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Effects of the Adoption of IFRS and IFRS-related Consulting Services by Tax Practitioners on Tax Service Fees in South Korea

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ABSTRACT

This study investigates auditor-provided tax services from 2008-2011, during which the Korean accounting system was changed. Since 2011, all listed Korean companies have been required to use the International Financial Reporting Standards (IFRS). Given that the difference between accounting standards and tax law is greater under IFRS, the changing regulatory environment implies that tax services under IFRS require more effort from the auditor. We examined the relationship between the IFRS adoption and tax service fees and find that the fees of a firm increase following IFRS adoption. The effect of IFRS-related consulting services on tax service fees was examined as well. We find that the tax service fees are lower when IFRS-related consulting services are performed by an auditor who provides tax services. This finding implies that knowledge spills over from IFRS-related consulting service to tax adjustment. Additional tests show that the results differ among industries. Results suggest that IFRS adoption can affect auditor-provided tax services.

Key words: IFRS adoption, IFRS consulting, tax service fee

INTRODUCTION

In the beginning of 2011, companies listed in the Korean securities market have mandatorily adopted the International Financial Reporting Standard (IFRS). Most existing studies on the economic consequences that result from IFRS adoption have focused on financial reporting, whereas studies that approach the subject with respect to tax reporting are limited (Schadewitz and Vieru, 2009; Lin and Yen, 2011; Kim and Kang, 2010; Jung, 2012). For example, most studies focus on issues in tax law that have resulted from IFRS adoption, how to address these problems and the appropriateness of the tax law amendment that pertained to tax accounting (Haverals, 2007; Oestreicher and Spengel, 2007; Lee, 2007; Kim, 2008; Kim and Lee, 2008; Shim, 2010). In addition, existing studies may be limited to generalizing their findings, such as the analyses on the consequences of the adoption of IFRS, because of the limited sample of corporations that adopted IFRS in its early stage in 2009. Therefore, to conduct a comprehensive empirical analysis, researchers should investigate not only the corporations that have adopted IFRS in its early stage but those firms that adopted IFRS mandatorily as well.

With these consideration, the samples of this study include both the listed corporations in Korea that have adopted IFRS since 2009 and firms that adopted IFRS in 2011, with emphasis on the effect of IFRS adoption in tax accounting. In particular, this study focuses on the fees for tax

adjustment paid to tax-practitioners by tax payment obligors and analyzes empirically to find out whether or not the fees for tax adjustment has increased since IFRS adoption. In addition, the study looks into the effects of the consultation related to IFRS offered by tax-practitioners on the correlation between IRFS adoption and the fees for tax adjustment.

The hypotheses for this study are as follows. First, the current tax laws in Korea have adopted a quasi-dependent approach to financial accounting standards except for special items. The application of a new accounting standard which is the IFRS, is expected to introduce certain changes in the application of tax laws. Thus, this study anticipates that the time and effort made for tax adjustment will increase which will result in the rise in tax adjustment fees if there are changes in the accounting standard for calculating accounting income. Specifically, this study examines when corporate tax law is preferentially applied in the process of calculating taxable income to financial accounting standard and when the latter is complementally applied. Owing to the greater difference between IFRS and tax law than between conventional financial accounting standards and tax law, input costs, such as time and effort exerted by tax practitioners during tax adjustment, may increase (Shim, 2010).

Second, this study anticipates that in the event that a tax practitioner performed any IFRS-related consultation, they will be able to perform tax adjustment more efficiently because of their better understanding of accounting and tax treatment based on IFRS than practitioners offering no consultation. Tax practitioners will be able to reduce input costs for tax adjustment by saving the time and effort that were supposed to be considered in the tax adjustment through the knowledge spillover phenomenon between auditing and consultation. Consequently, IFRS-related consultation provided by tax practitioners is expected to reduce the increase in tax adjustment fees.

This study is meaningful in that it analyzes the effect of the adoption of IFRS in tax accounting, with the possible contribution of informing tax offices with policy implications that tax compliance costs can be mounted on tax payment obligors because of the new accounting standard.

