

An empirical study on audit quality and financial fraud of audited companies

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Abstract: In recent years, the endless cases of corporate financial fraud revealed, set off a wave, the negative impact on the maintenance of the order of the market economy is huge, while causing widespread concern among scholars, in order to study financial fraud behavior in depth, this paper selects the violation information of listed companies in 2010-2020 as the research sample, through the establishment of a binary logistic model, data for processing The relationship between audit quality and corporate financial fraud is studied, and it is found that the occurrence of financial fraud can be effectively suppressed by improving audit quality.

Keywords: audit quality; financial fraud; empirical evidence

1. Introduction

In recent years, there have been numerous financial frauds, which not only cause huge losses to the interests of owners and investors, but also slow down the pace of healthy development of social and economic construction. With the exposure of one financial fraud case after another, the national policies related to the supervision of enterprises are being improved, and at the same time, they have also drawn extensive attention from scholars from all walks of life. Scholars have found through their research that the intrinsic motives and environmental factors of financial fraud can affect the financial fraud behavior of enterprises, and in this paper, based on the research of scholars, the focus is gathered to the perspective of audit supervision of financial fraud behavior, and the audit quality and financial fraud behavior are In the same model through stata data analysis software to analyze the relationship between the two exist.

2. Literature review and hypothesis study

2.1 Literature Review

2.1.1 Financial Fraud

Lu Qifeng and Wang Haoguang compared the board structure in China and abroad to obtain the number of supervisory committee members among the board members^[1]. In a survey by COSO in "Financial Reporting Fraud: 1987-1997", it was found that most of the frauds were achieved through early recognition of income or fictitious income^[2]. Lee et al. modeled that the more fraudulent the financial statements, the greater the difference between accounting earnings and operating cash flows^[3]. Erez classifies financial fraud as financing fraud, investment fraud, tax fraud, foreign currency fraud, and liquidation fraud^[4]. Wells also noted that most fraudulent financial reporting practices include fictitious revenue, misuse of timing differences, under- and under-accounting, and fraudulent transactions^[5]. These fraudulent practices can cause anomalies in the financial structure of a company. The characteristics of fraudulent financial reporting indicators include: the rise of inventory exceeds sales revenue, the decline of inventory turnover and the rise of gross margin of main business. Longping Zhang's study pointed out that the financial reporting indicators of fraudulent companies are characterized by negative net cash flow from operating activities in consecutive years or no positive net cash flow from operating activities despite growing book earnings; excessive profitability or rapid growth compared with peers. Mao Zhihong et al. selected all A-share listed companies listed on the Shanghai Stock Exchange that published their annual reports between 2001 and 2004 and those listed companies that were punished by the CSRC for financial reporting fraud during this period as a research sample to study the relationship between fraudulent behavior and the organizational structure of the board of directors found that the proportion of independent directors, the number of independent

directors attending board meetings, and the knowledge structure of independent directors could inhibit It was found that the proportion of independent directors, the number of independent directors attending board meetings and the knowledge structure of independent directors could inhibit the occurrence of financial fraud^[6]. Yan Dawu et al. concluded that the common means to inflate profits of listed companies are: non-operating activities, increasing investment income, related party transactions, expanding the scope of credit sales, recognizing sales in advance, making false sales, and increasing other receivables.

Guangyuan Wang proposes that CPAs can perform financial statement assurance responsibilities to prevent fraud risks by detecting two types of frauds: financial reporting fraud and misappropriation or misappropriation of assets^[7]. By analyzing the dual governance of financial reporting fraud in listed companies, it is proposed that the weakness of external accounting control provides room for the development of financial fraud^[8]. By systematically studying the financial and audit data of companies where fraud occurred, Zhang Ran found that for reverse merger (RM) companies the audit inspection by the Public Accounting Oversight Board (PCAOB) significantly reduced the probability of problematic companies, and this governance effect was stronger for clients with less reputable auditors^[9]. Compared to the RM sample, PCAOB audit inspections reduce the probability of firm fraud in the non-Big 4 auditor sample due to the fact that IPO firms hire more Big 4 accounting firms and the reputational role of the Big 4.

