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The Impact of Non - Audit Service on Audit Quality and Independence*

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—〈Abstract〉—

The purpose of this study is to examine whether non-audit service by incumbent auditor about internal accounting control system (IACS) affects audit quality and independence and whether consulting fee ratio is related to those significantly or not.

In this study, I use discretionary accruals measured by modified Jones model as proxies for audit quality and independence. My samples consist of listed companies in Korea Stock Exchange in 2007 and non-audit fees for IACS are collected from Dart system.

Main empirical findings of this study are summarized as follows. First, non-audit services about IACS by auditor are not significantly related to the magnitude of discretionary accruals as audit quality. Second, I cannot find any statistically significant relation between consulting fee ratio and discretionary accruals.

In conclusion, this study provides indirect evidence that non-audit service by incumbent auditor about IACS does not affect audit quality and independence. In addition, despite very high level of non-audit fees, it implies that the quality of earnings does not change significantly. The reason for this result is not clear. However, there may be conflict of effect in non-audit service. Like other non-audit services, consulting service on internal accounting control system not only could decrease discretionary accruals by improving understanding of client firms but also could increase discretionary accruals by impairment of independence.

〈Key words〉 non-audit service, discretionary accruals, audit quality, independence Internal accounting control system.

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I. Introduction

The accounting environment emphasizing on worldwide accounting transparency brings about serious argument on accounting system reform in Korea. This new accounting trend has made Korean accounting authorities have no choice but to introduce a new accounting reform bill in April 2004. According to the new accounting reform bill, Korean listed companies are required to establish and operate internal accounting control system and external auditors are in charge of expressing review opinion on the effectiveness of it in public. Under the accounting reform bill, CEOs and CFOs of listed firms are also forced to examine and sign on the proxy statement carefully and assure the fact that there is no false information and omission in the proxy statement.

The revised regulation forces listed firms to set up and operate internal accounting control system till Jun 30, 2006 and auditors to provide review of the IAC system in auditing report. Therefore, all listed firms except some small firms must build up and operate internal accounting control system prior to the end of 2006. The small listed firms must establish and operate the internal accounting system prior to the end of 2007. Because internal accounting control system requires firms to have high level specialty and the incumbent auditor may understand firms' internal accounting environment, firms are more likely to ask external accounting consulting firms to establish the system instead of building it for themselves. Furthermore it is assumed that firms want to have good relation with incumbent auditor by giving non-audit service.

Would audit quality and independence be increased or not by non-audit service to client firms in addition to audit service? This is an empirical question. There is a positive viewpoint that non-audit services enable auditors to perform audit more effectively because of understanding a client firm and the related industry in detail (Ashbaugh, H. et al 2003 and Laker and Richardson 2004). On the other hand, there is a negative viewpoint that non-audit services make it possible for auditors to rely on clients' decision making and cause inevitable audit quality deterioration (Frankel et al. 2002 ; Dee et al. 2002 ; Raghunandan 2003). Prior other studies argue that the relation between auditors' non-audit service and audit quality was not significant (Kwon, S.Y. et al 2004 ; Lee, M. Y. and J. H. Jang 2004 ; Park J. I. et al 2004). Recently attention on the auditors' non-audit service after a series of accounting fraud results in lots of studies that have controversial viewpoints.

Recently accounting firms tend to expand consulting service instead of traditional auditing service to increase revenue strategically. As a result, the proportion of tax service and consulting

service consists more than 50% of total revenue of accounting firms. Summary for the revenue of accounting firms in Korea from 2004 to 2006 is reported in <Table 1>.

<Table 1> Revenue proportion of accounting firms

(Unit : millions of Korean Won)

	2005		2006		2007	
	amount	%	amount	%	amount	%
Audit	4,150	45.3	4,654	41.6	5,321	40.9
Tax service	1,542	16.8	2,145	19.1	2,672	20.5
Consulting service	3,452	37.9	4,385	39.3	4,987	38.6
Total Revenue	9,144	100	11,184	100	12,980	100

Non-audit service fees occupy high portion of total revenue as reported in the above table make it indispensable for accounting firms to provide non-audit service. According to the new accounting reforms, auditors are prohibited from providing non-audit service that may affect auditor independence. However, accounting firms are to provide non-audit service if complementary systems are prepared to preserve auditors' independence even because the supervising institution of accounting firms could not ignore the reality in audit market. Korean accounting institution¹⁾ prohibits external auditors from directly designing, establishing and operating internal accounting control system, due to possible influence on the independence of audit service.

