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Informational Value in Critical Audit Matters—Evidence from Institutional Investors in Shanghai Stock Market

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Abstract

A newly released audit principle required all public companies to include critical audit matters (Cam) in financial reports, whose features and informational value was empirically studied in this paper. Results showed that, current Cams are quantitatively small, accurately and specifically poor and they mostly come in statements rather than in forms, and institutional investors withdrew more investment as the number and accuracy of cams went up. Further studies showed that the informational value of Cams was more significant in companies with high informational asymmetry and companies audited by relatively less professional audit firms (neither international big 4 nor national big 10 audit firms).

Keywords

Critical Audit Matters, Institutional Investor, Informational Asymmetry, Audit Firms

1. Introduction

On December 23, 2016, China launched the Chinese certified public accountants audit standards No. 1504—communication critical audit matters in the audit report (hereinafter referred to as "principles"), requiring that all listed companies in the auditing reports issued by the certified public accountants shall be setting "critical audit matters" as the title, and using appropriate subheadings, item by item description in the part critical audit matters. Except for the 2016 pilot test of using critical audit matters in A + H share listed company, this is the first time the rules of our country all A-share listed companies to disclose the critical audit matters. It also requires all A-share listed companies to disclose

critical audit matters in their audit reports in 2017.

The guidelines described in Chapter 1, Article 3, is that "disclosure of critical audit matters increases the informational value of audit reports by increasing the transparency of audit work performed". Critical audit matters can provide additional information to prospective users of the financial statements to help them understand what the CPA, in his or her professional judgment, considers most important to the audit of the financial statements for the current period. It can be seen that the purpose of the standard is clear—to provide more information about the company to the expected users of the financial statements, thus reducing informational asymmetry. In theory, the reduction of informational asymmetry in the capital market will improve the investment efficiency, turning the assets to their own value, and allow the stock price to reflect the specific information of the company (Hutton et al., 2009). Therefore, this paper studies whether critical audit matters affect the investment behavior of investors in order to verify the effect of principles.

Specifically, this paper studies the impact of critical audit matters disclosure on the investment behavior of institutional investors who are recognized to have professional analytical ability and informational interpretation ability in the capital market. Based on that the principles currently only has made principled requirements to the disclosure of critical audit matters, the existing critical audit matters are of great differences in content, format and quantity. At the same time, the auditors in terms of critical audit matters disclosed also have a great deal of discretion. Based on the critical audit matters disclosure form, quantity and its content, this paper studies how these characteristics affect investment behaviors of institutional investors, tries to define informational critical audit matters, and studies the factors that might have influence on its informational value.

Results show that the accuracy and the number of critical audit matters influence institutional investors' investment decisions. Institutional investors reduce their investments in companies of more critical audit matters and more accurate critical audit matters, verifying the informational value in critical audit matters, and at the same time it shows that the more critical audit matters are accurately described, the better informational values it has. From the perspective of informational asymmetry and professional degree of accounting firms, it is found that the informational effect of critical audit matters is more significant in companies with higher degree of informational asymmetry and those audited by non-international or domestic top four accounting firms, which verifies its theory of reducing informational asymmetry.

The contributions of this paper are as follows. First, it studies the disclosure characteristics of critical audit matters of Chinese A-share listed companies, and provides a basic understanding of the status of disclosure of critical audit matters, which could be seen as a small complement to the existing studies on this very subject. Second, it verifies the informational value of critical audit matters from the perspective of institutional investors, and supplies the existing literature on informational value of critical audit matters disclosure. Third, it verifies

the informational interpretation ability and professional level of institutional investors, and supplies the literature that proves the professional ability of institutional investors. Fourth, it verifies the policy effect of the guidelines. The purpose of critical audit matters is to improve the informational value in audit reports. This paper studies the impact of different critical audit matters on investment behavior, reflects its effect of reducing informational asymmetry, proves its informational value, and provides practical value.

2. Institutional Background, Literature Review and Research Questions

As a low-cost economic supervision mechanism, audit plays an important role in the process of delegation, execution and dissolution of fiduciary responsibility of modern companies (Sherer & Kent, 1988; Flint, 1988). In recent years, the audit method and the technology are improving, and the auditing profession is also growing, but the audit report is still a single simplified conclusion type structure. The audit conclusion or process involves less, based on a single clean and not clean audit reports to the value of investors questioned by more and more (Zhang et al., 2016), a simple conclusion type audit report has been unable to meet the investment decision-making process the required information (IAASB, 2011); Moreover, professional auditors in the process of audit judgment, identify the material misstatement risk, and though through their judgment, the risks in financial report are at a reasonable level, so it is not enough to conclude a not clean opinion. But if this part of the risks information is directly showed to the financial report users, they may draw a different conclusion, so that investors need this part of information.

