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The Relationship Between An Auditing Firm's Characteristics And The Incidence Rate Of Its Clients Subject To AAER's

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ABSTRACT

This paper examines the relationship between an auditor's characteristics and the incidence rate of its client subject to the Accounting and Auditing Enforcement Release. Using the sample of AAERs from 2002 to 2006, we find that when a firm is audited from a large accounting firm, there is a significantly less incidence rate subject to AAERs. Also, we find that the audit time of AAERs firms is significantly less than that of non-AAERs firms. Because AAER is related with audit quality, it implies that AAER depends on audit time and audit firm size, and that a firm is affected by the incidence rate of subjects toward AAERs. However, there is no difference between the audit fee of AAERs firms audit fee and that of non-AAERs firms. Although audit time leads to a high audit fee, audit firms are very competitive and therefore, there are some limitations with receiving a high audit fee according to audit time. Therefore, the audit fee is significantly affected by the incidence rate of subjects toward AAERs. Additionally, we also examine the effectiveness of AAERs and the difference of audit efforts depending on the cause of AAERs and the degree of penalties imposed by FSS. Overall, the results suggest that depending on the auditor's characteristics, such as the size of accounting firm, audit time, and audit fee, a company is affected by the incidence rate subject to AAERs.

Keywords: Accounting and Auditing Enforcement Release (AAERs); Audit Firm Size; Audit Time; Audit Fee

1. INTORODUTION

For the past 30 years, Korea's average growth rates have been 4 to 6 percentages. Currently, Koreas is 13th in the world's economic ranking. However, with this anomalous economic growth, Korea has experienced growing pains. Even though Korea's economy grew quite rapidly, the social systems and conditions needed for such growth were not established. Therefore, during the 20th century, Korea experienced huge accounting frauds of big companies, such as SK and Daewoo. Such accounting frauds are very similar with those of Enron, Global Crossing, Halliburton, and Harken. Those accounting frauds were related with big accounting firms, such as Arthur Andersen, Ernst & Young, and in the Korea case, Sandong and Chungwoon. The role of the auditor is to provide reliable and transparent financial statements to the public. However, in those scandals, the auditor teamed up with the client in order to make an accounting fraud, thereby ruining the reliabilities of accounting information. After such scandals, the needs of accounting reliabilities become much more important. Therefore, the Financial Supervisory Service (FSS, a SEC equivalent in Korea) now requests a company to follow the FSS's disclosure requirements to minimize fraud opportunities. FSS also engenders more strict enforcement action in order to increase and recover the reliability of accounting information as well as to detect any accounting fraud after accounting scandals.

Every year, the FSS selects a company randomly or according to its own standards and investigates the sample firm's financial statement; it then releases the results of the enforcement action to the public and imposes punishment to the manager and/or auditor who audited the company, subject to the FSS Accounting and Auditing

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Enforcement Release (hereafter, AAERs firm). Depending on the magnitude and contents of the results of enforcement action, an AAERs firm is assigned a new auditor by FSS or has to pay penalties. In some serious circumstances, the AAERs firm's manager can by accused by the FSS. Then, the AAERs firm's independence auditor also has to pay a fine or suffer the deprivation of his/her license. Moreover, the AAERs firm and auditor also has to bear expenses such as legal fees, specific sanction fees, and loss of own reputation after subject to AAERs. Likewise, enforcement action is an importance system for retaining the credibility of disclosed accounting information by re-testifying the audited financial statements.

Therefore, in the realm of accounting, there are many studies regarding the enforcement action related to earnings management (Feroz et al., 1991; Dechow et al., 1996; Beneish, 1999; Efendi et al., 2007; Feng et al., 2011). Previous literatures have mostly investigated the characteristics of AAER firms and then extended to which AAERs firms engage in earnings management. Ferzol et al. (1991) examine the type of accounting problems that induce SEC enforcement action, and demonstrate that about 70% of violations consist of the overstatement of receivable and inventory resulting from premature revenue recognition and delayed write-offs. Also, Dechow et al. (1996) provide evidence that AAERs firms have higher total accruals and discretionary accruals compared to non-AAERs firms during the manipulation period.

Likewise, there are much research evidences suggesting that AAERs firms engage in earning management. While, there are few research evidences that focus on the AAER's independence auditor's role and characteristics, even after big accounting scandals. Most companies and managers lack the accounting knowledge and resource to create a suitable financial statement. In fact, many companies rely on the auditor to make the financial statement and take advice from the auditor before make any accounting decision. Therefore, auditors indirectly affect the financial statement prior to doing their real job. In this circumstance, companies have a high level of reliance on auditors when they make an accounting decision or make a financial statement. A high level of reliance on the auditor implies that the auditor highly affects the quality of the financial statements. More specifically, due to the high reliance of the auditor, depending on the auditor's characteristics such as auditor's independence, auditor's efforts, and audit firm size, the quality of its client's financial statement can be changed. According to previous studies, audit firm size and auditor effort affect the audit quality by decreasing discretionary accruals (DeAngelo, 1981; Simunic & Stain, 1986). Thus, if the audit quality is affected by the auditor's characteristic depending on the auditor's characteristic, its client also has a difference incidence rate subject to AAERs.

Therefore, in this study, we focus on the characteristics of auditors, audit firm size, auditor's independence, and auditor's effort by analyzing the auditor who audited AAER firms; further, we investigate which factors can significantly reduce the incidence rate of its client subject to AAERs firm. To examine the relation between auditor's characteristic and the incidence rate of its client subject to AAERs, we use audit firm size, auditor time, and audit fee as proxies for measuring the auditor's efforts and auditor's independence.

In this study, we use the same sample with FSS from 2002 to 2006. In this sample, 88 companies subject to AAERs and 631 companies not subject to AAERs were used. According to the samples, we find that firms audited by the Big 4 has a significantly low incidence rate subject to AAERs; further, audit time is also significantly related with the incidence rate subject to AAERs. Those findings are consistent with the findings of previous literature, that Big 4 and audit efforts positively affect the audit quality. Additionally, we investigate the change of audit time and fee after being subject to AAERs. We find that after being subject to AAERs, the audit fee significantly increases, whereas the audit time does not. This result implies that even though their client is subject to AAERs, the auditors do not place more efforts to improve the quality of its financial statement, but rather receive an additional premium in order to protect themselves from audit risk. Furthermore, we classify AAER cases in accordance with the cause of AAERs and seriousness penalties of AAERs. We find that regardless of the causes of AAERs, auditors invested less time when its client is subject to AAERs. More specifically, when AAER firm, which has auditor's failure, the auditor invested less time compared to AAER firm, which has officer's failure.