In fact setting up internal accounting control system by auditors could be another potential of accounting scandals, because the IAS system may lead auditors into more non-audit services. From this perspective, the objective of this study is to examine how non-audit service about internal accounting control system affects earnings quality represented by discretionary accruals and auditors are independent regardless of non audit service.

Auditors' independence can be preserved when auditors keep independence in mind as well as independence in appearance. The one is about the spirit of independence and the other is about the appearance of audit when it is related to interests²⁾ of parties.

1) Refer to Scope of non-audit service about internal accounting control system (Financial Supervisory Service ; Dec 28, 2005)

2) According to Korean Standard on Auditing with Application Guidance for the Standard, Independence in mind refers to the state of mind that permits the provision of an opinion without influences that

Auditors' non-audit service fees are collected from the DART and modified Jones model (1995) is used to estimate discretionary accruals.

The remainder of this paper is made up as follows. Section 2 discusses prior researches that are related to this paper. Section 3 describes hypotheses, research model and samples. Section 4 describes descriptive statistics, T-test and multivariable test and Section 5 summaries and concludes the paper.

II. Literature Review

Prior studies on the relation between auditors' non-audit service provision and discretionary accruals have shown mixed results. For example, the relation is either positive, negative or not significant.

1. Positive relation

Frankel et al.(2002) studied how auditor's audit and non-audit service provision effects on discretionary accruals. Using 2001 US companies' data, they reported that companies received non-audit service from their auditors were subject to more discretionary accruals. A positive relation between non-audit fees and the possibility of reporting a small earnings surprise were found, and a negative relation between audit fee and earnings management indicators were shown. However, any association between total fees (audit fee plus non-audit fee) and earnings management indicators were not found. Finally, they found disclosure of non-audit fee have negative relation with share value. which implies that investors regard non-audit service as a threat to auditor independence.

Raghunandan(2003) aims to know how stockholders expressed their opinion over auditors' non-audit service through their attitude on auditor reelection. They argued that the higher auditors' non-audit fee led to the more dissenting vote on auditor reelection. This is stockholders regard auditors' non-audit service as threat to independence. However, stockholders' dissenting votes have little influence on the auditor reelection.

compromise professional judgement. and Independence in appearance refers to the avoidance of facts and circumstances that are so significant that a reasonable and informed third party would reasonably conclude an auditor's integrity objectivity.

2. No significant relation

Choi, Park, and Jeon (2005) examined the relation between economic fee dependence and discretionary accrual of KSE listed companies at the time of December 31, 2001. Auditors' economic fee dependence was measured by ratio (total fees from one client divided by total accounting firm's sales revenue, or audit fees from one client divided by total accounting firm's audit sales revenue). They reported that the relation between economic fee dependence and discretionary accrual was not significant.

Chung and Kallapur (2003) investigated abnormal accruals with the increase of client importance based on proxy statements of audit and non-audit consulting fee paid to auditors. The importance of clients was measured by ratio (total fees from one client divided by total accounting firm's sales revenue, or non-audit fees from one client divided by total accounting firm's sales revenue). They also reported that the relations between client importance and discretionary accruals were not significant.

Reichelt and Francis (2002) examined the relation between client importance and accounting accruals and compared Big 5 accounting firms' case with non-Big 5 accounting firms. They measured the importance of clients by ratio (total fees from one client divided by total accounting firm's sales revenue, or non-audit fees from one client divided by total accounting firm's sales revenue). They reported that the relations between the importance of clients and non-discretionary accruals were not significant.

3. Negative relation

Frankel, R et al (2004) investigated the relation between non-audit consulting fee per auditors' total revenue and discretionary accruals. They showed that the more non-audit consulting companies had, the less discretionary accrual was. Only a few firms with problems of corporate governance showed the increase of discretionary accruals.

Kinney, W and R. Libby (2002) examined the relation among audit consulting fee, non-audit consulting fee and discretionary accrual of UK and US firms. According to the results, the relation between audit consulting fee and non-audit consulting fee was shown to be positive and significant. Interestingly, audit fee increased non-audit consulting fee and non-audit consulting fee increased audit fee as well. The effect of audit fee and non-audit consulting fee on discretionary accrual was not significant in US firms. In case of UK firms, audit fee increased discretionary accrual but non-audit consulting fee decreased discretionary accruals.

III. Research design

1. Hypotheses

Improving of accounting transparency by reinforcing audit quality and auditors' independence is the major objective of accounting system reform. The purpose of this study is only to examine the relation between auditors' consulting on internal accounting control systems and discretionary accruals. The relation between the quality of internal accounting control system and discretionary accrual is not my concern.

