

The Effect of Auditor's Length of Audit on Corporate Tax Avoidance*

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〈Abstract〉

Understanding of external auditor's behavior is important for higher audit quality. And the audit quality is an essential factor of firms' sustainability. The purpose of this paper is to verify auditor behaviors toward corporate tax avoidance via auditor tenure. In particular, this study examines how the auditor independence issue is reflected in corporate tax avoidance.

This study examines the association between auditor tenure and corporate tax avoidance by Using 2,588 firm-year observations from KOSPI in the period 2001-2010. We find that corporate tax avoidance increased with auditor tenure, reflecting, the client-beneficial tax planning, which minimizes tax payments that could be more offered when the auditor tenure increased. This suggests that the longer auditor tenure, the more likely auditor's independence could be compromised. For the robustness of the empirical analysis results, factor analysis was performed on the four tax avoidance measures used in this study. And 2-stage analysis was performed. The additional analyses results supported the main result.

This study contributes to the literature by extending the auditing and tax literature on the examination of auditor behavior toward corporate tax avoidance. Secondly, by investigating the impact of auditor tenure on corporate tax avoidance, this study proposes additional evidence regarding the debate on auditor independence. In addition, it is expected that the empirical results of this study will contribute to predicting the effect of the periodic designation system for auditors scheduled to be implemented in Korea from November 1, 2019.

〈Key words〉 Auditor tenure, auditor independence, corporate tax avoidance

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I. Introduction

According to prior studies, corporate tax avoidance(hereafter ‘CTA’) is widely defined as the minimizing of explicit taxes via legal tax planning or illegal sheltering(Hanlon and Heitzman 2010). Considering to the extant enormous research regarding corporate tax avoidance and auditing area, the impacts of tax avoidance on auditors’ behavior is largely unexamined(McGuire et al. 2012). The auditors might play a significant role in firms’ accounting practices and thereby taxable income could be affected by such auditor’s attributes.

In this paper, the effect of auditor tenure on CTA is examined. Since tax skill requires more expertise than auditing in general(Bonner et al. 1992), it is expected that long auditor tenure increases the value of tax-related advice. So, under the long auditor tenure, the auditor is able and willing to assist their client’s tax strategies and thereby create a more intimate climate with client managers. However, considering to the argument that financial reporting aggressiveness is positively associated with aggressive tax avoidance(Frank et al. 2009), it is expected that high levels of CTA decreases the accuracy of financial statements. Conversely, as accountability is required of external auditors, they need to increase the reliability of clients’ financial statements with cumulated client-specific knowledge. Therefore, it is anticipated that independent auditors are disinclined to participate in client aggressive tax planning or decrease the degree of CTA of client firms.

To examine our hypothesis regarding auditor behavior toward CTA, multiple measurements in CTA are adopted based on previous tax research. Specifically, we use following CTA measures ; one year of GAAP and cash effective tax rates(Dhaliwal et al. 2011 ; McGuire et al. 2012), discretionary book-tax differences(Desai and Dharmapala 2006) and total book-tax differences (Wilson 2009). Using 2,588 firm-year observations from KOSPI in the period 2001–2010, we find that the corporate tax avoidance increased with auditor tenure. That is, client-beneficial tax planning, which decreases the taxpayments, can be more effectively offered when auditor tenure increases and thus the auditor-client relationship and auditor familiarity with the firm’s operations. For robustness check, factor analysis and two stage analyses have been performed, the additional findings of which support our main results.

Regarding the contribution of this study, first, this paper provides evidence that CTA is related to auditor behavior. While recent tax studies mostly emphasize the factors that affect CTA(Chen et al. 2010 ; Dyreng et al. 2010 ; McGuire et al. 2012) and the negative impact of CTA on capital markets(Dhaliwal et al. 2011 ; Kim et al. 2011), this study deals with association between CTA

and auditor response to such relation. As such, this paper adds to the relatively scarce corpus of information regarding auditor behaviors toward CTA. Secondly, this paper examines the independence issues of external auditor through CTA. The SEC (Securities and Exchange Commission) expressed concern over auditors providing tax planning services that involve income tax sheltering by client firms. In the same vein, PCAOB (Public Company Accounting Oversight Board) revealed that it will examine auditor retention to identify certain policies and practice promoting tax avoidance by client firms that can potentially impair auditor independence (Slemrod 2004). These arguments imply that issues surrounding auditor independence are closely related to CTA by client firms. Therefore, by investigating the impact of auditor tenure on CTA, this paper proposes additional evidence regarding auditor independence. Third, from November 1, 2019, a periodic designation system for auditors has been introduced and implemented in Korea to improve audit quality. The reason for the implementation of this system is that as the auditor tenure increases, the audit quality is deteriorated due to the impairment of auditor independence. This study has implications in that how the auditor's behavior changes according to the auditor tenure.

The rest of this paper proceeds as follows. In the Section II, prior research will be reviewed and hypotheses will be presented. Research design and sample criteria are described in Section III. In the Section IV, empirical results will be presented. Section V reports the results of additional analyses. Section VI concludes.

II. Prior research and hypothesis development

1. Auditor tenure

The core concern regarding auditor tenure commences from doubts as to whether long auditor-client relationships enhance the quality of external audit or not. DeAngelo (1981) defined the quality of external audit as the joint product of "detection of problems" and "reporting the detected problems". The former is related to the auditors' client specific knowledge whereas the latter is associated with auditor independence, and both factors are related to auditor tenure.

On the perspective of client-specific knowledge, it is expected that long tenure helps to mitigate audit start-up cost and decrease the audit failure risk inherent in the initial years of an engagement. Also, managers anticipate that a long relationship with their incumbent auditor provides the basis for customized services because of the external auditor's cumulative

experiences of the firm's operations(Myers et al. 2003). Therefore, we can expect that long audit tenure decreases information asymmetries between auditors and client firms and thereby increases audit quality. Myers et al.(2003) argue that long audit tenure is associated with less extreme income-increasing and income-decreasing accruals which imply that long auditor tenure has a positive effect on audit quality. Similarly, Johnson et al.(2002) observe that when a firm is under short auditor tenure, it is prone to report high level of unexpected accruals and low level of earning persistence. Also, Geiger and Raghunandan(2002) propose bankruptcy cases and argue that there are more audit failures in the short of auditor tenure. In sum, these prior researches propose that long auditor tenure increases the quality of audit whereas short auditor tenure is characterized by a deficiency of client-specific knowledge.