This study makes four main contributions. First, we focus on the characteristics of the auditor auditing an AAERs firm by examining the reasons of AAERs, not the client's characteristics. Through this investigation, we provide evidence that AAERs is not only the fault of the AAERs firm's manager, but also the lack of auditors' efforts. Second, we investigate the change of audit time and fee after the auditor's client is subjects AAERs in order to

examine the effectiveness of enforcement action. Third, many previous literature examine the company's characteristic and market reaction at the time of disclosing AAERs information to the public. Normally, the results of AAERs are disclosed 3 years later after the firms have released their financial statement. In this study, instead of using the enforcement released date, we roll back to the time of issuing the financial statements for providing accurate evidence of the auditor's influence of possibility subject to its client's AAERs. Lastly, FSS discloses only the list of firms subject to AAERs. For this reason, in previous literatures, AAERs firms are compared with the authors' randomly selected firms. However, as we use the same sample with FSS's AAERs sample, we provide more accurate results than other previous studies.

The remainder of the paper is organized as follows. Section 2 discusses the background and hypothesis development. Section 3 explains the empirical framework and Section 4 describes the data and descriptive statistics. Section 5 examines the empirical results. Section 6 examines the additional analysis and finally, Section 7 concludes.

2. BACKGROUND AND HYPOTHESIS DEVELOPMENT

2.1 Korea's Enforcement Action

Until 1997, many companies conducted earnings management and fraud according to the manager's intention (Choi & Beak, 1998). Companies and the government did not care about enforcement action for providing reliable accounting information because they were more focused on a rapid economic growth. However, after the international financial crisis in 1997, FSS became more concerned about enforcement action in order to recover the credibility, reliability, and transparency of financial statements to the public both domestically and internationally.

In Korea, FSS first initiated enforcement action in 1990. At that time, FSS investigated 312 firms, and 67 firms were subject to AAERs. During 1991 to 1997, FSS usually investigated 117 to 140 companies, and the rate of AAERs firm was 25 to 35% of the total sample. However, in 1998 and 1999, the rate of AAERs firm was increased by 45 to 48%. This implies that after the international financial crisis, the reliability and transparency of financial statements became a social issue; hence, FSS began to investigate a firm's financial statement more severely than ever before.

Moreover, in 1999, FSS developed its system by disclosing its standard for selecting a sample of AAERs. First, FSS selected firms using the following list: 1) Highest debt ratio compared with the same industry 2) Highest inventory/asset ratio compared with the same industry 3) Highest operating cash flows compared with the same industry 4) IPO company, which is not audited before IPO 5) Comparison with total asset and sales, highly changed cost of capital due to accounting change. Next, some ratios of samples are selected using the following list. 1) A company that has not selected an AAERs sample during the last 5 years. 2) A company that has changed its accounting choice. 3) A company that has at least 1% of operating income and operating loss compared with total income. Lastly, FSS selects firms on a random basis. However, FSS excludes firms from the sample. If a company is delisting, we include an AAERs sample during the last 3 years or if it has a qualified opinion of audit firm.

By using FSS's own selecting standards, FSS investigates doubtful companies' financial statements regardless of whether those financial statements have material mistakes, such as fraud and earning management. Moreover, similar to SEC enforcement action, FSS also imposes penalties on firms that have some material mistakes, depending on the degree of misconducts, by using quantitatively as well as qualitatively information.

2.2 Hypothesis Development

Managers first have the responsibility to make financial statements, whereas auditors have duties to detect and discover the material mistakes of the financial statements and recommend modifying the mistakes prior to the release of the financial statements to the public. However, according to Choi and Baek (1998), up until the international financial crisis, most of the reasons subject to AAERs were regarding the manager's intended earnings management under the connivance of auditors. This implies that if an auditor provides high quality audit service according to its duties, the auditor has a high possibility to detect its client's mistakes or intended earnings management before its clients are subject to AAERs. Overall, the auditor's role is very important for reducing or

detecting material mistakes in the financial statement as well as any intended earnings management by managers. Therefore, in this study, we focus on the relation between the auditor's characteristics, affecting audit quality and the incidence rate of its clients subject to AAERs.

2.2.1 Audit Firm Size and the Incidence Rate of Subject its Client to AAERs

DeAngelo (1981) posits that large audit firms have more incentives to issue an accurate report because large auditors have more valuable reputation and have more expertise compared to small audit firms. Generally, the previous literatures explain that Big 4 auditors supply higher audit quality compared to non-Big 4 auditors because the Big 4 face greater reputation and/or litigation costs from audit failure compared to non-Big 4 auditors (Dopuch & Simunic, 1982; Simunic & Stein, 1987; Watkins et al., 2004; Francis, 2004). Also, the size of audit firms is related to the type of clients that the audit firm accepts. Large audit firms build their own quality control systems, which are defined as involving a greater level of reviews to screen out risky clients and those having going-concern or huge law suits (Defond et al., 1997; Raghunandan et al., 1999). Therefore, large audit firms can reject risky clients and accept suitable clients compared to small audit firms. Such quality control of accounting firms are also one of the reasons as to why large accounting firms provide a higher quality of audit service compared to small accounting firms. From those previous literatures, there are consistent results implying that larger audit firms provide higher quality audits and offer greater credibility to clients' financial statements than small audit firms.

AAER is highly related with audit quality. Therefore, we expect that when a firm is audited by a large audit firm, the firm has less incidence rate subject to AAERs. In this study, we use the size of audit firms as a proxy for high quality auditing. To test our expectation, we propose the following hypothesis:

Hypothesis 1: Firms audited by large accounting firms have significantly less incidence rate subject to AAERs than firms audited by small accounting firms.