In this study, I regard official financial reports from 2006 as important samples because they can show how much internal accounting control system influence on the actual accounting.

Recently, consulting on internal accounting control system is the most significant and striking proportion item among non-audit service since new accounting reform that audit and non-audit fee must be released on the proxy statement of listed firms.³⁾ The establishment of internal accounting control system by a same auditor is likely to influence on independence due to the self auditing risk. From this perspective, prior studies examine if non-audit service by auditors effects on auditors' independence and audit quality. Independence and audit quality was represented by discretionary accrual as they are not to be measured in reality. Therefore, I use discretionary accruals as a representative of independence and thus audit quality.

In order to increase auditors' independence, non-audit services by auditors are restricted from the doubt that auditors' non-audit service provision may damage independence. There have been many studies on auditors' independence and audit quality when auditors provide non-audit service and audit service at the same time. Positive views (Ante et al. 2002 and Laker and Richardson 2004) argue that non-audit service may lead to improvement of audit quality because auditors understand firms and industries in depth with audit services. On the other hand, negative views (Frankel et al. 2002 ; Dee et al. 2002 ; Raghunandan 2003) reported that non-audit service increases auditors' economic dependence on client firms which results in worse audit quality. Other articles showed that auditors' non-audit service and audit quality are not significantly related each other (Reichelt and Francis 2002 ; Chung and Kallapur 2003 ; Ashbaugh, LaFound, and Mayhew 2003 ; Choi, Park, and Jeon 2005). Overall, prior studies suggest mixed opinions about relation between non-audit service and audit quality. Therefore, I proposes null hypothesis 1 as follows.

3) From 2001, audit/non-audit fee and imputed time for audit are to be announced in proxy statement

Hypothesis 1 : auditors' consulting service on internal accounting control system is significantly related to discretionary accruals.

The degree of non-audit service and auditors' economic dependence on specific clients may affect discretionary accruals. In this case, The amount of non-audit fee is not important but economic dependence ratio of non-audit fee is important regarding discretionary accruals. Several prior studies used independent variables as ratio variables of non-audit fee (Chung and Kallapur 2003 ; Choi, Park, and Jeon 2005)⁴). So, My null hypothesis 2 in the study is provided as follow.

Hypothesis 2 : The ratio of auditors' consulting service fee on internal accounting control system is significantly related to discretionary accruals.

2. Research design

The purpose of this study is whether non-audit service by incumbent auditor about internal accounting control system affect discretionary accruals and whether the ratio of the consulting service as non-audit service is related to discretionary accruals significantly. Two additional variables are my major concern in this study, whether internal accounting control system is consulted by incumbent auditor or not and whether the ratio of the consulting fee influence audit quality. This study aims to show the relation between the two variables and independence of auditor or audit quality. Discretionary accruals are used as a proxy for independence and audit quality in this study. The following equations show the association between consulting service by incumbent auditor on internal accounting control system and discretionary accruals. I also consider other important control variables as affecting discretionary accruals by previous studies.

$$DA_{it} = \alpha_0 + \beta_1 IACS_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 CFO_{it} + \beta_5 BIG4_{it} + \beta_6 LOSS_{it} + \beta_7 TA_{it-1} + \beta_8 OWN_{it} + \beta_9 OPN_{it} + \varepsilon \quad (1)$$

4) Chung and Kallapur(2003) measured the importance of clients by ratio(total fees on one client divided by total accounting firm's sales revenue, or non-audit fees on one client divided by total accounting firm's sales revenue), and Choi, Park and Jeon(2005) measured the economic fee dependence by ratio (total fees on one client divided by total accounting firm's sales revenue, or audit fees on one client divided by total accounting firm's audit sales revenue).

$$DA_{it} = \alpha_0 + \beta_1 IACSF_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 CFO_{it} + \beta_5 BIG4_{it} + \beta_6 LOSS_{it} + \beta_7 TA_{it-1} + \beta_8 OWN_{it} + \beta_9 OPN_{it} + \varepsilon \quad (2)$$

DA_{it} = firm i's discretionary in fiscal year t measured by modified Jones model (Dechow et al. 1995) ;

$IACS_{it}$ = dummy variable set to 1 if client firm was provided consulting service about internal accounting control system by incumbent auditor, and 0 otherwise ;

$IACSF_{it}$ = consulting fee (internal accounting control system by incumbent auditor) divided by audit fee ;

