

**IDENTIFYING THE DETERMINANTS OF AUDIT FEES,**

**IN A POST J-SOX SCENARIO**

**Gaku Ueno, PhD**

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**ABSTRACT**

Research on the determinants of audit fees has mostly focused on the U.S. and other countries. The Japanese Institute of Certified Public Accountants (JICPA) eliminated standard auditing fees in April 2004, leading to intense competition among audit firms. However, previous studies conducted in the U.S. and some European countries suggest that oligopolistic conditions exist. These studies also show that audit firms add additional inspection costs to the audit fees, when estimating further audit risks. This study aims to empirically confirm whether Japanese audit firm charge similar fees or if the auditors' effort is reflected in audit fees. This study focuses on audit quality because firms cannot cover the cost of conducting an audit in competitive scenario with low fees, leading to a decline in audit quality. To examine the scenario after the enactment of the Financial Instruments and Exchange Act, commonly referred as the Japanese Sarbanes-Oxley (hereafter, J-SOX), this study uses variables that estimate internal control risks and corporate governance risks. In conclusion, this study confirms that Japanese audit firms conduct risk adjustment activities.

Keywords: audit fee, internal control, corporate governance

JEL classification: M42, M48

## 1. Introduction

Research has identified audit fee problems as the most important issue for the estimation of suitable audit fees.

The monetary relationship between auditors and audit clients is a characteristic of auditing systems issues (Takada 2009). Audit and non-audit fees paid by clients express their connections making for the auditing. Using data from audit and non-audit fees, many studies examine whether the independence of auditors is impaired. Recent studies estimate the appearance of independence from the earnings response coefficient (ERC), cost of capital, shareholder activism, credit rating, rate of return of bonds, and so on (e.g., Francis and Ke 2006, Higgs and Skants 2006, Krishnan et al. 2005, Khurana and Raman 2006). The independence of mental attitude is estimated by the contents of the audit opinion, and abnormal accounting accruals are proxies for the quality of disclosure statements (e.g., DeFond et al. 2002, Geiger and Rama 2003, Li 2009). These empirical studies were conducted to observe whether economic engagements between auditors and their clients impair the auditors' independence. Studies in the 1980s considered the many factors and proxies as determinants of audit fees. Simunic (1980) famously used regression models for analysis in which audit fee determinants are divided into the following parts: size, complexities of operation, and risks to which auditors are exposed. In Japan, Yazawa (2009) and other researchers analyzed audit fees determinants (Kansanin Kansahoshu Kenkyukai

2012 (Japanese)).

The focus of this study is to recognize the risks that auditors are exposed to and the effect of risk adjustment on audit fees. The proxies of size and complexity have been analyzed sufficiently in prior studies, while this study adopts the proxies of the effect of internal control disclosure (J-SOX) and corporate governance in regression models. This study examines whether the special inspection cost of audit is linked to audit fees .

How do we estimate the appropriate proxy for risk when an auditor and client enter into an audit contract? This study considers the internal control risk and the effect of internal control disclosure. Following Simunic (1980), many studies use the proxy of litigation risks because material misstatements such as inherent risks and control risks are connected to litigation risks in the U.S. In Japan, however, there are few instances of stakeholders filing lawsuits against companies because of audit issues. We aim to confirm whether these risks are accounted for in the audit fees and the auditors' efforts. The following section includes a literature review of prior studies, and the hypotheses are discussed in section three. The research design is explained in section four, followed by the results. Finally, the last section offers the conclusion and implications.

## 2. Prior studies

In this section, a review of previous studies on audit pricing and internal control is conducted.

## 2.1 Audit pricing studies

Simunic (1980) suggests that the cost of an audit depends on resources consumed by auditors and clients in addition to the cost of conducting the audit. Simunic analyzes the determinants of the cost of resources and the factor cost, which attribute to the differentiation of the audit fee. Simunic was the first to suggest the model of determinants of the audit fee. The observable audit cost (i.e., the audit fee) has a positive significant relationship to the auditors' exposure to losses (the increase of inherent risks) and the amount of observable losses (the size and complexities of audit clients' companies).