2.2.2 Audit Efforts and the Incidence Subject to AAERs

We additionally use audit time and audit fee as proxies for measuring auditor's efforts. Although the size of audit firm is an important factor of audit quality, depending on the auditor's efforts, the audit quality can be changed. When an auditor spends enough time to understand his/her client's business and substantial test, the auditor can discover the client's accounting mistakes and provide high audit quality. Also, when the auditor spends more time to audit, the auditor can reduce the magnitude of discretionary accruals, thereby resulting in a reduction in the change of earning management (Choi & Baek, 1998; Kwon et al., 2006; Caramanis & Lennox, 2008). Therefore, depending on audit time, audit qualities can be changed as well as the effects on the incidence rate of its client subject to AAERs. Therefore, we set the following hypothesis to test the relationship between audit time and the incidence of auditor's client subject to AAREs.

Hypothesis 2-1: Firms with longer audit time have significantly less incidence rate subject to AAER than firms with shorter audit time.

There are two opposite perceptions regarding the relation between audit fee and audit quality. First, from the previous literatures, increased audit time leads to greater audit quality and results in a higher audit fee. An auditor charges higher audit fees for greater audit efforts, and greater effort leads to higher quality audits (Basioudis et al., 2008; Srinidhi & Gul, 2007; Kinney et al., 2004). Palmrose (1986) finds that Big 8 audit firms exhibited both higher audit fees and audit hours. Moreover, she concludes that Big 8 audit firms require a high audit fee because they conduct higher quality audits. In this case, in which high audit fee is related with high audit quality, when the company pays a high audit fee, we can be convinced that the auditor supplies a high quality of audit service. Therefore, we expect that when firms pay high audit fees, the firm has less incidence rate subject to AAERs than firm paying less audit fees.

However, there is other point of view with regard to the audit fee and audit quality. DeAngelo (1981) posits that auditor independence can be impaired when the auditor receives a high audit fee from its client. When auditor independence is impaired, the auditor will be less likely to uncover and report its client's irregularities and hence,

the audit quality will be impaired as well. Krishnan and Krishnan (1997) also posit that auditors are less likely to issue a qualified opinion when a client's position is high in the auditor's portfolio. It means that when auditor becomes more economically bonded with its client, auditor independence can be impaired. Therefore, when a firm pays a high audit fee to its auditor, we can interpret that that the high audit fee can impair the auditor's independence and eventually, increases the incidence rate of its client subject to AAERs. Overall, there are two opposite expectations about the relationship between audit fee and the incidence rate subject to AAERs. To verify such relationship, we set the hypothesis as follows:

Hypothesis 2-2: Audit fee significantly affects the incidence rate subject to AAERs.

3. RESEARCH DESIGN

3.1 Testing Hypothesis 1

We use the following models to examine Hypothesis 1, or the association between AAER and size of audit firm. The independent variables are described below.

$$\text{AAER}=\beta_0+\beta_1 Big\ 4+\beta_2 OPN+\beta_3 FIRST+\beta_4 SIZE+\beta_5 LEV+\beta_6 LIQ+\ \ \beta_7 ROA+\beta_8 LOSS+ \beta_9 GRW+\beta_{10} MKT+\ \ FIXED\ EFFECT(year, Industry)+\varepsilon_t \quad (1)$$

where:

AAER: an indicator variable with a value of one when a firm is in the KSFC (Korean Securities and Futures Commission) list of AAER and zero otherwise
BIG4: an indicator variable that equals one when the auditor is Big 4 auditor and zero otherwise
MEDIUM: an indicator variable that equals one when the auditor is medium auditor and zero otherwise
SMALL: an indicator variable that equals one when the auditor is small auditor and zero otherwise
AUDITOR: an ordinary variable that equals two when an auditor is BIG4, equals one when an auditor is MEDIUM, and equals zero when an auditor is SMALL
OPN: an indicator variable that equals one when opinion on financial statement is non-unqualified and zero otherwise
FIRST: an indicator variable with a value of one when there is an auditor change and zero otherwise
SIZE: natural log of total asset
LEV: total debt scaled by total asset
LIQ: current asset scaled by current liability
ROA: net income scaled by total asset
LOSS: an indicator variable that equals one when if the net income is lower than zero and zero otherwise
GRW: sales growth ratio
MKT: an indicator variable that equals one when firm is listed on KOSDAQ and zero otherwise

In Model (1), we divided the three groups depending on the size of the audit firm, Big 4, medium, and small. Our primary interest is in the sign and magnitude of the coefficient B_1. This assumes that the size of audit firms could affect the incidence rate of those clients subject to AAERs. Therefore, we expect that each of the independence variables, Big 4, medium, and small, have different effects on their clients subject to AAERs. Nine variables are in the model to control for the effects of audit qualities. First, we control the audit opinion and auditor's tenure. Audit opinion reflects the quality of the financial statements. Therefore, depending on the audit opinion, clients have a difference incidence rate subject to AAERs. Also, we control the initial audit (FIRST). Donald R. et al. (1996) find that initial audits are associated with lower fees and higher quality as well as higher audit hours. Further, the client's characteristics affect the financial statement quality. Becker et al. (1998) find that large clients (SIZE) are more likely to have higher earning qualities. Thus, we control the size of clients. Companies in financial distress or under near-debt constraints may be more motivated to manage their earnings (DeFond & Jiambalvo, 1994). Therefore, we control some variables in order to affect the debt and financial distress: LEV, LIQ, ROA, LOSS, and GRW.

3.2 Testing Hypothesis 2

We use the following regression model for the test of Hypothesis 2.

$$\text{AAER}=\beta_0+\beta_1 ATIME(AFEE)+\beta_2 OPN+\beta_3 BIG4+\beta_4 FIRST+\beta_5 SIZE+\beta_6 LEV+\beta_7 LIQ+\beta_8 ROA+\beta_9 LOSS+\beta_{10} GRW+\beta_{11} MKT\ FIXED\ EFFECT(year, Industry)+\varepsilon_t \quad (2)$$

where:

ATIME: natural log of audit time
AFEE: natural log of audit fee

To test Hypothesis 2-1, our main explanatory variable is AIME. The dependent variable is AAER and the control variables are the same as those in Equation (1). Generally, previous literatures posit that high audit time leads to a positive relationship between audit qualities (Choi & Baek, 1998; Kwon et al., 2006; Caramanis & Lennox, 2008). Based on those literatures, we expect that there are significant differences between AAERs firm's audit time and non-AAERs firm's audit time.

