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The Impact of Auditing Market Structure on Auditing Charges in China

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Abstract
In recent years, on the norms of audit fees and regulations introduced one after another, the Chinese Institute of Certified Public Accountants issued a resolutely crack down on and control of the CPA industry unfair competition behavior notice .The introduction of this series of policies, on the one hand shows that the Government attaches importance to the issue of audit fees, on the other hand also revealed the existence of real fees in the phenomenon of non-standard, urgent need of governance. So, what is the status quo of the structure of the audit market, and whether it is effective? Whether the audit market behavior (audit pricing) is reasonable? For the current situation of China's transition economy is very different from the audit market environment in developed countries, I myself and the social stakeholders have a lot to do in this industry. This paper shows that the audit market structure has some improvement, the audit market structure of the impact of audit pricing is very significant.
Keywords: audit market structure; audit fees

1.Introduction

As early as in 2007, for our local offices, the AICPA specifically developed a "bigger and stronger" and "opinions"[1]. In the accounting firm "National Chess", the overall quality of the industry under the premise of the "views" put forward the overall objective, first of all within a decade to develop 100 or so, can provide comprehensive services for large-scale accounting firms; Support 10 or so of the international firm, so that China's enterprises in the process of internationalization to provide the appropriate integrated services.

At the same time, in recent years, on the norms of audit fees and regulations introduced in series; the Chinese Institute of Certified Public Accountants issued a resolutely crack down on and control of the CPA industry unfair competition behavior notice[2]. The introduction of this series of policies, on the one hand shows that the Government attaches importance to the issue of audit fees, on the other hand also revealed the existence of real fees in the phenomenon of non-standard, urgent need of governance. So, what is the status quo of the structure of the audit market? Is it effective? What is the status quo of the development of local accounting firms? Audit market behavior (audit pricing) is reasonable? Audit market structure of the audit market structure What is the impact of audit pricing? Is the need to focus on and seriously study the important issues.

Zeff and Fossum (1967) is a pioneer in the study of audit market structure, and the research on audit market structure has been a long time in foreign research. The research perspective from the beginning of the use of Bain's market structure theory of industry concentration (CRn) on the audit industry to measure the market structure, and gradually developed to measure the audit market structure of the other elements, such as: accounting firm size , Industry expertise, reputation mechanisms, and entry and exit walls. Simunic et al. (1980) examined the different accounting firms in the auditing market by empirical methods, and whether their market share is stable, in order to verify the relationship between the high concentration of the audit market and the restriction of competition by monopoly.

The domestic scholars have rich research results on the market concentration and price competition, mainly from the audit market concentration, the audit market structure and the accounting firm merger on the audit pricing, audit fees and market performance and other aspects of the study. Lu Lu (2011) using the 2009-2010 China's Shanghai and Shenzhen stock market data, the use of multiple regression analysis of the impact of market structure on the audit price. Li Minghui, Zhang Juan and Liu Xiaoxia (2012) showed that audit fees increased significantly after the merger of these accounting firms, and the first year after the merger was more obvious than the second year.

The research on auditing market structure and audit pricing in domestic and abroad is expatiated in this paper, but it is hard to exhaust every detail. This paper summarizes and analyzes the three aspects of the audit market structure and the audit pricing. It is found that the domestic research has lagged behind the foreign research. This is largely because China is a developing country and the capital market is not perfect.

[1] "Association of Certified Public Accountants of China to promote the accounting firm; bigger and stronger views" of the notice; Association [2007] No. 33
[2] "The Chinese Institute of Certified Public Accountants on resolutely crack down on and control of the CPA industry unfair competition behavior"; Association [2012] 58

2. Research design

2.1 Sample selection and data sources

In this chapter, the auditing market structure and the audit fees are selected. In view of its transparency and availability, this paper chooses the Shanghai and Shenzhen A shares as the research object. Taking into account the 2000-2008 on China's audit market structure of the relevant research results are more abundant, and since 2008 most of the research for the audit market structure of a particular aspect, so this chapter focuses on China's 2009-2014 database. In the case of sample selection, taking into account the heterogeneity of the financial and insurance listed companies data, so the annual "financial, insurance," the sample observations, while excluding audit fees, total customer assets such as incomplete data disclosure Observed values. In the sectoral division of industry expertise, this chapter, according to the SFC industry classification method, in addition to the financial and insurance industry in addition to a total of 12 sectors of the sample observations. In this chapter, we obtain the annual observations of 9839 sample companies. The distribution of the samples is shown in Table 2.1. Data processing and statistical analysis in this chapter are done with excel2013 and Stata11.0.