$SIZE_{it}$ = firm i's the natural logarithm of total asset at the beginning of fiscal year t ;

LEV_{it} = firm i's fixed liability divided by total asset at the beginning of fiscal year t ;

CFO_{it} = firm i's cash flow from operations, divided by total asset at the beginning of fiscal year t ;

$BIG4_{it}$ = dummy variable set to 1 if the auditor is one of the big four audit firms, and 0 otherwise ;

$LOSS_{it}$ = dummy variable set to 1 if sample firm recorded net loss for the year end, and 0 otherwise ;

TA_{it-1} = firm i's total accruals in previous fiscal year ;

OWN_{it} = firm i's % of largest stockholder in fiscal year t ;

OPN_{it} = dummy variable set to 0 if audit opinion is fair, and 1 otherwise ;

ε = Error terms.

The major variables of my concern are IACS and IACSF. IACS is dummy variable set to 1 if client firm was provided consulting service on internal accounting control system by incumbent auditor, and 0 otherwise. IACSF is consulting fee ratio when IACS is set 1. IACSF is consulting fee (internal accounting control system by incumbent auditor) divided by audit fee. In this case, consulting fee ratio (consulting fee/audit fee) could be more proper indicator representing the importance of non-audit service for a specific client. The more IACSF means the more auditor's involving in the consulting service. High IACSF could damage auditors' independence and discretionary accruals could be increased as well. On the other hand, more high quality consulting service related to financial accounting report could decrease discretionary accruals. Under this mixed setting, it is interesting to examine empirically the association between consulting service provision by incumbent auditor on IAC system and discretionary accruals (proxy for auditors' independence and audit quality). I also uses other control variables identified as the factors on discretionary accruals by prior studies. Control variables are firm size, leverage, cash flow on operating activity, size of auditor, loss, total accruals of previous year, % of largest stockholder and audit opinion.

Size (SIZE) is measured by the natural logarithm of total asset at the beginning of fiscal year. discretionary accrual is different across companies with different size(Xie et al. 2003).

Leverage (LEV) is measured by non-current liability divided by total asset at the beginning of fiscal year. Duke et al. (1990) and Defund et al. (1994) showed negative relation between discretionary accrual and leverage.

Cash flow on operating activity (CFO) is measured by cash flow from operations, divided by total asset at the beginning of fiscal year. DeFond and Sybramanyam (1998) and Becker et al. (1998) documented negative relation between discretionary accrual and cash flow from operations. Size of auditor (Big 4) is dummy variable set to 1 if the auditor is one of the big four audit firms and 0 otherwise. Becker et al. (1998) reported more discretionary accruals in financial statement audited by non-Big 4 auditor than Big 4 auditor. Loss is dummy variable set to 1 if sample firm reported net loss for the year end, and 0 otherwise. This is a control variable to manage discretionary accruals that could be affected by loss-reporting companies. Kasznik (1999) showed that performance of past years could lead to measurement errors of accruals. TA_{it-1} is Total accruals of previous year. It is a control variable to reflect reversal of accruals in previous year (Ashbaugh et al. 2003 ; Becker et al. 1998). OWN is % of largest stockholder. Lee and Lee (2003) showed the more % of largest stockholder the more earnings management occurs. OPN is dummy variable set to 0 if audit opinion is fair, and 1 otherwise. It is included as a control variable because the firms could receive non-clean audit opinion due to earning management. Major IACS and IACSF variables are expected to have coefficients with different signs. It might have positive coefficient that discretionary accruals could be increased by the damage of independence. Meanwhile, it might have negative coefficient that discretionary accruals could be decreased by high quality consulting service related to financial report. Otherwise, it might have insignificant coefficient that the non-audit consulting service (consulting fee ratio) is not related to discretionary accruals is not related significantly.

3. Sample

I used listed companies in Korea Stock Exchange as of the 31 dec, 2007 for my sample in this study. Financial industry is excluded in this sample for comparison purpose and samples that are less than 10 classified years and industries are excluded as well.

The initial numbers of samples are collected 2,051. These are composed of 512 in 2004, 537 in 2005, 525 in 2006 and 477 in 2007. However, the final samples used in empirical tests are 1,035.

Detail databases of samples in this study are KIS Value2 of NICE (National Information & Credit Evaluation, Inc). The times and fees of the non-audit service (internal accounting control system) are collected from DART system (FSS).