Craswell et al. (1995) analyzes the relationships between brand name, expertise, and audit fees. They followed the step suggested by Simunic and constructed the model for audit fees by including brand reputation as a proxy. The results demonstrate that the audit fees of the Big 8 audit firms are 34% higher than others. It was also determined that the fees of the non-specialist Big 8 firms are 22% higher than that of other non-specialist firms. In addition, the specialist Big 8 firms earn a 16 % higher audit fee than the non-specialist Big8 firms.

Choi et al. (2010) define abnormal audit fees and they analyze the relationship between abnormal audit fee and discretionary accruals. They assumed discretionary accruals to be an audit quality issue and they estimated the discretionary accruals by utilizing the modified Jones model. They suggest that the relationship between positive discretionary accruals and abnormal audit fees has negative significance. This signifies that an abnormally

low audit quality corresponds to abnormally high audit fees.

In Japan, Kasai (2009) analyzed Choi's framework with Japanese data and received significant results in the relationship between discretionary accruals and abnormal audit fees.

## 2.2 Auditor's independence

Simunic (1984) examined the relationship between consulting, auditing and auditor's independence if the auditor provides both the consulting and the auditing service. If the same auditor is conducting the audit and consulting the firm, it impacts negatively on the auditors' brand image if there is a proven failure in consulting. Simunic declares that in auditing studies, the auditor's independence is likely to be seen as ambiguous. However, supplying both services may affect both the independence of appearance and mental attitude. Specifically, consulting as a non-auditing service affects the companies' external (market reaction) and internal control situations. Many studies have examined audit firms that provide both services in the U.S., Japan, and some other countries. Simunic suggested the following results as the initial findings. One is that the client pays a higher total fee if it engages the same auditor as the consultant. Secondly, if an audit firm performs as auditor and consultant, they provide a more efficient service, rendering the simultaneous service desirable.

Hoitash et al.(2005) describe the change in the relationship between discretionary accruals and abnormal audit fees after the enactment of the Sarbanes-Oxley Act (hereafter, SOX). They suggest that discretionary accruals are significantly related to abnormal audit

fees before SOX but are ambiguous after its enactment. They insist that abnormal audit fees affect discretionary accruals as a proxy of audit quality, and SOX impairs these relationships. They estimated the independence of mental attitude by discretionary accruals and suggest a relationship between independence of mental attitude and audit fees.

### 2.3 Material Weakness

Hoitash et al.(2008) investigates the relationship among material weakness, significant deficiency, and audit fees. Companies that have insufficient internal control information based on the stipulation of Section 302 of SOX pay higher fees than companies that report based on SOX404. They insist that companies that declare information insufficiency pay higher fee because of risk adjustment.

Hogan and Wilkins (2008) investigated the adjustment of the audit risk approach in the context of audit fees. The studies conducted before Hogan and Wilkins (2008) documented ambiguous results and were limited to one audit firm or one industry. They regarded the individual condition of managers or auditors. Hogan and Wilkins referred to these before conducting their study, which examines the audit fees charged when a company's auditors document the internal control weaknesses. The study controls for factors such as inherent risks and information risks. This study concluded that companies that declared weak internal controls paid higher fees.

Ashbaugh et al. (2008) described the relationship between the effects of internal

control weakness disclosure and the quality of accruals. Initially, they noted that low quality accruals were accompanied by the declaration of the information of internal control weakness. Second, they determined if companies with internal control weakness disclosure have abnormally high or low accounting accruals. Third, they determined that if the companies that needed to declare internal control weakness revised their findings in the next year, the accruals recovered. Fourth, they detected that auditors' opinions were related significantly to accounting accruals. Hence, the U.S. data confirms that accounting accruals and internal control weakness have a significant relationship.

### 3. Hypothesis

#### 3.1 Audit situation after the collapse of Chuo-Aoyama and Misuzu

The Japanese audit environment was drastically affected by the Kanebo window dressing scandal resulting in the 2006 failure of the Chuo-Aoyama auditing firm (a member of PricewaterhouseCoopers). This was followed by the 2007 dissolution of Misuzu, the name under which Cho-Aoyama resumed operation. After these scandals, the determinants of audit fees changed significantly, and it is now impossible to determine how a firm will conduct an audit. The environment affects the competition between auditing firms, leading to new methods of gaining clients.

In addition, the audit fees paid by clients increases drastically because of the implementation of quarterly reviews and internal control reports (Kansanin Kansahoshu

Kenkyukai, 2012).