To test Hypothesis 2-2, we use AFEE as an explanatory variable to examine the relationship between client's audit fee and the incidence rate subject to AAERs in Model (2), instead of using ATIME. There are two opposite views with regard to the relationship between audit fee and audit quality. According to previous literatures, audit fees can be affected to impair the audit quality or to improve the audit quality. Therefore, we expect to have a positive or negative relationship between AFEE and AAER.

4. DATA AND DESCRIPTIVE STATISTIC

Table 1, Panel A reports the sample distribution by year. In 2002, FSS investigated 97 firms. 20 firms were in the list of AAER. In 2003, FSS investigated 91 firms, and 18.7% of firms were subject to AAERs. In 2002 and 2003, the sample size and the ratio of AAERs are very similar. However, in 2004, FSS investigated 155 firms, and 21 firms were subject to AAERs. In 2005, FSS investigated 226 firms, but only 22 firms were subject to AAERs. In 2006, the total sample was 150 and only 8% of firms were subject to AAERs. During the 5 years, FSS has been observing 719 firms; only 7.17% of sample firms were subject to AAERs. Although the number of total sample of firms was increased, the ratio of subject to AAERs was gradually decreased. This implies that in the late 2000s, most companies are more concerned about the reliability of financial statement and reducing earnings management and frauds.

In Table 1, Panel B, we present the sample distribution by the two-digit SIC code industry. The most heavily represented industry is Chemical & Allied production (14.77 percent), followed by Wholesale & Retail (10.23 percentage) and Electric Equipment (9.09 percent).

Table 1: Sample Distribution by Year

Panel A: Sample Distribution by Year

Year	Sample Size	
	AAER	Non-AAER
2002	20	77
2003	17	74
2004	21	134
2005	22	204
2006	8	142
Sub-total	88	631
Total	719	

Table 1 cont.

Panel B: Sample Distribution by Industry

	AAER			Non-AAER			Total
	# of obs	% of AAER sample	% of Total sample	# of obs	% of Non-AAER sample	% of Total sample	
Food, Beverage	3	3.41	0.35	46	6.01	5.39	49
Apparel & Other Textiles Products	4	4.55	0.47	28	3.66	3.28	32
Paper & Allied Products	1	1.14	0.12	23	3.01	2.70	24
Chemical & Allied Products	13	14.77	1.52	102	13.33	11.96	115
Rubber & Plastic Products	0	0.00	0.00	16	2.09	1.88	16
Fabricated Metal Product	5	5.68	0.59	16	2.09	1.88	21
Primary Metal Product	6	6.82	0.70	71	9.28	8.32	77
Electronic & Machinery	6	6.82	0.70	77	10.07	9.03	83
Electric Equipment	8	9.09	0.94	112	14.64	13.13	120
Transportation Equipment	4	4.55	0.47	43	5.62	5.04	47
Construction	5	5.68	0.59	30	3.92	3.52	35
Transportation	2	2.27	0.23	15	1.96	1.76	17
Wholesale & Retail	9	10.23	1.06	38	4.97	4.45	47
Other	22	25.00	2.58	148	19.35	17.35	170
Total	88	100.00	10.32	765	100.00	89.68	853

Table 2, Panel A reports the descriptive data for our total sample. The mean (median) value of ATIME is 6.236 (6.314) and the mean (median) value of AFEE is 17.805 (17.728). The reasons of AAERs are divided by the auditor's fault and/or firm's fault. According to our data, 8.0% of AAERs firm had auditor failure, 9.7% of AAERs firms with manager failure, and only 4.0% of firms had both failures. The mean (median) opinion is 0.009 (0.00), implying that about 0.9% of the financial statements in our total sample received a non-unqualified opinion. 54.3% of our total ample firms were audited by the BIG 4.

Panel B reports the descriptive data for AAER firms, non-AAER firms and differences of AAER firms and non-AAER firms. The mean difference value of ATIME is -0.511(-0.402), and the mean difference value of AFEE is -0.167 (-0.160), implying that an AAERs firm's auditor inputted significantly less time and received a significantly less audit fee than non-AAERs firm.

The mean difference value of OPN is 0.015, which means that AAERs firms received more non-unqualified opinion than non-AAERs firms. The mean difference value of Big 4 is -0.212. When a firm is audited by the Big 4, it has a less incidence rate subject to AAERs. The mean (median) difference value of LEV is 0.083 (0.092) and the mean difference value of LIQ is -0.497. Further, the mean difference of ROA is -0.202 and the mean difference of Loss is 0.121. Therefore, from the mean difference of variables between AAER firms and non-AAER firms, we can realize that firms with a high debt ratio, low ROA, and high loss have higher incidence rate subject to AAERs compared to other firms.

Table 2: Descriptive Statistics

Panel A: Total Sample

Variables	Mean	Q1	Median	Q3	Std. Dev.
ATIME	6.236	5.858	6.314	6.762	0.989
AFEE	17.805	17.342	17.728	18.172	0.735
TIME(hours)	821.052	350.000	552.000	864.000	1,047.320
FEE(million won)	76.029	34.000	50.000	78.000	94.388
AAER	0.103	0.000	0.000	0.000	0.304
AUDITOR	0.080	0.000	0.000	0.000	0.272
CLIENT	0.097	0.000	0.000	0.000	0.296
ACT	0.040	0.000	0.000	0.000	0.196
OPN	0.009	0.000	0.000	0.000	0.096
BIG4	0.543	0.000	1.000	1.000	0.498
FIRST	0.242	0.000	0.000	0.000	0.428
SIZE	25.479	24.405	25.204	26.292	1.464

Table 2 cont.