Based on this, for many years, the whole industry calls for the improvement of pattern of audit report, and the USA public company accounting oversight board, the international auditing and assurance standards committee and the financial reporting council are intended to further reduce the capital market informational asymmetry, improve the information needed for investors and financial reporting, audit reports and other information disclosure content consistent an astomotic (PCAOB, 2013). Our country also, on December 23, 2016, introduced the Chinese certified public accountants audit standards No. 1504—communication critical audit matters in the audit report "(hereinafter referred to as principles)", requires that all listed companies set a part of the disclosure of critical in the auditing report issued. The certified public accountants audit professional will make judgment according to the current financial statements of the most important matters, and the critical audit matters which they would have needed to consult the company management. Critical audit matters are important risk information selected by professional auditors from the critical points and difficulties in the execution of audit work.

Some studies showed that the critical audit matters has informational value, and it will affect the investment behavior, because the critical audit matters highlighted the company's special risk, major management issues and major trading

matters such as high-frequency events in the field of material misstatement risk, so it is the representative of the complexity in the auditing environment and it shows auditing risk information, the company's increased uncertainty, and so investors will reduced their investment (Christensen et al, 2014). From the perspective of information increment, the disclosure of critical audit matters increases the company information in the capital market. Compared with traditional audit reports without critical audit matters, more information will cause more significant market reaction and higher excess returns (Yanyan Wang et al., 2018).

On the other hand, some other researches showed that critical audit matters do not affect the investors investment behavior, because the information disclosed in critical audit matters is not "new", so it is not incremental information, to which the market will not have a special reaction (Lennox et al., 2017). In particular, in terms of the data, Lennox et al., pointed out that in all the material misstatement risk in audit report mentioned, about two thirds of the information does not belong to new information, namely the information in the report has been disclosed from other channels before critical audit matters are released, and about three-quarters are redundant, since the risk of material misstatement is the same as last year. Similarly, the Lu & Zhang (2018) conducted descriptive statistics on the critical audit matters disclosed by A + H shares during the trial in 2016, and found that asset impairment items occurred for a total of 136 times, accounting for 52.71% of all critical audit matters. There were 33 revenue recognition items, accounting for 12.79% of all critical audit matters. These studies suggest that most of the critical audit matters are "similar and not interesting", that auditors are only responding to policy requirements, and that the disclosure of critical audit matters may bring them some effect of exemption from auditing (Kachelmeier & Valentine, 2017), rather than to disclose useful information.

The above researches didn't get a consistent conclusion. Except for Christensen et al.'s article using experimental method, the other two empirical articles conclusion used different database—the British market data (Lennox et al., 2017) and China's A + H share data (Yanyan Wang et al., 2018). Considering the inherent difference of the capital markets in two countries, the databases could really differ, so the results are not directly comparable. In addition, Kohler et al. (2016) carried out an experiment respectively involving professional and non-professional investors, and it showed that only professional investors can understand the information in critical audit matters and change their evaluation of economic condition of the company, while non-professional investors cannot interpret critical audit matters information. But the above two articles (Lennox et al.'s and Yanyan Wang's) are not distinguish between type of investors, which may cause research noise.

Based on this, this paper selects the investment behavior of institutional investors as the research object, hoping to test the informational value of critical audit matters more accurately. The research question of this paper is put forward:

Does the disclosure of critical audit matters affect the investment behavior of institutional investors?

3. Study Design

3.1. Data Source and Sample Selection

The financial data in this paper are from the CSMAR database, which is Chinese current large-scale, accurate and comprehensive data-based economic and financial research database. It was developed by Guotai' an based on academic research needs and using the professional standards of internationally renowned databases such as CRSP and Standard & Poor's Compust at of the University of Chicago. So far, more than 1000 universities (such as Harvard, Peking University, etc.) and research institutions (such as Boshi Fund, China Securities, etc.), more than 15,000 clients, and more than 17,000 high-quality papers published at home and abroad have adopted CSMAR economic and financial research database. And the disclosure data of critical audit matters are manually collected.

Based on the requirements of the guidelines, critical audit matters data are disclosed for the first year of all the A-share listed company in 2017. Therefore, the critical audit matters data used in this paper are for the listed company in Shanghai A-share market in 2017. In addition, due to the requirements of the model, the data of corporate characteristics and institutional investors' shareholding data are of two years, 2016 and 2017. The missing data of corporate characteristics or institutional investors in 2016 and 2017 are excluded from the sample. In addition, ST company, missing data and extreme outliers were excluded from the data, and the sample size was 1031.

