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The Quality of Earnings and Auditor – Tenure

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〈Abstract〉

The objective of this study is to examine whether discretionary accruals decline in the last year with the predecessor auditor and increase in the first year with the successor. The full sample is divided into long versus short auditor tenures sub-samples and the results of the firm-years with short auditor tenure are generally consistent with those of full sample. My major findings of this study are as follows : First, discretionary accruals as earnings quality are significantly negatively related with the predecessor auditor in the last year and generally insignificant during the first year with the successor. Second, for the short auditor tenure sample, I also find discretionary accruals in the last years highly significantly negatively related with the predecessor auditor. Meanwhile for the long auditor tenure sample, there are no significant changes in discretionary accruals in the last year with predecessor auditor or first year with successor auditor. Third, for the short predecessor auditor tenure, predecessor auditor tenure affects the magnitude of changes in discretionary accruals around auditor switch year. The magnitude of the decrease on discretionary accruals during the last year with the predecessor auditor appears to decline depending on predecessor auditor tenure. On the other hand, for long predecessor auditor tenure, predecessor auditor tenure do not seem to affect the magnitude of changes in discretionary accruals during the last year with the predecessor auditor and during the first year with the successor. These results show the influence pattern of auditor tenure on the association between audit quality and auditor switch.

In conclusion, his study suggests that current regulations of minimum retention of audit contract and mandatory auditor rotation be reasonable and supportive in Korea.

〈Key words〉 Earnings Quality, Auditor tenure, Auditor switch, Mandatory auditor rotation, Discretionary Accruals

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I . INTRODUCTION

The Enron collapse in 2002 brings about fundamental questions about auditor's independent of its client, and auditor rotation was accepted to prevent that sort of accounting fraud problem in the future. One solution is mandatory auditor rotation. On November 13, 2002, U.S. Securities and Exchange Commission (SEC) enacted mandatory audit partner rotation through Sarbanes—Oxley Act¹⁾. However, the effectiveness of mandatory auditor rotation is still under question.

In Korea, legislative entity has modified the existing regulation of the accounting system. Since 1997, the impairment of auditor independence caused by the friendly relationship from the long auditor tenure has required the regulator to enforce the rotation of engagement partner every six years in case of external audit. Furthermore, Korean regulator revised regulation on external audit of corporations to require auditors to rotate the engagement partner for all listed companies every four year. Regulators restrict auditor switch and auditor tenure because they presume auditor—client relationship by auditor switch and auditor tenure may affect audit quality and earnings quality.

However, the effectiveness of regulations to restrict auditor switch and auditor tenure is not clear. The relation between auditor tenure and earning quality is central issue because the regulation for mandatory audit rotation comes from the belief that extended auditor tenure may affect audit independence. The recent studies examine whether auditor tenure is related to auditor quality and the audit quality difference between auditor switching firms and non—switching firms.

Numerous prior researches show that auditor tenure does not impair audit quality and auditor switch is triggered by incentives to conceal accounting information. These findings are used in arguments against mandatory auditor rotation, which is not sufficient to provide evidence against mandatory auditor rotation.

This study investigates the influence of auditor tenure not only on earnings quality but also on the association auditor switch and earnings quality. The meaningfulness of this study is the first to examine the complex aspects of auditor switch and auditor tenure to provide more evidence for or against the current regulation on mandatory auditor rotation.

I examine the association between earnings quality and auditor—client relationship in terms of

1) Section 203 of Sarbanes—Oxley Act, *Audit Partner Rotation* requires rotation of all audit partners who perform audit, review or attest services for a firm for five consecutive years. Section 207 of Sarbanes—Oxley Act, *Study Of Mandatory Rotation Of Registered Public Accounting Firms* suggesting a study and review of the potential effects of requiring the mandatory rotation of registered public accounting firms.

auditor switch and auditor tenure using discretionary accrual as proxy of earnings quality using 2,139 firm–year observations of Korean listed companies collected over the years 2005–2008.

First, I try to test whether auditor switch and auditor tenure affect earnings quality measured by discretionary accruals. Second, I perform regression analyses by dividing the full sample into long and short predecessor auditor tenure sub–samples, and comparing the magnitude and significance of the coefficients on auditor switch to examine auditor tenure with auditor switch and earnings quality. Third, I include auditor switch interaction with predecessor auditor tenure in the regression equation. Recently, the nonlinear relation between auditor tenure and earnings quality was found (Lim 2006). Thus, I also perform further regression analyses by using long and short predecessor auditor tenure subsamples, and comparing the magnitude and significance of each coefficient.

