition pressure, the financing environment and competitive position of state-owned enterprises are superior. At the same time, because the management of state-owned enterprises adopts the appointment system, in order to achieve self-interest, the management will strengthen the effect of audit opinion on accrued earnings management compared with private enterprises. The manipulation of real earnings management is more concealed, which makes it difficult for auditors to find clues from audit reports, so it is difficult to exert the inhibitory effect on real earnings management, and the supervision of relevant departments is more difficult. Therefore, the nature of property rights will not change the impact of audit opinions on real earnings management.

Table 6. Moderating effect of property rights

VARIABLES	(1)	(2)	(3)	(4)
	DA		REM	
	State-owned enterprise	Private enterprise	State-owned enterprise	Private enterprise
TP	-0.018** (-2.361)	-0.001 (-0.205)	-0.040** (-2.550)	-0.034** (-2.423)
Constant	-0.016 (-0.525)	-0.101** (-2.474)	-0.396*** (-3.989)	-0.675*** (-5.493)
Controls	YES	YES	YES	YES
Observations	4,694	4,357	4,694	4,357
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES

4.5.2 Moderating Effect of Audit by the Big Four Accounting Firms

The four major accounting firms refer to PwC, KPMG, Deloitte, and Ernst & Young International accounting firms. In order to study whether the supervision of the four major accounting firms will strengthen the impact of audit opinions on accrued earnings management and real earnings management, this paper divides the sample into two groups according to whether the company is audited by the four major accounting firms. The sample group is audited by the four major accounting firms and the sample group is not audited by the four major accounting firms.

From Table 7, it can be found that in accrued earnings management, the regression coefficient of the independent variables of the sample group of companies not audited by the four major accounting firms is significantly negative at the level of more than 5 %, while the regression coefficient of the

sample group of companies audited by the four major accounting firms is negative, but it fails to pass the statistical test. The results show that the effect of audit opinion on accrued earnings management is more prominent in companies that are not audited by the big four accounting firms. In real earnings management, the regression coefficient of the independent variables of the sample group of companies not audited by the four major accounting firms is significantly negative at the level of more than 1 %, while the regression coefficient of the sample group of companies audited by the four major accounting firms is negative, but it fails to pass the statistical test. The results show that the impact of audit opinion on real earnings management is also more prominent in companies that are not audited by the big four accounting firms.

Based on this, this paper argues that due to the high audit quality and strict audit standards of the big four accounting firms, the impact of accrual earnings management and real earnings management of the companies which are not audited by the big four accounting firms are more prominent.

Table 7. Moderating effect of an audit by four accounting firms

VARIABLES	(1) DA	(2) DA	(3) REM	(4) REM
	The company is audited by four accounting firms	The company is not audited by the big four accounting firms	The company is audited by four accounting firms	The company is not audited by the big four accounting firms
TP	0.002 (0.113)	-0.011** (-2.037)	0.019 (0.565)	-0.041*** (-3.694)
Controls	YES	YES	YES	YES
Observations	1,059	7,992	1,059	7,992
Year FE	YES	YES	YES	YES
Industry FE	YES	YES	YES	YES

5. Conclusions

Based on the widespread phenomenon of earnings management in Chinese listed companies, this paper studies the impact of non-standard audit opinions issued by enterprises in the previous period on the earnings management of the current period. The study found that companies that are issued non-standard audit opinions inhibit the extent of their earnings management, and are affected by factors such as company size and return on assets. Specifically, earnings management can be divided into real earnings management and accrued earnings management, and companies that are issued non-standard audit opinions will suppress earnings management, and the degree of suppression of real earnings management will be higher than the degree of suppression of accrued earnings management, and the degree of suppression will be more pronounced in state-owned companies and companies subject to the Big Four accounting firms. Further analysis shows that enterprises are issued non-standard audit opinions to further inhibit earnings management by increasing audit fees, and the degree of inhibition is more obvious in both real earnings management and accrued earnings management.

Based on the above research conclusions, this paper puts forward the following policy recommendations: First of all, non-standard audit opinions will inhibit enterprise earnings management, indicating that both internal managers and external stakeholders pay more attention to the type of audit opinions issued by enterprises, indicating that China's capital market environment is gradually improving, but there are still many shortcomings compared with developed countries, therefore, the state and government departments are required to improve relevant laws and regulations to constrain the motivation of listed companies to operate surpluses, and regulators should more effectively identify whether enterprises have surplus management. Secondly, non-standard audit opinions will inhibit the management of enterprise earnings, indicating that audit supervision is conducive to restraining the opportunistic motives of management, but its degree of constraint is still

limited, so listed companies themselves should improve the corporate governance structure, improve the construction of internal control, and improve governance efficiency.

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