The study is organized as follows. Section II reviews some previous studies on IFRS adoption and the correlation between IFRS adoption and audit fee to develop the hypotheses. Section III discusses the study model and the process of selecting the study samples. Section IV provides the results of the empirical analysis and its interpretation. Finally, Section V concludes the study and presents its limitations.

PREVIOUS STUDIES ON THE CORRELATION BETWEEN IFRS ADOPTION AND TAX/TAXATION

Haverals (2007) proposed that the IFRS-based tax accounting might increase the tax burden of Belgian corporations up to an average of 3.8-14.6%. In particular, the result of the analysis by industry revealed an increase in tax burden by 14.6% in the construction industry with a larger part of inventories and tangible assets and 8.8% in the automobile, food and soda industries. In addition, Oestreicher and Spengel (2007) studied the effect of IFRS on the tax burden of corporations and discovered that considering the wide acceptance of IFRS among managers for accounting treatment, incentives can be provided to encourage them to make the tax burden as low as possible through accounting. Oestreicher and Spengel (2007) argued that taxable income could be reduced by utilizing accounts, such as capitalization of depreciation, asset evaluation and R and D costs, in which the discretion of managers can be applied. Considering that local and foreign studies provide insights through simulation and not through the use of actual finance and tax data, concluding that IFRS has any significant effect on the burden of tax or taxation may be too much.

Furthermore, a study in Korea by Lee (2007) proposed that the adoption of IFRS which applies fair value evaluation, can result in a larger transitory difference between corporate accounting and tax accounting. Thus, corporations will be divided into firms that apply IFRS and firms that apply GAAP which results in confusion in tax law application. Moreover, he argued that as the current tax law accepts varied applications of corporation accounting standard, an attempt should be made to discover a method to distinguish between financial and tax accounting as IFRS adoption results in some changes in taxable earnings. In a study that analyzed the effect of IFRS adoption on corporation tax adjustment, Kim (2008) argued that taxable earnings could be influenced by closing adjustments, such as allowance for bad debts in financial institutions, insurance reserves and depreciation of tangible and intangible assets. In addition, Kim (2008) stated that the choices for accounting policies will expand and that corporations will likely choose the accounting treatment policies that will minimize their tax, while taxation regulations for closing adjustment remain.

Kim and Lee (2008) reported that a corporation may not benefit from deduction because with the adoption of IFRS, the Corporate Tax Act does not allow for closing adjustments to be approved for exclusion or, if ever, only minimally. Moreover, Kim and Lee (2008) proposed a method of revising taxation regulations that will convert closing adjustment into return adjustment and a method of regulating asset impairment losses or loss on evaluation to be transformed into depreciation. Lee and Choi (2009) stated that the least provisions ratio of allowance for bad debts which is a classification standard for forward looking criteria, is applied to loans at the closing of financial institutions. Thus, if IFRS were applied in the current situation, the impairment loss may be different from the actual tax burden. To resolve this problem, Lee and Choi (2009) proposed that the tax law be revised to allow for bad debts among financial institutions and corporations to be transformed into return adjustments.

The above studies on the effects of adopting IFRS in tax adjustment for tax accounting and tax burden are limited in that these do not apply an empirical approach; that is, these studies utilized financial statements and tax return data on the application of IFRS but only suggested solutions for the problems caused by the adoption of IFRS. Thus, to differentiate this study from previous ones and to analyze the economic consequences of IFRS adoption along with the utilization of financial data made from IFRS adoption since 2011, the effect of IFRS adoption and consultation on the fees for tax adjustment is analyzed by focusing on corporations listed in the securities markets from 2008-2011.