To test Hypothesis 1, I divide samples into two groups. The one consists of 162 companies⁵⁾ consulted by incumbent auditor on internal accounting control system and the other is 873 companies otherwise. In case of Hypothesis 2, samples (firms consulted by incumbent auditor on internal accounting control system) are divided into two groups, high and low IACSF group.

4. Measurement of discretionary accruals

I measure discretionary accruals and absolute value of discretionary accruals using modified Jones model (Dechow et al. 1995)⁶⁾. Accounting accruals are measured by cross sectional analysis classified by years and industries. Regression coefficients are computed through regression analysis classified by years and businesses in Equation 3. And then, discretionary accruals are calculated by applying them to Equation 4. Discretionary accruals are computed by difference of total accruals and non-discretionary accruals as prior studies.

$$TA_{it}/A_{it-1} = \beta_1(1/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \beta_3(\Delta REV_{it})/A_{it-1} + \varepsilon_{it} \quad (3)$$

$$TA_{it}/A_{it-1} = \beta_1(1/A_{it-1}) + \beta_2(PPE_{it}/A_{it-1}) + \beta_3\{(\Delta REV_{it} - \Delta AR_{it})/A_{it-1}\} + \varepsilon_{it} \quad (4)$$

TA_{it} = firm i's total accruals, the defined as net income less cash flow from operating activities in fiscal year t ;

A_{it-1} = firm i's total asset at the beginning of year t-1 ;

PPE_{it} = firm i's properties (gross property, plant and equipment) in fiscal year t ;

REV_{it} = firm i' sales revenue fiscal year t ;

AR_{it} = firm i' account receivables in fiscal year t ;

ε_{it} = Error terms.

5) 188 companies are consulted by incumbent auditor on internal accounting control system as of December 31, 2007. the differences(188~152) can be explained by financial industry and small companies setting up the system in 2007

6) Several prior studies on discretionary accruals used this method (e.g. Chung and Kallapur 2003 ; Frankel et al. 2002 ; Ashbaugh et al. 2002 ; Dee et al. 2002 ; Antle et al. 2002 ; Jong-II, Park et al. 2003 ; Jon-Hak, Cho et al. 2005)

IV. Empirical Results

1. Descriptive statistics

<Table 2> presents descriptive statistics for used variables in this study.

<Table 2> descriptive statistics

Variables	Average	Median	Min	Max	STDV	Sample
IACS	0.158	—	—	1.000	0.455	1035
IACSF	0.988	0.798	0.032	3.645	0.475	162
CFO	0.068	0.053	−0.893	1.043	0.129	1035
LEV	0.145	0.087	0.003	0.703	0.113	1035
SIZE	20.198	18.986	15.350	25.844	1.536	1035
BIG4	0.750	1.000	—	1.000	0.577	1035
OWN	26.849	23.475	2.770	100.000	15.993	1035
LOSS	0.181	—	—	1.000	0.386	1035
TA	−0.028	− 0.010	−0.857	0.841	0.120	1035
OPN	0.003	—	—	1.000	0.054	1035
DA	0.001	0.002	−0.832	0.943	0.110	1035
ABDA	0.071	0.040	0.000	0.963	0.089	1035

Dependent and independent variables are measured at the end of fiscal year, otherwise stated.

IACS = dummy variable set to 1 if client firm was provided consulting service about internal accounting control system by incumbent auditor, and 0 otherwise ;

IACRF = consulting fee (internal accounting control system by incumbent auditor) divided by audit fee ;

CFO = cash flow from operations, divided by total asset at the beginning of fiscal year ;

LEV = non-current liability divided by total asset at the beginning of fiscal year ;

SIZE = the natural logarithm of total asset at the beginning of fiscal year ;

BIG4 = dummy variable set to 1 if the auditor is one of the big four audit firms, and 0 otherwise ;

OWN = % of largest stockholder ;

LOSS = dummy variable set to 1 if sample firm recorded net loss for the year end, and 0 otherwise ;

TA = total accruals in previous fiscal year ;

OPN = dummy variable set to 0 if audit opinion is unqualified, and 1 otherwise ;

DA = discretionary accruals ;

ABDA = absolute value of discretionary accruals.

Average of IACS is 0.158 which means that 15.8% of sample companies were consulted by incumbent auditor on internal accounting control systems. This result is smaller than 27.4%, the ratio of end of December 31, 2007(188 divided by all listed firm in Korean stock exchange, 687 ; total 746 less 59 SPC).⁷⁾

The average of independent variable, IACRF is 0.988 and median is 0.798, min is 0.032 and max is 3.645. It means that the range of consulting fee is from 3.2% of audit fee to 364.5% of audit fee⁸⁾.