### 3.2 Developing the hypothesis

Based on previous Japanese studies, we note the significant relationships between audit fees and clients' size, complexity, and specific risks. This study suggests a hypothesis to verify whether auditors incorporate the special inspection cost into the audit fees by considering the internal control risks and governance risks in addition to inherent risks, leverage, and, profitability. We also determine if audit fees are affected by internal control risks and governance risks by using a regression of residual audit fees considering clients' size, complexity, and specific risks that may include the internal control risks and governance risks. The residual audit fees are considered as abnormal audit fees information from Kasai (2009) and Fujiwara (2011). In addition to these analyses, this study adds variables to examine the efforts of auditors after they perceive the risks of financial distress or internal controls in the regression model.

For an extensive analysis, it is essential use the delta of audit fees as the dependent variable in the regression model, but this study uses the stock variable of audit fees as the first step.

I suggest the hypotheses stated below.

H1: Auditing firms receive the audit fees according to the client's internal control condition.

H2: Auditing firms receive abnormal audit fees in accordance with the client's internal

control framework.

#### 4. Research design

##### 4.1 Regression model

For the inspection of hypothesis H1, this study analyzes the regression model as stated below,

*LNAuditfees*

$$= f \left( \begin{array}{l} \text{Client size, Client Complexity, Client specific risk (include variables of effort),} \\ \text{Internal control risk (include variables of effort), governance risk} \end{array} \right)$$

That is,

$$\begin{aligned} \text{LNAuditFee} = & \alpha_0 + \alpha_1 \text{LNAsset} + \alpha_2 \text{LNSubsidiary} + \alpha_3 \text{ForeginSales} \\ & + \alpha_4 \text{LOSS} + \alpha_5 \text{RGC} + \alpha_6 \text{SGC} + \alpha_7 \text{CGC} + \alpha_8 \text{Lev} + \alpha_9 \text{Reclnv} \\ & + \alpha_{10} \text{GrothSal} + \alpha_{11} \text{ROA} + \alpha_{12} \text{BIG4} + \alpha_{13} \text{LIQID} \\ & + \alpha_{14} \text{AuditorSW1st} + \alpha_{15} \text{AuditorSW2nd} \\ & + \alpha_{16} \text{FlexManager} + \alpha_{17} \text{RMW} + \alpha_{18} \text{SMW} + \alpha_{19} \text{CMW} \\ & + \alpha_{20} \text{BDOUTSIDE} + \alpha_{21} \text{BDSTOCK} + \alpha_{22} \text{SPCIFICST} + \alpha \text{ inddummy} + \\ & \alpha \text{ yeardummy} + \alpha \text{ outlier} + \varepsilon \end{aligned}$$

In order to examine hypothesis H2, this study analyzes the following regression model to

estimate abnormal audit fees:

$$\begin{aligned} \text{LNAuditFee} = & \alpha_0 + \alpha_1 \text{LNAsset} + \alpha_2 \text{LNSubsidiary} + \alpha_3 \text{ForeginSales} \\ & + \alpha_4 \text{LOSS} + \alpha_5 \text{RGC} + \alpha_6 \text{SGC} + \alpha_7 \text{CGC} + \alpha_8 \text{Reclnv} + \alpha_9 \text{Lev} \\ & + \alpha_{10} \text{ROA} + \alpha_{11} \text{BIG4} + \alpha_{12} \text{GrothSal} + \alpha_{13} \text{LIQID} + \alpha \text{ inddummy} + \\ & \alpha \text{ yeardummy} + \alpha \text{ outlier} + \varepsilon \end{aligned}$$

Using the above residual  $\varepsilon$  as AbAuditFee, we define the abnormal audit fees and analyze

the regression as stated below:

$$\begin{aligned} \text{AbAuditFee} = & \alpha_0 + \alpha_1 \text{AuditorSW1st} + \alpha_2 \text{AuditorSW2nd} \\ & + \alpha_3 \text{FlexManager} + \alpha_4 \text{RMW} + \alpha_5 \text{SMW} + \alpha_6 \text{CMW} + \alpha_7 \text{BDOUTSIDE} \\ & + \alpha_8 \text{BDSTOCK} + \alpha_9 \text{SPCIFICST} + \alpha \text{ inddummy} + \alpha \text{ yeardummy} + \varepsilon \end{aligned}$$