In summary, financial fraud is closely related to the financial status of the company. By digging deeper and analyzing the status of the company's financial statements, it can help auditors to identify the risks of financial fraud in the company in a timely manner.

2.1.2 Audit quality

Using the data of all listed A-share companies in 2003 as a sample, Wu Shuipeng defines audit quality variables using the inverse effect of accounting firms on the management of corporate surplus management and finds that the audit quality of domestic Big Four is higher than that of domestic Top Ten than that of other domestic accounting firms, i.e., the competence of firms affects audit quality. The change of CPA by Yangsheng Song affects audit quality. Zhao Dewu believes that auditing should be aimed at revealing fraud and reviewing the fairness of financial statements in conjunction with China's national conditions. Zhang Qifeng and Lei Guangyong analyze the main reason for the problems of audit quality from the demand and supply side is that the existing regulations cannot provide sufficient incentives and constraints for auditors. Xiao Zuoping uses audit fees as a proxy variable for audit quality and finds that the level of corporate governance is positively related to audit quality. Ding Hongyan et al. argue that the characteristics of financial reports reflect audit quality to a certain extent. In summary, audit quality is influenced by the auditor.

2.1.3 Research Hypothesis

Audit is a mandatory procedure for listed companies to publish their annual financial reports, and any fraudulent behavior will definitely leave traces. The ability of the whistle blower is mainly reflected in the audit quality, and the probability of fraud of the enterprises that have received audit supervision compared with other similar enterprises. Therefore, the author based on previous research results, combined with the characteristics of this paper's research proposed hypothesis.

Hypothesis 1: Audit quality inhibits the occurrence of financial fraud

Hypothesis 2: Audit quality does not inhibit the occurrence of financial fraud

3. Study Design

3.1 Sample selection and data sources

This paper selects non-financial listed A-share companies in China from 2010 to 2020 as the initial research object, and the data of companies with violations in the Cathay Capital (CSMAR) database are selected as the initial sample. The data are also processed as follows: (1) Exclude the ST sample (2) Exclude the financial listed companies. (3) Excluding the missing values of the sample data, and the most total 3526 observed samples are obtained by screening in Stata software. The data for this paper to study audit quality and control variables are obtained from the Guotaian database. The sample data were matched and integrated through stata.

3.2 Variable design

3.2.1 Explained variable

The explained variable in this paper becomes financial fraud (fraud). According to the relevant literature and regulations, this paper defines it as the violation of the listed companies' disclosure regulations, the Securities and Futures Commission and the trading rules of Shanghai and Shenzhen stock exchanges, etc. The financial frauds in this paper include fictitious profits, serial assets, false records, delayed disclosure, material omissions, and inaccurate disclosure, etc. Drawing on the results of previous studies, this paper defines the value of (Fraud) as 1 if the above financial frauds occur in the company, and 0 otherwise.

3.2.2 Explanatory variables

The explanatory variable in this paper is audit quality. Audit quality is proxied by the type of opinion and the type of auditor.

3.2.3 Control variables (Controls)

In this paper, we choose company size (size value is taken as the logarithm of company's total assets at the end of the year), gearing ratio lev (gearing ratio = total liabilities at the end of the year/total assets at the end of the year), company's profitability Pro. (if the company achieves net profit > 0 in the year, the value is 1, otherwise it is 0), and company's market capitalization size MTB (book value over market value). As in Table 1.