LEV	0.440	0.287	0.439	0.588	0.203
LIQ	2.226	0.981	1.548	2.701	2.099
ROA	-0.024	0.003	0.036	0.082	0.494
LOSS	0.232	0.000	0.000	0.000	0.422
GRW	0.122	-0.063	0.055	0.185	0.782
MKT	0.504	0.000	1.000	1.000	0.500

Panel B: AAER Sample and Non-AAER Sample

	AAER = 1		AAER = 0		Differences	
	Mean	**Median**	**Mean**	**Median**	**Mean**	**Median**
ATIME	5.754	5.955	6.265	6.356	-0.511***	-0.402***
AFEE	17.629	17.567	17.826	17.728	-0.197**	-0.160***
OPN	0.023	0.000	0.008	0.000	0.015	0.000
BIG4	0.352	0.000	0.565	1.000	-0.212***	-1.000***
FIRST	0.227	0.000	0.243	0.000	-0.016	0.000
SIZE	25.033	24.908	25.530	25.264	-0.497***	-0.356***
LEV	0.515	0.521	0.432	0.429	0.083***	0.092***
LIQ	1.780	1.336	2.277	1.575	-0.497***	-0.240**
ROA	-0.205	0.023	-0.003	0.038	-0.202**	-0.015***
LOSS	0.341	0.000	0.220	0.000	0.121**	0.000**
GRW	0.190	0.035	0.115	0.056	0.076	-0.021
MKT	0.432	0.000	0.512	1.000	-0.081	-1.000

Variable descriptions are as follows: ATIME: natural log of audit time; AFEE: natural log of audit fee; AAER: an indicator variable with a value of one when a firm is in the KSFC (Korean Securities and Futures Commission) list of AAER and zero otherwise; OPN: an indicator variable that equals one when opinion on financial statement is non-unqualified and zero otherwise; BIG4: an indicator variable that equals one when the auditor is Big 4 auditor and zero otherwise; FIRST: an indicator variable with a value of one when there is an auditor change and zero otherwise; SIZE: natural log of total asset; LEV: total debt scaled by total asset; LIQ: current asset scaled by current liability; ROA: net income scaled by total asset; LOSS: an indicator variable that equals one if the net income is lower than zero and zero otherwise; GRW: sales growth ratio; MKT: an indicator variable that equals one when firm is listed on KOSDAQ and zero otherwise. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively, for a two-tailed test.

Table 3 reports the correlation between various variables. ATIME and AAER, AFEE and AAER, and BIG4 and AAER have a strong negative correlation. Also, the SIZE, LEV, LIQ, and ROA have a strong negative correlation with AAER. This implies that firms with AAER firm's auditor receive less audit fee and spend less audit time. Firms, audited by the Big 4, have less incidence rate subject to AAER. However, firms with high LEV and ROA are highly related with AAERs.

Table 3: Correlation between Variables

	AAER	ATIME	AFEE	OPN	BIG4	FIRST	SIZE	LEV	LIQ	ROA	LOSS	GRW	MKT
AAER	1.000												
ATIME	-0.165***	1.000											
AFEE	-0.081**	0.750***	1.000										
OPN	0.047	-0.047	0.005	1.000									
BIG4	-0.129***	0.344***	0.313***	-0.057*	1.000								
FIRST	-0.011	0.027	-0.032	0.030	0.088***	1.000							
SIZE	-0.103***	0.642***	0.816***	-0.086**	0.336***	-0.009	1.000						
LEV	0.124***	0.100***	0.203***	0.192***	0.032	0.026	0.108***	1.000					
LIQ	-0.072**	-0.168***	-0.241***	-0.065*	-0.058*	0.027	-0.226***	-0.605***	1.000				
ROA	-0.124***	0.130***	0.066*	-0.141***	0.057*	-0.076**	0.169***	-0.205***	0.008	1.000			
LOSS	0.087**	-0.129***	-0.144***	0.119***	-0.069**	-0.005	-0.285***	0.245***	0.022	-0.367***	1.000		
GRW	0.029	-0.048	-0.035	-0.062*	-0.021	0.020	-0.008	-0.007	-0.058*	0.012	-0.060*	1.000	
MKT	-0.049	0.440***	0.517***	-0.049	0.200***	0.050	0.574***	0.048	-0.169***	0.082**	-0.160***	-0.031	1.000

Variable descriptions are as follows: AAER: an indicator variable with a value of one when a firm is in the KSFC (Korean Securities and Futures Commission) list of AAER and zero otherwise; ATIME: natural log of audit time; AFEE: natural log of audit fee; OPN: an indicator variable that equals one when opinion on financial statement is non-unqualified and zero otherwise; BIG4: an indicator variable that equals one when the auditor is Big 4 auditor and zero otherwise; FIRST: an indicator variable with a value of one when there is an auditor change and zero otherwise; SIZE: natural log of total asset; LEV: total debt scaled by total asset; LIQ: current asset scaled by current liability; ROA: net income scaled by total asset; LOSS: an indicator variable that equals one if the net income is lower than zero and zero otherwise; GRW: sales growth ratio; MKT: an indicator variable that equals one when firm is listed on KOSDAQ and zero otherwise. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively, for a two-tailed t

5. EMPIRICAL RESULTS

5.1 Results for Hypothesis 1

This section presents the results of the regression using the test and control variable for the full sample. Table 4 reports the logistic regression results of Hypothesis 1, that there is a relationship between the size of audit firms and the incidence rate of auditor's client subject to AAERs. To verify this relationship, we split the accounting firms as BIG4, MEDIUM, and SMALL, depending on the size of accounting firms. Our interest variable in model (1) is BIG4, and the coefficient of Big 4 on AAER is -0.737 and significantly negative at the 1% level (t = 7.58). In model (2), the coefficient of MEDIUM is 0.335(t = 1.24) and insignificant. In model (3), the coefficient of SMALL is -0.355(t = 1.24) and insignificant. Such result implies that firms audited by the BIG 4 have significantly less incidence rates subject to AAERs. However, medium and small audit firms are not affected to reduce the incidence rate of those clients subject to AAERs. This result suggests that a company audited by the Big 4 is less likely subject to AAERs because the Big 4 engage in audits with more conservatism and provide better audit quality than medium or small size audit firms. This result is consistent with that of previous literatures, that the Big 4 provides higher quality than small audit firms by reporting lower abnormal and high earnings quality and greater accuracy (Jones, 1991; Lennox, 1999; Dye, 1993; Francis & Yu, 2009).