## 4.2 Independent variable

This study considers the following six factors when consulting the regression model:

(1) Clients' size of operation

(2) Clients' complexity of operation

(3) Clients' specific risks

(3-1) Inherent risk and financial distress risk

(3-1-1) Risk variables

(3-1-2) Auditor effort after perceiving of financial distress risk

(3-2) Leverage

(3-3) Profitability

(4) Auditor size

(5) Clients' internal control risk

(5-1) Auditor's effort after their perceiving internal control risk

(5-2) Clients' management risk

(6) Clients' governance risk

Factors 1~4 are discussed in studies from Simunic (1980), Craswell et al. (1995), and Choi et al. (2010)

This study adds to the findings regarding the efforts of auditors after perceiving the risks based on the prior research analysis. The variables RGC, SGC, CGC, RMW, SMW, and

CMW(all are defined in the *Appendix*) are the proxies of the effort of auditors.

This study separates internal control risk into auditor's effort after perceiving internal control risk (5-1), management risk (5-2). In previous studies, clients' size, complexity, and specific risk were included in the estimation model.

In this study the internal control risk is considered in the regression model along with clients' size, complexity, and specific risks. According to the Committee of Sponsoring Organization of Treadway Commission's (COSO) internal control-integrated framework (COSO 1992, COSO 1994 and this citation is referred to Japanese translations of COSO 1992 and 1994 by Toba, Hatta, and Takada 1996), it has necessary for us to carefully consider the following situations:

- Change in operating environment
- New executives and employees
- New and refined information systems
- Rapid Growth
- New techniques
- New product lines, products, and operations
- Foreign business

In this framework, governance risk variables are used in the analysis to describe the status of the environment change in the operation. Management risk variables such as

switching auditors and managers flexibility are used to capture the risk of new executives and employees. The ratio of foreign sales to total sales is used to capture the risk of foreign business but this is considered a variable of the complexity of operations.

The hypothesis on management risk and the auditor's effort after perceiving internal control risk is explained. The higher the gain from managers' switching, the higher is the management risk. As a result, auditors will require higher audit fees. On the other hand, there are very few instances of auditor switching in the Japanese market since it is considered very risky. Auditor switching is usually indicative of many internal control problems. This results in risk adjustment, possibly affecting audit fees. However, some studies that analyze the relationship between audit fees and auditor switching suggest that auditor switching is a factor of low-balling (discounting audit fees). This study aims to confirm whether auditor switching is indeed a risk factor. The auditor's efforts after perceiving internal control risk are presented by material weakness data. If auditors declare material weakness, audit fees become higher than other conditions. However, in the low litigation countries such as Japan, there are few cases in which auditors require "hush money" from clients. This study suggests that some risk adjustment activities are a direct results risk perception. This study supposes that auditors gain more tasks after their declaration or perception of material weakness compared to other conditions. As previously stated, this study set the dummy variables as, RMW, SMW and CMW (As the same types of dummy variables, this study set RGC, SGC,

and CGC).

In this section, I suggest governance risk variables. Corporate governance is usually defined as the stockholders' supervision of management. Standard and Poor's (hereafter, S&P) suggested a comprehensive quantification method (Ashbaugh et al. 2006) with four directionalities as detailed below:

- (1) Ownership structure and effect
- (2) Rights of stakeholders and their relationship to financial matters
- (3) Transparency and disclosure of financial matters
- (4) Board structure and processes

Since corporate governance is also included internal controls, its proxies are suggested below.

- (1) I capture the situations by SPECIFICST which is the ratio of specific stockholders to all stockholders.
- (2) It is difficult to measure the proxies that technically express these situations in Japanese samples. As the Ashbaugh et al. (2006) study, the G-score is used.
- (3) I do not capture the situations because financial transparency does not directly affect the audit. Financial transparency is suggested by abnormal current accruals, but it is difficult to decide whether the transparency is expressed by abnormal current accruals only.
- (4) I capture the situations by BDOUTSIDE and BDSTOCK. BDOUTSIDE represents ratio

of outside board members to all board members and BDSTOCK represents ratio of share board members own.

