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# Study on the Impact of Mixed Ownership Reform on Earnings Management: Empirical Evidence from Chinese Private Listed Companies

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## Abstract

**Based on the financial data of the mixed ownership reform of state-owned shareholders participating in private enterprises from 2015 to 2019 as a sample, this paper studies the impact of ownership concentration in mixed ownership reform on accounting earnings management and real earnings management. The study finds that the ownership concentration degree after state-owned shareholders participate in private enterprises will have an inhibitory effect on accounting earnings management and real earnings management. The conclusion of this paper provides some reference and enlightenment for private enterprises to participate in deepening the reform of mixed ownership.**

## Keywords

**Mixed Ownership Reform; Earnings Management; Private Enterprises.**

## 1. Introduction

The Third Plenary Session of the 18th CPC Central Committee clearly put forward "actively developing a mixed-ownership economy", and pointed out that "a mixed-ownership economy with cross-shareholding and mutual integration of state-owned capital, collective capital, and non-public capital is an important form of realization of the basic economic system." In 2018, President Xi Jinping emphasized at the symposium on private enterprises, "support private enterprises to participate in the reform of state-owned enterprises with a more open attitude and more pragmatic measures, actively and steadily develop the mixed-ownership economy, and promote the coordinated development of state-owned enterprises and private enterprises.", private enterprises can participate in the mixed ownership reform of state-owned enterprises by taking shares in state-owned enterprises. On the other hand, with the deepening of mixed-ownership reform, in addition to private enterprises taking shares in state-owned enterprises, in China's A-share market, there are also many state-owned enterprises taking shares in private enterprises or even becoming controlling shareholders, becoming an alternative version of private enterprises participating in the mixed-ownership reform of state-owned enterprises. .

As an economic transition body in emerging markets, China's market-oriented reforms and state-owned enterprise reforms are undergoing in-depth progress. State-owned shareholders and private shareholders have different corporate governance functions. The mixed ownership structure of state-owned capital and private capital has a great impact on corporate governance structure, decision-making methods and governance efficiency. At the same time, the participation of state-owned enterprises in private enterprises can inject the advantages of state-owned capital and government resources into private enterprises, thereby affecting the resource acquisition ability and operating performance of private enterprises.

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From the perspective of equity, this paper discusses the impact of mixed ownership reform on earnings management of listed private companies, enriches the theoretical research results on the impact of ownership structure on earnings management, and provides decision-making references for optimizing the governance structure of listed companies and further promoting mixed ownership reform.

## 2. Literature Review

When the equity concentration of listed companies is different, the behavior of major shareholders is often different. Many studies have found that most companies have the problem of plundering the interests of small and medium shareholders by large shareholders. In order to hide their behavior of plundering small and medium shareholders, major shareholders will inevitably carry out earnings manipulation activities, which will lead to the decline of the company's earnings quality. Most of the literatures on the relationship between the two from this perspective believe that the higher the ownership concentration, the worse the earnings quality. *Wang Changrui* (2012) used the modified Jones model to measure earnings quality and conducted empirical research, and found that the higher the equity concentration of listed companies, the worse the earnings quality. *Song Wenjuan* (2014) conducted an empirical study using the financial data of listed companies in my country from 2007 to 2014, and found that the increase in ownership concentration aggravated the negative impact of accounting residual control on the quality of accounting information; *Yang Jinyu* -In 2010, the financial data of my country's listed companies was studied as a sample, and it was found that high equity concentration can effectively inhibit the earnings management activities of listed companies. *Su Xiao and Lu Hui* (2020) believe that the mixed ownership reform is to reduce the equity concentration of listed companies, thereby inhibiting the behavior of earnings management.

