

The Relationship between Non-audit Services and Auditor Independence: Evidence from Chinese Listed Companies

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Abstract: The rapid development of non-audit services (NAS) has jeopardized the independence of auditors, which has led many Western countries to enact regulations that restrict the provision of NAS. While in China, NAS have just emerged, and its development in China is far less mature than in Western countries. The purpose of this paper is to explore whether NAS in China have damaged auditor independence and whether Chinese regulators need to emulate Western countries and strongly limit the provision of NAS. In order to achieve this objective, 213 Chinese listed companies are selected in this study. The audit opinions issued by the auditors are used as substitute variables for auditor independence (dependent variables), and the ratio of non-audit service fees to the total of audit service fees and non-audit service fees as a substitute variable for the provision of NAS (independent variable), and meanwhile some suitable control variables are also selected. Analyse these data by building a binary logistic regression model. The results show that there is no evidence in China that NAS can undermine auditor independence and there is no need for China to enact regulations to prohibit the provision of NAS.

Keywords: Non-audit services; Auditor independence; Audit opinion

Publication date: February, 2021

Publication online: 28 February, 2021

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1 Introduction

Over the past two decades, audit firms have expanded their scope of business to include a variety of non-

audit services (NAS). With the boom in NAS, the debate between the audit industry and stakeholders on whether offering NAS affect auditor independence has intensified. Since the early 2000s, several large business scandals have led to changes in the rules regarding the independence of auditors. Concerns about auditor independence have since prompted Congress to enact legislation that prohibits most auditors from providing NAS. The US response is a legislative intervention. Article 201 of the Sarbanes-Oxley Act (SOX) explicitly “prohibits accounting firms from providing some NAS while providing audit services”. On 16th April 2014, the European Commission adopted new rules that aimed at improving the statutory audit of the European Union (EU).

The development of NAS is a worldwide trend. Although the popularity of NAS in China is not as high as in Western countries, China’s auditing industry is also steadily developing. In China, whether the provision of NAS will undermine the independence of auditors and whether China should comply with the regulations issued by the US or European countries on NAS still need further investigation.

This paper is organised as follows: Section 2 is a theoretical analysis and hypothesis. Section 3 shows the measure of variables, regression model, sample and data selection. Empirical results are illustrated in Section 4. Section 5 is a conclusion.

2 Theoretical analysis and Hypothesis

There is a heated debate about whether the provision of NAS may conflict with auditor independence. Frankel et al. (2002) find that there is a significant

positive correlation between the amount charged for NAS and the company's handling accruals (the alternative variable of auditor independence is the discretionary accruals). It is expected that auditor independence is impaired if the auditors are charging customers a high amount for NAS. It has also been asserted that the provision of NAS may strengthen auditor independence. Dopuch et al. (2003) show that providing NAS to high-quality customers can enhance their reputational capital and make them more independent. In addition, some scholars have proposed that NAS have no impact on auditor independence.

Like foreign scholars, Chinese scholars have different views on this issue. Zhang (2013) conducts research from the perspective of the influence of self-evaluation and external pressure in the principal-agent economic relationship. The results show that NAS would damage auditor independence. However, Chen and Li (2008) study the influence of NAS and auditor independence from the perspective of principal-agent, and find that in China, the management believes that NAS help improve the quality of auditing.

Based on the opinion of most scholars, this paper predicts a negative correlation between auditor independence and NAS. The hypothesis is thus as follows:

H: NAS may undermine auditor independence.

3 Measure of variables, Regression model, Sample and data selection

3.1 Measure of variables

Audit opinion is more dependent on the subjective judgment of auditors, and it is more direct to take audit opinion as an alternative variable of auditor independence. According to Bragg (2019), there are three types of audit opinions, namely standard unqualified opinion, qualified opinion, and adverse opinion. The higher the standard unqualified audit opinion rate issued by the auditor, the greater the likelihood that auditor independence may be affected. The SEC is concerned with the level of non-audit service fees relative to total fees, including audit and non-audit service fees (Krishnan et al., 2005). Francis (2006) points out that though the NAS ratio can be affected by NAS and total costs, it is not possible to specify which costs drive this ratio. This paper argues that the NAS ratio can better reflect the share and relative level of NAS in an audit company than the non-audit service fees themselves.

