

# Research on the Risk Management of Auditor

## —Evidence from the Listed Companies of Restatement in China

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**Abstract:** This study want to research the risk management of auditor. Because restatement means listed companies possibly has risk, we think auditors will implement the risk management. The result shows auditors increase the audit fees of listed companies which disclose restatement significantly. And auditors pay more attention to the restatement caused by fraud. Furthermore the risk management of auditor to the restatement caused by fraud is much greater than the others. The results indicate that the risk management of auditor is very effective.

**Keyword:** Restatement; Risk Management; Auditor

### 1. Introduction

Recently, the number of financial restatement<sup>①</sup> was increasing over the past years in China. For the problem of restatement, the CSRC released notice on “Further improving the quality of financial information” on January 6, 2004. This notice explicitly asked “the Management of company should submit the relevant written material to the Board of Directors, which is a detailed description of the cause of the restatement, content and effect on the company's financial position and operating results, and then the Management should disclose the corrected financial information promptly in the form of interim report.” This notice aimed at strengthening the supervision of the financial restatement. This notice also stressed the external audit, requires that “the auditor should due attention to restatement processing and disclosure, particularly the cause of the restatement, in order to identify restatement of risk, and to adjust the nature, scope and time of the next audit program.” So, in practice, can auditor identify the risks in the financial restatement, and implement the risk management; can auditor respond differently to different reasons of restatement. The answers for these questions will help us better understand the auditor role of external corporate governance. This paper wants to research the auditor response to restatement from the perspective of the audit pricing, by examining the 2003-2006 restatement of the company. Empirical results show auditor charge higher audit fees to the restatement companies. Also, auditors respond differently to different reasons of restatement; audit pricing adjustment of risk on fraud resulting from the restatement significantly higher than the other restatement company.

### 2. Literature Review and Hypothesis Development

Restatement of Listed companies means that formerly financial statement included material misstatement which can affect the judgments of financial statement user to the company's financial position, operating results and cash flows. Restatements damage the credibility of financial reporting seriously. We believe that, if the external audit is a valid external governance mechanism, auditor should be able to identify and assess the restatement contained the risk, and appropriate risk-adjusted. Restatement improves the level of audit risk assessments, auditor must to reduce the detection risk and adjust the nature, time and scope of further audit program, in order to make sure audit quality. All of these will definitely increase the audit costs, and increase audit fee. In addition, in order to guard against the risk inherent in the financial restatement, audit may be priced premium for the financial restatement of the company. So, we propose Hypothesis 1:

**H1: restatement companies are charged higher audit fees.**

Financial statement users are very sensitive to the causes of financial restatement, and thus make different reactions; the strongest response is the fraud resulting from the restatement. Palmrose et al. (2004) found that cumulative abnormal returns of non-fraud restatement average of -6% in the announcement day and the next day, while the fraud company as much as -20%. Graham et al (2007) found that creditors gave the fraud resulting from the restatement for more severe penalties, and loan spread is 1.5 times than other causes. So we believe, for the auditor, the risk of restatement due to fraud risks is

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<sup>①</sup> According to Wang Xia, Zhang Weiguo (2005) on the definition of the restatement, we're making Restatement Company qualified for a material accounting error occurred in the early and corrected. According to Accounting System for Business Enterprises, material accounting errors is to make the financial report no longer reliable.

much higher than other causes, and the risk-adjusted level of audit fee should also be significantly higher. Thus, hypothesis 2 is:

**H2: Audit fee on financial restatement due to fraud risk-adjusted level was significantly higher than other causes.**

### 3. Research design

#### 3.1 Sample selection

Initial samples are from CSMAR database. This database includes 5383 A-share listed company's annual observations from 2003 to 2006. The process of sample selection is shown in Table 1.