Table 4: Result for Hypothesis 1

	Dependent Variable (AAER)		
	Model(1)	**Model(2)**	**Model(3)**
Intercept	-3.451(0.00)	-3.545(0.00)	-3.19(0.00)
BIG4	-0.737(7.58)***		
MEDIUM		0.355(1.24)	
SMALL			-0.355(1.24)
AUDITOR			
OPN	-0.484(0.24)	-0.502(0.26)	-0.502(0.26)
FIRST	0.045(0.02)	0.063(0.04)	0.063(0.04)
SIZE	-0.235(4.00)**	-0.241(4.14)**	-0.241(4.14)**
LEV	0.878(1.18)	0.979(1.44)	0.979(1.44)
LIQ	-0.147(2.38)	-0.138(2.11)	-0.138(2.11)
ROA	-0.287(1.95)	-0.267(1.61)	-0.267(1.61)
LOSS	0.017(0)	0.022(0.00)	0.022(0.00)
GRW	0.094(0.74)	0.089(0.65)	0.089(0.65)
MKT	-0.039(0.01)	-0.039(0.01)	-0.039(0.01)
Year/Industry	Included	Included	Included
Likelihood ratio	101.71***	102.95***	102.95***
Pseudu R^2	0.23	0.23	0.23
Sample Size	853	853	853

Variable descriptions are as follows: AAER: an indicator variable with a value of one when a firm is in the KSFC (Korean Securities and Futures Commission) list of AAER and zero otherwise; BIG4: an indicator variable that equals one when the auditor is Big 4 auditor and zero otherwise; MEDIUM: an indicator variable that equals one when the auditor is medium auditor and zero otherwise; SMALL: an indicator variable that equals one when the auditor is small auditor and zero otherwise; OPN: an indicator variable that equals one when opinion on financial statement is non-unqualified and zero otherwise; FIRST: an indicator variable with a value of one when there is an auditor change and zero otherwise; SIZE: natural log of total asset; LEV: total debt scaled by total asset; LIQ: current asset scaled by current liability; ROA : net income scaled by total asset; LOSS: an indicator variable that equals one if the net income is lower than zero and zero otherwise; GRW: sales growth ratio; MKT: an indicator variable that equals one when firm is listed on KOSDAQ and zero otherwise. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively, for a two-tailed test.

5.2 Results for Hypothesis 2

Table 5, Model (1) reports the results of Hypothesis 2-1, which investigates the relationship with auditor's effort (time) and the incidence rate of its client subject to AAER. We use audit time as a proxy to measure the auditor's efforts. We expect that audit time and the incidence rate of subject to AAERs have a negative relationship. The estimate coefficient on ATIME is -0.345(t = 4.38) and has a significantly negative association with AAER at the 5% level. Overall, the result suggests that an increase of audit time positively affects to improved audit quality and reduces the incidence rate subject to AAERs. This result supports our Hypothesis 2-1.

Model (2) presents the result of Hypothesis 2-2. We expect both signals because there are two opposite views about the relation between audit fee and audit quality. However, in the results of Hypothesis 2-2, the estimate

coefficient on AFEE is 0.033(t = 0.01) and has an insignificant positive association with AAER. This result means that whether the audit fee is high or not, the audit fee is not affected by the incidence rate of client subject to AAERs. Although high audit time leads to high audit fee (Basioudis et al., 2008; Srinidhi & Gul, 2007; Kinney et al., 2004), audit firms are very competitive and therefore, there are some limitation for receiving a high audit fee according to audit time. Therefore, we believe that those competitive situations dilute the relationship between audit fee and AAERs.

In conclusion, we use audit time and audit fee as proxies of measuring audit quality. However, only audit time is related with the incidence rate subject to AAERs. More specifically, AAERs firm's auditor inputted significantly less audit time than non-AAERs firm's auditor. However, there are no significant differences between non-AAERs firm's audit fee and AAERs firm's audit fee. From those results, even though the client firm has the responsibility to make a reliable financial statement, most client firms and managers lack the accounting knowledge and resources to make suitable financial statements. In fact, many companies rely on the auditor to create the financial statement as well as to take advice from the auditor before making any accounting decision or financial statement. By increasing the reliance on auditors, audit effort can be a more important factor for reducing the incidence rate of AAERs. Therefore, depending on the auditor's effort, particularly audit time, the incidence rate of client subject to AAERs can be changed.

Table 5: Result for Hypothesis 2

	Dependent Variable(AAER)	
Intercept	-4.425(0.00)	-3.743(0.00)
ATIME	-0.345(4.38) **	
AFEE		0.033(0.01)
OPN	-0.547(0.30)	-0.501(0.25)
BIG4	-0.670(6.11) **	-0.739(7.59) ***
FIRST	0.057(0.034)	0.050(0.03)
SIZE	-0.119(0.82)	-0.248(2.42)
LEV	1.021(1.55)	0.866(1.12)
LIQ	-0.148(2.34)	-0.147(2.39)
ROA	-0.221(1.11)	-0.287(1.95)
LOSS	0.087(0.07)	0.016(0.00)
GRW	0.086(0.63)	0.094(0.75)
MKT	0.036(0.013)	-0.045(0.02)
Year/Industry	Included	Included
Likelihood ratio	106.036***	101.723***
Pseudo R^2	0.241	0.232
Sample Size	853	853

Variable descriptions are as follows: AAER: an indicator variable with a value of one when a firm is in the KSFC (Korean Securities and Futures Commission) list of AAER and zero otherwise; ATIME: natural log of audit time; AFEE: natural log of audit fee; OPN: an indicator variable that equals one when opinion on financial statement is non-unqualified and zero otherwise; BIG4: an indicator variable that equals one when the auditor is Big 4 auditor and zero otherwise; FIRST: an indicator variable with a value of one when there is an auditor change and zero otherwise; SIZE: natural log of total asset; LEV: total debt scaled by total asset; LIQ: current asset scaled by current liability; ROA: net income scaled by total asset; LOSS: an indicator variable that equals one if the net income is lower than zero and zero otherwise; GRW: sales growth ratio; MKT: an indicator variable that equals one when firm is listed on KOSDAQ and zero otherwise. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively, for a two-tailed test.