In respect of auditor independence, on the contrary, it is anticipated that long auditor tenure deteriorates audit quality. Because long periods of audit fees from clients are regarded as quasi-rent and also the skepticism or fresh perspectives of auditors may be insufficient in long relationship, long tenure impairs auditor objectivity (DeAngelo 1981 ; Nagy 2005). Dopuch et al.(2001) suggest that more favorable audit opinions occur in long auditor-client relationships and Davis et al.(2005) find an increase, in later years of auditor tenure, in absolute value of forecast errors and discretionary accruals to meet or beat analysts' earnings forecasts. Based on these results, it is probable that long tenure threatens independence of external auditor which in turn is reflected in reduced audit quality. Moreover, supervisory institutions argue that long term client-auditor relationships result in accounting scandals such as the Enron. Therefore, long tenure may impair auditor independence through distortions created by economic incentives provided by clients or the loss of professional skepticism as long-standing connections mature.

2. Corporate tax avoidance and auditor tenure

Debates on extended auditor tenure in the framework of CTA regimes are useful in that while effective tax planning is regarded as a beneficial strategy for the shareholders and managers by conserving firm resources, on the perspective of auditing, it is positively related to financial reporting aggressiveness(Frank et al. 2009) and may entail additional audit risk. In connection with auditors, it is widely recognized that the auditor plays an important role in CTA(Mayhew and Shackelford 2007). Because accounting treatments or accounting estimates can be adjusted by external auditing, incumbent auditors can substantially influence aggressive managerial tax planning. Therefore, focusing on the impact of external auditing on CTA is closely related with

auditor response to aggressive reporting by managers. Furthermore, in connection with auditor tenure issues, this premise provides the opportunity to examine the role of client-specific knowledge retained by incumbent auditors in opportunistic reporting behavior by managers. Hence, in terms of auditor tenure debates, the role of external auditors in CTA proposes two possibilities : advocate and auditor.

With respect to the role of advocate, it is expected that the auditor's client-specific knowledge increases with lengthy tenure, rendering the auditors more inclined to assist their client's aggressive tax planning. In some cases, tax-related services require more expertise than auditing services. Because the auditing mainly focuses on finding errors of financial statements (i.e., backward reasoning), tax-related services demand not only factor findings but also predicting the consequences of tax strategies in the future (i.e., forward reasoning) (Bonner et al. 1992). Kirsten and Omer(2010) find that decoupling audit-and tax-service provision and subsequently obtaining tax consulting from a new provider results in a decrease in tax avoidance due to this new provider's lack of expertise at client firms or lack of experience with the client's tax avoidance opportunities. Thus, client-specific knowledge is an essential requirement for auditors to provide useful tax counsel, and it is expected that long auditor tenure increases the value of tax-related advice.

Understandably, auditors have strong incentive to maintain good relationships with their clients for economic benefit such as providing continued audits or non-audit services(Dopuch et al. 2001 ; Ryan et al. 2001). Client-beneficial behavior by external auditors may be motivated by such economic incentives. Farmer et al.(1987) argue that auditors are more likely to agree with the management's financial-reporting choices when the risk of losing the client is high. This implies that the auditors' economic incentives distort audit quality. In particular, McGuire et al.(2012) proposed some evidence regarding the hidden incentives of expert auditors. They found that CTA by client firms increases when their incumbent auditors have tax expertise or industry specialization. In principle, specialized auditors are required to deter managers from opportunistic reporting and enhance the credibility of financial information. Since aggressive financial reporting is positively related to aggressive tax planning(Frank et al. 2009), expert auditors should curb opportunistic tax strategies by managers.¹⁾

1) The audit opinion of financial statements is determined on the basis of material respects and materiality is regarded as the maximum amount by which the auditor believes the statement could be misstated and still not affect the decisions of reasonable information users(U.S. Auditing Standards Section 312 : Audit risk and materiality in conducting an audit : Planning the audit). Therefore, auditors have some degree of slack when the projected misstatements are under the level of materiality, and thereby we cannot

In this regard, the results of McGuire et al.(2012) bring into question audit quality provided by specialized auditors and suggest that auditor self-interest can be reflected in the tax planning of client firms. Concretely, incumbent auditors could propose tax beneficial accounting treatments or concur with aggressive accounting estimates provided by management. They may even affect tax avoidance of client firms via acquiescing in inappropriate accounting by managers. Consequently, it is expected that client-beneficial tax planning, which minimizes the taxpayments, can be more effectively offered by external auditors as their length of audit increases.

On the other hand, the auditor role emphasizes the objectivity of external auditors. The audit firm is required to validate the accuracy of the financial statement that must represent the true firm values to protect the public interest and enhance the credibility of financial information (McGuire et al. 2012). From this point of view, it is expected that cumulated client-specific knowledge by lengthy auditor tenure promotes accurate reporting by incumbent auditors. Because firm-specific expertise assists the auditors in understanding the client's business and allows auditors to rely less on manager's estimation, professional auditor skepticism can be more strongly reflected in long standing auditing. As a result, auditors may not allow their clients to recognize all or parts of the tax benefits associated with certain tax strategies (e.g., excessive recognition of tax reserves). Also, the accurate reporting perspective provides the possibility that financial reporting aggressiveness is mitigated by auditors. Frank et al.(2009) suggest that aggressive financial reporting is related to CTA positively.

Therefore, it is expected that CTA may decrease under the gaze of independent auditors and such relation will be more pronounced as the client-specific knowledge of auditors cumulates. Based on the above competing views between the advocate and auditor role in auditor tenure, it is difficult to propose ex-ante prediction regarding the relation between corporate tax avoidance and auditor tenure. Hence, we test the following null hypothesis :

H : Corporate tax avoidance by client firm will have no relation to auditor tenure, other factors being equal.

exclude the possibility that auditors, to some extent, may aid their client firm in 'pushing the boundaries' of Generally Accepted Accounting Principles(GAAP) for corporate tax avoidance.

III. Research design and sample

1. Research design

To examine the H which is regarding the relation between CTA and auditor tenure, we posit the following models :

$$\begin{aligned} TAV_{1\sim 4i,t} = & \delta_0 + \delta_1 LTNR_{i,t} + \delta_2 SIZE_{i,t} + \delta_3 R\&D_{i,t} + \delta_4 LEV_{i,t} + \delta_5 GRW_{i,t} + \delta_6 ROA_{i,t} \\ & + \delta_7 PPE_{i,t} + \delta_8 DPAM_{i,t} + \delta_9 CSH_{i,t} + \delta_{10} PMDA_{i,t} + \delta_{11} NOL_{i,t} + \delta_{12} ADCT_{i,t} \\ & + \delta_{13} FOR_{i,t} + \delta_{14} OWN_{i,t} + \delta_{15} ADT_{i,t} + \delta_{16} MS_{i,t} \\ & + Yearfixed + Industry\ fixed + \kappa_{i,t} \end{aligned} \quad (1)$$

where, for client firm i in year t . The definitions of variables are as follows :