3.2. Model Specification

$$\begin{aligned} Inst_{i,t} = {} & a + b_1 Num\_cam_{i,t} + b_2 Freq\_num_{i,t} + b_3 Freq\_per_{i,t} \\ & + b_4 Freq\_spe_{i,t} + b_5 Form_{i,t} + b_6 Inst_{i,t-1} \\ & + \sum_{j=1}^{9} \text{Control}_{i,t} + \sum_{k=1}^{21} b_{8k} Sic2_{i,t} + \varepsilon_{i,t} \end{aligned}$$

3.3. Description and Measurement of Variables

First of all, the explained variable refers to the shareholding ratio of institutional investors of the company on June 30, 2018, which represents the response of institutional investors to the audit report contained in the company's financial report in 2017 $Inst_{i,t}$.

Explanatory variables are the characteristic variables of critical audit matters, and the content of critical audit matters includes three parts. The first part is the guidance on critical audit matters, indicating that the details of critical audit matters can be viewed in which part of the notes of the statement. The second is the event description, which explains the specific contents and risks of the critical audit matters; The third is audit response, explaining how the firm deals with critical audit issues. Since the guidance and response of critical audit matters are more modular and there is no more incremental information, the critical audit

matters studied in this paper refer to the "description of matters" part. This paper classifies critical audit matters from three perspectives: format, quantity and content.

Critical audit matters (Form) including the tabular format and text narrative style. Form of critical audit matters will affect the reading experience. Form of critical audit matters may reveals auditor's professionalism and effort in the audit work, level of assurance guaranteed. So it may make investors more confident about the company (Kachelmeier & Valentine, 2017), thus increasing investment in the company. However, at the same time, tabular critical audit matters may make investors more clearly read and understand the company's risk items described by critical audit matters, thus reducing their investment in the company.

The number of critical audit matters (Num_cam) varies from one to several items. The greater the number of critical audit matters, the greater the effort of the auditors; the greater the number of critical audit matters, the greater probability that the investor may think the company represents a higher level of audit assurance, thus increasing the investment in the company; At the same time, because the critical audit matters itself was intended to reveal the nature of the critical audit matters, so more of them may also shows the complexity of the auditing environment and auditing judgment subjectivity, which reflects the limitations of the audit, so investors may think the greater number of critical audit matters on behalf of the company, the higher the more special risks and reduce the investment in the company.

Critical content is analyzed from the perspective of two classification audit matters, including specificity and accuracy of critical audit matters. The accuracy of critical audit matters to consider is the critical in the critical audit matters, involves the amount of Numbers used in the contents (Freq_num), as well as the amount of the Percentage used in the content (Freq_per). In other words, this part is about that how many Numbers and Percentage are used to explain the description of the critical audit matters, i.e. on the accuracy of the critical audit matter description. According to the research of Yanyan Wang et al. (2018), critical audit matters with more Numbers and Percentage involved in its description increase the information content of financial reports from the perspective of improving the accuracy, thus leading to greater market reaction.

Finally, the specificity of critical audit matters was proposed according to the Decision Affect Theory, which pointed out that the less predictable factors would bring stronger responses than the more predictable ones (Mellers et al., 1997; Shepperd and McNulty, 2002). From the perspective of the industry, due to the characteristics of some industries, some certain risks would be usually mentioned in certain industry. It was predicted that when the disclosed critical audit matters were general critical audit matters of the industry, the information increment would be relatively small. Here we refer to Lennox et al. (2017) definition, using the critical audit matters occurrences in the industry divided by the number of industry company to get a certain critical audit matters occurrence of each company in the industry, taking the occurrence which is higher than 50%

as industry general critical audit matters, whereas specific critical audit matters (Freq_spe) for the company.

The classification is shown in Table 1.

In this paper, the characteristic variables of the company are controlled, and six variables are selected to control the fundamental information of the company by referring to Yu Song et al. (2012) from the perspective of influencing the shareholding ratio of institutional investors, whose proxy variable is also the shareholding ratio of institutional investors in the company. In addition, the investment inertia trading characteristics of institutional investors are considered, that is, institutional investors tend to conduct investment trading of similar stocks within a period of time (Grinblatt et al., 1995; Wermers, 1999), so it also controls the shareholding of institutional investors in the company during the same period of the previous year. Finally, the industry fixed effect is controlled.

See Table 2 for the description of specific variables.

4. Empirical Result Analysis

4.1. Descriptive Statistics

Table 3(a) is the descriptive statistics of variables, from which we can firstly see some characteristics of the disclosure of existing critical audit matters. The number of critical audit matters varies from 1 to 5 per company, with an average of about 2. The number of critical audit matters is small. As for accuracy of critical audit matters, the numerical value accounting for the text length of critical audit matters is about 9% on average, namely company's critical audit matters description contains nine numbers per one hundred characters. The variable's minimum value is 0, meaning some critical audit matters only contain textual description, and do not involve any numbers. The percentages are even less frequently used, 2 percent in a thousand words. In terms of the specificity of critical audit matters, the probability of specific critical audit matters occurring in each company is 30% on average, while the probability of occurrence of general critical audit matters in the industry is 70%. General critical audit matters in the

Table 1. Classification of critical audit matters.