#### 4.4 Sample selection

I selected the samples as stated below:

- (1) Companies in the Japanese stock markets, excluding banks, insurance companies, securities, and other financial institutions
- (2) Companies that do not undergo a joint audit
- (3) Companies that do not adopt U.S. SEC standards or IFRS
- (4) Companies that do not change the fiscal term
- (5) Companies whose fiscal year-end is in March
- (6) Companies whose sample is available in the database

Financial data is obtained from the Nikkei NEEDS normal companies database (Nikkei Media Marketing Inc.). Audit fees are obtained from the 2011 and 2012 White Book of Auditor and Audit Fee of Japanese Companies (edited by Kansanin Kansahoshu Kenkyukai (Japanese)), corporate governance data is from Nikkei CGES (Nikkei Media Marketing Inc.), and auditor switching data is from the timely disclosure of auditing information (from the Tokyo Stock Exchange Group, Inc.) I limited the samples to firms whose fiscal years end in March because audit firms' policies on audit fees differ according to fiscal year ends.

#### 5. Verification result

## 5.1 Descriptive statistics

Please see the Table1. I use the outlier dummy variable to reject the data of Lev, ROA, LIQUID, GrothSal, and RecInv data in the higher 100<sup>th</sup> percentile and the 1<sup>st</sup> percentile.

[Place Table 1 here]

## 5.2 Result of regression

### 5.2.1 Hypothesis 1

Key findings are displayed in Table 2 to 4.

The results confirm that audit fees are determined by client size, complexity and financial distress risk, profitability and leverage. It also confirms that the relationship between audit fees and material weakness data is significant. First, it is determined whether there is RMW, which means the auditor declares material weakness at t-1 and at t, the auditor deletes material weakness. Regression results suggest that the recovery from material weakness increases audit fees as the tasks of auditors to recover from material weakness increase. Further auditors adjust the risks by requiring higher audit fees. Second, SMW is indicated, which means at t-1, the material weakness is declared and at t, the same declaration is disclosed. The result of the estimation of coefficient is positively significant. The amount of standardized coefficient for RMW and SMW are almost level. Third, CMW is present, meaning that at t-1, there was no declaration of material weakness and it is declared at t. The

result of the estimation of coefficient is positively significant. CMW's standardized coefficient is smaller than RMW and SMW. This suggests the efforts of auditors after declaration of material weakness exists and the efforts of auditors are reflected in the audit fees. The same structural results are displayed in RGC, SGC and CGC. RGC and SGC's coefficients are positively significant and the standardized coefficient is almost level. On the other hand, CGC's coefficient is insignificant, and standardized coefficient is much lower than others. However, in 2011 data analysis, the ambiguous result comes out. This result suggests that economic conditions or year specific conditions are needed to control in the regression model.

Flexmanager's coefficient is positively significant in all data and in the 2010 data analysis. The flexibility of manager's switching increases audit fees to a certain level. In the internal control viewpoint, it can be said that the flexibility of manager switching is a determinants of internal control risks.

Auditor SW 1<sup>st</sup> and 2<sup>nd</sup> provide ambiguous results. The hypothesis states that Japanese auditing firms require fixed costs and conduct the risk adjustment for the first year, and in auditors discount their fees in the second year. In some analyses however, the coefficient of Auditor SW 1<sup>st</sup> is insignificant, and the coefficient of Auditor SW 2<sup>nd</sup> is positively significant. In the second year, auditors charge more audit fees than in any other period. This result implies that audit fees and auditor switching is not directly connected.

Auditors do not consider the first and second years of an audit as risky.

The coefficient of BDOUTSIDE is insignificant. A higher ratio of outside members to the board leads to an improvement in auditors' independence decreasing the risk of audit and reducing audit fees. However, this study suggests insignificant results in reference to the hypothesis. In this paper, I interpret the results as stated below. An outside member institution is not common in Japanese business culture, and their impact on the business is unclear. The presence of outside members with unknown abilities and impact may be risky and institutions may be uncomfortable feeling about outside members.

The coefficient of BDSTOCK is negatively significant. The results suggest that audit fees are lower when board members own a high percentage of the company's stocks, which eliminates the fear that the board will act against management.

The coefficient of SPECIFICST is negatively significant. If a specific stockholder has a high proportion of shares decision-making is faster. It is also possible to reduce internal control risks and improve the independence of the auditor, resulting in lower audit fees.