When an auditor expresses an opinion in an audit report, it is influenced by many factors. The details are as follows: the asset size (represented by the natural logarithm of the year-end asset), operating cash flow, return on net assets, current ratio, leverage ratio, size of the audit firm and the auditor's term.

Table 1. Definition of variables

Variables	Description
Dependent Variables	
OPINION	Non-standard audit opinion (including qualified and adverse opinion) is 1; Standard unqualified audit opinion is 0
Independent Variables	
NFR	Non-audit service fees account for the proportion of the total fees paid to the same audit firm
Control Variables	
COMSIZE	the natural logarithm of the year-end assets
OC	OC= operating cash flow / total assets
ROE	Return on net assets = net profit / average amount of assets
CURRENT	Current ratio = current year's current assets / current year's current liabilities
LEV	Asset-liability ratio = total liabilities at the end of the year / total assets at the end of the year
BIG4	Big4 auditor is 1(Deloitte & Touché, Ernst & Young, KPMG or PricewaterhouseCoopers), otherwise is 0
NEW	Whether the service provided by the auditor period is the first year: Yes is 1, not is 0

3.2 Regression model

Based on previous research and the above description of related variables, the following model is now established:

$$OPINION = \beta_0 + \beta_1 NFR + \beta_2 COMSIZE + \beta_3 OC + \beta_4 ROE + \beta_5 CURRENT + \beta_6 LEV + \beta_7 BIG4 + \beta_8 NEW + \varepsilon$$

3.3 Sample and data selection

The various fee data used in this study were collected from the listed company's annual report disclosed by China Eastern Fortune Network Data Centre. Other data were collected from the Wind Economic Database. The company's annual report that meets the screening criteria was selected one by one, and finally

the 213 listed companies in China were selected as the overall target of the research sample in 2018.

4 Empirical results

Table 2. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
OPINION	213	.000	1.000	.02817	.165845
NFR	213	.002	.802	.22755	.169176
COMSIZE	213	17.204	26.543	21.89775	2.360193
OC	213	-.522	.280	.01285	.103312
ROE (%)	213	-592.103	218.750	-1.20560	62.928700
CURRENT	213	.034	31.563	2.69473	3.954897
LEV (%)	213	2.687	1006.039	52.81814	70.294648
BIG4	213	.000	1.000	.46948	.500244
NEW	213	.000	1.000	.04225	.201641
Valid N (listwise)	213				

The raw data comes from China Eastern Fortune Network Data Centre and the Wind Economic Database, and the results of this table are obtained by SPSS 23.0 analysis.

Table 2 shows the minimum and maximum values, means, and standard deviations. The average value non-audit service fees ratio is 0.22755, and the standard deviation is 0.169176, which show that non-audit service fees account for a significant proportion of the fees incurred by enterprises to auditors. Meanwhile, the difference in NFR among companies is big. Additionally, there is a phenomenon that non-

audit service fees far exceed audit service fees. From the data of the company-related factors in the sample, it can be seen that Chinese listed companies have better asset size and solvency, but their operating capacity and profitability are average. For the audit firm-related factors, the mean value of whether the auditors are BIG4 is 0.46948, indicating that fewer enterprises employ BIG4 for auditing. The average value of whether the auditor changes is 0.04225, showing that there are fewer enterprises changing the auditor.

Table 3. Correlation matrix

	OPINION	NFR	COMSIZE	OC	ROE	CURRENT	LEV	BIG4	NEW
OPINION	1								
NFR	.045	1							
COMSIZE	.012	-.041	1						
OC	-.201**	-.042	.219**	1					
ROE	.078	-.044	.068	.216**	1				
CURRENT	-.091	.045	-.219**	-.125	-.050	1			
LEV	.503**	.026	.052	-.099	.019	-.224**	1		
BIG4	-.103	-.085	.113	.153*	.065	.103	-.080	1	
NEW	-.036	.124	-.090	.002	-.059	.055	-.037	-.104	1

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Refer to Table 1 for all variable definitions.