Format of critical audit matters		Tabular
		Textual narrative
Number of critical audit matters		The number of critical audit matters in a company
Critical audit matters	Accuracy of critical audit matters	Numerical value accounts for the text length of critical audit matters
		Percentage value account for the text length of critical audit matters
	Specificity of critical audit matters	Industry general critical audit matters
		Company specific critical audit matters

Table 2. Variable definitions.

Variable	Variable definitions
Explained variable	
Inst	On June 30, 2008, the shareholding ratio of institutional investors in the company
Explanatory variables (characteristic variables of critical audit matters)	
Num_cam	The number of critical audit matters
Freq_num	The average value of proportion of the numerical value contained in each critical audit matter (the total value of each proportions divided by the number of critical audit matters of the company)
Freq_per	The average value of proportion of the percentage value contained in each critical audit matter (the total value of each proportions divided by the number of critical audit matters of the company)
Freq_spe	Specific critical audit matters, the average value of proportion of the company's specific critical audit matters to the company's number of critical audit matters (define the company's specific critical audit matters as critical audit matters whose probability of occurrence is less than 50%)
The Form	Format of disclosure of critical audit matters: define company with tabular as 1, textual narratives as 0.
Control variable	
$Inst_{t-1}$	On June 30, 2017, institutional investors in the company's shareholding
(1) company characteristic variables (9)	
Lev	The company's asset-liability ratio
Eps	Basic earnings per share of the company
Ocfps	Operating cash flow per share of the company
The Size	The logarithm of a company's total assets
Price,	Year-end closing price
Divi	Whether the company pays cash dividends at the end of the year: define company with dividend as 1, otherwise as 0.
The State	Define the property right of the company is 1 for state-owned company and 0 for non-state-owned company
Opi	Audit opinion. Define a clean report as 1, otherwise as 0.
Big 4	Accounting firm. Define the company audited by international big 4 accounting firm as 1, otherwise as 0.
(2) industry control variables (21)	
Sic 2	According to the industry classification of China securities regulatory commission in 2012, the industry types are controlled

Table 3. (a) Descriptive statistics of variables; (b) Descriptive statistics of explanatory variable classification.

(a)

Variable	Sample size	The median	The mean	The variance	The minimum value	The maximum value
Inst	1031	3.2400	4.9400	6.3650	0.0000	70.9500
Num_cam	1031	2.0000	2.1180	0.6880	1.0000	5.0000
Freq_num	1031	0.0856	0.0911	0.0541	0.0000	0.4820
Freq_per	1031	0.0017	0.0024	0.0028	0.0000	0.0189
Freq_spe	1031	0.3330	0.3210	0.3170	0.0000	1.0000
The Form	1031	0.0000	0.3470	0.4760	0.0000	1.0000
$Inst_{t-1}$	1031	3.6400	5.3590	6.4830	0.0000	70.5900
Lev	1031	0.4800	0.4810	0.2120	0.0281	0.9790
Eps	1031	0.3310	0.4710	0.5560	2.0400	4.9900
Ocfps	1031	22.7700	23.0500	1.7400	18.4800	30.8900
The Size	1031	0.3260	0.3990	1.6890	9.1260	17.4900
Price,	1031	10.3700	14.2800	12.4700	2.0000	163.1000
Divi	1031	1.0000	0.8050	0.3960	0.0000	1.0000
The State	1031	1.0000	0.5140	0.5000	0.0000	1.0000
Opi	1031	0.0000	0.0145	0.1200	0.0000	1.0000
measure	1031	0.0000	0.1310	0.3380	0.0000	1.0000

(b)

		Inst	t	$Inst_{t-1}$	t	The Diff	t
Num_cam	*Num_cam* ≥ 2	4.8892	0.6121	5.3282	0.3676	−4390.	0.4851
	Num_cam < 2	5.2315		5.5377		−3062.	
Freq_num	*Freq_num* ≥ 0.0856	4.4422	2.5138**	5.0946	1.3093	−6524.	2.4031**
	Freq_num < 0.0856	5.4362		5.6231		−1870.	
Freq_per	*Freq_per* ≥ 0.0017	4.7283	1.0694	5.2834	0.3758	−5551.	1.4021
	Freq_per < 0.0017	5.1523		5.4353		−2830.	
Freq_spe	*Freq_spe* ≥ 0.333	5.2862	2.0130**	5.6029	1.3887	−3167.	1.2176
	Freq_spe < 0.333	4.4816		5.0369		−5553.	
The Form	*Form* = 0	4.7824	1.0876	5.6027	3887.	−3167.	1.2176
	Form = 1	5.2352		5.0369		−5553.	

industry account for the majority in the overall sample, corresponding to the statement "most critical audit matters are similar and unremarkable". Finally, in terms of the format of critical audit matters, about 35% of the company's critical audit matters are presented in tabular form, and 65% in textual narrative.