Some scholars believe that there is a nonlinear relationship between ownership concentration and earnings quality. *Wang Jiacan* (2011) took the data of listed companies in my country from 2007 to 2010 as a sample, and used information risk as a proxy variable of accounting information quality to conduct an empirical study. The results showed that there is an inverted U-shaped relationship between ownership concentration and accounting information quality. *Wang Zhangyuan* (2017) used the modified Jones model to measure earnings quality and conducted an empirical study. The results show that there is an inverted U-shaped relationship between ownership concentration and earnings quality. *Gao Yan* (2016) conducted an empirical study using the data of listed agricultural companies in my country from 2008 to 2015, and found that there is an inverted U-shaped relationship between ownership concentration and earnings quality. However, *Jin Hongli* (2016) used the financial data of listed banks in my country from 2005 to 2014 as a sample and used risk management and control capabilities as a proxy variable for earnings quality, but found that there is a U-shaped relationship between ownership concentration and earnings quality. *Yang Zhiqiang*(2014) believe that ownership concentration will affect the relationship between managers' compensation gap and earnings management. *Zhao Qingguo, Yang Zhidang, and Qiao Liyuan* (2016) conducted a discussion with a sample of listed companies that excluded the financial industry in 2012. The results found that the shareholding ratio of the largest shareholder negatively affects the quality of earnings. They believed that the largest shareholder would The interests of small and medium shareholders are encroached on for selfishness, and the quality of earnings is reduced through earnings management.

To sum up, the current literature on the impact and mechanism of mixed ownership reform on listed companies' earnings management is scarce, especially the literature on mixed ownership reform of private enterprises. Earnings management is related to the authenticity of the operating results and financial status disclosed by listed companies, and has a significant

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impact on investors' investment decisions and stock price stability. It is of great theoretical and practical significance to study the impact of mixed ownership reform on earnings management. Therefore, this paper takes ownership concentration as an explanatory variable to explore the impact and mechanism of mixed ownership reform on earnings management of listed companies.

## 3. Theoretical Analysis and Hypothesis

According to the different ways of earnings manipulation, earnings management can be divided into two categories: accrual earnings management and real earnings management. Accrual earnings management controls earnings by adjusting accrual items by changing accounting policies and accounting estimates; real earnings management controls earnings by increasing or decreasing discretionary expenses, manipulating production and sales, etc. Since accrual items need to be disclosed in the company's annual financial report, they are more likely to be detected by the outside world, and they are subject to more external supervision. The management has limited room to manipulate earnings through accrual earnings management. It is generally difficult for stakeholders outside the enterprise to find out the manipulation of earnings in business activities, which gives the management more room for manipulation.

### 3.1. The Relationship between Equity Concentration and Accrued Earnings Management

The degree of ownership concentration determines the ratio of rights and interests of major shareholders in the company, thus determines their choice of non-performance of supervisory functions and hollowing out behaviors, forming the corporate governance effect of major shareholders. According to the profit-grabbing hypothesis, equity concentration will lead to increased control of major shareholders over the company, which may collude with management to manipulate accounting information through earnings management and other means, so as to seek private interests and damage the interests of small and medium shareholders, resulting in an increase in the degree of earnings management and the quality of earnings. worse. In the case of mixed ownership reform, the entry of state-owned capital into private enterprises reduces the equity concentration of enterprises, and the major shareholders are subject to a certain degree of checks and balances and supervision, which effectively restrains the behavior of earnings management. Based on the above analysis, this paper proposes the following assumptions:

Hypothesis H1: There is a negative relationship between ownership concentration and accrual earnings management.

### 3.2. The Relationship between Ownership Concentration and Real Earnings Management

Due to the separation of ownership and management rights in modern corporate enterprises, serious principal-agent problems have emerged between shareholders and managers. The mixed ownership reform has introduced state-owned capital into private enterprises, making the equity of listed companies tend to be scattered and the concentration of equity decreased. Private enterprises introduce state-owned capital into shares through mixed ownership reform. The larger the shares owned by state-owned shareholders in private enterprises, the more they care about whether their invested capital is properly used, and try to influence mixed-ownership enterprises.

The shareholding concentration is reduced, the status of major shareholders is reduced, the status of small and medium shareholders is relatively improved, they have a certain right to speak, and the enthusiasm to participate in enterprise management is increased, which can alleviate the principal-agent problem between shareholders and managers to a certain extent,

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and reduce the The possibility of earnings management of financial information by managers. Based on the above analysis, this paper proposes the following assumptions:

Hypothesis H2: Ownership concentration is negatively correlated with real earnings management.