$TAV_{1\sim 4}$	= four corporate tax avoidance measurements ;
$LTNR$	= natural log of auditor tenure ;
$SIZE$	= natural log of total assets ;
$R\&D$	= research and development expenses scaled by sales ;
LEV	= ratio of debt to total assets ;
GRW	= sales growth, difference between current fiscal year of sales and prior fiscal year of sales scaled by prior fiscal year of sales ;
ROA	= ratio of net income to total assets ;
PPE	= property, plant and equipment excluding land and construction in progress ;
$DPAM$	= sum of depreciation and amortization expense divided by total assets at the beginning of the year ;
CSH	= firm cash holdings divided by total assets ;
$PMDA$	= performance matched discretionary accruals of Kothari et al.(2005) ;
NOL	= dummy variable equal to '1' if there is a tax loss carryforward, and '0' otherwise ;
$ADCT$	= dummy variable equal to '1' if the audit committee exists, and '0' otherwise ;
FOR	= percentage of shares, held by foreign shareholders ;
OWN	= percentage of shares, held by largest shareholders ;
ADT	= '1' if the incumbent auditor is one of Big 4, and '0' otherwise ;
MS	= auditor industry specialization based on market share approach(Balsam et al. 2003), '1' if an audit firm is the largest supplier on the number of client basis, and '0' otherwise ;
Year fixed	= dummy variables for fixed effects of year ; and
Industry fixed	= dummy variables for fixed effects of industry.

Because the dependent variable of equation (1) is CTA, the empirical model follows related studies(Chen et al. 2010 ; Dhaliwal et al. 2011 ; McGuire et al. 2012). The corporate tax avoidance ($TAV_{i,t}$) is dependent variable and four measurements are adopted to measure the

degree of firm's corporate tax avoidance. Since each approach have its own strength and depending on a single measure of CTA may lead to spurious conclusions (Hanlon and Heitzman 2010 ; Dhaliwaletal. 2011), multiple measurements are used in this paper. They are 'GETR_1Y', 'CETR_1Y', 'DD_BTD', and 'BTD'. The first two measurements are effective tax rates which are widely used in previous studies (Stickney and McGee 1982 ; Zimmerman 1983 ; Gupta and Newberry 1997 ; Rego 2003 ; Richardson and Lanis 2007). Even though effective tax rates cannot capture all of the tax avoidance behaviors, they are easy to calculate. The second two measurements are basically based on book-tax difference approach. The 'DD_BTD' captures tax reporting aggressiveness from the total book-tax differences whereas the 'BTD' regards the total book-tax differences as CTA. Therefore, 'DD_BTD' is less observable than 'BTD', but 'BTD' has limitation in representing pure CTA in that it includes not only opportunistic tax behaviors but also aggressive financial reporting. Notwithstanding these pros and cons, the last two measurements are adopted as supplemental indexes in this paper. Concerning the effective tax rate measures, the lower number of rates is interpreted as higher level of corporate tax avoidance. Since the effective tax rates have been distinguished as GAAP effective tax rate and CASH effective tax rate for the definition of numerator (Stickney and McGee 1982 ; Zimmerman 1983 ; Gupta and Newberry 1997 ; Wilson 2009), we use both methodologies. The 'GETR_1Y' ('CETR_1Y') is GAAP (CASH) effective tax rate for a single year and calculated by tax expense (cash taxes payment) of current year divided by pre-tax income of current year.

$$\text{GETR_1Y (CETR_1Y)}_{i,t} = \frac{\text{Current tax expense (Cash taxes payment)}_{i,t}}{\text{Pre-tax income}_{i,t}} \quad (2)$$

In the recent literature, 'DD_BTD' is regarded as more appropriate approach to capture the firm's aggressive tax planning (Desai and Dharmapala 2006 ; Hanlon and Heitzman 2010). According to the Desai and Dharmapala (2006), 'DD_BTD' is derived as the residuals of following OLS model :

$$\text{BT}_{i,t} = \beta_1 \text{TA}_{i,t} + \varepsilon_{i,t} \quad (3)$$

where, $\text{BT}_{i,t}$ = book-tax difference for firm i in year t, scaled by lagged value of assets ;
 $\text{TA}_{i,t}$ = total accruals for firm i in year t, scaled by lagged value of assets ; and
 $\varepsilon_{i,t}$ = residuals that cannot be explained by variations in total accruals.

The high level of 'DD_BTD' is interpreted as high level of CTA. Regarding the book-tax difference which is principally based on Manzon and Plesko(2002), earnings before income tax

is adopted as book income, and taxable income is estimated based on gross-up method that is current tax expense from the income statement grossed up by statutory tax rate (Hanlon 2005). Taxable income is estimated by following model :

$$ETI_{i,t} = ACTE_{i,t} / STR_t \quad (4)$$

where, $ETI_{i,t}$ = estimated taxable income for firm i in year t ;

$ACTE_{i,t}$ = adjusted current tax expense for firm i in year t , current income tax expense + (ending balance of deferred tax asset – beginning balance of deferred tax asset) – (ending balance of deferred tax liability – beginning balance of deferred tax liability) ; and

STR_t = statutory corporate income tax rate of Korea in year t .²⁾

We include changes of deferred tax asset and liability in $ACTE_{i,t}$ to estimate more closely taxable income, and total accruals are derived from the difference between net income and cash flows from operating (Hribar and Collins 2002).

Lastly, the 'BTD' is adopted as proxy of CTA in some studies (Mills 1998 ; Wilson 2009), but it may not capture the degree of corporate tax avoidance. Based on the fact that book-tax difference are composed of book income from GAAP and taxable income, it is unclear that large book-tax difference may be the product of aggressive accounting reporting (i.e., increasing accounting income) or aggressive tax reporting (i.e., decreasing taxable income). In spite of such

- 2) Changes of statutory corporate income tax rate for sample period are as following. For the reference, the progressive tax rates are applied when corporate income taxation in Korea. And the base rate of KRW/USD on December 31, 2010 is 1,138.9 KRW to 1 USD, and thereby 100 million in KRW and 200 million in KRW are approximately 87,804 USD and 175,608 USD, respectively.

Year	Corporate tax base (million in KRW)	Statutory tax rate in Korea (%)
2000~2001	above 100	28
	below 100	16
2002~2004	above 100	27
	below 100	15
2005~2007	above 100	25
	below 100	13
2008	above 200	25
	below 200	11
2009	above 200	22
	below 200	11
2010	above 200	22
	below 200	10

limitations, we adopt ‘BTD’ for the comparison purpose. The ‘BTD’ is estimated by the differences of earnings before income tax and estimated taxable income according to Eq. (4).

And the factors that affect CTA such as firm characteristics, corporate governance, auditor size and auditor industry specialization are adopted as control variables. Our main variable is the auditor tenure ($LTNR_{i,t}$) which measures the annual length of the external auditor tenure. If the CTA is increasing with the auditor tenure, supporting the advocate perspective, then the coefficient on $LTNR(\delta_1)$ will exhibit negative direction when the dependent variables are effective tax rates (i.e., ‘GETR_1Y’, ‘CETR_1Y’) or positive direction when the dependent variables are ‘DD_BTD’ and ‘BTD’. On the contrary, if the client-specific knowledge of incumbent auditor enhances the accuracy of financial statements, corroborating the auditor view, the coefficients δ_1 will exhibit positive direction when the dependent variables are effective tax rates (i.e., ‘GETR_1Y’, ‘CETR_1Y’) or negative direction when the dependent variables are ‘DD_BTD’ and ‘BTD’.