My major findings of this study are as follows :

First, discretionary accruals as earnings quality are significantly negatively related with the predecessor auditor in the last year and generally insignificant during the first year with the successor.

Second, for the short auditor tenure sample, I also find discretionary accruals in the last years highly significantly negatively related with the predecessor auditor. Meanwhile for the long auditor tenure sample, there are no significant changes in discretionary accruals in the last year with predecessor auditor or first year with successor auditor.

Third, for the short predecessor auditor tenure, predecessor auditor tenure affects the magnitude of changes in discretionary accruals around auditor switch year. The magnitude of the decrease on discretionary accruals during the last year with the predecessor auditor appears to decline depending on predecessor auditor tenure. On the other hand, for long predecessor auditor tenure, predecessor auditor tenure do not seem to affect the magnitude of changes in discretionary accruals during the last year with the predecessor auditor and during the first year with the successor. These results show the influence pattern of auditor tenure on the association between audit quality and auditor switch.

Overall, firms with short auditor tenure are more likely to switch their auditor to avoid conservative accounting choices than firms with long auditor tenure. This means that there is less incentive for firms to switch their auditors to find a more reasonable successor, and there is less room for auditors to select more conservative accounting policies in case of auditor and firm with long–term relationship. This finding can support minimum retention of audit contract because minimum retention of audit contract can prevent firms from switching their auditor to avoid

incumbent auditor's conservatism and, if the level of auditor tenure reaches certain threshold level, there is no significant improvement of earnings quality due to extended auditor tenure. In conclusion, mandatory auditor rotation of 6-year can be effective on the basis of findings in this study.

The remainder of the paper is made up as follows : Section II discusses relevant prior researches. Section III describes hypothesis and research model. Section IV presents descriptive statistics, and empirical results. The final section concludes the paper.

II. PRIOR RESEARCH

1. Earnings quality proxy

As for proxies of earnings quality, many prior researches have suggested audit opinions, Big4, and discretionary accruals. Accrual measures have been used in numerous prior studies regarding the association between accruals and earnings management, earnings quality. In this study, I use discretionary accruals as proxy of companies' earnings management behavior and earnings quality.

Discretionary accruals are estimated on the cross-sectional modified Jones model (Dechow et al. 1995).

2. Association between earnings quality and audit firm tenure

This study is designed to determine if there is any relationship between auditor tenure and auditor quality. Because mandatory audit rotation is forced by the doubt that long auditor tenure may affect audit independence, the association between auditor tenure and earnings quality is of primary concern.

The relation between auditor tenure and earnings quality measured by the dispersion and sign of both absolute Jones model and absolute current accruals was found (Myers et al. 2003). They show higher earnings quality with longer auditor tenure and interpret longer auditor tenure as preventing managerial discretionary accruals. Johnson et al. (2005) show that discretionary accruals are larger and less persistent for firms with short auditor tenure of two and three years compared to those with medium auditor tenure of four to eight years, and they cannot find any evidence of less earnings quality for long auditor tenure of nine or more years. Ghosh and Moon

(2007) test whether auditor tenure is related to investor perception of earnings quality measured by using earning response coefficients from returns – earnings regression. They find a positive relation between auditor tenure and investor perceptions of earnings quality, and interpret auditor tenure as improving earnings quality.

Davis et al. (2002) find a positive relation between auditor tenure and absolute discretionary accruals and a negative relation between auditor tenure and forecast errors, and managements have greater earnings management and are able to meet earnings forecasts more easily by longer auditor tenure.

3. Auditor switch

The change of discretionary accruals on company – years with predecessor auditors and with successor auditors was examined when the firms change their auditors. Under the voluntary auditor switch, auditors' differences can lead to strategic approach for auditors as well as clients.

The previous studies suggest that firms have successfully covered accounting information through timely auditor switch, which may deteriorate earnings quality, and potentially increase the information risk of capital market (Schwartz and Menon 1985, Knapp and Elikai 1990 and Kluger and Shields 1991).

DeFond and Subramanyam (1998) show that discretionary accruals are significantly negative in the last year with predecessor auditor and insignificant discretionary accruals in the first year with successor auditor.