**Table 1 Sample selection**

	All	Restate	Non-Restat
Initial observations	5383	603	4780
—: finance companies	54	3	51
—: lack of audit fee data	489	69	420
—: lack of other financial data	94	13	81
—: new listed companies	214	4	210
Final samples	4532	514	4018

#### 3.2 Research Model and variable setting

As this paper survey the responses of auditor to the restatement from the perspective of audit fee, we use the following model based on the previous audit fee research (Simunic, 1980; Simunic and Stein, 1986; Hay et al., 2006) to test our assumptions:

$$\begin{aligned}
 \ln FEE = & \beta_0 + \beta_1 RESTATE + \beta_2 \ln ASSET \\
 & + \beta_3 SqrtSEg + \beta_4 REVRATIO \\
 & + \beta_5 STOCKRATIO + \beta_6 LEVERAGE \\
 & + \beta_7 LOSS + \beta_8 ROA + \beta_9 CURRATIO \\
 & + \beta_{10} BIG4 + \beta_{11} NEW\_FIN + \beta_{12} REMERGER \\
 & + \beta_{13} AUDITCH + \beta_{14} AUDITOP \\
 & + \beta_{15} |DA| + \beta_{16} REG + \sum_{i=1}^4 \beta_{i+16} REGION_i \\
 & + \beta_{21} YEAR_{2004} + \beta_{22} YEAR_{2005} + \beta_{23} YEAR_{2006} + \varepsilon
 \end{aligned} \quad (1)$$

$$\begin{aligned}
 \ln FEE = & \beta_0 + \beta_1 FRAUD + \beta_2 ERROR + \beta_3 \ln ASSET \\
 & + \beta_4 SqrtSEg + \beta_5 REVRATIO \\
 & + \beta_6 STOCKRATIO + \beta_7 LEVERAGE \\
 & + \beta_8 LOSS + \beta_9 ROA + \beta_{10} CURRATIO \\
 & + \beta_{11} BIG4 + \beta_{12} NEW\_FIN + \beta_{13} REMERGER \\
 & + \beta_{14} AUDITCH + \beta_{15} AUDITOP + \beta_{16} |DA| \\
 & + \beta_{17} REG + \sum_{i=1}^4 \beta_{i+17} REGION_i + \beta_{22} YEAR_{2004} \\
 & + \beta_{23} YEAR_{2005} + \beta_{24} YEAR_{2006} + \varepsilon
 \end{aligned} \quad (2)$$

The variables related to the model are explained as follows:

##### 3.2.1 Dependent variable

$\ln FEE$  is natural log of audit fee.

##### 3.2.2 Indicator variable

RESTATE of Model 1 is used to test H1; RESTATE, which equals one if the company has restatement, and zero otherwise. If RESTATE is greater than zero significantly, then prove H1. FRAUD and ERROR of model 2 is used to test H2; FRAUD, which equals one if the restatement due to fraud<sup>①</sup>, and zero otherwise. ERROR which equals one if the restatement due to other causes except fraud<sup>②</sup>, and zero otherwise. If FRAUD is greater than ERROR, then prove H2.

##### 3.2.3 Control variable

Model 1 to Model 2 also includes a series of control variables to control other factors on audit fee.  $\ln ASSET$  is natural log of year-end total assets to proxy for client size.  $SqrtSEg$ ,  $REVRATIO$ ,  $STOCKRATIO$ ,  $NEW\_FIN$  and  $REMERGER$  is used to control client complexity;  $SqrtSE$  is natural log of the number of business segments of firm;  $REVRATIO$  is the sum of receivables divided by total assets of firm;  $STOCKRATIO$  is the sum of inventories divided by total assets of firm;  $NEW\_FIN$ , which equals one if clients obtained external financing by issuing new equity shares in capital market, and zero otherwise.  $REMERGER$ , which equals one if clients occurred merger or reorganization, and zero otherwise. We include  $LEVERAGE$ ,  $LOSS$ ,  $ROA$  and  $CURRATIO$  to measure client-specific litigation risks to be borne by auditors.  $LEVERAGE$  is the ratio of year-end total liabilities to total assets of firm;  $LOSS$ , which one when firm reports a net loss in the last two fiscal years;  $ROA$  is return on assets of firm;  $CURRATIO$  is liquidity ratio of firm.