# 4. Research Design

## 4.1. Sample Selection and Data Sources

This paper takes the A-share private listed companies in China's Shanghai and Shenzhen stock exchanges from 2015 to 2019 as the research object. From 2015 to 2019, state-owned shareholders began to hold shares among the top ten shareholders of private listed companies, and there was no repeated exit or entry of state-owned shareholders during the sample period, and defined as private listed companies participating in mixed ownership reform. The equity data in this article comes from Sina Finance and other financial data are from the Cathay Pacific (CSMAR) database. In this paper, the original data are processed as follows: delete the financial industry enterprises in the classification of the 2012 edition of the China Securities Regulatory Commission; delete the samples of companies that were specially treated in that year; delete the samples that cannot confirm the nature of the shareholders; delete the samples with serious missing values. Finally, 217 sample companies were obtained, with a total of 1045 observations.

## 4.2. Variable Design

### 4.2.1. Explained Variable

In this paper, accrual earnings management and real earnings management are used as explained variables. Accrual earnings management uses the modified Jones model to calculate non-manipulative accrual profits; for the measurement of real earnings management, the Roychowhury model is widely used in academia. Drawing on the results of this model, this paper uses model (1)-model (3) to represent the sales manipulation, discretionary cost manipulation, and production manipulation of mixed-ownership enterprises, respectively.

$$\frac{CFO_t}{A_{t-1}} = \alpha_0\left(\frac{1}{A_{t-1}}\right) + \alpha_1\left(\frac{S_t}{A_{t-1}}\right) + \alpha_2\left(\frac{\Delta S_t}{A_{t-1}}\right) + \varepsilon_t \tag{1}$$

$$\frac{DISEXP_t}{A_{t-1}} = \alpha_0\left(\frac{1}{A_{t-1}}\right) + \alpha_1\left(\frac{S_{t-1}}{A_{t-1}}\right) + \varepsilon_t \tag{2}$$

$$\frac{PROD_t}{A_{t-1}} = \alpha_0\left(\frac{1}{A_{t-1}}\right) + \alpha_1\left(\frac{S_t}{A_{t-1}}\right) + \alpha_2\left(\frac{\Delta S_t}{A_{t-1}}\right) + \alpha_3\left(\frac{\Delta S_{t-1}}{A_{t-1}}\right) + \varepsilon_t \tag{3}$$

In model (1)-model (3), CFO is the net cash flow from operating activities of the enterprise; S is the main business income; A is the total assets of the enterprise; DISEXP is a discretionary expense, expressed as the sum of selling expenses and management expenses; PROD is the production cost of the enterprise, expressed as the sum of the main business cost and the change in net inventory. The regression residual items are obtained from model (1)-model (3), namely abnormal operating cash flow (ABCFO), abnormal discretionary expense (ABDISEXP) and abnormal production cost (ABPROD).

On this basis, build a model (4) to obtain comprehensive indicators of real earnings management, measure real earnings management

$$RM = ABPROD - ABCFO - ABDISEXP \tag{4}$$

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In model (4), the larger the positive value of real earnings management (RM) (the smaller the negative value), the higher the degree of upward (downward) manipulation of profits by the enterprise through real earnings management.

#### 4.2.2. Explanatory Variables

The explanatory variable in this paper is ownership concentration (CR), and the shareholding ratio of the largest shareholder is used as a proxy variable for ownership concentration. The higher the shareholding ratio of the largest shareholder, the more concentrated the company's equity, and vice versa, the more dispersed the company's equity.

#### 4.2.3. Control Variables

This paper draws on the existing literature and selects the following control variables: asset-liability ratio (LEV), return on equity (ROE) and company size (SIZE) as control variables.All variables and their definitions are shown in Table 1.