Discretionary accruals's average is 0.001, median is 0.002 and absolute value of discretionary accruals's average is 0.071, median is 0.040.

The average of BIG4 variable is 0.750. it means that 75% of sample firms were audited by big four audit firms. The average of LOSS variable is 0.181. it shows that 18.1% of sample firms reported net loss. The average of OPN variable is 0.003, which means that only 0.3% of sample firms received non-unqualified audit opinion.

<Table 3> presents the correlation among variables. The table implies that there is no significant correlation between main variable, IACS(IACSF) and other variables. So the results of correlation analysis suggest that non-audit service on internal accounting control systems provided by incumbent auditor and how much cost it were may not be related to discretionary accruals significantly.

7) There is no internal accounting control system in listed SPC, for SPC is a paper firm and can not have full-time staff. So most SPC's review report for internal accounting control system is "disclaimer of opinion"

8) The amount of consulting fee for internal accounting control system exists from 470millions KRW to 10millions KRW

<Table 3> Pearson Correlation Matrix

	IACS	IACSF	SIZE	LEV	CFO	BIG4	LOSS	TA	OWN	OPN	DA	ABDA
IACS	1.000											
IACSF	0.747**	1.000										
SIZE	0.190*	0.152**	1.000									
LEV	0.071	0.020	.325*	1.000								
CFO	0.047	0.064	.195**	−0.075*	1.000							
BIG4	0.219**	.198**	.346**	.083*	0.097**	1.000						
LOSS	−0.053	−0.059	−0.186**	0.108**	−0.362**	−0.079*	1.000					
TA	0.000	−0.013	0.025	−0.069	−0.012	0.019	−0.030	1.000				
OWN	−0.028	−0.026	−0.024	−0.018	0.116**	0.040	−0.030	0.056	1.000			
OPN	−0.025	−0.020	−0.034	0.052	−0.050	−0.036	0.071*	0.001	−0.055	1.000		
DA	−0.035	−0.038	0.005	−0.035	−0.425**	0.052	−0.218**	0.048	0.027	−0.017	1.000	
ABDA	0.005	−0.026	−0.235**	−0.040	−0.290**	−0.095**	0.175**	−0.145**	−0.068*	−0.019	0.028	1.000

** , * Significant at the 0.01 and 0.05 levels, respectively.

Variable definitions ;

IACS = dummy variable set to 1 if client firm was provided consulting service about internal accounting control system by incumbent auditor, and 0 otherwise ;

IACRF = consulting fee (internal accounting control system by incumbent auditor) divided by audit fee ;

SIZE = the natural logarithm of total asset at the beginning of fiscal year ;

LEV = non –current liability divided by total asset at the beginning of fiscal year ;

CFO = cash flow from operations, divided by total asset at the beginning of fiscal year ;

BIG4 = dummy variable set to 1 if the auditor is one of the big four audit firms, and 0 otherwise ;

LOSS = dummy variable set to 1 if sample firm recorded net loss for the year end, and 0 otherwise ;

TA = total accruals in previous fiscal year ;

OWN = % of largest stockholder ;

OPN = dummy variable set to 0 if audit opinion is unqualified, and 1 otherwise ;

DA = discretionary accruals ;

ABDA = absolute value of discretionary accruals.

2. Multivariate regression test

Many prior studies examined the relation between discretionary accruals and various control variables. This study is to find out the incremental effect of discretionary accruals when control variables of prior studies and new major independent variables are included in research design. I use multivariate regression analysis on Equation 1 and Equation 2 to examine the relation between discretionary accruals (absolute value of discretionary accruals) and independent variables (control variables and IACS, IACSF). Dependent variables are discretionary accruals and absolute value of discretionary accruals. The main result of regression analysis is shown in <Table 4>.

<Table 4> The Result of Regression Analysis

Discretionary accruals in all companies provided non-audit consulting on internal accounting control systems by incumbent auditor

	Predicted Sign	DA		ABDA	
		Parameter Estimate	t-value	Parameter Estimate	t-value
Intercept		-0.055	-1.163	0.342	6.837**
IACS	?	-0.024	-1.736 ⁺	0.010	1.625
TA	?	0.026	0.782	-0.084	-4.735**
LEV	?	-0.054	-1.605	-0.014	-0.618
SIZE	+	0.005	1.890 ⁺	-0.018	-4.643**
CFO	-	-0.532	-21.240	-0.183	-8.3348**
BIG4	-	0.024	2.309*	-0.004	-0.801
LOSS	-	-0.127	-15.401**	0.013	1.925 ⁺
OWN	+	0.000	2.326*	0.000	-1.296
OPN	+	-0.042	-0.716	-0.047	-1.153
Adjusted R Square		0.335		0.159	
F-value		55.871**		22.585**	
Sample		1035		1035	