From mid-2017 to mid-2018, the overall holdings of institutional investors

fell, from an average of about 5.4 percent to 4.9 percent.

Other characteristic variables of the company are evenly distributed. About half of the sample companies are state-owned enterprises, while 98.8 of the 100 audit reports are clean reports. Finally, about 13% of the companies are audited by big 4 accounting firms.

According to the results in Table 3(a), primary descriptive statistics of *Inst* were made by main explanatory variable classification. Continuous variables were grouped by the median, while dummy variables were grouped by themselves. It can be seen in Table 3(b) that institutional investors reduce more investment in the group with greater number of critical audit matters and higher accuracy, and the critical audit matters data represented by the ratio of numerical length is significant at the level of 0.05%, which could show that the greater number and higher accuracy of critical audit matters indicates more company risks and thus resulting in more decrease in institutional shareholdings. Institutional investors are also investing less in companies disclosing critical audit matters with tabulated form. The accuracy variable results showed that the lower the accuracy of critical audit matters, the lower the investment of institutional investors.

4.2. Regression Analysis

Table 4 shows the results of multiple regression analysis of critical audit disclosure characteristics on shareholding ratio of institutional investors.

From Table 4, on the one hand, it can be seen that the number of critical audit matters and the proportion of number in critical audit matters have a negative impact on the shareholding ratio of institutional investors, that is, the greater number and more accurate critical audit matters are, the lower the shareholding ratio of institutional investors is. Specifically, for each critical audit matter disclosed by the company, the shareholding ratio of institutional investors decreased by 0.31%. On average, every 10% increase in the proportion of number in critical audit matters cause institutional investors' holdings falling by 0.45%.

On the other hand, the accuracy represented by percentages is not significant in either individual regression or multiple regression, which is not surprising considering the low percentage ratio in the overall sample (the maximum value is only 0.02). In terms of specific critical audit matters, the independent regression and multiple regression are not significant (in addition, use the number of specific critical audit matters of the company or assigning 1 to the company with specific critical audit matters for regression, the results are similar; Or replace 50 percent with a median of 30 percent, and the results are similar). The regression shows that whether the critical audit matters are specific or "mundane" does not affect the investor's decision-making behavior. The format of critical audit matters has no significant impact on investment behavior.

To sum up, the results in Table 4 show that the number and the proportion of number in critical audit matters have a significantly negative impact on the investment behavior of institutional investors, but the proportion of percentage,

Table 4. Disclosure characteristics of critical audit matters and shareholding ratio of institutional investors.

	Inst	*Inst*	*Inst*	*Inst*	*Inst*	*Inst*
Num_cam	0.3147**	0.3159**				
	(0.0407)	(0.0352)				
Freq_num	4.5896**		3.8531**			
	(0.0157)		(0.0252)			
Freq_per	29.4710			1.4411		
	(0.4090)			(0.9655)		
Freq_spe	0.1046				0.3791	
	(0.7570)				(0.2459)	
The Form	0.2182					0.1903
	(0.3018)					(0.3685)
$Inst_{t-1}$	0.8411***	0.8406***	0.8413***	0.8409***	0.8400***	0.8407***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Lev	0.5245	0.5082	0.6118	0.6138	0.5726	0.6315
	(0.4437)	(0.4581)	(0.3758)	(0.3742)	(0.4048)	(0.3598)
Eps	0.1833	0.1362	0.0993	0.0945	0.1187	0.1137
	(0.4431)	(0.5697)	(0.6778)	(0.6973)	(0.6224)	(0.6399)
The Size	0.4234***	0.4228***	0.3791***	0.3883***	0.3958***	0.3931***
	(0.0001)	(0.0001)	(0.0003)	(0.0002)	(0.0002)	(0.0002)
Ocfps	0.0116	0.0131	0.0136	0.0175	0.0181	0.0209
	(0.8274)	(0.8089)	(0.7992)	(0.7461)	(0.7394)	(0.6995)
Price	0.0094	0.0082	0.0082	0.0080	0.0077	0.0087
	(0.4785)	(0.5453)	(0.5390)	(0.5575)	(0.5702)	(0.5196)
Divi	0.1756	0.1758	0.2056	0.1984	0.1675	0.2020
	(0.4642)	(0.4593)	(0.3857)	(0.4027)	(0.4829)	(0.3946)
The State	0.4805**	0.5018**	0.4621**	0.4717**	0.4708**	0.4601**
	(0.0198)	(0.0146)	(0.0249)	(0.0224)	(0.0224)	(0.0263)
Opi	0.8002	0.8593	0.8657	0.9296	0.9394	0.9459
	(0.4061)	(0.3813)	(0.3850)	(0.3570)	(0.3529)	(0.3485)
measure	0.2421	0.1605	0.1572	0.1890	0.2087	0.2514
	(0.3443)	(0.5053)	(0.5136)	(0.4376)	(0.3835)	(0.3063)
_cons	6.9240***	7.2785***	6.6828***	7.2418***	7.5205***	7.3209***
	(0.0017)	(0.0010)	(0.0022)	(0.0009)	(0.0006)	(0.0009)
Industry	Yes	Yes	Yes	Yes	Yes	Yes
N	1031	1031	1031	1031	1031	1031
Adj. R-sq	0.785	0.784	0.784	0.783	0.783	0.783