III. RESEARCH DESIGN

1. Auditor tenure, discretionary accruals and auditor switch

There is argument that long audit firm tenure may be associated with lower audit quality and lower earnings quality if the longer relationship between auditor and clients may impair the audit independence. In contrast, there is argument that the short audit firm tenures may be related with lower audit quality and lower earnings quality due to new auditors lack of sufficient knowledge of client firms, and as a consequence, audit failures is likely to increase. Based on the results of the recent studies. I suggest that the short audit firm tenures be associated with lower audit quality and lower earnings quality. The association between the short audit firm tenures and lower

audit quality and lower earnings may indicate that the lack of sufficient knowledge of firm may lower audit quality more than the impairment of audit objectivity caused by the long auditor tenure in Korea.

My research is extended to investigate auditor tenure's effect on the relationship between discretionary accruals and auditor switch and to reflect complex aspect of auditor-client relationship compared to prior researches.

I investigate the relationship between auditor switch and earnings quality, and find that firm-years with predecessor auditor have significant negative discretionary accruals. I think that predecessor auditor tenure may affect discretionary accruals as well as the association between discretionary accruals and auditor switch. Prior researches have provided evidence that long auditor tenure deters managerial discretionary accruals and sustains high earnings quality. I forecast the magnitude of negative discretionary accruals of last year with predecessor auditor may be different by auditor tenure of predecessor auditor.

2. Measurement of discretionary accruals

I measure discretionary accruals and absolute value of discretionary accruals using modified Jones model (Dechow et al. 1995)²⁾. 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(1). And then, Discretionary accruals(DA) are calculated by applying them to Equation(2). Discretionary accruals are computed by difference of total accruals and non-discretionary accruals as prior studies.

$$TA_{it}/A_{it-1} = \beta_0 + \beta_1(\Delta REV_{it} - \Delta AR_{it})/A_{it-1} + \beta_2(PPE_{it}/A_{it-1}) + \varepsilon_{it} \quad (1)$$

Where

TA_{it} = total accruals, defined net income less operating cash flows for firm i for year t

A_{it-1} = total assets for estimation portfolio firm i for year $t-1$

ΔREV_{it} = change in sales revenue for firm i for year t

ΔAR_{it} = change in trade receivables for firm i for year t

PPE_{it-1} = Gross property, plant and equipment for firm i for year t

A_{it-1} = total assets for firm i for year $t-1$

2) 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-Il, Park et al. 2003 ; Jon-Hak, Cho et al. 2005)

$$DA = TA_{it} / A_{it-1} - \{b_0 + b_1(\Delta REV_{it} - \Delta AR_{it}) / A_{it-1} + b_2(PPE_{it} / A_{it-1})\} \quad (2)$$

3. Relation between auditor switch and discretionary accruals

I use following equation (3) to examine the association between auditor switch and discretionary accruals, by incorporating other control variables used in prior researches on discretionary accruals :

$$DA = \beta_0 + \beta_1 D2 + \beta_2 D1 + \beta_3 D0 + \beta_4 TN + \beta_5 ROA + \beta_6 BM + \beta_7 CFO + \beta_8 TA + \beta_9 BIG + \beta_{10} LEV + e \quad (3)$$

Where

- DA = discretionary accruals for firm i ;
- D2 = dummy variable set equal 1 if the observation is an auditor switch firm, otherwise it takes a value of 0
- D1 = dummy variable set equal 1 if the last year with the predecessor or first year with the successor, otherwise it takes a value of 0
- D0 = dummy variable set equal 1 if the first year with the successor auditor, otherwise it takes a value of 0
- TN = the number of years the auditor tenure in prior year
- ROA = net income divided by total assets at the beginning of the fiscal year
- BM = Book to Market ratio at the end of the year
- CFO = Cash flow from operating activities divided by total assets at the beginning of the fiscal year
- TA = the natural logarithm of total assets
- BIG4 = dummy variable set equal 1 if the auditor is one of big4 auditor and 1 otherwise
- LEV = total debt divided by total assets

From above regression model, I calculate level of discretionary accruals for the each sub-sample partitioned by auditor switch by combining parameter estimates.

The measurement of discretionary accruals are calculated as follows ;

DA for two years before auditor switch = β_1

Change from two years to the last year with predecessor = β_2

DA for last year with predecessor auditor switch = $\beta_1 + \beta_2$

Change from last year with predecessor auditor to first year with successor auditor = β_3

DA for the first year with successor auditor = $\beta_1 + \beta_2 + \beta_3$

The major variables of my concern is TN (auditor tenure) as independent variable to test the impact of auditor tenure on the discretionary accruals in case of audit switch. I perform regression analyses based on long and short predecessor auditor tenure sub-samples respectively, and compare the magnitude and significance of the coefficients.³⁾ I also uses other control variables identified as the factors on discretionary accruals by prior studies. Control variables are ROA, BM, CFO, TA⁴⁾, BIG4⁵⁾, and LEV⁶⁾. ROA and BM are included to control firm growth and CFO to control the potential correlation between accruals and cash flows (Butleretal. 2004 ; Kothari et al. 2005).