Empirical predictions for key control variables are as follows. SIZE is a variable that measures the size of the firm. The larger the firm, the more resources available to avoid tax payment. Therefore, SIZE and tax avoidance measurements are expected to have a positive relationship. Higher debt ratios (LEV) will increase creditors’ oversight of firms. The higher the debt ratio, the more difficult it is for managers to tax avoidance. Therefore, the debt ratio (LEV) and tax avoidance will have a negative relationship.

2. Sample

(1) Selection criteria and distribution

Final sample³⁾ is 2,588 firm-years in the KOSPI from 2001 to 2010. These are the firms that have the required data from the KIS-VALUE for corporate tax avoidance measures and financial accounting information, the TS-2000 for ownership information, and the DART for auditor variables.

[Panel A] of <Table 1> represents the distribution of observations through time. The results indicate that total observations are comprised of nearly 10% part of each year. [Panel B] of <Table 1> presents the industry distribution of our sample. About 69.51% of observations in

3) In case of cash effective tax rates (i.e., ‘CETR_1Y’ and ‘CETR_3Y’), 2,470 firm-years of observations are used in our analysis for the missing cash tax payments data. In this part of Sample, we describe the sample properties on the basis of ‘GETR_1Y’ which has larger number of observations.

manufacturing comprise of major parts of sample and the portion of construction and wholesale and retail trade exhibits overall 7.03%, 6.76%, respectively.

<Table 1> Sample distribution

[Panel A] Distribution by year				
Year	Obs.	%	Cumulative Obs.	Cum. %
2001	83	3.21	83	3.21
2002	113	4.37	196	7.57
2003	249	9.62	445	17.19
2004	298	11.51	743	28.71
2005	323	12.48	1,066	41.19
2006	329	12.71	1,395	53.9
2007	340	13.14	1,735	67.04
2008	284	10.97	2,019	78.01
2009	288	11.13	2,307	89.14
2010	281	10.86	2,588	100
Total	2,588	100		
[Panel B] Distribution by industry				
Industry	Obs.	%	Cum. Obs.	Cum.%
Food products	20	0.77	20	0.77
Manufacturing	1,799	69.51	1,819	70.29
Electricity, gas, steam, air conditioning Supply	79	3.05	1,898	73.34
Construction	182	7.03	2,080	80.37
Wholesale and retail trade	175	6.76	2,255	87.13
Transportation	65	2.51	2,320	89.64
Accommodation	10	0.39	2,330	90.03
Information and communications	81	3.13	2,411	93.16
Real estate activities, renting and leasing	2	0.08	2,413	93.24
Professional, scientific and technical Activities	148	5.72	2,561	98.96
Business facilities management and business support services	10	0.39	2,571	99.34
Education services	7	0.27	2,578	99.61
Arts, sports and recreation related services	10	0.39	2,588	100
Total	2,588	100		

(2) Descriptive statistics

<Table 2> presents descriptive statistics for our sample. Regarding the corporate tax avoidance measure, the mean for ‘GETR_1Y’, ‘CETR_1Y’ is 25.7% and 27.8%, and standard deviation is 10.9% and 25.2%, respectively.

<Table 2> Descriptive statistics

Variable	N	Mean	Std.Dev	5%	Q1	Median	Q3	95%
Panel A : Tax avoidance _{1~4}								
GETR_1Y	2,588	0.257	0.109	0.076	0.206	0.257	0.298	0.445
CETR_1Y	2,470	0.278	0.252	0.083	0.184	0.252	0.319	0.582
DD_BT D	2,588	0.013	0.054	-0.072	-0.010	0.014	0.040	0.100
BT D	2,588	0.011	0.041	-0.054	-0.008	0.007	0.031	0.091
Panel B : Auditor variable								
LTNR	2,588	4.594	3.333	1.000	2.000	4.000	6.000	11.00
Auditor tenure	2,588	1.553	0.583	0.693	1.099	1.609	1.946	2.485
Panel C : Control variable								
SIZE	2,588	26.613	1.497	24.738	25.550	26.276	27.370	29.733
R&D	2,588	0.007	0.017	0.000	0.000	0.001	0.007	0.036
LEV	2,588	0.401	0.168	0.137	0.268	0.404	0.522	0.677
GRW	2,588	0.096	0.196	-0.158	0.003	0.079	0.174	0.409
ROA	2,588	0.064	0.044	0.008	0.032	0.056	0.086	0.145
PPE	2,588	0.188	0.119	0.035	0.101	0.167	0.247	0.417
DPAM	2,588	0.033	0.026	0.005	0.017	0.028	0.043	0.078
CSH	2,588	0.070	0.078	0.002	0.017	0.046	0.095	0.215
PMDA	2,588	-0.039	0.102	-0.244	-0.074	-0.018	0.024	0.102
NOL	2,588	0.026	0.160	0.000	0.000	0.000	0.000	0.000
ADCT	2,588	0.206	0.404	0.000	0.000	0.000	0.000	1.000
FOR	2,588	0.137	0.171	0.000	0.006	0.060	0.221	0.490
OWN	2,588	0.420	0.165	0.156	0.313	0.419	0.531	0.699
ADT	2,588	0.658	0.474	0.000	0.000	1.000	1.000	1.000
MS	2,588	0.356	0.479	0.000	0.000	0.000	1.000	1.000

We winsorize the variables used in our analysis at the 1st and 99th percentiles except for dummy variables. Refer to the equation (1) for variable definitions

On average, it indicates that GAAP ETR (effective tax rate) is lower than CASH ETR in mean values. The mean (median) for 'DD_BT D' is 0.013 (0.014), and 'BT D' is 0.011 (0.007). The mean (median) for auditor tenure is 4.594 (4) years. The average scaled total assets of our sample is 26.613 (i.e., 1,756 billion in KRW or 1.5 billion in USD)⁴, and approximately 65.8% of our sample is Big4 auditor. Also, the mean(median) for leverage ratio and ratio of return on assets are 40.1%(40.4%) and 6.4%(5.6%), respectively. To control outlier effects on our empirical analyses, the effective tax rates such as 'GETR_1Y' and 'CETR_1Y' are winsorized to be between 0 and 1. We also winsorize variables used in our analysis except for dummy style at the 1st and 99th percentiles.