= "p—the values in parentheses" = "*$p < 0.1$; $p < 0.05$; *****($p < 0.01$)".

specificity and format of critical audit matters have no impact on the investment decisions of institutional investors. This result verifies the informational value of critical audit matters and answers the research question with that the disclosure of critical audit matters affect the investment behavior of institutional investors.

This result could work as a guideline to nowadays just-start-off Chinese critical audit matters issuing. Since the principles were just been issued and put into force for three years, the whole drafting of critical audit matters has not yet normalized, even to the world. So as the results has shown above, if we use institutional investor's behavior as an indicator, to better improve transparency of auditing work and company's status information, the drafting of critical audit mattersis suggested to be more detailed and accurate.

5. Further Study

From the research literature on the informational value of critical audit matters, Kohler et al. (2016) proposed that the research on the informational value of critical audit matters has two dimensions. Firstly, critical audit matters change information users' assessment of the economic condition of a company. Secondly, information users are confident in their own assessment. This paper proceed a further study from the above two dimensions.

5.1. Informational Asymmetry and Critical Audit Matters

Informational asymmetry exists in capital market, and external audit can alleviate the informational asymmetry, easing the agency conflict (Jensen & Meckling, 1976). The principle now requires audit report to include critical audit matters, intending to provide user with additional information, on which basis, proposed in this paper, the critical audit matters affect investment behavior of investors by reducing informational asymmetry and thus achieving the effect of its information increment.

Referring to the article of Li Li et al. (2014), the non-current ratio proposed by Amihud et al. (2002) was selected to measure the degree of informational asymmetry. Individual stock data is collected from the CSMAR database.

$$\text{Non-current ratio } ILL = \sum \sqrt{\frac{|\text{Daily stock returns}|}{\text{Daily stock trading volume}}} \Big/ \text{Annual stock trading days}$$

The index's idea is that when the stock liquidity is very high, the individual stock trading has very little impact on stock prices, so when the stock liquidity is high, the stock market investors adverse-selection costs would be smaller, and the cost of adverse-selection is usually derived from informational asymmetry, so it means lower level of informational asymmetry. That is, the higher the value of the non-current ratio, the higher the degree of informational asymmetry. In this part, regressions are made with the company data grouped by ILL. Companies whose illiquidity ratios are higher than the median of illiquidity ratios of all companies are regarded as companies with high degree of informational asym-

metry, and are grouped for multiple regression analysis.

The regression results are shown in Table 5. It can be seen from the regression results that the disclosure characteristics of critical audit matters have a more significant impact on the investment behavior of institutional investors in groups with high degree of informational asymmetry. Moreover, the regression result is more significant than that of the full sample. In companies with high degree of informational asymmetry, each addition of a critical audit matter will reduce the shareholding ratio of institutional investors to the company by about 0.45% on average (the total sample is about 0.31%). For every 10% increase in the proportion of number in critical audit matters, the shareholding ratio of institutional investors decreases by about 0.61% on average (about 0.45% in the total sample). In addition, the disclosure format of the company's critical audit matters also slightly negatively affects the shareholding ratio within the significance level of 0.1.

This result indicates that the critical audit matter is to achieve the policy effect of increasing information increment by reducing the level of informational asymmetry of such companies.