HYPOTHESES DEVELOPMENT

In general, the current tax laws of Korea have adopted the quasi-dependent approach (Newton (2006)[1] which does not require financial and tax accounting books to be drawn separately. This approach does not differ from the financial accounting standard, except for any special parts (Lee and Choi, 2009). In this regard, we can refer to Article 20 or the Framework Act on National Taxes and Article 43 or the Corporate Tax Act. Article 20 indicates that the practices or financial

[1]Newton (2006) proposed three approaches for IFRS adoption policy with respect to tax accounting, namely, the independent, dependent and quasi-dependent approach. The independent approach involves drawing and separately maintaining an IFRS and tax accounting books, with the application of a special tax accounting at calculating taxable earnings separate from IFRS. The dependent approach does not require IFRS and tax accounting books to be drawn separately which serve to match accounting income with taxable earnings. In the quasi-dependent approach, no separate tax accounting book is required and thus allows for the application of tax law for specific areas and of IFRS for the rest in calculating taxable earnings

accounting standards that are still being applied by tax payment obligors should be respected and regarded as fair and reasonable when investigating and determining the assessment standard of the year's national taxes. Article 43 specifies that when calculating the amount of earnings of each business year, if local corporations have applied the fair and reasonable standard for financial accounting for a revertible business year of inclusion and exclusion as well as for asset and debts acquisition and evaluation or conventional practices, the standard of the business year or practices should be applied, except for any regulations specified by the said acts or the special tax treatment control law. Similarly, the approach for Korean tax treatment involves the application of the tax adjustment based on the accounting income of corporations when calculating taxable income. Here, the Corporate TaxAct is preferentially applied to financial accounting standard which may be applied complementally.

If the accounting standard in calculating the accounting income involves changing the application of tax accounting, the time and effort spent on tax adjustment will increase compared with that of a conventional accounting standard. Similarly, the complexity and scope of auditing will increase along with the adoption of IFRS. That is, corporations that have adopted IFRS in the early stage may increase the variation and adjustment level of the financial condition and business performance of the firm through the application of new accounting standards (Jung, 2012). Principle-based IFRS will determine the accounting treatment of managers as the existing regulation-based accounting standards are expanded. Consequently, with the adoption of IFRS, auditors should maintain their professional integrity and handle more extensive auditing work (Marden and Brackney, 2009). Thus, we can expect additional costs in the tax adjustment process, because the tax law is different from accounting practices, particularly in the financial statements drawn in accordance with financial accounting standards in tax accounting.

Considering that the tax adjustment fees will increase along with the increase in input costs for tax practitioners (such as the time and effort spent in the course of tax adjustment after the adoption of IFRS), the following hypotheses have been developed.

Hypothesis 1: With all other conditions being equal, tax adjustment fees will increase after the adoption of IFRS.

During the course of IFRS adoption, when tax practitioners (being auditors at present) provide corporations with advice and consultation for the adoption of IFRS, knowledge spillover can occur between consultation and tax treatment, or between the audit and non-audit areas (Simunic, 1984).

Given that a tax agent's appreciation for IFRS and the accounting treatment of corporations based on IFRS may be better than others, the time and effort supposed to be exerted in the course of calculating taxable income from accounting income, as calculated while conducting audit and IFRS consultation, can be relatively reduced. That is, while conducting IFRS consultation, tax practitioners not only can limit any additional effort resulting from the difference between IFRS and conventional financial accounting standard but perform tax adjustment more efficiently as well, in which tax practitioners calculate taxable earnings according to the tax law regulations. Consequently, both IFRS consultation and tax adjustment service by tax practitioners are expected to have a negative (-) effect on the correlation between IFRS adoption and the tax adjustment fees.

Hypothesis 2: The consulting services related to IFRS adoption by tax practitioners will have a negative (-) effect on the correlation between IFRS adoption and the tax adjustment fees.

METHODOLOGH

This study aims to identify the effect of IFRS adoption and IFRS-related consultation by tax practitioners on the tax adjustment fees. Equation 1 was established for this purpose. In Eq. 1, natural logarithm value [Ln(TaxFee)] of the tax adjustment fee is defined as a dependent variable. The Adoption of the variable of key interest is set as 1 for the year after IFRS adoption and 0 otherwise. Consulting is a dummy variable which equals 1 if any tax agent provided consultation regarding IFRS adoption and 0 as a dummy variable if otherwise. The variable of Adoption×Consulting, an interaction variable between Adoption and Consulting, is set as 1 if the consultation related to IFRS is offered by tax practitioners after IFRS adoption and 0 otherwise:

$$\begin{aligned}\text{Ln(TaxFee)}_{i,t} \text{ or } {}_{\Delta}\alpha\text{TaxFee}_{i,t} = {} & \alpha_0+\beta_1\text{Adoption}_{i,t}+\beta_2\text{Cosulting}_{i,t}+\beta_3\text{Adoption}_{i,t}\times\text{Consulting}_{i,t} \\ & +\beta_4\text{BIG4}_{i,t}+\beta_5\text{INITIAL}_{i,t}+\beta_6\text{SIZE}_{i,t}+\beta_7\text{ROA}_{i,t}+\beta_8\text{LEV}_{i,t}+\beta_9\text{LOSS}_{i,t}+\Sigma\beta_n\text{IND}+\varepsilon_{i,t} \quad (1)\end{aligned}$$

Where:

Ln(TaxFee)	=	Natural logarithm of tax adjustment fees services
ΔTaxFee	=	Rate of change of audit fee(= (tax service $fee_{i,t}$ -tax service $fee_{i,t-1}$) over tax service $fee_{i,t-1}$)
Adoption	=	Dummy variable, 1 if the firm adopted IFRS and 0 otherwise
Consulting by	=	Dummy variable, 1 if any consulting service related to IFRS adoption is offered the auditor and 0 otherwise
BIG4	=	Dummy variable, 1 if the auditor is in alliance with BIG4 and 0 otherwise
INITIAL	=	Dummy variable, 1 if the audit of the current auditor is initial (first) and 0 otherwise
SIZE	=	Natural logarithm of sales
ROA	=	Return on assets
LEV	=	Debt to total assets
LOSS	=	Dummy variable, 1 if the firm reports net loss and 0 otherwise
ΣIND	=	Industry dummy variable (KIS 2digits)

Adoption at Eq. 1 is a variable used for verifying Hypothesis 1. As the cost spent on tax adjustment of accounting income into taxable earnings after the adoption of IFRS may be higher than that of accounting income under a conventional accounting standard, β_1 will have positive (+) coefficient if the tax adjustment fees increases after the adoption of IFRS. The variable Adoption×Consulting aims to analyze the effect of the auditors' IFRS consultation on the positive (+) correlation between IFRS adoption and the tax adjustment fees. If hypothesis 2 is supported (that is, the accounting income resulting from the IFRS adoption through IFRS consultation for tax regulation will reduce the input costs for performing tax adjustment), β_3 will have a negative (-) coefficient under the control of the consulting variable.

The control variable controls the effect on the tax adjustment fees. The study model includes the fame of the tax agent which is a key determinant for tax adjustment fees (BIG4), experience of the tax agent (INITIAL), size of sales (SIZE), Return On Assets (ROA), financial pressure (LEV), loss (LOSS) and type of business (ΣIND) (Shin, 2004; Lee *et al*., 2008; Lee and Hong, 2009; Yoon, 2011). First, as for BIG4, the more prestigious tax practitioners will provide a higher quality of tax adjustment service and are likely to include more input service costs to protect their reputation. Thus, BIG4 is expected to have a positive (+) correlation with the dependent

variable of tax adjustment fee (Lee and Hong, 2009; Yoon, 2011). Initial audit which is the variable representing the experience of tax agents, is expected to have a negative (-) coefficient, given that those with more experience may demand a higher tax adjustment fee.

SIZE which is a natural logarithm value of sales, is included in most studies as a factor influencing the tax adjustment fees. Corporations with larger sales are expected to have higher input costs in the effort towards tax adjustment because their transactions and costs are considerably complex (Shin, 2004). Accordingly, SIZE will have positive (+) correlation with the tax adjustment fees. Furthermore, with ROA, corporations with higher profitability will have more disturbances during tax adjustment and more political costs because of the demand for tax compliance by tax offices. Consequently, ROA will serve as a factor for increasing tax adjustment fees (Lee *et al*., 2008).