4. Interaction of auditor tenure and auditor switch on discretionary accruals

I use dummy variables as interaction with predecessor auditor tenure in the above regression model as independent variables. The following equation(4) makes it possible to examine the influence of auditor tenure on the association between discretionary accruals and auditor switch.

$$DA = \beta_0 + \beta_1 D2 + \beta_2 D1 + \beta_3 D0 + \beta_4 D21 * TN + \beta_5 D1 * TN + \beta_6 D0 * TN + \beta_7 TN + \text{Control variables} + e \quad (4)$$

I also perform regression analyses using long vs short predecessor auditor tenure sub-samples to compare the magnitude and significance of the coefficients.

5. Sample

The initial sample in this study consists of all firm-years listed on the Korea Stock Exchange(KSE) from 2005 to 2008 in the Kis-Value database. I exclude banks and financial service industry from the sample. Observations with information not available or ambiguous

3) Lim (2006) finds a nonlinear relation between auditor tenure and earnings quality.

4) I include TA to control for size effect because prior studies have documented that large firms have smaller discretionary accruals (Dechow and Dichev 2002).

5) Big4 Auditors are more effective than non-Big 4 auditors in constraining opportunistic earnings management

6) Firms with high leverage are more likely to use accounting latitude in order to avoid debt-covenant violations(DeFond and Jiambalvo 1994)

information on KIS–value database are deleted from the data sample. Because of overlapping period, I exclude all firm–years less than two years of auditor tenure with predecessor auditor. In addition, I require auditor data from 1998 to 2008 to calculate auditor tenure. Auditor tenure is calculated as the number of years that the firm has retained the auditor, and auditor switch is calculated from the observations in change of auditors.

〈TABLE 1〉 Sample Selection Procedure

<i>Selection Criteria</i>	<i>Observations</i>
Firm–year observations between 2005–2008	3,156
Less : Financial services institutions	(238)
Observations not available on KIS–Value	(376)
Observations for discretionary accrual model	2,542
Less : Missing auditor data	(35)
Firm with frequent auditor switch	(312)
Observations with auditor and tenure	2,195
Less : Non–change of auditor	(1,312)
Observations of auditor switch	883
Two years before switch auditor	193
Last year with the predecessor auditor	280
The first year with the incumbent auditor	410

IV. EMPIRICAL RESULTS

1. Descriptive statistics

Table 2 shows descriptive statistics for the major variables used in this study. The mean of DA is -0.0273 , which suggests that negative discretionary accruals are about 2.7 percent of total assets. The sum of D2 is 774, which means that 774 auditor switch firm–years are observed from year 2005 to year 2008. The sum of D1 is 690, which means that 690 firm–years of the first year with the incumbent auditor are observed. The mean of tenure is 4.8536, which means the average auditor tenure is 4.85 years. The mean of BIG4 is 0.6636, which means that Big 4 auditor are in charge of auditing about 66 percent of Korean listed firms. Table 3 provides the pearson correlation matrix among all variables used in this study.

〈TABLE 2〉 Descriptive Statistics

Panel A : Descriptive statistics for variables							
Variable	N	Mean	Median	Dev	Sum	Min	Max
DA	2195	− 0.0273	− 0.0301	0.0197	− 38.059	− 0.1287	0.1198
D2	2195	0.3878	0	0.4932	774	0	1
D1	2195	0.2818	0	0.4581	690	0	1
D0	2195	0.1629	0	0.3661	410	0	1
TN	2195	4.8536	4	2.9686	9736	2	14
ROA	2195	0.0374	0.0387	0.0893	78.536	− 0.5129	0.3929
BM	2195	0.8254	0.6135	1.3514	1705	− 10.123	24.167
CFO	2195	0.0621	0.6038	0.0954	123.62	− 0.7467	0.5673
TA	2195	19.352	19.125	1.532	39987	17.6189	24.4129
BIG4	2195	0.6636	1	0.4759	1392	0	1
LEV	2195	1.3123	0.8577	8.3636	2578	− 325.42	151.273