5.2. Accounting Firms and Professional Audit Matters

Confidence in the outcome of investors' own assessment. The risk information disclosed to investors in critical audit matters may influence investors' recognition of auditors' "clean report" and form investors' own assessment of enterprise risks. If investors think the auditors are professional enough, even when the audit matters disclosed the company's special risk, this part of the risk has been identified by the auditors as within the reasonable risk level, so for investors, it is still a clean audit report. The critical audit matters may not change the investors' investment behavior. However, if the investor believes that his judgment of risk is better than that of the auditor's, the clean report issued by the auditor may not be recognized by the investor. The investor believes that the risk of the company is not within the scope of "reasonable guarantee", and the investor may change his investment behavior. So whether investors change their behaviour depends on whether they are more confident in their own judgment or more trusting of the auditor's.

In order to verify, company with non-clean audit reports (15 copies) were excluded from the samples. Based on the fact that the big 4 accounting firms are more professional than the non-big 4accounting firms, this paper conducted grouping regression for the samples of the big 4 accounting firms and the non-big 4 accounting firms. Firstly, descriptive statistics are compared. As shown in Table 6, it can be seen that the big 4 groups in the sample is 133, while the non-big 4 is 883. And the critical audit matters issued by the big 4 firms and non-big 4 firms differ significantly. The average number of critical audit matters issued by the big 4 was 0.2 compared with non big 4. The accuracy of critical audit matters issued by the big 4 is lower than that of the non-big 4 in two dimensions (digital length, percentage length). The big four are also more inclined to issue general

Table 5. Informational asymmetry, disclosure characteristics of critical audit matters and shareholding ratio of institutional investors.

	High degree of informational asymmetry	Low degree of informational asymmetry
	Inst	*Inst*
Num_cam	0.4474*	0.2686
	(0.0640)	(0.1737)
Freq_num	6.0683**	3.0199
	(0.0302)	(0.2943)
Freq_per	64.4019	15.6895
	(0.1622)	(0.7733)
Freq_spe	0.1248	0.2356
	(0.8001)	(0.6218)
The Form	0.5229*	0.0440
	(0.0995)	(0.8785)
$Inst_{t-1}$	0.8505***	0.8298***
	(0.0000)	(0.0000)
Lev	0.0752	1.0175
	(0.9404)	(0.2942)
Eps	0.4433	0.0622
	(0.2617)	(0.8488)
The Size	0.2882	0.5645***
	(0.1661)	(0.0000)
Ocfps	0.0687	0.0183
	(0.5829)	(0.7713)
Price,	0.0085	0.0087
	(0.6477)	(0.6589)
Divi	0.0704	0.4279
	(0.8508)	(0.1851)
The State	0.7307***	0.2640
	(0.0079)	(0.4001)
Opi	0.7342	0.1696
	(0.6915)	(0.7848)
measure	0.0189	0.1280
	(0.9661)	(0.6834)
_cons	2.6356	10.9560***
	(0.5383)	(0.0001)
Industry	Yes	Yes
N	515	516
Adj. R-sq	0.759	0.803

= "*p*—the values in parentheses"; = "*$p < 0.1$; $p < 0.05$; *****($p < 0.01$)".

Table 6. Disclosure characteristics of critical audit matters: big 4 vs non-big 4.

The Variables	Nonbig 4	Mean1	Big 4	Mean 2	MeanDiff
Num_cam	883	2.093	133	2.301	0.208***
Freq_num	883	0.094	133	0.074	0.020***
Freq_per	883	0.003	133	0.001	0.001***
Freq_spe	883	0.333	133	0.262	0.070**
Form	883	0.296	133	0.684	0.389***

critical audit matters; The tabular proportion of the critical audit matter format issued by the last four is higher than that of the non-big 4. As can be seen from Table 6, although the big 4 use more standardized tabular forms and issue more critical audit matters, their accuracy and specificity are relatively lower, suggesting that the critical audit matters issued by the big 4 are more stereotyped.

Grouped regression results as shown in Table 7. According to Table 7, you can see that the critical audit matters' influence on institutional investors investment behavior is significant only in the non-big 4 group, namely institutional investors believe their formed assessment is better than that of the non-big 4's, but when faced with a clean report issued by big 4, investors tend to lack confidence and will not change their investment behavior.

6. Robustness Test

6.1. Alternative Variables for Informational Asymmetry

For institutional investors, the information about a company is generally gained through external channels gained. From that perspective, the number of analysts of the company can be used as an informational asymmetry variable. Define the company with number of analysts greater than the median as low degree of informational asymmetry, otherwise as high degree of informational asymmetry. The regression results are similar.

6.2. Alternative Variables for Accounting Firms

Due to the small sample size of the big 4, the results may not be robust. In this part, the samples of companies audited by the top 10 accounting firms in China (673 of the top 10 auditing firms and 358 of the non-top 10 auditing firms) were used for alternative testing, and the regression results are similar.