6. ADDITIONAL ANALYSIS

6.1 Change of Audit Time and Audit Fee after Auditor's Client Subject to AAERs

The purposes of enforcement action are to improve accounting information as well as to reduce fraud and earnings management. However, the enforcement action is not an on-going process. Therefore, after an enforcement action, it is possible that AAERs firms do not improve the quality of financial statements because they already paid out the penalties and they will not be selected as AAERs sample in the near future. Therefore, we investigate the effectiveness of enforcement action by examining the change of audit time and audit fee after the auditor's client are subject to AAERs. We already examine that when audit time is increased, audit quality will also be increased and hence, firms can reduce the incidence rate subject to AAERs. If enforcement action is a system to improve accounting information ex-postly, the auditor should be input more efforts after its client subject to AAERs. To investigate the change of auditor's efforts, we use the following model.

$$\Delta ATIME\ (\Delta AFEE) = \beta_0 + \beta_1 \Delta AAER + \beta_2 \Delta OPN + \beta_3 \Delta BIG4 + \beta_4 FIRST + \beta_5 \Delta SIZE + \beta_6 \Delta LEV + \beta_7 \Delta LIQ + \beta_8 \Delta ROA + \beta_9 L\Delta OSS + \beta_{10} \Delta GRW + \beta_{11} MKT + FIXED\ EFFECT(year, Industry) + \varepsilon_t \quad (3)$$

where:

ΔATIME changed value of natural log of audit time;
ΔAFEE changed value of natural log of audit fee
ΔAAER an indicator variable with a value of one when a firm is on the list of AAER in the previous year and zero otherwise

First, we use ΔATIME as a dependent variable and ΔAAER as an independent variable to examine the effectiveness of AAERs. We control ΔOPN, ΔBIG4, FIRST, ΔSIZE, ΔLEV, ΔLIQ, ΔLOSS, ΔGRW, and MKT, which affect the audit quality. When an auditor makes an engagement with AAERs firm, the auditor should be spending more time (efforts) to increase the audit quality for auditing more conservatively before its client are subject to AAERs. Therefore, we expect to have a positive relationship between ΔAAER and ΔATIME if enforcement action works effectively. Also, to examine the association between ΔAAER and ΔAFEE, we use ΔAFEE as a dependent variable. Even though there is an insignificant relationship between AFEE and AAERs in the results of Hypothesis 2, we expect that the auditor will spend more time to audit than before; moreover, increased audit time may lead to high audit fee after the client is subject to AAERs.

Table 6 reports the results of the relation between ΔAAER and ΔATIME and ΔAAER and ΔAFEE. Model (1) presents the regression results using ΔATIME as a dependent variable. The regression results, the coefficient of ΔAAER is not significant. In contrast, the coefficient of ΔAFEE is 0.097(t = 2.63) and is significantly positive at the 1% level, which is the same with our expectation. This means that after the auditor's client is subject to AAERs, the auditor does not input more time to audit conservatively even though the auditor receives more audit fee as a risk premium than before, because the audit fee is a function of the auditor's expected future losses arising primarily form the litigation risk (Simunic, 1980). In other words, it is interpreted that although enforcement action is a system to improve the reliability of accounting information by re-testifying the sample companies' financial statements ex-postly, this system is not effective for improving the reliability of financial statements by increasing the audit time.

Table 6: Results for the Relationship Between Change of Audit Efforts (Fee and Time) and Change of AAER

	Dependent Variable	
	ΔATIME	**ΔAFEE**
Intercept	0.071(0.20)	0.227(0.88)
ΔAAER	0.064(1.23)	0.097(2.63)***
ΔOPN	-0.053(-0.36)	-0.143(-1.41)
ΔBIG4	0.039(0.78)	0.069(1.94)*
FIRST	0.018(0.71)	-0.019(-1.05)
ΔSIZE	0.154(3.13)***	0.119(3.45)***
ΔLEV	0.311(2.64)***	-0.215(-3.58)***
ΔLIQ	-0.003(-0.65)	-0.004(-1.29)
ΔROA	0.155(2.92)***	-0.153(-4.36)***
ΔLOSS	0.036(1.14)	0.007(0.35)
ΔGRW	0.007(0.80)	-0.006(-0.97)
MKT	-0.006(-0.23)	-0.035(-1.67)*
Year/Industry	Included	Included
Adjusted R^2	0.09	0.09
F-Value	2.30***	2.35***
Sample Size	678	678

Variable descriptions are as follows: ΔATIME: changed value of natural log of audit time; ΔAFEE: changed value of natural log of audit fee; ΔAAER: an indicator variable with a value of one when a firm is in the list of AAER in the previous year and zero otherwise; ΔOPN: an indicator variable that equals one when opinion on financial statement is unqualified in the previous year and non-unqualified in the current year and zero otherwise; ΔBIG4: an indicator variable that equals one when the predecessor auditor is Non-Big 4 auditor and incoming auditor is Big 4 and zero otherwise; FIRST: an indicator variable with a value of one when there is an auditor change and zero otherwise; ΔSIZE: changed value of natural log of total asset; ΔLEV : changed value of total debt scaled by total asset; ΔLIQ: changed value of current asset scaled by current liability; ΔROA : changed value of net income scaled by total asset; ΔLOSS: an indicator variable that equals one if the net income is not lower than zero in the previous year and is lower than zero in current year and zero otherwise; ΔGRW: changed value of sales growth ratio; MKT: an indicator variable that equals one when firm is listed on KOSDAQ and zero otherwise. *, **, and *** denote statistical significance at the 10%, 5%, and 1% level, respectively, for a two-tailed test.

6.2 Cause of AAERs and the Degree of Penalties

AAERs provide a varying degree of detail on the nature of misconduct, whether those misconduct is due to auditor or clients. Bremser et al. (1991) posit that about 2/3 of AAERs firms have reasons of officer's misconduct. However, 1/3 of AAERs firms have reasons of officer's misconduct and auditor's failure. This means that even though the auditor audited its client's financial statement by complying with GASS, one-third of AAERs firm still conduct misconducts. During audit periods, the auditor needs to follow the systematic process of objectively obtaining and evaluate evidence. Then based on its works, the auditor gives assertions about the economic actions and events and provides reasonable assurance, not absolute assurance, that the financial statement is free of material misstatements. Therefore, when the auditor reports an unqualified opinion, it does not mean that the unqualified financial statement has no material mistakes. Therefore, we examine the difference of auditor's effort depending on the cause of AAERs. Table 7, Model (1) represents the result of the relationship between ATIME and the cause of AAERs with the auditor. The coefficient of AUDITOR is -0.229 (t = -2.61) and is significant at the 1% level. In Model (2), the coefficient of CLIENT is -0.149 (t = -1.82) and is significant at the 10% level. This means that when the cause of AAERs is an auditor, the auditor spends significantly less time to audit compared to other AAERs firm's auditor. From this result, we conclude that whether the cause of AAERs is the auditor or not, depending on audit time, firms can reduce the incidence rate subject to AAERs and ultimately, good accounting information can be released to the public.