**Table 1.** Variable Definition and Interpretation

| | Variable name | Variable symbol | Variable definitions |
|---|---|---|---|
| Explained variable | Accrual Earnings Management | DA | Obtained from the modified Jones model |
| | True Earnings Management | RM | Obtained from model (4) |
| Explanatory variables | Ownership concentration | CR | Number of shares held by the largest shareholder/total number of shares |
| Control variable | Assets and liabilities | LEV | Total Liabilities/Total Assets |
| | Roe | ROE | Net Income/Net Assets |
| | Company Size | SIZE | The natural logarithm of the company's total assets |

### 4.3. Model Design

Build a model (5) for analyzing the relationship between ownership concentration and accrued earnings management to test Hypothesis 1

$$DA = \alpha_0 + \alpha_1 CR_1 + \alpha_2 CR_1^2 + \alpha_3 LEV + \alpha_4 ROE + \alpha_5 SIZE + \varepsilon \tag{5}$$

Build a model (6) for analyzing the relationship between ownership concentration and real earnings management to test Hypothesis 2

$$RM = \beta_0 + \beta_1 CR_1 + \beta_2 CR_1^2 + \beta_3 LEV + \beta_4 ROE + \beta_5 SIZE + \varepsilon \tag{6}$$

## 5. Analysis of Empirical Results

### 5.1. Descriptive Statistics and Correlation Analysis

Table 2 shows the descriptive statistical results of the variables. First, from the perspective of the explained variables, the minimum value of DA of accrual earnings management is 0.000, the maximum value is 10.19, the mean value is 0.100, and the standard deviation is 0.386; The minimum value is 0.000, the maximum value is 14.7, 0, the mean value is 0.195, the median is 0.121, and the standard deviation is 0.578; it can be seen that compared with accrual earnings management, real earnings management has a greater degree of volatility, indicating that in the private sector Companies are more inclined to use real earnings management to manipulate earnings. Secondly, from the perspective of explanatory variables, in terms of equity

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concentration, the largest shareholder's shareholding ratio CR_1 has a maximum value of 0.562, a minimum value of 0.060, a mean value of 0.262, and a median of 0.266. It can be seen that participating in mixed ownership reforms The shareholding ratio of the largest shareholder in the private enterprises is relatively high, and the shareholding concentration is also relatively concentrated. Finally, from the perspective of control variables, the maximum value of the company's ROE is 0.852, the minimum value is -6.850, the mean value is 0.051, and the median value is 0.064. It is found that the profitability of different companies in the mixed reform is different, and most companies are Profitable, but there are also a small number of loss-making enterprises; the maximum value of the enterprise asset-liability ratio LEV is 1.352, the minimum value is 0.198, the average value is 0.421, and the median value is 0.422. It can be found that the proportion of debts of private enterprises participating in the mixed-ownership reform in my country is relatively different. Large, and most companies have a large proportion of debt; the maximum size of the company's SIZE is 26.35, the mean is 22.22, the median is 22.09, and the standard deviation is as high as 1.164, indicating that most companies are small and medium-sized, and different companies There is a big difference in size.

**Table 2.** Descriptive statistical analysis of variables

| Variable | Number of samples | mean | standard deviation | min | Median | max |
|---|---|---|---|---|---|---|
| DA | 1045 | 0.100 | 0.386 | 0.000 | 0.051 | 10.19 |
| REM | 1045 | 0.195 | 0.578 | 0.000 | 0.121 | 14.70 |
| CR1 | 1045 | 0.262 | 0.093 | 0.060 | 0.266 | 0.562 |
| ROE | 1045 | 0.051 | 0.270 | -6.850 | 0.064 | 0.852 |
| LEV | 1045 | 0.421 | 0.198 | 0.008 | 0.422 | 1.352 |
| SIZE | 1045 | 22.22 | 1.164 | 19.54 | 22.09 | 26.35 |
| RMOP | 1045 | 0.484 | 4.511 | -0.997 | 0.111 | 87.48 |

As shown in Table 3, the correlation of each variable in this paper is given according to the Pearson correlation coefficient matrix. First, the correlation coefficients between the control variables and with the explanatory variables are small, alleviating concerns about collinearity. Secondly, it can be seen that there is no correlation between accrual earnings management and real earnings management, and equity concentration, that is, the shareholding ratio of the largest shareholder, has a significant correlation with accrual earnings management, but has no correlation with real earnings management.