The raw data comes from China Eastern Fortune Network Data Centre and the Wind Economic Database, and the results of this table are obtained by SPSS 23.0 analysis.

The correlation matrix reported in Table 3 presents Pearson correlation coefficient among variables in this study. The correlation coefficient is 0.045 between the non-audit service fees ratio and the non-standard audit opinion, but the significance test is not passed,

indicating that the correlation between the NFR and the audit opinion category is not significant. Among control variables, the asset cash recovery rate may be significantly negatively correlated with the non-standard audit opinion. The relationship between the asset-liability ratio and the non-standard audit opinion is positive and significant. In addition, both the asset size and the return on net assets are positively related to the issuance of non-standard audit opinion. The current ratio, whether it is the BIG4, and whether the

auditor's term is the first year is negatively correlated with the non-standard audit opinion.

It can be seen from Table 3 that the correlation coefficient between the current ratio and the natural logarithm of the asset is -0.219 and the significance level is 1%. Although there is a certain correlation between some individual control variables, in sociology, it is generally believed that the absolute

value of Pearson's correlation coefficient is greater than 0.8, indicating that there is a significant linear correlation between the two variables. Thus, on the whole, the correlation coefficient between the explanatory variables is generally low. There is no obvious multicollinearity problem, hence will not affect the result of the regression analysis.

Table 4. Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	12.875a	.178	.787

Table 4 shows the results of the goodness-of-fit test. The -2 Log likelihood of the model is 12.875, Nagelkerke R Square is the Cox & Snell R Square corrected, the closer the value is to 1, the higher the

goodness of fit of the equation. The Nagelkerke R Square is 0.787, which indicates that the model has better goodness of fit in this study.

Table 5. Variables in the Equation

	B	S.E.	Wald	Df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
NFR	1.232	5.918	.043	1	.835	3.430	.000	374153.367
COMSIZE	.177	.404	.192	1	.661	1.193	.541	2.632
OC	-18.084	8.529	4.496	1	.034	.000	.000	.255
ROE	.002	.006	.059	1	.809	1.002	.989	1.014
CURRENT	-1.219	2.526	.233	1	.629	.295	.002	41.782
LEV	.129	.064	4.073	1	.044	1.138	1.004	1.290
BIG4 (1)	-1.784	2.188	.665	1	.415	.168	.002	12.237
NEW (1)	16.024	8744.494	.000	1	.999	9101050.988	.000	.
Constant	-32.836	8744.500	.000	1	.997	.000		

a. Variable(s) entered on step 1: NFR, COMSIZE, OC, ROE, CURRENT, LEV, BIG4, NEW.

The raw data comes from China Eastern Fortune Network Data Centre and the Wind Economic Database, and the results of this table are obtained by SPSS 23.0 analysis.

Table 5 presents the logistic regression results. The regression coefficient of the NFR and the audit opinion is 1.232, the significance level of NFR variable is 0.835, which indicates that the association between the non-audit service fees ratio and the audit opinion category is not statistically significant. This finding contradicts the hypothesis.

In addition, for control variables, the regression coefficients and the significance of asset cash recovery rate and asset-liability ratio with audit opinion indicate that the asset cash recovery rate has a significant negative impact on the audit opinion, and the asset-liability ratio has a significant positive impact on audit opinion. When the LEV is high, the company's solvency is weak, there is a high

operational risk and financial risk, and the auditor is likely to issue non-standard audit opinion. In addition, the regression coefficients with audit opinion indicate a positive or negative correlation between other control variables and the audit opinion. However, none of these correlations passed the significance test.

6 Conclusion

In order to explore whether NAS pose a threat to auditor independence in China, this paper applied the method of quantitative analysis. It was finally verified that the relationship between NAS and auditor independence could be either negative or insignificant. Therefore, based on China's special system and economic background, the development of NAS should not be completely inhibited, and appropriate control should be given while ensuring its smooth development. The development of NAS in China can not only enable audit firms to break the limitations of the audit field but also create more profits, enhance competitiveness against foreign

audit firms, and enable shareholders to select audit companies that provide audit and NAS based on demand.

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