Panel B : Univairate tests for sub−sample								
	n=1,572			n=623			Test for equality	
Variable	Mean	Median	Dev	Mean	Median	Dev	T−test	p−value
DA	− 0.01689	− 0.02312	0.0327	− 0.01898	− 0.023158	0.0251	1.35	0.1943
D2	0.41963	0	0.4928	0.28746	0	0.4456	5.98	<.0001
D1	0.32567	0	0.4716	0.24479	0	0.4281	3.97	0.0001
D0	0.17245	0	0.3856	0.12789	0	0.3454	3.48	0.0012
TN	3.48745	4	1.0958	8.58762	8	2.3824	− 53.45	<.0001
ROA	0.03458	0.03745	0.1112	0.04015	0.0428	0.0865	− 1.21	0.2445
BM	0.82739	0.50327	1.4812	0.81123	0.556	1.1268	0.15	0.8228
CFO	0.05443	0.05506	0.08998	0.06983	0.0642	0.0851	− 4.95	<.0001
TA	19.2314	19.1234	1.3913	19.6324	19.315	1.5112	− 5.98	<.0001
BIG4	0.68123	1	0.47123	0.62312	1	0.4971	2.38	0.019
LEV	1.34563	0.86785	3.2483	0.8963	0.83854	14.1214	0.83	0.4217

(1) sub-sample of firm-years with predecessor auditor tenure from 2 to 5 years

(2) sub-sample of firm-years with predecessor auditor tenure from 6 years

Variable definitions :

DA =discretionary accruals measured by using a modified Jones model

D2 =dummy variable set equal 1 if the observation is an auditor switch firm, otherwise 0

D1 =dummy variable set equal 1 if the last year with the predecessor or first year with the successor auditor, otherwise 0

D0 =dummy variable set equal 1 If the first year with the successor auditor, otherwise 0

TN =the number of years that the firm has retained the predecessor auditor

ROA =net income divided by total assets at the beginning of the fiscal year

BM =Book to market ratio at the end of the year

CFO =Cash flow from operating activities divided by total assets at the beginning of the fiscal year

TA =the natural logarithm of total assets

BIG4 =dummy variable set equal 1 if the auditor is one of big auditor and 1 otherwise 0

LEV =total debt divided by total assets

<TABLE 3> Pearson Correlation Matrix of variables

Variable	DA	D2	D1	D0	TN	ROA	BM	CFO	TA	BIG4	LEVAGE
DA	1.00000										
D2	0.00578 (0.8435)	1.00000									
D1	-0.01463 (0.5768)	0.82343 (<.0001)	1.00000								
D0	0.02735 (0.2312)	0.56812 (<.0001)	0.69125 (<.0001)	1.00000							
TN	-0.03956 (0.0877)	-0.1478 (<.0001)	-0.12465 (<.0001)	-0.08978 (<.0001)	1.00000						
ROA	0.10977 (<.0001)	-0.08579 (0.0001)	-0.05905 (0.0088)	0.01394 (0.5364)	0.0453 (0.0445)	1.00000					
BM	0.09373 (<.0001)	-0.03862 (0.0952)	-0.00315 (0.8961)	0.04925 (0.0326)	0.00415 (0.8541)	0.01312 (0.5655)	1.00000				
CFO	-0.14215 (<.0001)	-0.07453 (0.0012)	-0.08523 (0.0001)	-0.04872 (0.0353)	0.0963 (<.0001)	0.42154 (<.0001)	0.05236 (0.0237)	1.00000			
TA	-0.18482 (<.0001)	-0.10215 (<.0001)	-0.08123 (0.0003)	-0.06154 (0.0072)	0.1754 (<.0001)	0.21845 (<.0001)	0.03693 (0.1121)	0.254821 (<.0001)	1.00000		
BIG4	-0.01163 (0.6508)	-0.05675 (0.0143)	-0.06328 (0.0059)	-0.08348 (0.0004)	-0.00167 (0.9424)	0.10149 (<.0001)	0.06547 (0.1231)	0.30456 (<.0001)	0.31535 (<.0001)	1.00000	
LEV	-0.003 (0.8845)	-0.00351 (0.8525)	-0.01136 (0.6578)	-0.00927 (0.7245)	-0.00418 (0.8678)	-0.03768 (0.1247)	0.16817 (<.0001)	0.02325 (0.3128)	0.02235 (0.3523)	0.03844 (0.106)	1.00000

***, **, * p-value <1%, <5% and <10% with two-tailed tests respectively.

Variable definitions :

- DA =discretionary accruals measured by using a modified Jones model
D2 =dummy variable set equal 1 if the observation is an auditor switch firm, otherwise 0
D1 =dummy variable set equal 1 if the last year with the predecessor or first year with the successor auditor, otherwise 0
D0 =dummy variable set equal 1 If the first year with the successor auditor, otherwise 0
TN =the number of years that the firm has retained the predecessor auditor
ROA =net income divided by total assets at the beginning of the fiscal year
BM =Book to market ratio at the end of the year
CFO =Cash flow from operating activities divided by total assets at the beginning of the fiscal year
TA =the natural logarithm of total assets
BIG4 =dummy variable set equal 1 if the auditor is one of big auditor and 1 otherwise 0
LEV =total debt divided by total assets

2. Regression results for auditor tenure and auditor switch

Using regression equation(3), I examine the influence of audit switch on the magnitude of discretionary accruals after controlling other related control variables.