We include  $BIG4$ ,  $AUDCHANGE$  and  $AUDITOP$  to measure auditor-specific;  $BIG4$ , which equals one when client uses one of the Big 4 auditor, and zero otherwise;  $AUDCHANGE$ , which equals one when client change another auditor, and zero otherwise. In addition, we use the Modified Jones model to estimate normal accruals to catch client earnings management.  $REG$  is a dummy variable, which equals one if client in the regulated industry<sup>③</sup>, and zero otherwise. Finally, to control the level of regional economic development, we divided five re-

<sup>①</sup> Referenced Hennes(2007), a restatement is classified as being caused by fraud if the restatement disclosure use the word "fraud", "illegal", "fiction"; if there is an CSRC or tax authorities enforcement action; if the audit committee, board of supervisors, independent directors questioned or independent investigate the restatement.

<sup>②</sup> Since our sample included restatement due to fraud, restatement due to other causes and non-restatement samples, so we set the FRAUD and ERROR two dummy variables.

<sup>③</sup> Referenced Fan et al. (2007), the regulated industry include Natural resources industry, public utilities industry, finance and real estate industry.

gions of China refer to Taylor and Simon (1999), and include four region dummy variables.

## 4. Empirical results

### 4.1 Sample Description

The description of restatement samples and non-restatement samples is shown in Table 2<sup>1</sup>. In Table 2, the difference of lnFEE is not significant between restate-

ment samples and non-restatement samples. But, after controlling the effect of the sample size, we found that auditor charged higher audit fee to restatement companies, and the mean and median of lnFEE / lnASSET were significant at the 5% level. This shows that the auditor identified the risks of the financial restatement at a certain extent, made the corresponding risk-adjusted, invested more audit resources or charged higher audit fee to restatement companies.

**Table 2 Sample Description**

Variables	Restatement (N=514)			Non-Restatement (N=4018)			T	Z
	Mean	Media	Std	Mean	Media	Std		
lnFEE	13.02	12.95	0.46	13.03	12.95	0.55	-0.58	-0.12
lnFEE/lnASSET	0.62	0.62	0.02	0.61	0.61	0.02	3.19***	-2.39**
lnASSET	21.11	21.07	0.96	21.25	21.17	0.98	-3.04***	-2.10**
SQRTSEG	2.32	2.24	1.33	2.22	2.24	1.42	1.58	-0.94
REVRATIO	0.13	0.1	0.11	0.1	0.08	0.09	4.12***	-3.18***
STOCKRATIO	0.16	0.13	0.14	0.17	0.14	0.14	-0.36	-2.00**
LEVERAGE	0.68	0.61	0.45	0.53	0.51	0.29	7.47***	-6.67***
LOSS	0.00	0.4	0.00	0.22	0.00	0.41	8.35***	-5.27***
ROA	-0.02	0.01	0.10	0.01	0.02	0.09	-7.05***	-7.74***
CURRENTRATIO	1.18	1.01	0.96	1.47	1.18	1.18	-6.21***	-4.60***
BIG4	0.02	0.00	0.12	0.08	0.00	0.27	-8.87***	-5.26***
NEW_FIN	0.00	0.00	0.04	0.01	0.00	0.12	-4.69***	-2.33**
REMERGER	0.60	1.00	0.49	0.58	1.00	0.49	0.65	-0.75
AUDITCH	0.18	0.00	0.38	0.07	0.00	0.26	5.94***	-5.32***
AUDITOP	0.24	0.00	0.42	0.08	0.00	0.28	7.84***	-6.31***
DA	0.08	0.05	0.09	0.07	0.05	0.08	2.99***	-1.58
REG	0.22	0.00	0.42	0.23	0.00	0.42	-0.6	-3.25***

\*\*\*, \*\*, \*denotes that the coefficient is significant at the 1%, 5%, and 10% levels.

In the Tab. 2 differences in control variables of the repeat samples and non-repeat samples are also compared. In aspects of the company scale, the size of the restatement sample was significantly smaller than that of non-restatement companies; in aspects of business complexity, the ratio of receivables to total assets (REVRATIO) of the restatement samples was significantly higher than that of non-restatement samples; in operational risks, the restatement sample has a high debt ratio (LEVERAGE), a lower current ratio (CURRENTRATIO) and return on assets (ROA) than non-restatement one, and the possibility of loss (LOSS) happened is higher; in firm characteristics, the restatement samples are more likely to be audited by non-"Big Four", and more inclined to change firms and issued non-standard audit opinions, while the mean tests and median tests of BIG4,

AUDITCH and AUDITOP are also significant at a 1% level. These findings are basically consistent with the previous conclusions of the study on the restatement company ( Weiguo Zhang, Xia Wang, 2004; Kinney and McDaniel, 1989; Sennetti and Turner, 1999) .