3. Pearson correlation

<Table 3> represents the Pearson correlation statistics among the variables for the H. Insignificant correlations are found between 'GETR_1Y' and 'LTNR' (correlation coefficient = 0.02, p-value = 0.43), 'CETR_1Y' and 'LTNR' (correlation coefficient = -0.02, p-value = 0.28), whereas the auditor tenure (LTNR) is significantly and positively correlated with 'DD_BT D' (correlation coefficient = 0.07, p-value = 0.00) and 'BT D' (correlation coefficient = 0.04, p-value = 0.05). So the univariate results restrictively support the advocate role which means that long auditor tenure involves high level of corporate tax avoidance. From the correlation matrices, there are some correlations which might be regarded as high level. To address the possibility that our main results are not influenced by multicollinearity, we investigate our OLS model with / without those variables. But the main results are not changed which suggest that multicollinearity is not a major concern in our analyses.

4. Empirical results

The purpose of our hypothesis is to examine whether the level of corporate tax avoidance (CTA) of client firms increases or decreases as rise in auditor tenure. <Table 4> presents the regression results of the H. With respect to the effective tax rates, negative associations between the auditor tenure and 'GETR_1Y' (coefficient = -0.004, t-value = -1.07) and 'CETR_1Y' (coefficient = -0.011, t-value = -1.89) are found.

4) The base rate of KRW/USD is applied to 1,138.9 KRW to 1 USD on December 31, 2010.

〈Table 3〉 Pearson correlation matrix—Dependent and independent variables for H

Variable	GETR_1Y	CETR_1Y	DD_BT	BT	LTNR	SIZE	R&D	LEV	GRW	ROA	PPE	DPAM	CSH	PMDA	NOL	ADCT	FOR	OWN	ADT
CETR_1Y	0.54 (0.00)																		
DD_BT	-0.41 (0.00)																		
BT	-0.42 (0.00)	0.82 (0.00)																	
LTNR	0.02 (0.43)	-0.02 (0.28)	0.07 (0.00)	0.04 (0.05)															
SIZE	0.00 (0.98)	-0.08 (0.00)	0.13 (0.00)	0.07 (0.00)	0.05 (0.02)														
R&D	0.03 (0.13)	0.02 (0.33)	0.00 (0.85)	-0.03 (0.15)	0.03 (0.19)	0.05 (0.01)													
LEV	0.08 (0.00)	0.12 (0.00)	-0.10 (0.00)	-0.13 (0.00)	-0.04 (0.03)	0.27 (0.00)	-0.11 (0.00)												
GRW	-0.03 (0.14)	-0.10 (0.00)	0.03 (0.11)	0.09 (0.00)	-0.07 (0.00)	0.06 (0.00)	0.07 (0.00)	0.13 (0.00)											
ROA	-0.22 (0.00)	-0.30 (0.00)	0.28 (0.00)	0.39 (0.00)	0.00 (0.93)	0.03 (0.10)	0.10 (0.00)	-0.34 (0.00)	0.19 (0.00)										
PPE	-0.09 (0.00)	-0.09 (0.00)	0.23 (0.00)	0.05 (0.01)	0.03 (0.08)	0.19 (0.00)	-0.05 (0.01)	0.17 (0.00)	0.01 (0.66)	-0.06 (0.01)									
DPAM	-0.09 (0.00)	-0.09 (0.00)	0.24 (0.00)	0.02 (0.32)	0.07 (0.00)	0.12 (0.00)	0.07 (0.00)	0.02 (0.39)	0.09 (0.00)	0.11 (0.00)	0.56 (0.00)								
CSH	-0.01 (0.47)	-0.02 (0.43)	0.10 (0.00)	0.05 (0.01)	-0.06 (0.00)	-0.07 (0.00)	0.02 (0.24)	-0.12 (0.00)	0.09 (0.00)	0.24 (0.00)	-0.19 (0.00)	-0.07 (0.00)							
PMDA	-0.01 (0.59)	0.00 (0.99)	-0.40 (0.00)	0.06 (0.01)	-0.01 (0.80)	-0.05 (0.01)	-0.04 (0.05)	0.07 (0.00)	0.09 (0.00)	0.06 (0.00)	0.05 (0.01)	-0.05 (0.01)	-0.09 (0.00)						
NOL	-0.17 (0.00)	-0.01 (0.56)	0.04 (0.08)	0.02 (0.24)	-0.08 (0.00)	-0.01 (0.46)	-0.05 (0.02)	0.14 (0.00)	0.00 (0.94)	-0.09 (0.00)	0.05 (0.02)	0.00 (0.81)	0.02 (0.36)	-0.02 (0.26)					
ADCT	-0.02 (0.28)	-0.08 (0.00)	0.07 (0.00)	0.04 (0.07)	0.03 (0.08)	0.56 (0.00)	0.10 (0.00)	0.21 (0.00)	0.01 (0.79)	0.04 (0.02)	0.12 (0.00)	0.03 (0.13)	-0.03 (0.10)	-0.02 (0.36)	0.00 (1.00)				
FOR	0.01 (0.51)	-0.04 (0.05)	0.11 (0.00)	0.07 (0.00)	0.12 (0.00)	0.48 (0.00)	0.07 (0.00)	-0.07 (0.00)	0.01 (0.69)	0.27 (0.00)	0.09 (0.00)	0.15 (0.00)	0.09 (0.00)	-0.04 (0.03)	0.01 (0.58)	0.30 (0.00)			
OWN	-0.01 (0.62)	-0.02 (0.36)	-0.03 (0.18)	0.00 (0.83)	-0.09 (0.00)	-0.20 (0.00)	-0.13 (0.00)	-0.14 (0.00)	-0.01 (0.72)	0.02 (0.28)	-0.01 (0.60)	-0.05 (0.02)	-0.01 (0.52)	0.05 (0.02)	-0.02 (0.32)	-0.15 (0.00)	-0.18 (0.00)		
ADT	-0.01 (0.63)	-0.04 (0.05)	0.05 (0.01)	0.03 (0.15)	-0.06 (0.00)	0.32 (0.00)	0.08 (0.00)	0.07 (0.00)	0.01 (0.57)	0.09 (0.00)	0.07 (0.00)	0.07 (0.00)	0.06 (0.00)	-0.02 (0.29)	0.00 (0.95)	0.21 (0.00)	0.22 (0.00)	-0.04 (0.06)	
MS	-0.05 (0.03)	-0.03 (0.13)	0.06 (0.01)	0.04 (0.12)	0.06 (0.00)	0.31 (0.00)	0.07 (0.00)	0.07 (0.00)	-0.00 (0.92)	0.06 (0.00)	0.05 (0.02)	0.09 (0.00)	-0.00 (0.90)	-0.05 (0.03)	0.05 (0.02)	0.22 (0.00)	0.20 (0.00)	-0.08 (0.00)	0.38 (0.00)

