

FINANCIAL CRISIS AND AUDIT RISK

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ABSTRACT

This document is a preliminary proposal of our current work on this topic. In this study, we examine the impact of current economic and financial crisis on audit risk. In the financial crisis period, many risks which were of low probability can be triggered by the external environment that would not be anticipated. And we expect auditors to make adjustments in their audit work process to accommodate the changing environment. This study investigates how auditors change their assessment of audit risk in the financial crisis period. We find that the audit fees in the post-crisis periods are significantly higher than that in the pre-restatement periods. Accordingly, the empirical results imply that auditors perceive a generally higher level of audit risk for companies in this financial crisis.

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1. Background

Audit risk

Auditors tend to reassess the audit risk after the announcement of restatements and increase the audit investment. The audit risk model is required to be used as a guide of the audit planning process (AICPA 1997). According to SAS No. 47, the model can be presented as

$$\textit{Acceptable Audit Risk} = \textit{Inherent Risk} \times \textit{Control Risk} \times \textit{Detection Risk}$$

In this model, inherent risk is the probability that an account balance or class of transactions contains a material misstatement before considering the effectiveness of the internal control system. Control risk is the probability that a material misstatement is not detected on a timely basis by the internal control system. Thus, when a restatement is announced, the inherent risk and control risk of a client increase. To avoid future audit failures and lower the audit risk, auditors can lower the tolerable level of detection risk. Detection risk is the tolerable level of risk that auditing procedures will not detect material misstatements. Investments in auditing decrease the detection risk. Accordingly, more audit efforts are required. Auditors would use more personnel, make more detailed working paper and test a larger sample in a similar work to lower their audit risk.

The Impact from the Financial Crisis

The financial crisis in 2008 has revealed many accounting problems and inadequacies. The failure of the audit industry to identify the banking crisis is regarded as one of the major reasons of the financial crisis. There have been concerns and thoughts about the audit industry after the financial crisis begins. James L. Kroeker, the chief accountant of SEC explained the role of auditors and urged the industry to make improvements in his testimony in the Congress.

He said: “When poorly performed audits contribute to or fail to detect financial reporting abuses, there are existing mechanisms for dealing with such misconduct, including SEC or PCAOB enforcement actions. For our part, we will continue to prosecute those who fail to comply with their obligations.”

Under such an environment, auditors would be more cautious when they estimate the audit risk in performing the audit work for companies after the financial crisis. We investigate the change of auditors’ behavior and observe the significant improvements of the efforts made by them.

2. Research Design

In this paper, we investigate the auditor’s reactions to financial crisis. Higher business risk during financial crisis requires greater auditor effort, which normally results in higher audit fees. Therefore, we examine the audit fee around financial crisis years.

Hypothesis: Audit effort is greater during financial crisis than before financial crisis.

We investigate the hypothesis by regressing audit fee against financial crisis years and control variables for business risk, financial condition, size, and complexity. Consistent with previous research on audit fees (Carcello et al., 2002; Abbott et al., 2003), the model includes several firm-specific control variables that proxy for the effect of firm size, complexity and business risk. The following equation (1) is used to test the first hypothesis:

$$LNAFEE_{it} = \beta_0 + \beta_1 CRISIS_{it} + \beta_2 LNNTA_{it} + \beta_3 REC_{it} + \beta_4 INV_{it} + \beta_5 CR_{it} + \beta_6 LEV_{it} + \beta_7 ROA_{it} + \varepsilon_{it} \quad (1)$$

Where,

$LNAFEE_{it}$ Natural log of audit fees.

CRISIS _{it}	Indicator variable that equals to 1 for and after 2008 and 0 before that.
LNTA _{it}	Natural log of total assets.
REC _{it}	Accounts receivable divided by total assets.
INV _{it}	Inventory divided by total assets.
CR _{it}	Current ratio (current assets divided by current liabilities).
LEV _{it}	Leverage ratio (long-term debts divided by total assets).
ROA _{it}	Return on assets computed as net income divided by total assets.

The dependent variable is natural log of audit fees for firm i in year t (LAFEE_{it}). The test variable of interest is the indicator variable CRISIS_{it}. CRISIS_{it} is an indicator variable that equals to 1 for and after 2008 and 0 before that. If the audit risk perceived by auditors is higher during financial crisis periods than pre-financial crisis periods, auditor fees will be higher accordingly. Therefore, we expect β_1 to be significantly positive.

The model includes several firm-specific control variables, which account for cross-sectional difference in audit fees. LNTA controls for the effect of firm size on audit fees. REC and INV are used to proxy the firm complexity. CR and LEV capture liquidity and financial risk on audit fees. ROA shows the profitability.

3. Sample and Descriptive Statistic

In this paper we examine the audit reactions during financial crisis. Higher audit risk during financial crisis requires more audit effort. Audit fees are used to proxy the audit effort. We collect audit fees information from 2000 to 2010 from AuditAnalytic database. Financial information is obtained from Compustat. The sample includes 41123 firm-year.

Descriptive statistics for audit fees and firm specific control variables are provided in Table I. Table I provides a comparison of during financial crisis periods (2008-2010) and before financial

crisis periods (2000-2007). The average of the audit fees during financial crisis periods is 13.24, which is higher than that before financial crisis periods, 12.81. The mean total assets during financial crisis periods is 5.48, which is also higher than before financial crisis periods, 5.35.

4. Preliminary Results

Table II summarizes the regression results of audit fees on financial crisis year and control variables. CRISIS is significantly and positively related to audit fees (coefficient: 0.369; p-value: <0.0001). The result indicates that audit fees during financial crisis periods are significantly higher than before financial crisis periods.

Table I Descriptive Statistics for Audit Fees and Control Variables

<u>Variable</u>	<u>Mean</u>		<u>Standard Deviation</u>	
	<u>2000-2007</u>	<u>2008-2010</u>	<u>2000-2007</u>	<u>2008-2010</u>
N (firm-year)	27332	14078	27332	14078
LNAFEE	12.81	13.24	1.65	1.61
LNTA	5.35	5.48	2.73	2.84
REC	0.14	0.13	0.13	0.13
INV	0.1	0.09	0.13	0.13
CR	1.89	1.87	32.60	208.15
LEV	0.48	0.50	83.54	65.05
ROA	0.06	0.05	31.78	16.71

**Table II
Audit Fees on Financial Crisis Year and Control Variables**

$$LNAFEE_{it} = \beta_0 + \beta_1 CRISIS_{it} + \beta_2 LNTA_{it} + \beta_3 REC_{it} + \beta_4 INV_{it} + \beta_5 CR_{it} + \beta_6 LEV_{it} + \beta_7 ROA_{it} + \varepsilon_{it}$$

<u>Variables</u>	<u>Coefficient Value</u>	<u>p-value</u>
CRISIS	0.369***	<.0001
LNTA	0.504***	<.0001
REC	0.919***	<.0001
INV	-0.065	0.0557
CR	-0.000***	0.0002
LEV	0.001***	<.0001
ROA	-0.002***	<.0001

5. Conclusion

In this paper, we examine the audit risk surrounding the financial crisis of 2008. We find that the audit fees in the post-crisis periods are significantly higher than that in the pre-crisis periods. The results show that auditors put more efforts into their audit work to adjust for the changing environment. Accordingly, the empirical results imply that auditors perceive a higher level of audit risk for companies in the financial crisis.

References

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James L. Kroeker, 2011, Testimony concerning the role of the accounting profession in preventing another financial crisis. <http://www.sec.gov/news/testimony/2011/ts040611jlk.htm>