[Place Table 2, Table 3, Table 4 here]

### 5.2.2 Hypothesis 2

The results of abnormal audit fees are provided in Table 5 below. This analysis suggests the robustness of hypothesis 1 results from using the residuals controlled by non-internal control risks and gaining audit tasks. The coefficients of RMW, SMW, CMW,

BDSTOCK, SPECIFICST and AuditorSW2<sup>nd</sup> are significant, while the coefficients of the other variables are insignificant. Abnormal audit fee is used as a proxy of auditors' independence. As Abnormally high audit fee is similarly related to material weakness, board members' shareholding and the ratio of specific stockholders as audit fees. This suggestion express that robustness of key analyses are sufficient.

[Place Table 5 here]

### 5.2.3 other robustness check

#### **High correlation**

LNAsset and LNSubsidiary have high correlation(results not tabulated). I reject the LNSubsidiary in the regression model, but the result of that is almost same as all variables analysis (results not tabulated).

#### **The difference of audit opinion**

I analyze the regression model of the audit fee model in all variables including OPINION, a dummy variable with a value of 1, if the auditors give an unqualified opinion with no additional information; it is 0 in all other instance. This coefficient is significant while the significance of the other variable does not change. Hence, the analysis is sufficiently robust (results are not tabulated).

#### **The difference of the rank data between raw data and data taking logarithm**

I use rank data on Flexmanager, BDOOUTSIDE, BDSTOCK and SPECIFICST in the

main analysis. These raw data (not taking logarithm) are analyzed using a regression model and generates results similar to the main results (results are not tabulated).

## 6. Conclusion and Implication

Based on the results of the analysis, this study confirms a relationship between audit fees and the internal control factor. In this context, some researchers insist that auditors waive their independence when internal control risks are increasing. This suggests that higher audit fees are used as “hush money”. However, in low litigation countries like Japan, there are not many cases in which auditors require audit fees as “hush money”. In almost cases in Japan, the auditor’s effort after perceiving risks is reflected in audit fees. This study adds the risk variables to effort variables.

In the results of this study, auditors require higher fees as they are taking a risk. Risk adjustment is not considered fraud, but Japanese auditing firms add to the sense of urgency in the intensely competitive environment after the elimination of the rules applicable to standard audit fees. In addition, this study analyzed the relationship between auditor switching and audit fees and identified auditor switching as a risk factor. Some U.S. studies identify the switching of auditors as a low-balling factor. The result of this study suggests the ambiguous result that auditor switching is not related to audit fees.

This study indicates that internal control reporting affects audit quality. Abnormally high audit fees reduce solid independency. Since independence is connected to audit quality,

we discuss the relationship between audit practice, audit fees, and audit quality.

## ***Appendix***

The variable definitions are stated below,

LNAuditFee: Logarithm of audit fees

### **Client size and**

### **Client complexity**

LNAsset: Logarithm of total asset

LNsubsidiary: Logarithm of the number of subsidiary companies

ForeginSales: Foreign sales divided by total sales

### **Clients' specific risk**

### **Inherent risk**

RecInv: (receivable + inventory)/total assets

GrothSal: Sales at t-1 term subtracted from Sales at t term then deflated by total asset.

### **Financial distress risk**

### **Effort from perceiving financial distress risk**

RGC: Equals 1 if auditors declared the company to be a going concern for the previous term.

All other instances equal 0

SGC: Equal 1 if auditors declared the company to be a going concern for the previous term

and declare the company in the same condition. All other instances equal 0

CGC: Equal 1 if auditors do not declare the company to be a going concern for present term, but declare the company to be in the same condition for the present term, All other instance equal 0.

### **Risk variable**

Loss: Equal 1 if the company discloses a net loss. All other instance equal 0

LIQUID: Current assets divided by current liabilities

### **Leverage**

Lev: Total liabilities divided by total assets

### **Profitability**

ROA: Return on assets

### **Auditor size**

Big4: Equal 1 if the audit firm is a members of the Big 4 auditing firm (Deloitte & Touche Tohmatsu LLP, Ernst & Young SinNihon LLC, KPMG AZSA LLC and PriceWaterhousCoopers Arata LLP) All other equal 0.