6.3. Further Test of Kohler Theory

Based on Kohler's theory (Kohler et al, 2016), two dimensions of the research on the informational value of critical audit matters can also be considered as two steps, that is, investors first change their assessment of the company's economic status, and then consider whether they are confident in their own assessment. Therefore, the samples in this part are divided into four groups based on the two dimensions of informational asymmetry and accounting firm. It is expected that

Table 7. Professional degree of accounting firms, disclosure characteristics of critical audit matters and shareholding ratio of institutional investors.

	Big 4	Non-big 4
	Inst	*Inst*
Num_cam	0.1190	0.3587**
	(0.6262)	(0.0498)
Freq_num	0.2134	5.2317**
	(0.9246)	(0.0262)
Freq_per	20.9239	32.8096
	(0.7936)	(0.4006)
Freq_spe	0.3332	0.2142
	(0.5392)	(0.5649)
The Form	0.0947	0.2002
	(0.7831)	(0.4051)
$Inst_{t-1}$	0.9808***	0.7991***
	(0.0000)	(0.0000)
Lev	0.4675	0.6845
	(0.7214)	(0.3720)
Eps	0.3501	0.2788
	(0.2153)	(0.4094)
The Size	0.3116**	0.4663***
	(0.0193)	(0.0003)
Ocfps	0.0097	0.0496
	(0.8122)	(0.5211)
Price,	0.0319	0.0159
	(0.1319)	(0.2700)
Divi	0.1869	0.2526
	(0.6876)	(0.3360)
The State	0.1002	0.4465*
	(0.8127)	(0.0513)
_cons	8.6792***	7.4741***
	(0.0032)	(0.0050)
Industry	Yes	Yes
N	133	883
Adj. R-sq	0.963	0.729

= "*p*—the values in parentheses"; = "*$p < 0.1$; $p < 0.05$; *****($p < 0.01$)".

investors will only change their evaluation of companies in the groups of companies with high informational asymmetry and audited by non-big 4 companies. The results support expectations.

In addition, due to the small number of the big 4 samples and the smaller

sample size after the second grouping, big 10 indicators are used to replace the big 4 indicators. The results are still robust, except that the number of critical audit matters has a slightly impact on *Inst* in the group of high degree of informational asymmetry and non big 4.

6.4. Non-Sectional Data Inspection

Due to data conditions, the empirical test of this paper only has cross-sectional data of one year. In this part, difference equation regression is performed on the data, and the explained variable is the difference of two years of institutional investors' shareholding ratio to the company; in addition, the control variable of the company is also performed with two years difference for regression. Both main regression and grouping regression are robust.

7. Research Conclusion and Deficiency

This paper studies the basic disclosure characteristics of critical audit matters of A-share listed companies in Shanghai, China, and finds that the number of existing critical audit matters is small, with only two critical audit matters per company on average. However, the accuracy and specificity of existing critical audit matters are low, and the presentation form is mostly written narrative. Disclosure of critical audit matters characteristics and institutional investor shareholding has carried on the multiple regression analysis, to explore the informational value of critical audit matters and the influence of the value of the information disclosure characteristics. Study shows that the critical audit matters number and the proportion of number in critical audit matters both have a negative effect on institutional investor shareholding. The greater the number of critical audit matters is, the bigger the proportion of number in critical audit matters is, the more institutional investors reduce their holdings of the company. However, according to the grouping regression of informational asymmetry degree, compared with the companies with low informational asymmetry degree, the effect of critical audit matters is more significant in the companies with high informational asymmetry degree. From the perspective of the firm specialized in the clean report sample, this paper reveals that investors will be persuaded by "clean report" issued by big 4 or big 10, thus lacking confidence in their judgement and will not change their investment behavior, but when it is case of companied audited by non-big 4 or non-big 10, investors tend to have more confidence in their own assessment, and thereby change their investment behavior.

This paper verifies the politic effect of critical audit matters and proves that critical audit matters can indeed bring incremental information to investors and influence their investment behavior under the condition of high degree of informational asymmetry of the company, and the information effect of critical audit matters is also affected by the professional degree of the companies' accounting firm. These paper results show that the number of critical audit matters and accuracy has a direct effect on investor behavior, thus issuing critical audit

matters, shall, in accordance with the actual situation. The number of critical audit matters and its contained numeric information shall be fully considered and be reasonable, because investors pay attention to its information.

And as to the deficiency of the article, first of all, the article's standpoint is that the informational function of critical audit matters has affected the investment of institutional investors, but actually the institutional investors can also be classified internally, considering different types of institutional investors may use information differently, and the results may also vary.

Secondly, the classification of the characteristics of critical audit matters can also be improved. For example, the use of text analysis technology can further refine the research on the emotional sentiment and language obscurity of critical audit matters, revealing more characteristics of critical audit matters and their influences.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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