+ : p<0.1 * : p<0.05 ** : p<0.001

Variable definition ;

- IACS = dummy variable set to 1 if client firm was provided consulting service about internal accounting control system by incumbent auditor, and 0 otherwise ;
- TA = total accruals in previous fiscal year ;
- LEV = non-current liability divided by total asset at the beginning of fiscal year ;
- SIZE = the natural logarithm of total asset at the beginning of fiscal year ;
- CFO = cash flow from operations, divided by total asset at the beginning of fiscal year ;
- BIG4 = dummy variable set to 1 if the auditor is one of the big four audit firms, and 0 otherwise ;
- LOSS = dummy variable set to 1 if sample firm recorded net loss for the year end, and 0 otherwise ;
- OWN = % of largest stockholder ;
- OPN = dummy variable set to 0 if audit opinion is unqualified, and 1 otherwise ;
- DA = discretionary accruals ;
- ABDA = absolute value of discretionary accruals.

The result of regression analysis shows that research model is statistically appropriate by statistically significant F-value. Adjusted R Square shows 0.335 when dependent variable is discretionary accruals and 0.159 when dependent variable is absolute value of discretionary accruals respectively. The coefficient of IACS variable to test Hypothesis 1 shows marginally significant negative correlation with discretionary accruals in 10% level. This empirical result means that non-audit service by incumbent auditor may decrease discretionary accruals marginally. But I cannot find any statistically significant correlation with absolute value of discretionary accruals.

When dependent variable is discretionary accruals, variables of SIZE, LOSS and OWN show statistically significant correlation in same expected direction. Variable BIG4 is significantly related to discretionary accruals in reverse direction.

When dependent variable are absolute value of discretionary accruals, variables of CFO and TA show statistically significant correlation in same expected direction. Finally, variables of SIZE and LOSS show statistically significant correlation in reverse direction.

In <Table 5>, according to the results of regression analysis, research model is statistically appropriate only when dependent variable is discretionary accruals because F-value is statistically significant only in discretionary accruals. Adjusted R Square is 0.316 when dependent variable is discretionary accruals and 0.150 when dependent variable is absolute value of discretionary accruals.

〈Table 5〉 The Result of Regression Analysis

Discretionary accruals in only companies provided non-audit consulting on internal accounting control systems by incumbent auditor

	Predicted Sign	DA		ABDA	
		Parameter Estimate	t-value	Parameter Estimate	t-value
Intercept		-0.278	-1.465	0.354	2.528*
IACSF	?	-0.005	-0.454	-0.023	-1.187
LEV	?	-0.018	-0.327	-0.083	-1.324
SIZE	+	0.019	1.203	-0.009	-1.702
CFO	-	-0.537	-5.956**	0.004	0.065
BIG4	-	0.065	2.537	-0.005	-0.198
LOSS	-	-0.095	-4.218**	0.056	2.345*
TA	?	-0.038	-0.502	-0.025	-0.358
OWN	+	0.002	1.528	0.001	-0.086
OPN	+	-0.032	-0.516	-0.037	-1.163
Adjusted R Square		0.316		0.150	
F-value		6.811**		2.545	
Sample Size		162		162	

+ : $p < 0.1$ * : $p < 0.05$ ** : $p < 0.001$

Variable definition ;

IACRF = consulting fee (internal accounting control system by incumbent auditor) divided by audit fee ;

LEV = non-current liability divided by total asset at the beginning of fiscal year ;

SIZE = the natural logarithm of total asset at the beginning of fiscal year ;

CFO = cash flow from operations, divided by total asset at the beginning of fiscal year ;

BIG4 = dummy variable set to 1 if the auditor is one of the big four audit firms, and 0 otherwise ;

LOSS = dummy variable set to 1 if sample firm recorded net loss for the year end, and 0 otherwise ;

TA = total accruals in previous fiscal year ;

OWN = % of largest stockholder ;

OPN = dummy variable set to 0 if audit opinion is unqualified, and 1 otherwise ;

DA = discretionary accruals ;

ABDA = absolute value of discretionary accruals.

IACSF variable to test Hypothesis 2 is not statistically significantly related to dependent variable by discretionary accruals and by absolute value of discretionary accruals respectively.