3.2.4 Model construction

By referring to the results of previous studies and combining the characteristics of this study, we develop the following model of the relationship between financial fraud and audited quality and control variables for testing the hypotheses.

$$\text{Fraud}_{i,t} = \beta_0 + \beta_1 \text{TAO} + \beta_2 \text{Controls} + \varepsilon_1(1)$$

$$\text{Fraud}_{i,t} = \chi_0 + \chi_1 \text{DT10} + \chi_2 \text{Controls} + \varepsilon_2(2)$$

Table 1: Variable Definition

Variables	Name	Code	Explanation of indicators	
Explained variable	Financial Fraud	Fraud	The value of (Fraud) is 1 if financial fraud has occurred and 0 otherwise	
Explanatory variables	Audit Quality	Audit Opinion	TAO	Dummy variable, 1 if the opinion type is standard unqualified opinion, 0 otherwise
		Auditors	DT10	Dummy variable, if the audited unit accounting firm is one of the top 10 domestic accounting firms, the value is 1, otherwise it is 0
Control variables	Enterprise size	Size	Logarithm of total assets of the enterprise at the end of the year	
	Gearing ratio	LEV	Total liabilities / total assets	
	Profitability	Profit	Dummy variable that takes the value 1 if the company's year-end net profit > 0, otherwise 0	
	Company Market Capitalization Size	MTB	Company year-end book value / market value	

4. Empirical Analysis

4.1 Descriptive statistical analysis

As shown in Table 2, the mean value of financial fraud occurrence (FRAUD) of 3526 observed samples of A-share listed companies is 0.631 and the standard deviation is 0.483. indicating that the probability of financial fraud occurrence between 2010 and 2020 is about 48%. the mean value of TAO is 0.564 and the standard deviation is 0.496, about 56% of high audit quality occurrence actually

indicates that most listed companies choose the top 10 domestic accounting firms that possess the reputation.

Table 2: Descriptive statistics

Variables	N	mean	sd	min	max
Fraud	3,526	0.631	0.483	0	1
TAO	3,526	0.854	0.353	0	1
DT10	3,526	0.522	0.5	0	1
Size	3,526	22.07	1.259	15.58	27.7
LEV	3,526	0.505	0.637	0.0131	28.55
Profit	3,526	0.751	0.433	0	1
MTB	3,526	0.301	0.19	-1.232	1.023

4.2 Correlation Analysis

Table 3: Correlation coefficient table

	Fraud	TAO	DT10	Size	LEV	Profit	MTB
Fraud	1						
TAO	-0.062***	1					
DT10	-0.041**	0.039**	1				
Size	-0.032*	0.096***	0.040**	1			
LEV	0.041**	-0.238***	-0.028*	-0.014	1		
Profit	-0.064***	0.381***	0.069***	0.091***	-0.182***	1	
MTB	-0.047***	0.249***	0.002	0.212***	-0.446***	0.218***	1

To verify whether there is multicollinearity among the variables in this paper, I conducted correlation analysis on the selected variables, and the correlation coefficients are shown in Table 3. It can be seen that audit quality is significantly negatively correlated with financial fraud, and earnings status and market capitalization size of the company are significantly negatively correlated with fraud. There is basically no multicollinearity among the variables, and further analysis can be conducted.

4.3 Regressivity analysis

Table 4: Regression analysis results

Variables	y1	y2
TAO	-0.049* (-1.92)	
DT10		-0.035** (-2.15)
Size	-0.008 (-1.20)	-0.008 (-1.20)
LEV	0.013 -0.88	0.015 -1.07
Profit	-0.046** (-2.27)	-0.057*** (-2.94)
MTB	-0.044 (-0.88)	-0.057 (-1.15)
Constant	0.890*** -6.19	0.877*** -6.11
Observations	3,526	3,526
R-squared	0.007	0.007

t-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The regression results of each model were obtained using the logit model in this paper, as shown in Table 4: the coefficient between TAO and FRAUD is -0.049, which is significant at the 10% level, and the coefficient between DT10 and FRAUD is -0.035 which is significant at the 5% level, indicating that the proxy variable of audit quality is significantly and negatively related to financial fraud, and

hypothesis one is verified, indicating that high audit quality can effectively inhibit the occurrence of financial fraud.