**Table 3.** Correlation coefficient table of each variable

| | DA | REM | $CR_1$ | $CR_1^2$ | ROE | LEV | SIZE | RMOP |
|---|---|---|---|---|---|---|---|---|
| DA | 1 | | | | | | | |
| REM | 0.029 | 1 | | | | | | |
| $CR_1$ | -0.067** | 0.02 | 1 | | | | | |
| $CR_1^2$ | -0.058* | 0.016 | 0.978*** | 1 | | | | |
| ROE | -0.202*** | 0.055* | 0.077** | 0.078** | 1 | | | |
| LEV | 0.006 | 0.041 | -0.110*** | -0.105*** | -0.070** | 1 | | |
| SIZE | -0.139*** | -0.007 | -0.027 | 0.001 | 0.093*** | 0.503*** | 1 | |
| RMOP | 0.012 | 0.793*** | 0.029 | 0.027 | 0.047 | 0.060* | -0.023 | 1 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

## 5.2. Regression Analysis

The regression results of this paper are shown in Table 4. First, the hypothesis 1 of this paper is tested. In the regression columns (1)-(2), the regression results of the ownership

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concentration ratio to the accounting earnings management and the real earnings management are respectively listed. The regression results show that the regression coefficient of the largest shareholder's shareholding ratio CR_1 is -1.354 for calculated earnings management, and the regression coefficient for real earnings management is -1.122, which pass the t test at the levels of 5% and 5%, respectively. It shows that the shareholding ratio of the largest shareholder has a significant negative correlation with the accounting earnings management and the real earnings management at the level of 5%, then Hypothesis 1 and Hypothesis 2 are proved. The above empirical results show that the entry of state-owned capital into private enterprises will have an inhibitory effect on the enterprise's earnings management, which is beneficial to the enterprise's internal control.

**Table 4.** Regression results

| | (1) | (2) |
|---|---|---|
| | DA | REM |
| $CR_1$ | -1.354* | -1.122* |
| | (0.603) | (0.567) |
| $CR_1^2$ | 2.142 | -2.104* |
| | (1.104) | (1.038) |
| ROE | -0.256*** | 0.032 |
| | (0.044) | (0.041) |
| LEV | 0.137* | -0.048 |
| | (0.069) | (0.065) |
| SIZE | -0.055*** | 0.011 |
| | (0.012) | (0.011) |
| RMOP | 0.001 | 0.102*** |
| | (0.003) | (0.002) |
| _cons | 1.475*** | -0.216 |
| | (0.269) | (0.253) |
| N | 1045 | 1045 |

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

## 6. Conclusion and Suggestion

Taking the mixed ownership reform of private enterprises as the background, this paper studies the impact of ownership concentration on accounting earnings management and real earnings management. The study finds that ownership concentration after state-owned shareholders participates in private enterprises will have an inhibitory effect on accounting earnings management and real earnings management. Based on the above conclusions, this paper puts forward the following recommendations:

### 6.1. Strengthen the Identification of Earnings Management Behaviors

Since the manipulation of real earnings management is more difficult to detect than accrued earnings, the behavior of real earnings management will affect the company's accrued profits while affecting the company's cash flow and earnings. The manipulation of real earnings management by the enterprise will not only make the enterprise obtain some preferential policies, but also have a negative impact on the long-term development of the enterprise. Therefore, enterprises should strengthen the identification of real earnings behavior, so as to help enterprise management.

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## 6.2. Deepen the Mixed Ownership Reform of Listed Companies

The mixed ownership reform can effectively reduce the concentration of equity, optimize the equity structure of enterprises, strengthen the supervision role of various types of capital on the management, and effectively restrain the management's earnings management behavior. Private enterprises should introduce state-driven and other different types of investors through mixed ownership reform, promote the transformation of equity structure to diversified shareholder checks and balances, fully improve the independent director system, and gradually establish a modern enterprise system to restrain managers' earnings manipulation behavior. , to ensure the authenticity and integrity of accounting information disclosure.

## 6.3. Strengthen the System Construction and Behavior Supervision of Earnings Management

My country's laws have clearly defined the legal responsibilities of listed companies' accounting information disclosure, and the China Securities Regulatory Commission has also regulated the content and procedures of listed companies' accounting information disclosure. In view of the characteristics of the digital economy era, strengthening the behavior supervision of listed companies, increasing the audit review of earnings manipulation and the punishment of serious false financial information are important measures to effectively curb earnings management behavior.

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