〈Table 4〉 Regression analysis

Dependent	(1) GETR_1Y _t		(2) CETR_1Y _t		(3) DD_BTDT _t		(4) BTDT _t	
Variable	Estimate	t-statistic	Estimate	t-statistic	Estimate	t-statistic	Estimate	t-statistic
<i>Intercept</i>	0.419	6.57***	0.820	8.49***	-0.186	-4.85***	-0.190	-6.82***
<i>LTNR_t</i>	-0.004	-1.07	-0.011	-1.89*	0.007	3.07***	0.004	2.36**
<i>SIZE_t</i>	-0.001	-0.69	-0.012	-3.97***	0.004	3.16***	0.004	4.84***
<i>R&D_t</i>	0.384	3.08***	0.693	3.73***	-0.075	-0.99	-0.114	-2.08**
<i>LEV_t</i>	0.042	2.83***	0.059	2.60***	-0.025	-2.79***	-0.022	-3.33***
<i>GRW_t</i>	0.000	0.01	-0.063	-3.64***	-0.017	-2.50**	-0.002	-0.47
<i>ROA_t</i>	-0.623	-11.24***	-1.174	-13.83***	0.421	12.51***	0.490	20.23***
<i>PPE_t</i>	-0.087	-3.74***	-0.112	-3.18***	0.094	6.73***	0.033	3.25***
<i>DPAM_t</i>	-0.192	-1.91*	0.107	0.70	0.378	6.17***	0.108	2.45**
<i>CSH_t</i>	0.025	0.90	0.064	1.49	0.102	6.01***	0.046	3.79***
<i>PMDA_t</i>	-0.014	-0.66	0.028	0.90	0.284	22.67***	0.339	37.45***
<i>NOL_t</i>	-0.131	-10.17***	-0.043	-1.30	0.018	2.32***	0.024	4.20***
<i>ADCT_t</i>	-0.007	-1.10	-0.016	-1.65*	0.000	0.05	-0.001	-0.23
<i>FOR_t</i>	0.068	4.54***	0.110	4.74***	-0.010	-1.06	-0.019	-2.97***
<i>OWN_t</i>	0.012	0.96	0.007	0.33	-0.006	-0.70	-0.005	-0.93
<i>ADT_t</i>	0.002	0.44	0.000	0.01	0.003	1.05	0.003	1.62
<i>MS_t</i>	-0.006	-1.25	0.004	0.49	-0.011	-4.18***	-0.006	-3.00***
YEAR & INDUSTRY	FIXED							
N	2,588		2,470		2,588		2,588	
Max VIF	2.13		2.16		2.13		2.13	
Adjusted-R ²	12.47%		17.24%		32.68%		48.80%	

***, **, * Indicate significance at 0.01, 0.05, and 0.10 levels, respectively. Tests are two-tailed. Refer to the equation (1) for variable definitions.

And also, the results present that the auditor tenure variable (LTNR) is positively related to 'DD_BTDT'(coefficient=0.007, t-value=3.07) and 'BTDT'(coefficient=0.004, t-value=2.36). It means that the corporate tax avoidance is increasing with the auditor tenure, and the results suggest that the client-beneficial tax planning which minimizes the tax payments can be more offered when the auditor tenure increases.

IV. Additional analyses

1. Common factor of corporate tax avoidance measurements

In our analyses, we adopt multiple measurements of corporate tax avoidance. Each method is effective to measure the tendency of corporate tax avoidance and the approach has its own strength and weakness. For the robustness of our empirical results, we present the results of factor analysis by extracting the common factor from multiple measurements. Technically, we multiply two effective tax rates (i.e., GETR_1Y, CETR_1Y) by ‘-1’ for identical direction in interpretation with ‘DD_BT D’ and ‘BT D’. Thus, it is expected that the degree of corporate tax avoidance is positively associated with the common factor.

〈Table 5〉 Factor analyses

<i>Dependent</i> = TAV _{FACTOR,t}		
Variable	Estimate	t-statistic
<i>Intercept</i>	-4.037	-8.03***
<i>LTNR_t</i>	0.090	3.12***
<i>SIZE_t</i>	0.096	6.15***
<i>R&D_t</i>	-2.928	-3.03***
<i>LEV_t</i>	-0.567	-4.78***
<i>GRW_t</i>	0.040	0.44
<i>ROA_t</i>	8.707	19.70***
<i>PPE_t</i>	1.054	5.72***
<i>DPAM_t</i>	3.098	3.91***
<i>CSH_t</i>	0.717	3.22***
<i>PMDA_t</i>	3.516	21.33***
<i>NOL_t</i>	0.452	2.60**
<i>AUDT_t</i>	0.056	1.14
<i>FOR_t</i>	-0.716	-5.92***
<i>OWN_t</i>	-0.110	-1.06
<i>ADT_t</i>	0.054	1.42
<i>MS_t</i>	-0.117	-3.06***
YEAR & INDUSTRY	FIXED	
N	2,470	
Max VIF	2.16	
Adjusted-R ²	38.23%	

***, **, * Indicate significance at 0.01, 0.05, and 0.10 levels, respectively. Tests are two-tailed. Refer to the equation (1) for variable definitions.

The factor analysis for the H is shown in <Table 5>. The common factor of four corporate tax avoidance measurements ($TAV_{FACTORi}$) is positively related to 'LTNR_i' (coefficient=0.090, t-value=3.12). Therefore the factor analysis suggests that cumulated client-specific knowledge by long auditor tenure can be a way of clients' aggressive tax planning. In sum, our main results are corroborated by all of the factor analyses and the results of additional analyses are more robust than that of main analyses.

2. Two stage analysis

The hypothesis aims to verify the impact of auditor tenure on the corporate tax avoidance, and its empirical mode I (i.e., equation(1)) adopts the dependent and independent variables as tax avoidance measurements and auditor tenure, respectively. But on the contrary, we cannot discount the possibility that the corporate tax avoidance have influence on the auditor tenure. Since the managers play a decisive role in auditor selection (Jamal and Sunder 2011) the incumbent auditors who are unfriendly towards managers' aggressive tax planning could bear the high risk of losing the engagements. Therefore to address the potential impact of dependent variables (i.e., the tax avoidance measurements) on the independent variable (i.e., the auditor tenure), we examine following two stage models.