### **Internal control risk**

#### **Effort from perceiving internal control risk**

RMW: Equal 1 for the previous term if the auditors declare the material weakness and do not declare for the present term. All others equal 0

SMW: For the both previous term and present term auditors declare the material

weakness=1. All others equal 0

CMW: Equal 1 for the previous term if the auditors do not declare material weakness and for the present term they declare the material weakness. All others equal 0

### **Management risk**

Auditor SW1<sup>st</sup>: Equal 1 if auditors turn over on the current term. All others equal 0.

Auditor SW2<sup>nd</sup>: Equal 1 if auditors turn over on the previous term. All others equal 0.

FlexManager: This is ranked from 1 to 5 according to the frequency of manager turn over.

This study uses data taking logarithms (from Nikkei CGES).

### **Governance risk**

BDOUTSIDE: According to the ratio of outside board members, BDOUTSIDE is ranked from 1 to 5. This study uses data taking logarithms (from Nikkei CGES).

BDSTOCK: According to the ratio of shareholding board members, BDSTOCK is ranked from 1 to 5. This study uses this data taking logarithms (from Nikkei CGES).

SPECIFICST: According to ratio of share owned by specific stockholders, SPECIFICST is ranked from 1 to 5. This study uses data taking logarithms (from Nikkei CGES). Specific stockholder refers to the top ten block holders and extra stakeholders excluding unstable parts)

### **Others**

Outliers: Dummy variables to exclude variables, such as, Lev, ROA, LIQID, RecInv, and

GrothSal , which are lower than the 1<sup>st</sup> percentile and higher than the 99<sup>th</sup> percentile.

yeardummy: year dummy variable

inddummy: industry dummy variable

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[Table 1] Descriptive Statistic (n=3834 )

	Maximum	Minimum	Average	Standard Deviation
LNAuditFee	1.946	6.522	3.623	0.554
LNSubsiary	0.000	6.567	2.059	1.234
ForeignSales	0.000	0.996	0.155	0.222
LOSS	0.000	1.000	0.190	0.392
RGC	0.000	1.000	0.007	0.085
SGC	0.000	1.000	0.014	0.117
CGC	0.000	1.000	0.003	0.053
Lev	0.015	2.212	0.510	0.208
Reclnv	0.001	0.927	0.330	0.158
GrothSal	-0.857	5.046	-0.010	0.218
Flexmanager	0.000	1.609	0.792	0.611
ROA	-79.600	68.160	4.161	6.128
Big 4	0.000	1.000	0.747	0.435
LIQID	0.114	58.451	2.101	1.989
RMW	0.000	1.000	0.015	0.123
SMW	0.000	1.000	0.002	0.043
CMW	0.000	1.000	0.004	0.066
AuditorSW1st	0.000	1.000	0.038	0.192
AuditorSW2nd	0.000	1.000	0.047	0.212
BDOUTSIDE	0.000	1.609	0.531	0.624
BDSTOCK	0.000	1.609	1.100	0.523
SPECIFICST	0.000	1.609	1.090	0.542

[Table2] results of regression with all samples(n=3834)

	unstandardized coefficient	standardized coefficient	t	
	B	beta		
(Intercept)	1.324		18.183	***
LNAsset	0.191	0.536	30.499	***
LNSubsiary	0.089	0.197	12.698	***
ForeignSales	0.123	0.049	4.042	***
LOSS	0.023	0.016	1.454	
RGC	0.164	0.025	2.753	***
SGC	0.149	0.031	3.153	***
CGC	-0.022	-0.002	-0.223	
Lev	0.197	0.074	5.880	***
Reclnv	0.038	0.011	0.919	
GrothSal	-0.023	-0.009	-0.886	
ROA	-0.001	-0.017	-1.324	
Big 4	0.282	0.221	22.510	***
LIQID	0.004	0.014	1.146	
AuditorSW1st	0.001	0.000	0.038	
AuditorSW2nd	0.079	0.030	3.208	***
FlexManager	0.018	0.019	2.005	**
RMW	0.222	0.049	5.405	***
SMW	0.698	0.054	5.721	***
CMW	0.272	0.033	3.605	***
BDOUTSIDE	0.012	0.014	1.419	
BDSTOCK	-0.087	-0.083	-6.993	***
SPECIFICST	-0.045	-0.044	-4.198	***
inddummy	include			
yeardummy	include			
outlier	include			

Dependent variables: LNAuditFees, Adj.R2:0.696, F=166.229\*\*\*

\*\*\*, \*\* denote p-value < 5%, and < 1%, respectively with two tailed test.