Table 2.1 Sample Annual Distribution Table

Year	2009	2010	2011	2012	2013	2014
Number of Firms	1128	1278	1440	1675	1949	2369
Proportion	11.46	12.99	14.64	17.02	19.81	24.08

2.2 Variable definition

(1) The explanatory variables

Since the empirical part of this chapter is the test of the audit pricing, it is still the classic method of simunic (1980), the explanatory variable audit pricing is still measured by the natural logarithm (LNFEE) of the audit fees of listed companies.

(2) Explain the variables

① market concentration

This chapter chooses CRxn as the indicator of market share of CPA firms. Where CRxn represents the firm's share of the total audit market in year n. This chapter chooses CRxn as the indicator of market share of CPA firms. Where CRxn represents the firm's share of the total audit market in year n. Using the customer's total assets, the customer's operating income, audit fees, the weighted average of these three indicators (assuming the importance of the same three, the weights are 1/3) as a measure. The calculation formula is:

$CR=X_j/\Sigma^{N}_{m=1}X_m$

Where Xj is the X resource occupied by firm j, and N is the total number of firms. Where X resource is the weighted average of the above three indicators.

② industry expertise

In this paper, the market share method is used to measure the industry's expertise. In this industry, if the accounting firm's market share in the industry reaches a certain percentage, and this proportion is higher, it indicates that the accounting firm The industry in which the industry has more expertise. It is calculated as follows:

$SPEC_{ik}=\Sigma^{jik}_{j=1}R_{ijk}\Sigma^{ik}_{i=1}\Sigma^{jk}_{j=1}R_{ijk}$

In the formula, the molecular part represents the accounting firm in a particular industry in the audit of its customers related indicators, this indicator contains many items, can be: the total assets of audited customers, operating income, audit fees; Represents the total amount of all audited customer-related metrics in this particular industry.

③ barriers to entry

The barriers to entry are related to firm size, so this paper takes

$Barr_{ijt}=\ln X_{ijt}$

Where: Barr said barriers

X_{ijt} represents the size of the assets of accountant i in year t

(3) control variables

Based on previous studies, this paper chooses the following variables which have significant influence on audit pricing as control variables:

① The complexity of the audited customers (REIN)

REIN = (Accounts receivable at the end of the period - Ending inventory) / total assets

② Financial status (LEV)

③ The audited customer scale (LNASSET)

④ Audit Opinion Type (OPINION)

⑤ whether ST (ST)

⑥ listed companies in the region (REGION)

2.3 empirical model set

In this paper, simunic (1980) model, the model is as follows:

(1)LNFEE = a_o + a_1 CR + a_2 REIN + a_3LEV + a_4 LNASSET + a_5OPINION + a_6ST + a_7 REGION + e

(2)LNFEE = ao + ai SPEC + a_2 REIN + a_3LEV + a_4 LNASSET + a_5OPINION + a_6ST + a_7 REGION + e

(3)LNFEE = a_0 + a_1 BARR + a_2 REIN + a_3LE + a_4OPINION + a_5ST + a_6 REGION + e

Model (1) is used to test the effect of audit market concentration on audit pricing under different control conditions.

Model (2) is used to test the impact of accounting firm's industry expertise on audit pricing under different control conditions.

Model (3) is used to examine the impact of entry barriers on audit pricing under different control conditions.

3. Empirical results and analysis

From Table 3.1 we can see that, first, the audit fee variable, Infee (audit fees natural logarithm) mean 13.27, the maximum value of 17.52, the minimum value of 9.210, which shows that the audit fees of listed companies is not much difference (The ratio of the audit fee to the square root of the total assets of the audited client) is 12.97, which is comparable to Infee, but the maximum and the minimum are very large and the standard deviation is as high as 26.35, which is mainly due to the total assets of the audited customers. Differences caused. Second, the audit market structure of the variables, cr (audit market concentration) maximum of 0.170, the minimum is less than 0.0000, indicating that China's accounting firms in the audit market share of the market share gap is very large; but the standard deviation For the 0.00269 point of view, the audit market competition in the accounting firm more balanced. Accounting firms accounted for 9.32% of the total sample, although the proportion was not significant, but compared with the results of the research (8.92%) by Lulu (2011), it shows that China's accounting firms' professional expertise (accounting expertise) Of the accounting firm's industry expertise has improved. From barr, the maximum and minimum values are 27.39 and 10.84 respectively. The difference is not significant, the mean value is 21.74, which indicates that China's current entry barriers are improving. Finally, the control variables, rein (customer complexity) the maximum value of 0.945, the minimum value of 0, indicating that the complexity of the audited customers vary greatly, so the requirements of the accounting firm is different, thus affecting the audit fees . Lev (asset-liability ratio) and rein (customer complexity) similar to the difference is great. From the opinion type (opinion type) and st (whether ST), the two cases are similar, the mean were: 0.0530 and 0.0288, standard deviation, respectively: 0.224 and 0.167, indicating the audit market was issued non-standard audit opinion and The number of companies listed as ST is quite large. However, after further statistics, we find that there is not a one-to-one relationship between listed companies that issue non-standard audit opinions and those listed as STs. From the regional perspective, the listed companies in the economically developed regions account for 65.7% of the total number of A-share securities companies.