[1st stage : prediction of auditor tenure]

$$\begin{aligned} LTNR_{i,t} = & \lambda_0 + \lambda_1 TAV_{1-4i,t} + \lambda_2 ADT_{i,t} + \lambda_3 GRW_{i,t} + \lambda_4 LEV_{i,t} + \lambda_5 LOSS_{i,t} + \lambda_6 PMDA_{i,t} \\ & + \lambda_7 CHOCF_{i,t} + \lambda_8 CHCFI_{i,t} + \lambda_9 CHCFF_{i,t} + \lambda_{10} MC_{i,t} + \lambda_{11} DC_{i,t} \\ & + Year\ fixed + Industry\ fixed + \chi_{i,t} \end{aligned} \quad (5)$$

[2nd stage : the relation between predicted auditor tenure and corporate tax avoidance]

$$\begin{aligned} TAV_{1-4i,t} = & \sigma_0 + \sigma_1 PTNR_{i,t} + \sigma_2 SIZE_{i,t} + \sigma_3 R\&D_{i,t} + \sigma_4 LEV_{i,t} + \sigma_5 GRW_{i,t} + \sigma_6 ROA_{i,t} + \sigma_7 PPE_{i,t} \\ & + \sigma_8 DPAM_{i,t} + \sigma_9 CSH_{i,t} + \sigma_{10} PMDA_{i,t} + \sigma_{11} NOL_{i,t} + \sigma_{12} ADCT_{i,t} + \sigma_{13} FOR_{i,t} \\ & + \sigma_{14} OWN_{i,t} + \sigma_{15} ADT_{i,t} + \sigma_{16} MS_{i,t} + Year\ fixed + Industry\ fixed + \tau_{i,t} \end{aligned} \quad (6)$$

where, for client firm i in year t , and the definition of variables are as follows :

- $LTNR$ = natural log of annual length of the auditor-client relationship ;
- TAV_{1-4} = four measurements of corporate tax avoidance ;
- ADT = '1' if the incumbent auditor is one of Big 4, and '0' otherwise ;
- GRW = total assets growth, difference between total assets of t and $t-1$ scaled by total assets of $t-1$;
- LEV = ratio of debt to total assets ;
- $LOSS$ = '1' if the firm reported net loss, and '0' otherwise ;

<i>PMDA</i>	= performance matched discretionary accruals of Kothari et al.(2005) ;
<i>CHOCF</i>	= changes of operating cash flows from statement of cash flows, difference between operating cash flows and lagged operating cash flows scaled by lagged total assets ;
<i>CHCFI</i>	= changes of acquisitions, difference between current and lagged funds used for acquisition of fixed assets scaled by lagged total assets ;
<i>CHCFF</i>	= changes of financing, difference between current and lagged new issuance of long-term debt and equity scaled by lagged total assets ;
<i>MC</i>	= dummy variable equal to '1' if the auditor is mandatorily changed, and '0' otherwise ;
<i>DC</i>	= dummy variable equal to '1' if the auditor is mandatorily designated, and '0' otherwise ;
<i>Year fixed</i>	= dummy variables for fixed effects of year ;
<i>Industry fixed</i>	= dummy variables for fixed effects of industry ; and
<i>PTNR</i>	= predicted value of auditor tenure.

The definition of other variables can be referred to the Eq. (1).

To estimate the predicted value of auditor tenure, the 1st stage model(i.e., Eq.(5)) includes the factors that affect auditor changes such as the audit quality, client characteristics, mandatory auditor rotation system and mandatory auditor assignment system(Johnson and Lys 1990 ; De Fond and Jambalvo 1993). Then in the 2nd stage, we examine the hypothesis by replacing the actual auditor tenure with predicted values from Eq.(6).

[Panel A] of <Table 6> report the 1st stage regression results. Most of corporate tax avoidance measurements are significantly associated with the auditor tenure except for 'GETR_1Y'. [Panel B] of <Table 6> present the 2nd stage regression results. In [Panel B], we find negative associations between the predicted values of auditor tenure and 'GETR_1Y'(coefficient=-0.006, t-value=-0.63) and 'CETR_1Y'(coefficient=-0.074, t-value=-4.96), and positive relations between the predicted values of auditor tenure and 'DD_BT D'(coefficient=0.040, t-value=6.86) and 'BT D'(coefficient=0.031, t-value=7.27). Even though the significance of 'GETR_1Y' is below the 10% level, the directions are consistent with the main results. In summary, this two stage analysis provides robust findings regarding the results of hypothesis and addresses the potential endogeneity problems.

〈Table 6〉 2 stage analysis of the relation between auditor tenure and corporate tax avoidance

[Panel A] 1 st stage : prediction of auditor tenure									
Dependent variable =auditor tenure _{<i>t</i>}									
TAV _{1-4,t} =	(1) GETR_1Y _{<i>t</i>}		(2) CETR_1Y _{<i>t</i>}		(3) DD_BTD _{<i>t</i>}		(4) BTD _{<i>t</i>}		
Variable	Estimate	t-statistic	Estimate	t-statistic	Estimate	t-statistic	Estimate	t-statistic	
<i>Intercept</i>	1.366	8.03***	1.386	8.17***	1.370	8.13***	1.367	8.12***	
<i>TAV_{1-4,t}</i>	0.008	0.09	-0.118	-1.77*	0.332	1.89*	0.490	2.21**	
<i>ADT_t</i>	-0.008	-0.35	-0.018	-0.78	-0.050	-2.24**	-0.050	-2.25**	
<i>GRW_t</i>	-0.107	-1.72*	-0.083	-1.27	-0.198	-3.15***	-0.214	-3.40***	
<i>LEV_t</i>	-0.146	-2.36**	-0.108	-1.67*	-0.083	-1.29	-0.072	-1.11	
<i>LOSS_t</i>	-0.241	-1.35	-0.179	-1.01	-0.201	-1.12	-0.195	-1.08	
<i>PMDA_t</i>	-0.128	-1.18	-0.123	-1.09	-0.168	-1.27	-0.236	-1.63*	
<i>CHOCF_t</i>	0.031	0.27	0.047	0.40	-0.093	-0.71	-0.061	-0.50**	
<i>CHCFI_t</i>	0.008	0.05	0.017	0.10	0.086	0.48	0.091	0.52	
<i>CHCFF_t</i>	0.054	0.47	0.019	0.16	0.054	0.46	0.059	0.49	
<i>MC_t</i>	-0.894	-19.34***	-0.897	-19.11***	-0.906	-20.24***	-0.905	-20.23***	
<i>DC_t</i>	-0.876	-3.36***	-0.791	-2.62***	-0.918	-3.41***	-0.918	-3.41***	
YEAR & INDUSTRY	FIXED								
N	2,588		2,470		2,588		2,588		
Max VIF	2.13		2.16		2.13		2.13		
Adjusted-R ²	20.13%		21.08%		20.53%		20.56%		
[Panel B] 2 nd stage : the relation between corporate tax avoidance and predicted auditor tenure									
Dependent=	(1) GETR_1Y _{<i>t</i>}		(2) CETR_1Y _{<i>t</i>}		(3) DD_BTD _{<i>t</i>}		(4) BTD _{<i>t</i>}		
Variable	Estimate	t-statistic	Estimate	t-statistic	Estimate	t-statistic	Estimate	t-statistic	
<i>Intercept</i>	0.423	6.45***	0.913	9.29***	-0.237	-6.02***	-0.239	-8.37***	
<i>PTNR_t</i>	-0.006	-0.63	-0.074	-4.96***	0.040	6.86***	0.031	7.27***	
<i>SIZE_t</i>	-0.001	-0.72	-0.012	-4.06***	0.004	3.28***	0.004	5.06***	
<i>R&D_t</i>	0.377	3.02***	0.650	3.53***	-0.030	-0.41	-0.097	-1.79*	
<i>LEV_t</i>	0.042	2.78***	0.049	2.15**	-0.022	-2.51**	-0.019	-2.87***	
<i>GRW_t</i>	0.000	0.04	-0.062	-3.61***	-0.008	-1.19	-0.001	-0.22	
<i>ROA_t</i>	-0.620	-11.20***	-1.153	-13.68***	0.405	12.25***	0.483	20.08***	
<i>PPE_t</i>	-0.085	-3.66***	-0.101	-2.86***	0.083	6.01***	0.029	2.89***	