[Table 3] result of regression with 2010 samples(n=1909)				
	unstandardized coefficient	standardized coefficient	t	
	B	beta		
(Intercept)	1.245		11.886	***
LNAsset	0.196	0.551	21.596	***
LNSubsiary	0.086	0.191	8.503	***
ForeignSales	0.114	0.046	2.582	***
LOSS	0.012	0.009	0.562	
RGC	0.273	0.041	3.091	***
SGC	0.124	0.029	1.993	**
CGC	0.027	0.002	0.189	
Leverage	0.209	0.081	4.612	***
Reclnv2	0.021	0.006	0.358	
GrothSal	-0.018	-0.006	-0.444	
ROA	-0.004	-0.043	-2.344	**
Big 4	0.300	0.236	16.592	***
LID	0.006	0.024	1.440	
AuditorSW1st	-0.003	-0.001	-0.080	
Auditor SW2nd	0.118	0.045	3.390	***
FlexManager	0.033	0.037	2.668	***
RMW	0.168	0.044	3.321	***
SMW	0.627	0.064	4.672	***
CMW	0.350	0.046	3.474	***
BDOUTSIDE	0.017	0.020	1.431	
BDSTOCK	-0.070	-0.066	-3.846	***
SPECIFICST	-0.043	-0.042002632	-2.798	***
inddummy	include			
outlier	include			
Dependent variables:LNAuditFees, Adj.R2:0.689, F=82.118***				
***,***denote p-value<5%, and <1%,respectively with two tales test.				

[Table 4] result of regression with 2011 samples(n=1925)				
	unstandardized coefficient	standardized coefficient	t	
	B	beta		
(Intercept)	1.406		13.653	***
LNAsset	0.187	0.525	21.270	***
LNSubsiary	0.091	0.202	9.298	***
ForeignSales	0.135	0.054	3.155	***
LOSS	0.037	0.023	1.549	
RGC	0.072	0.011	0.875	
SGC	0.182	0.034	2.414	**
CGC	-0.140	-0.014	-0.996	
Lev	0.160	0.058	3.024	***
Reclnv	0.051	0.015	0.876	
GrothSal	-0.045	-0.016	-1.091	
ROA	0.001	0.009	0.525	
Big 4	0.262	0.206	15.012	***
LIQID	-0.003	-0.008	-0.433	
AuditorSW1st	0.016	0.005	0.372	
AuditorSW2nd	0.035	0.013	0.986	
FlexManager	0.001	0.001	0.067	
RMW	0.371	0.066	5.037	***
SMW	1.061	0.044	3.109	***
CMW	0.149	0.016	1.285	
BDOUTSIDE	0.007	0.007	0.550	
BDSTOCK	-0.104	-0.098	-5.980	***
SPECIFICST	-0.045	-0.044	-3.057	***
inddummy	include			
outlier	include			
Dependent variables:LNAuditFees, Adj.R2:0.699, F=86.983***				
***,***denote p-value<5%, and <1%,respectively with two tales test.				

[Table 5] results of regression with abnormal audit fees(n=3834)				
	unstandardized coefficient	standardized coefficient	t	
	B	beta		
(Intercept)	0.075		3.050	***
AuditorSW1st	-0.005	-0.003	-0.199	
AuditorSW2nd	0.069	0.047	2.932	***
FlexManager	0.019	0.038	2.332	**
RMW	0.208	0.082	5.086	***
SMW	0.591	0.081	5.030	***
CMW	0.258	0.055	3.443	***
BDOUSIDE	0.010	0.020	1.200	
BDSTOCK	-0.057	-0.096	-5.254	***
SPECIFICST	-0.025	-0.043	-2.442	**
inddummy	include			
yeardummy	include			
Dependent variables: Abauditfees, Adj. R2: 0.025, F=3.528***				
**, *** denote p-value < 5%, and < 1%, respectively with two tailed test.				

# *T M & A R G*

Discussion Paper No. 135

**IDENTIFYING THE DETERMINANTS OF  
AUDIT FEES,  
IN A POST J-SOX SCENARIO**

Gaku UENO, PhD

2019/11/19

TOHOKU MANAGEMENT & ACCOUNTING RESEARCH GROUP

Discussion Paper

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