### 4.2 Regression results

The regression results of model 1 and model 2 are shown in Table3. The results of model 1 shows RESTATE is positive and significant at the 1% level, which prove hypothesis 1. This indicates that auditor makes more effects to reduce the audit risks to acceptable levels or charges higher audit fee for restatement companies. After controlling other factors affecting the audit fee, auditor charges average 5.13% higher audit fee to the restatement companies than others.

The control variables: lnASSET, SQRTSEG, REVRATIO, LEVERAGE, LOSS, CURRATIO, REMERGER, AUDITCH, AUDITOP, DA and REG differ-

<sup>1</sup>The correlation test of model 1-4 shows there is Nonlinearity, due to space limitations, the results is not listed.

ent from zero significantly at 10 percent level as our expectations; but contrary to our expectations, STOCKRATIO was significantly less than zero, likely due to: STOCKRATIO not only for measuring the complexity of business, but also measure the client's financial risk; the higher STOCKRATIO shows the better liquidity of business, the lower financial risk, then the lower audit fee.

The results of model 2 in Table 3 support the hypothesis 2. Although FRAUD and ERROR are significantly positive, FRAUD is greater and more significant. After controlling other factors affecting the audit fee, the auditor charges 7.25% higher audit fee to restatement due to fraud than others, while they charge only 3.05% higher audit fee to restatement due to other causes. It shows that the auditor will analyze the reason of financial restatement and make a different response to the restatements due to different causes; they pay more attention to restatement due to fraud, and the extent of risk-adjusted to such restatement is significantly higher than restatements due to others caused.

**Table 3 The results of model 1 and model 2**

Variables	Model 1(N=4532)			Model 2(N=4532)		
	C	T	P	C	T	P
Constant	6.94	49.49	0.00	6.97	49.60	0.00
RESTATE	0.05	3.07	0.00			
FRAUD				0.07	3.27	0.00
ERROR				0.03	1.73	0.08
lnASSET	0.27	41.74	0.00	0.27	41.41	0.00
SQRTSEG	0.07	16.24	0.00	0.07	16.21	0.00
REVRATIO	0.28	5.04	0.00	0.26	4.63	0.00
STOCKRATIO	-0.07	-1.88	0.06	-0.06	-1.71	0.09
LEVERAGE	0.07	2.86	0.00	0.07	2.93	0.00
LOSS	0.03	1.84	0.07	0.03	1.71	0.09
ROA	-0.09	-1.01	0.31	-0.09	-1.08	0.28
CURRATIO	-0.01	-2.33	0.02	-0.01	-2.38	0.02
BIG4	0.46	12.62	0.00	0.46	12.67	0.00
NEW_FIN	0.09	1.52	0.13	0.09	1.54	0.12
REMERGER	0.04	3.76	0.00	0.04	3.97	0.00
AUDITCH	-0.05	-2.54	0.01	-0.05	-2.66	0.01
AUDITOP	0.05	1.94	0.05	0.05	1.89	0.06
DA	0.13	1.85	0.07	0.13	1.92	0.05
REG	-0.02	-1.69	0.09	-0.02	-1.39	0.17
Adj_R <sup>2</sup>		0.49			0.48	

## 5. Conclusions and Implications

This paper wants to survey the risk management of auditor. The results show that the restatement companies are charged higher audit fees by auditor, and auditor show different responses to the restatements due to different causes, they pay more attention to the restatement due to fraud and its risk-adjusted level of audit fee is higher than that of other financial restatements.

This paper extends the research of financial restatements, and helps us better understanding the role of audit as the external corporate governance. Through analysis relationship between the restatement and the risk-adjusted of audit fee, we find that auditor respond well to the restatement and can identify and cope with risk involved in restatement, so we think auditor is one of the effective external governance mechanisms.

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