〈Table 6〉 2 stage analysis of the relation between auditor tenure and corporate tax avoidance (continued)

[Panel B] 2 nd stage : the relation between corporate tax avoidance and predicted auditor tenure									
Dependent=	(1) GETR_1Y _t		(2) CETR_1Y _t		(3) DD_BTDT _t		(4) BTDT _t		
Variable	Estimate	t-statistic	Estimate	t-statistic	Estimate	t-statistic	Estimate	t-statistic	
<i>DPAM_t</i>	-0.196	-1.95*	0.112	0.74	0.342	5.68***	0.111	2.53**	
<i>CSH_t</i>	0.027	0.95	0.069	1.63*	0.099	5.96***	0.046	3.81***	
<i>PMDA_t</i>	-0.015	-0.70	0.015	0.47	0.277	22.43***	0.339	37.83***	
<i>NOL_t</i>	-0.130	-10.12***	-0.045	-1.35	0.022	2.92***	0.023	4.18***	
<i>AUDT_t</i>	-0.007	-1.12	-0.015	-1.62*	0.002	0.45	-0.001	-0.27	
<i>FOR_t</i>	0.067	4.48***	0.109	4.72***	-0.009	-0.98	-0.020	-3.03***	
<i>OWN_t</i>	0.013	1.02	0.011	0.54	-0.008	-0.99	-0.006	-1.16	
<i>ADT_t</i>	0.002	0.48	-0.001	-0.12	0.008	2.77***	0.005	2.40**	
<i>MS_t</i>	-0.006	-1.27	0.004	0.51	-0.014	-4.75***	-0.007	-3.09***	
YEAR & INDUSTRY	FIXED								
N	2,588		2,470		2,588		2,588		
Max VIF	2.13		2.16		2.13		2.13		
Adjusted-R ²	12.43%		17.93%		33.83%		49.73%		

***, **, * Indicate significance at 0.01, 0.05, and 0.10 levels, respectively. Tests are two-tailed. Refer to the equation (1) for variable definitions.

V. Conclusions

The purpose of this paper is to verify auditor behavior toward corporate tax avoidance via auditor tenure. In particular, we examine the association between the auditor tenure and the corporate tax avoidance (i.e., how the auditor independence issue is reflected in corporate tax avoidance).

Using 2,588 firm-year observations from the KOSPI in the period 2001–2010, we find that corporate tax avoidance is increasing with the auditor tenure. That is the client-beneficial tax planning which minimize the tax payments can be more offered when the auditor tenure increases.

The contributions of this study are as follows. Firstly, this paper provides evidence that

corporate tax avoidance is related to auditor behavior. While recent tax studies mostly emphasize the factors that affect corporate tax avoidance(Chen et al. 2010 ; Dyreng et al. 2010 ; McGuire et al. 2012) and the negative impact of corporate tax avoidance on capital markets(Dhaliwal et al. 2011 ; Kim et al. 2011), this study deals with association between corporate tax avoidance and auditor response to such relation. As such, this paper adds to the relatively scarce corpus of information regarding auditor behaviors toward corporate tax avoidance. Secondly, this paper examines the independence issues of external auditor through corporate tax avoidance. Third, from November 1, 2019, a periodic designation system for auditors has been introduced and implemented in Korea to improve audit quality. The reason for the implementation of this system is that as the auditor tenure increases, the audit quality is deteriorated due to the impairment of auditor independence. This study has implications in that how the auditor's behavior changes according to the auditor tenure. However, the limitations of this study are as follows. First, various factors affecting corporate tax avoidance could not be considered in the empirical model. Second, there is a limitation to generalizing empirical analysis results due to the limited samples.

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외부감사인의 계속감사기간이 조세회피에 미치는 영향*

배성호**

〈요 약〉

고품질의 감사는 기업의 지속적 성장의 필수 요소이며, 이를 위해서는 외부감사인의 행동 특성을 파악하는 것이 중요하다. 본 연구는 외부감사인의 계속감사 기간을 통해 외부감사인이 기업의 조세회피에 어떤 영향을 미치는지를 검증하고자 한다. 이를 통해 외부감사인의 독립성이 조세회피에 어떤 영향을 미치는지를 실증한다.

2001년부터 2010년까지 유가증권시장에 상장된 기업을 대상으로 총 2,588개의 기업/연 자료를 근거로 기업의 조세회피와 외부감사인의 계속감사기간과의 관계를 검증한다. 실증분석 결과, 외부감사인의 계속감사기간이 증가할수록 기업의 조세회피가 증가함을 발견하였다. 이를 통해 계속감사기간이 증가할수록 외부감사인은 고객에게 유리한 조세회피 방안을 제공하여 기업이 조세회피를 수행하는 것으로 해석된다. 이는 계속감사기간이 길어질수록 감사인의 독립성 훼손 가능성이 있음을 시사한다. 실증 분석 결과의 강건성을 위해 본 연구에서 사용된 4가지 조세회피 측정치를 대상으로 요인분석을 수행한 후 공통요인을 추출한 새로운 조세회피 측정치로 분석을 수행하였으며, 회귀식의 내생성을 통제하기 위해 2단계 모형분석(2-stage analysis)을 수행하였다. 추가분석 결과는 주요 분석 결과와 동일하였다.

본 연구는 선행연구에서 논의된 외부감사인 독립성 문제를 계속감사기간과 조세회피 간 관계를 통해 실증하였다는 데 의미가 있다. 특히 외부감사인의 독립성은 감사품질 등 외부감사에 있어 매우 중요하다. 그러나 독립성을 직접적으로 측정하지 못한다는 한계로 인해 독립성 관련 연구가 부족한 상황에서 본 연구는 의미가 있다. 아울러 조세회피에 대한 외부감사인의 행동 특성을 검증함으로써 조세회피와 외부감사인 관련 선행연구를 확장하였다는데 의미가 있다. 아울러 2019년 11월 1일부터 한국에서 시행예정인 감사인 주기적 지정제의 도입효과를 예측하는데 본 연구의 실증결과가 기여할 것이라 예상된다.

〈주제어〉 계속감사기간, 감사인 독립성, 조세회피

* 이 논문은 제1저자의 박사학위 논문의 일부를 수정·보완한 것입니다.

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