Table 3.1 Descriptive statistics of the study variables

Variable	Obs	Mean	Std.Dev.	Min	Max
LNFEE	9839	13.27	0.629	9.210	17.52
FEEPER	9839	12.97	26.35	0.112	2432
CR	9839	0.000610	0.00269	4.73e-08	0.170
SPEC	9839	0.0932	0.291	0	1
BARR	9839	21.74	1.304	10.84	27.39
LEV	9839	0.559	2.106	-0.195	142.7
ST	9839	0.0288	0.167	0	1
OPINION	9839	0.0530	0.224	0	1
REGION	9839	0.657	0.475	0	1
REIN	9839	0.270	0.181	0	0.945
LNASSET	9839	21.74	1.304	10.84	27.39

3.1 Multivariate regression analysis

Table 3.2 reports the regression results of the model (1), (2), (3), which represent the audit market concentration of the audit market structure, the accounting firm's industry expertise, and the entry into the market, respectively, on the impact of audit pricing. : Cr (audit market concentration) is positively correlated with Infee (the natural logarithm of audit fees) (P-value <0.01), and R2 of model (1) is 0.5102, which reflects that the model fit well ; The measured DW test value is 1.987, thus deduced that the model does not exist first-order autocorrelation; shows that the higher the audit market concentration, the higher the audit fees. (P-vahie <0.01), and the R2 of the model (2) is 0.5001, which indicates that the fitting effect of the model is very good. The empirical results show that the model has a significant positive correlation with the empirical logarithm of audit fees, ; The measured DW test value is 1.982, thus deduced that the model does not exist first-order autocorrelation; it means that those accounting firms with industry expertise will get audit fees premium. (P-value <0.01), and the R2 of the model

(3) is 0.4933, which reflects that the fitting effect of the model is very good; And the DW test value is 1.957. It is concluded that there is no first-order autocorrelation of the model, which indicates that the audit fee will increase with the increase of the entrance ridge. Rein (customer complexity) are significantly positive, indicating that the more complex the audited customers, the higher the audit fees charged by accounting firms. Lev (asset-liability ratio) of the coefficients are positive and significant, indicating that the higher the asset-liability ratio, the greater the risk of business, accounting firm audit fees charged higher. The coefficient of Inasset in model (1), (2) is significantly positive, indicating that the larger the audited customer, the higher the audit fees charged by the accounting firm. The coefficient of opinion is significantly positive, indicating that the higher the audit fees the auditor will receive when the auditee is issued a non - standard opinion. St (ST) in the model (1) (2) (3), the coefficients are positive and are not significant, indicating that St (whether ST) this factor on the audit pricing is weak. The coefficients of regional factors are significantly positive, indicating that the audited clients are in economically developed areas, the higher the audit fees charged by accounting firms. Through the above analysis, assuming that one, two, three are tested. There are significant positive correlations between auditing market concentration, auditing firm 's industry specialty and entry price, and audit pricing.

Table 3.2 Multiple Linear Regression Results (LNFEE)

	(1) LNFEE	(2) LNFEE	(3) LNFEE
CR	33.89***		
	(18.43)		
SPEC		0.186***	
		(11.53)	
BARR			0.338***
			(92.98)
LEV	0.0245***	0.0256***	0.0265***
	(11.30)	(11.68)	(12.06)
REIN	0.103***	0.0965***	0.114***
	(4.16)	(3.85)	(4.53)
LNASSET	0.307***	0.329***	
	(77.32)	(88.95)	
ST	0.0346	0.0379	0.0357
	(1.28)	(1.39)	(1.30)
REGION	0.158***	0.159***	0.164***
	(16.70)	(16.61)	(17.05)
OPINION	0.216***	0.235***	0.243***
	(10.23)	(11.03)	(11.33)
Year	Control	Control	Control
_cons	6.399***	5.933***	5.748***
	(74.20)	(73.17)	(71.84)
N	9839	9839	9839
F	853.06	819.07	869.75
R^2	0.5102	0.5001	0.4933