4.4 Robustness tests

Table 5: Stability test

Variables	Fraud
Big4	-0.033*** (-5.69)
Size	0.002* -1.65
LEV	0.026*** -6.07
Profit	-0.106*** (-23.95)
MTB	-0.030*** (-3.53)
Constant	0.110*** -4.83
Observations	29,355
R-squared	0.027
F test	0
r ² _a	0.027
F	164.2

t-statistics in parentheses

*** p<0.01, ** p<0.05, * p<0.1

The adopted method of robustness test selection in this paper is to replace the variable indicators and conduct regression analysis again. For the variable selection of audit quality, this paper selects the domestic top 10 as the proxy variable in the main model, and in order to further measure the robustness of the model, the proxy value of audit quality is changed to the domestic top 4 accounting firms in the robustness test. As shown in Table 5 after the regression of the explanatory variables, the regression results using the domestic top 4 accounting firms are more significant at the 1% level, and the regression coefficient is still negative, indicating that the more prestigious the accounting firm of the auditor of the listed company, the less likely the company is to commit financial fraud, which then strongly supports the research hypothesis of this paper that the actual quality can strongly inhibit the financial fraud of the company. The more prestigious the accounting firm is, the less likely it is to commit financial fraud. This also indicates that the regression results of the main model of this paper are robust.

5. Research findings and insights

Through the analysis of the sample data of China's listed A-share companies from 2010 to 2020, the relationship between audit quality and financial fraud is studied, and the results show that ① audit quality and financial fraud show a significant negative correlation; ② upgrading the quality can significantly enhance the negative correlation between the two. This paper provides a unique and objective method that can effectively inhibit the occurrence of financial fraud is to upgrade the audit quality, indicating that audit work can, to a certain extent, effectively uncover the role of financial fraud in a timely manner, and play a certain role in warning the enterprises that have not found financial fraud.

Through the study of this paper, I found that the suppression of financial fraud is not only through the corporate governance perspective to strengthen the internal management approach, but also by the effective influence of external supervision. We can achieve the effect of suppressing financial fraud by strengthening the idea of external supervision. We can strengthen the supervision of society and auditing institutions and improve the audit quality from the direction of audit talent quality and team capacity to achieve the effect of curbing corporate financial fraud.

References

- [1] Lu Qifeng, Wang Huguang. *The influence of the structure of the board of directors on the financial behavior of the company* [J]. *Journal of Zhejiang Institute of Finance and Economics*, 1998(03):62-65.
- [2] COSO, "Fraudulent Financial Reporting: 1987-1997-Analysis of U.S. Public Companies", 1999.
- [3] Lee, T.A, Robert WIngram; Thomas PHoward, *The Difference Between Earnings and Operating Cash Flow as an Indicator of Financial Reporting Fraud*, *Contemporary Accounting Research*, 1999.
- [4] Aiziz. *The face of corporate fraud* [J]. *Economist*, 2000(06):89-90.
- [5] Wells, J.T, "Irrational Ratios", *Journal of Accountancy*, 2001
- [6] Mao Zhihong, Li He, Zhang Xingming. *An empirical study on the correlation between independent directorship and financial reporting fraud* [J]. *Friends of Accounting (Midterm Journal)*, 2006 (04):20-22.
- [7] Wang Guangyuan. *On the detection and prevention of fraud by auditors in performing their financial reporting assurance responsibilities* [J]. *Finance and Accounting Newsletter*, 1998(06):20-22.
- [8] Zhu Guohong. *Binary governance of financial reporting fraud in listed companies - incentive optimization and accounting control enhancement* [J]. *Management World*, 2001(04):153-162.
- [9] Zhang R, Chen S, Wang JF. *PCAOB audit inspection, auditor reputation and the crisis of Chinese stock s*[J]. *Accounting Research*, 2014(02):71-78+95.