Table 4 shows the regression results using full sample as well as using sub-samples based on predecessor auditor tenure. According to the results of using full sample in column (1) in Table 4, the coefficient of D1 shows highly significant negative sign (-0.00683) with t -value(-2.52) and that of D0 also provides marginal significant sign (0.00412) with t -value (1.72) as expected. This result suggests that discretionary accruals as earnings quality decrease significantly from the last year with the predecessor auditor to the first year with the successor auditor by 0.68 percent of total assets.

In case of using sub-sample of the firm-year with short predecessor auditor tenure, D1 is highly negatively related to discretionary accruals, while I find no significant relation between D0 and DA. This result suggests that discretionary accruals decrease significantly in the last year with the predecessor auditor by 0.41 percent of total assets and there is no significant increase of discretionary accruals in the first year with the successor.

On the other hand, I cannot find any significant relation between auditor switch and discretionary accruals by using sub-sample of the firm-year with long predecessor auditor tenure. I interpret this result that long-term relationship between firm and auditor does not influence on discretionary accruals in the last year with the predecessor auditor and in the first year with the successor auditor. Decreasing discretionary accruals during the last year with the predecessor auditor may be interpreted that the predecessor auditor are likely to prefer more

conservative accounting choice and face auditor switch as well. When firms with long auditor tenure decide auditor switch, no significant decreasing discretionary accruals during the last year with the predecessor auditor is found in this study. The regression results of using full–sample and sub–sample for the firms with long predecessor auditor tenure are provided in the column (1) and (3) in Table 4.

〈TABLE 4〉 Regression results of Equation (3)

$$DA = \beta_0 + \beta_1 D2 + \beta_2 D1 + \beta_3 D0 + \beta_4 TN + \beta_5 ROA + \beta_6 BM + \beta_7 CFO + \beta_8 TA + \beta_9 BIG + \beta_{10} LEV + e$$

Variables	Full Sample	Sub–sample(1)	Sub–sample(2)
Intercept	0.06256 (5.89 ^{***})	0.05452 (4.68 ^{***})	0.05368 (4.21 ^{***})
D2	0.00342 (1.46)	0.00391 (1.48)	0.00402 (0.98)
D1	–0.00683 (–2.52 ^{**})	–0.00872 (–2.46 ^{**})	–0.00845 (–1.58)
D0	0.00412 (1.72 [*])	0.00458 (1.58)	0.00548 (1.23)
TN	–0.00001923 (–0.09)	–0.00183 (–2.48 ^{**})	0.00039213 (0.98)
ROA	0.06102 (8.59 ^{***})	0.05237 (5.95 ^{***})	0.06245 (5.25 ^{***})
BM	0.00316 (4.67 ^{***})	0.00432 (4.92 ^{***})	0.00145 (1.68 [*])
CFO	–0.05649 (–7.82 ^{***})	–0.06372 (–7.34 ^{***})	–0.03512 (–2.84 ^{***})
TA	–0.00385 (–7.92 ^{***})	–0.00364 (–5.82 ^{***})	–0.00412 (–5.92 ^{***})
BIG4	0.00231 (1.61)	0.00283 (1.57)	0.00043562 (0.23)
LEV	–0.00006974 (–0.93)	–0.00092845 (–3.48 ^{***})	0.00000845 (0.18)
R ²	0.1268	0.1235	0.1692
N	2,195	1,572	623

***, **, * denote p–value <1%, <5% and <10%, respectively with two–tailed tests.

- (1) sub-sample of firm-years with predecessor auditor tenure from 2 to 5 years
- (2) sub-sample of firm-years with predecessor auditor tenure from 6 years

Variable definitions :