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

3.2 Sensitivity analysis

(1) To change the method of calculating the explanatory variables

(1980) used PEE / ASSETS *, FEE / ASSETS ^ 0.5, and FEE / ASSETS ^ 1/3 as explanatory variables to test the impact of other factors on audit pricing. The study shows that FSE / ASSETS ^ 0.5 is the explanatory variable , The best test results. Therefore, we choose FEE / ASSETS ^ 0.5 as the explanatory variable and perform regression. Table 3.3 reports the results of the audit market structure's impact on the audit pricing as measured by FEE / ASSETS ^ 0.5. The results show that there is a significant positive correlation between audit market concentration and audit firm's industry expertise and audit pricing, And the audit pricing has positive correlation, once again verify the conclusions of this chapter.

Table 3.3 Multiple Linear Regression Results (ASSETS ^ 0.5)

	(1) FEEPER	(2) FEEPER	(3) FEEPER
CR	664.8***		
	(9.01)		
SPEC		1.986**	
		(3.09)	
BARR			-2.426***
			(-16.83)
LEV	8.946***	8.976***	8.987***
	(102.93)	(102.96)	(103.12)
REIN	-3.797***	-3.826***	-4.014***
	(-3.82)	(-3.83)	(-4.02)
LNASSET	-3.046***	-2.524***	
	(-19.13)	(-17.11)	
ST	4.360***	4.405***	4.382***
	(4.03)	(4.06)	(4.03)
REGION	1.893***	1.956***	2.011***
	(4.99)	(5.13)	(5.28)
OPINION	-4.679***	-4.239***	-4.154***
	(-5.51)	(-4.99)	(-4.89)
Year	Control	Control	Control
_cons	72.60***	61.79***	59.81***
	(20.98)	(19.12)	(18.87)
N	9839	9839	9839
F	1003.11	989.94	1078.13
R^2	0.5506	0.5473	0.5469

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

(2) Shrink tail processing

We conducted the tail-cutting on the audit fees, the audit market concentration, the access to the wall-wide, the complexity of the audited customers, the asset-liability ratio and the size of the audited customers at the 1% and 99% level, The results are shown in Table 3.4. The audit market concentration, the accounting firm's industry expertise, and the entry barrier represent significant positive correlations with the audit pricing. Therefore, the conclusions in Table 3.1 are still valid.

Table 3.4 Multiple regression analysis results (winsorized treatment)

	(1) LNFEE_w	(2) LNFEE_w	(3) LNFEE_w
CR_w	157.0***		
	(26.57)		
SPEC		0.169***	
		(11.12)	
BARR_w			0.325***
			(84.44)
LEV_w	0.0724***	0.0720***	0.0723***
	(3.62)	(3.49)	(3.49)
REIN_w	-0.102***	-0.114***	-0.130***
	(-4.23)	(-4.59)	(-5.21)
LNASSET_w	0.231***	0.317***	
	(45.02)	(81.31)	
ST	0.0226	0.0239	0.0220
	(0.90)	(0.92)	(0.84)
REGION	0.156***	0.156***	0.161***
	(17.60)	(17.10)	(17.53)
OPINION	0.129***	0.184***	0.191***
	(6.00)	(8.37)	(8.63)
Year	Control	Control	Control
_cons	7.936***	6.179***	6.014***
	(74.29)	(75.18)	(73.94)
N	9839	9839	9839
F	911.27	815.65	867.73
R^2	0.5267	0.4990	0.4927

t statistics in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

4 .Conclusions and recommendations

This paper analyzes the impact of China's audit market structure on audit market behavior (audit pricing) based on the theoretical basis of the SCP analysis framework and the contestable market theory of industrial organization theory. This paper shows that the audit market structure has some improvement, the audit market structure of the impact of audit pricing is very significant.

The paper examines the correlation between the audit market structure and the audit pricing in China's A-share listed companies in the audit market from 2009 to 2014. The results show that, after controlling the influence of other variables, the three factors of the audit market structure are significantly positively related to the audit fees. Among them, the audit market concentration, the firm's industry expertise and audit fees are significantly positively correlated. This fully shows that through the "bigger and stronger" path is to improve audit fees, improve the audit market in the case of unfair low-price competition. This also reflects the CPA associations and other departments since 2007 to carry out a series of encourage and promote the accounting firm "bigger and stronger" measures have achieved some success. However, this paper is not limited in depth analysis of the international "Big Four" and the differences between local accounting firms, audit market structure of the strengths and weaknesses of the various factors; failed to fully measure the accounting firm industry expertise, 2006-2009, Strong combination "on the impact of audit pricing, etc., these are still to be further studied.

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