Table 7: Cause of AAERs and the Degree of Penalties

	Dependent Variable (ATIME)		
Intercept	-2.937(-5.34)***	-2.966(-5.37)***	-2.653(-3.07)***
AUDITOR	-0.229(-2.61)***		
CLIENT		-0.149(-1.82) *	
ACT			-0.109(-2.04)**
OPN	0.039(0.16)	0.078(0.32)	0.081(0.33)
BIG4	0.214(4.25)***	0.219(4.35)***	0.218(4.33)***
FIRST	-0.031(-0.54)	-0.030(-0.53)	-0.022(-0.39)
SIZE	0.333(15.36)***	0.333(15.36)***	0.334(15.41)***
LEV	0.260(1.64)	0.258(1.62)	0.276(1.73)*
LIQ	-0.004(-0.27)	-0.004(-0.26)	-0.004(-0.25)
ROA	0.142(2.75)***	0.133(2.57)**	0.134(2.57)**
LOSS	0.105(1.63)	0.104(1.61)	0.115(1.78)*
GRW	-0.042(-1.42)	-0.047(-1.59)	-0.043(-1.46)
MKT	0.189(3.20)***	0.186(3.15)***	0.189(3.19)***
Year/Industry	Included	Included	Included
Adjusted R^2	0.51	0.51	0.51
F-value	29.32***	29.08***	28.85***
Sample Size	88	88	88

Variable descriptions are as follows: ATIME: natural log of audit time; AFEE: natural log of audit fee; AUDITOR: an indicator variable with a value of one when AAER is subject to auditor and zero otherwise; CLIENT: an indicator variable with a value of one when AAER is subject to client company and zero otherwise; ACT: an indicator variable that equals one when strong action subsequent to AAER is imposed and zero otherwise; OPN : an indicator variable that equals one when opinion on financial statement is non-unqualified and zero otherwise; BIG4: an indicator variable that equals one when the auditor is Big 4 auditor and zero otherwise; FIRST: an indicator variable with a value of one when there is an auditor change and zero otherwise; SIZE: natural log of total asset; LEV: total debt scaled by total asset; LIQ: current asset scaled by current liability; ROA : net income scaled by total asset; LOSS: an indicator variable that equals one if the net income is lower than zero and zero otherwise; GRW: sales growth ratio; MKT: an indicator variable that equals one when firm is listed on KOSDAQ and zero otherwise. *, **, and *** denote statistical significance at the 10%, 5%, and 1% levels, respectively, for a two-tailed test.

After FSS releases the list of AAERs firm, FSS imposes penalties to AAERs firms and/or its auditor depending on the degree of misconducts by using quantitatively as well as qualitatively information. We divided AAERs firms into two groups depending on the degree of imposed penalties. When FSS offers a piece of advice to AAERs firm, such as dismiss of officer, change auditor or charge an officer, we define that those actions belong to severe punishment (ACT). When a firm is imposed with a severe punishment (ACT), it means that the firm has more serious misconduct on its financial statement and otherwise, the firm's auditor provides lower quality service in order to not detect the client's misconducts. Therefore, depending on the degree of punishment, we investigate the auditor's effort. We expect that when a firm's punishment belongs to severe punishment, its firm's inputted audit

time is significantly less than that of other AAERs-firms. Therefore, we test that auditor's efforts and AAERs firm, which is imposed with severe punishment. In Model (3), the coefficient of ACT is -0.019 (t = -2.04) and is significant at the 10% level. This means that when AAERs firm is imposed with a severe punishment, even though AAERs firm have intended earnings management by the manager or not, the audit time is significantly less than that of other AAERs firms, which is not classified as a serious act.

7. CONCLUSION

In this study, we examine the relation between auditor's characteristics and the incidence rate of its client subject to AAERs. First, we examine the relation between the incidence rate of its client subject to AAERs and the size of audit firm. We find that when a firm is audited by the Big 4, the firm has a significant less incidence rate subject to AAERs. This is a reasonable result because according to previous literature, the Big 4 provides better audit quality than small audit firm. Second, we examine the relationship between the incidence rate subject to AAERs and audit efforts by using audit time and audit fee as a proxy for audit efforts. We find that an increase of audit time significantly reduces the incidence rate subject to AAERs. However, audit fee does not affect the incidence rate subject to AAERs. Given the results, we posit that depending on the auditor's characteristics, such as size of audit firm and audit time, its client have a different incidence rate subject to AAERs.

Additionally, we also examine the effectiveness of AAERs, We find that although the auditor significantly receives a higher audit fee after its client is subject to AAERs, the auditor does not input more audit time than before. This means that the auditor receives a higher audit fee than before as a premium risk fee even though the auditor does not input more audit time to audit the client's financial statement. Finally, we examine the difference of audit time depending on the cause of AAERs. We find that whether the cause of AAERs is the auditor or not, the auditor spends significantly less time at the time of auditing the client's financial statement

This study makes four main contributions. First, we focus on the characteristics of the auditor auditing an AAERs firm, and examine the reasons of AAERs, not the client's characteristics. Through this investigation, we provide evidence that AAERs is not the only fault of AAERs firm, but that there is a lack of auditor's efforts. Second, we investigate the change of audit time and fee after the auditor's client is subjects to AAERs in order to examine the effectiveness of AAERs. Third, many previous literatures examine the company's characteristic and market reaction at the time of disclosing AAERs information to the public. Normally, the results of AAERs are disclosed 3 years later after the firms release their financial statements. In this study, instead of using the enforcement released date, we roll back to the time of issuing financial statements for providing accurate evidence of the auditor's influence of possibility subject to its client's AAERs. Lastly, FSS discloses only the list of firms that are subject to AAERs. For this reason, in previous literatures, AAERs firms are compared with firms randomly selected by the authors. However, as we use the same sample with FSS's AAERs sample, we provide more accurate results of our examination compared to others.

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