When dependent variable is discretionary accruals, variables of CFO and LOSS show statistically significant correlation in same expected direction.

When dependent variable are absolute value of discretionary accruals, variable of LOSS shows statistically significant correlation in reverse direction.

Overall, my regression results suggest that independent variable, IACS, is correlated with discretionary accruals marginally only when discretionary accruals (not absolute value) are dependent variable (as shown <Table 4>). However, discretionary accruals and absolute value of discretionary accruals are not influenced by the degree of consulting fee ratio, IACSF (as shown <Table 5>).

V. Conclusion

The objective of this study is to examine empirically whether non-audit service by incumbent auditor on internal accounting control system affects discretionary accruals. Under increasing pressure of accounting transparency, internal accounting control system has been introduced to set up by accounting reform since 2005 in Korea. Most of listed companies (except small companies) are required to set up the internal accounting control system until 2006. Therefore, under this setting, the various kinds of studies on internal accounting control system in Korea can be done after 2005 proxy statement. The data of audit fee and non-audit fee on internal accounting control system were collected from DART and covered from 2006 to 2007.

The study is unique in that it deals with internal accounting control system focusing on aspects of non-audit service provided by incumbent auditor. I performed empirical tests designed to examine the relation between non-audit service (advisory consulting service on internal accounting control system) and discretionary accruals as a proxy for audit quality and independence of auditor. Under a new accounting reform, non-audit services by incumbent auditor could be increased more than before, because auditor's knowledge about interested firms is essential for setting up more effective internal accounting control systems. As a matter of fact, as of December 31, 2007, 27.4% of listed firms are provided with non-audit service on internal accounting control system by incumbent auditor. From this situation, the motivation of this study is to investigate empirically whether this new practice affect discretionary accruals as a proxy for audit

quality and independence of auditor.

The main results of various tests are summarized as follows. First, non-audit services on internal accounting control system by incumbent auditor show marginally negative significant relation with discretionary accruals. Second, there is no statistically significant relation between consulting fee ratio and discretionary accruals.

The reason for this result is not clear. However, there may be conflict of effect in non-audit service. Like other non-audit services, consulting service on internal accounting control system not only could decrease discretionary accruals by improving understanding of client firms but also could increase discretionary accruals by impairment of independence. The limitation of this study is to examine empirically whether non-audit service by incumbent auditor on internal accounting control system affects discretionary accruals or not using two years data only. Therefore it is hard to generalize the results of this study. In further study, more various in-depth analysis will be possible as more data are accumulated and available.

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비감사서비스가 감사품질 및 독립성에 미치는 영향에 관한 연구*

송혁준**

<요 약>

본 연구의 주요 목적은 감사인이 감사서비스와 더불어 내부회계관리제도에 관한 비감사서비스를 제공하였을 때 감사품질과 감사인의 독립성에 어떠한 영향을 미치는 가를 검증하는 것이다. 구체적으로 우선 비감사서비스와 감사품질간의 관련성을 검증하였으며, 다음으로 비감사서비스가 감사인의 독립성에 미치는 영향을 분석하였다. 이를 위해 본 연구에서는 감사인의 감사품질에 대한 대용치로 선행연구에서 사용된 측정가능한 재량적 발생액을 사용하였으며, 독립성 분석을 위한 내부회계관리제도에 대한 비감사서비스와 비감사보수 및 감사보수금액은 금융감독원의 전자공시시스템에서 수집하였다. 본 연구의 주요 실증분석 결과는 다음과 같다. 첫째, 내부회계관리제도 구축에 대하여 감사인의 비감사서비스를 제공받은 회사와 제공받지 않은 회사간에 감사품을 나타내는 재량적 발생액은 상호간에 유의적인 차이를 보이지 않았다. 둘째, 독립성을 나타내는 감사보수 대비 비감사서비스보수간에 비율의 크기가 재량적 발생액과 유의적인 관련성이 있는지 여부를 분석한 결과 유의적인 관련성이 발견되지 않았다. 왜 이런 현상이 나타나는 지에 대해서는 분명하게 설명하기 어려우나 본 연구결과는 내부회계관리제도에 관한 감사인의 비감사서비스의 제공이 감사인의 독립성을 저해한다고 판단하기 어려우며 감사인에게 보다 높은 금액의 비감사서비스를 내부회계관리제도와 관련하여 지불하더라도 감사품질이 저하되지 않음을 간접적으로 시사한다.

<주제어> 비감사서비스, 재량적발생액, 감사품질, 독립성, 내부회계관리제도

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