DA =discretionary accruals measured by using a modified Jones model
 D2 =dummy variable set equal 1 if the observation is an auditor switch firm, otherwise 0
 D1 =dummy variable set equal 1 if the last year with the predecessor or first year with the successor auditor, otherwise 0
 D0 =dummy variable set equal 1 If the first year with the successor auditor, otherwise 0
 TN =the number of years that the firm has retained the predecessor auditor
 ROA =net income divided by total assets at the beginning of the fiscal year
 BM =Book to market ratio at the end of the year
 CFO =Cash flow from operating activities divided by total assets at the beginning of the fiscal year
 TA =the natural logarithm of total assets
 BIG4 =dummy variable set equal 1 if the auditor is one of big auditor and 1 otherwise 0
 LEV =total debt divided by total assets

The coefficient of tenure on DA is not significant in full sample, while the coefficient of tenure on DA is significantly negative in short predecessor auditor tenure in column (2) in Table 4. This result shows that predecessor auditor tenure affect discretionary accruals in the current year for the firms with predecessor auditor tenure less than 6 years.

Using equation(3) provides the evidence that there is significant association between auditor switch and earnings quality and audit tenure is related to the association between auditor switch and earnings quality as well.

In order to test the influence of auditor tenure on the association between auditor switch and earnings quality, I perform regression analysis using equation (4) with dummy variables interaction with predecessor auditor tenure and do not find any significant coefficient of dummy variables interaction with predecessor auditor tenure in full sample. Table 5 provides the results using full sample and sub-sample based on predecessor auditor tenure. In column (1) in Table 5 in full sample, the coefficients of D1, D2 and D0 show marginally significant positive sign. On the other hand, I cannot find any significant coefficient of dummy variables interaction with auditor tenure. In case of sub-sample of firm years with short auditor tenure, the coefficients of D2, D1, and D0 show highly significant positive sign and negative sign respectively. In sub-sample, the coefficient of D2 and D1 interaction with tenure are significantly negative and positive, respectively. The reason why different sign of dummy variables and dummy variables interaction with tenure appears may be interpreted by the explanation that the longer predecessor auditor tenure, the smaller the magnitude of increase and decrease in discretionary accruals in the two years before auditor switch and the last year with the predecessor auditor.

〈TABLE 5〉 Regression results of Equation (4)

$$DA = \beta_0 + \beta_1 D2 + \beta_2 D1 + \beta_3 D0 + \beta_4 D2 \times TN + \beta_5 D1 \times TN + \beta_6 D0 \times TN + \beta_7 TN + \text{Control variables} + e$$

Variables	Full Sample	Sub-sample(1)	Sub-sample(2)
Intercept	0.05325 (5.96 ^{***})	0.05248 (4.48 ^{***})	0.05295 (4.24 ^{***})
D2	0.00923 (1.68 [*])	0.02487 (2.58 ^{**})	0.01345 (0.86)
D1	-0.01124 (-1.68 [*])	-0.03248 (-2.87 ^{***})	-0.00458 (-0.27)
D0	0.00424 (0.72)	0.00712 (0.82)	-0.00329 (-0.25)
D2xTN	-0.00212 (-1.15)	-0.00657 (-2.42 ^{**})	-0.00212 (-0.57)
D1xTN	0.0007678 (0.72)	0.00782 (2.46 ^{**})	-0.0006784 (-0.37)
D0xTN	0.00012134 (0.24)	-0.00072345 (-0.38)	0.00079874 (0.52)
TN	0.00009684 (0.48)	-0.002562 (-1.45)	0.00071232 (1.52)
ROA	0.06897 (9.56 ^{***})	0.06238 (6.72 ^{***})	0.07214 (5.36 ^{***})
BM	0.00227 (4.58 ^{***})	0.00327 (4.91 ^{***})	0.00141 (1.64)
CFO	-0.06673 (-7.58 ^{***})	-0.06309 (-7.29 ^{***})	-0.03342 (-2.86 ^{***})
TA	-0.00374 (-7.88 ^{***})	-0.00343 (-5.56 ^{***})	-0.00404 (-5.89 ^{***})
BIG4	0.00321 (1.48)	0.00321 (1.32)	0.00072697 (0.48)
LEV	-0.00007321 (-0.89)	-0.00062386 (-3.42 ^{***})	0.00002124 (0.28)
R ²	0.1213	0.1252	0.1713
N	2,195	1,572	623

***, **, * denote p-value <1%, <5% and <10%, respectively with two-tailed tests.

- (1) sub-sample of firm-years with predecessor auditor tenure from 2 to 5 years
- (2) sub-sample of firm-years with predecessor auditor tenure from 6 years

Variable definitions :

- DA =discretionary accruals measured by using a modified Jones model
- D2 =dummy variable set equal 1 if the observation is an auditor switch firm, otherwise 0
- D1 =dummy variable set equal 1 if the last year with the predecessor or first year with the successor auditor, otherwise 0
- D0 =dummy variable set equal 1 If the first year with the successor auditor, otherwise 0
- TN =the number of years that the firm has retained the predecessor auditor
- ROA =net income divided by total assets at the beginning of the fiscal year
- BM =Book to market ratio at the end of the year
- CFO =Cash flow from operating activities divided by total assets at the beginning of the fiscal year
- TA =the natural logarithm of total assets
- BIG4 =dummy variable set equal 1 if the auditor is one of big auditor and 1 otherwise 0
- LEV =total debt divided by total assets

This result implies that about 4.2years ($0.03248/0.00782=4.16$) is the threshold of auditor tenure to change the direction of influence of auditor switch on discretionary accruals in the last year with predecessor auditor. In contrast, using the sub-sample of firm-years with long auditor tenure, there is no significant coefficient on independent variables of concern. This result indicates that auditor switch does not influence on earnings quality in case of firms having long-term relationship with predecessor auditor with long auditor tenure.

V. CONCLUSION

The simple association between auditor tenure and audit quality or between auditor switch and audit quality is not sufficient enough to provide reasonable grounds for or against mandatory auditor rotation in Korea.

In order to expand prior studies and reflect complex aspect of auditor-client relationship, this study examines empirically the influence of auditor tenure on the association between earnings quality and auditor switch.

The results of this study suggest that for firms with relatively short auditor tenure, auditor tenure affect on the magnitude of changes in discretionary accruals surrounding auditor switch year only for firm-years but once auditor tenure reach certain period of years, auditor tenure do not affect on discretionary accruals and the magnitude of changes in discretionary accruals.

The main contribution of this study is to provide additional evidence not only for mandatory auditor rotation but also for minimum retention of auditor, which is controversial issues in Korea.

However, The results of this study have some limitations for or against mandatory auditor rotation because the auditor switch samples used are only based on voluntary auditor switch. Another potential problem is that sample used in this study may include problematic firms under compulsory auditor designation by the Securities and Futures Commission (SFC) because compulsory auditor switch for problematic firms may be highly associated with short auditor tenure and high litigation risk in comparison with long auditor tenure.

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이익의 질과 감사수임기간

송혁준*

<요 약>

본 연구의 주요 목적은 감사수임기간을 고려할 때 전임감사인인 교체되는 직전년도와 신규감사인인 교체되는 첫 번째 연도에 재량적 발생액으로 측정되는 피감사회사의 이익의 질이 감소하는가를 분석하는 것이다. 이를 확인하기 위해 본 연구에서는 피감사기업의 이익의 질에 대한 대응치로 선행연구에서 사용된 측정가능한 재량적 발생액을 사용하였고, 표본기업을 감사수임기간에 따라 단기간 감사수임기간기업과 장기간 감사수임기간기업으로 구분하여 실증 분석을 수행하였다. 본 연구의 주요 실증분석결과는 다음과 같이 요약될 수 있다. 첫째, 이익의 질을 나타내는 재량적 발생액은 전임감사인의 경우 음의 관련성을 보이며 재량적 발생액을 감소시킨 반면에 신규감사인의 경우에는 재량적 발생액과 유의적인 관련성이 발견되지 않았다. 둘째, 단기간감사수임기간 기업의 경우에는 매우 유의적인 재량적 발생액과 음의 관련성이 발견되고 있는 반면에 장기간 감사수임기간 기업의 경우에는 재량적 발생액과 유의적인 관련성을 보이지 않았다. 전반적으로 전체표본과 단기간 감사수임기간기업의 경우에는 전반적으로 분석결과가 일치하였다. 마지막으로 감사인 교체를 고려한 감사수임기간과의 상호관련성 변수를 분석한 결과에서도 단기간감사수임기간기업에서는 재량적 발생액과 음의 관련성을 보이지만, 장기간 수임기간기업의 경우에는 이러한 감사인 교체가 재량적 발생액과 유의적인 관련성을 보이지 않았다. 결론적으로 이러한 본 연구의 분석 결과는 감사수임기간이 길수록 감사인교체가 재량적 발생액의 감소로 나타나는 이익의 질의 개선에 영향을 미치지 않고 있다는 의미이므로, 감사인강제순환제도가 이익의 질을 개선하는 바람직한 제도적 효과가 있음을 시사한다.

〈주제어〉 이익의 질, 재량적 발생액, 감사수임기간, 감사인교체, 감사인강제순환제도

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