Debt ratio or LEV is a variable pertaining to long-term financial stability. Given that high debt ratio implies lower financial stability, LEV can allow for an object to be monitored by IRS. Moreover, considering that the disturbances in tax adjustment depend on financial stability, tax adjustment fees may vary. Thus, LEV is expected to have a statistically significant correlation with tax adjustment fees. As for LOSS, given that there may be any loss during tax treatment because of term loss, the disturbances to tax adjustment may not be significant. As such, LOSS is expected to have a positive (+) effect on tax adjustment fees (Yoon, 2011). Industrial dummy variable (ΣIND) is considered to have an effect on the disturbances to tax adjustment, depending on the scope of the application of tax law by businesses.

Sample selection: After utilizing financial data on companies listed in Korean securities markets from 2008-2011, extracted from TS-2000 (Korean Database) and the non-audit fee data disclosed on the electronic disclosure system of FSS (KFSS, 2008), study samples were selected based on the following criteria[2]:

- Corporations closing at the end of December, except for the financial industry
- Impairment of capital and corporations for administration are excluded
- Corporations that have disclosed incorrect data, such as erroneous coefficients, in financial statements are excluded
- Samples with less than 10 items by industry are excluded

From the samples that satisfy the above requirements, the final 1,894 firm-years were selected. Table 1 shows the selection process. From the first 1,956 firm-year samples, excluded were 124 firm-years that disclosed missing data on audit fee material or incorrect financial

Table 1: Sample selection

Section criteria	Observations (firm-years)
Initial observations	1,956
Less financial institute	37
Missing or incorrect data	124
Observations less than 10 firms in one industry during the sample period	101
Final observations	1,694

[2]The samples for this study are limited to 2008-2011 to analyze the change in the tax adjustment fees from 2009 when IFRS adoption in the early stage was allowed and to the year when IFRS was aggressively adopted

data and 37 firm-years with capital or administrative impairment. In addition, 101 firm-years which are samples that have less than 10 items in the same industry and business type, may be selected as samples such that the final sample is 1,694 firm-years[3].

RESULTS AND DISCUSSION

Descriptive statistics of major variables: Table 2 shows the descriptive statistics of the variables used for this study. The tax adjustment fee paid to tax agents which is a natural logarithm value of the tax adjustment fees, has a distribution of 6.044-8.738 and an average of 7.159. The samples (Adoption), to which IFRS was applied, include 454 year-corporations which is about 26.8% out of the total samples. The samples (Consulting) which are related to IFRS as offered by current tax-practitioners, were found to be 287 year-corporations which averaged 16.9%[4]. Among the control variables, the samples that were audited through BIG4 were 174 year-corporations which was 10.3% out of the total samples, whereas the samples of INITIAL show 39.9%. SIZE, the natural logarithm value of the amount of the sales, shows a distribution of 14.070-25.517, with an average of 0.93. Moreover, ROA shows the scope of 3.477-0.914 with an average of 0.016. The LEV and LOSS have averages of 0.438 and 0.21, respectively.

Result of regressive analyses: Hypotheses verification: Table 3 shows the results of the analysis of IFRS adoption and the IFRS-related consultation with respect to the tax adjustment fees. The F value of the model, 256-270, is not generally considered to have goodness of fit for the

Table 2: Descriptive statistics (N = 1,694)

Variable	Mean	SD	Min	1st Q	Median	3rd Q	Max
Ln(Tax_Fee)	7.159	0.818	6.044	6.778	6.903	7.146	8.738
Adoption	0.268	0.443	0.000	0.000	0.000	1.000	1.000
Consulting	0.169	0.461	0.000	0.000	0.000	0.000	1.000
BIG4	0.103	0.304	0.000	0.000	0.000	0.000	1.000
INITIAL	0.399	0.489	0.000	0.000	0.000	1.000	1.000
SIZE	19.429	1.710	14.070	18.421	19.246	20.328	25.517
ROA	0.016	0.169	-3.477	0.004	0.032	0.067	0.914
LEV	0.438	0.206	0.000	0.284	0.443	0.580	2.033
LOSS	0.210	0.407	0.000	0.000	0.000	0.000	1.000

Variable definition: Ln(Tax_Fee) is the natural logarithm of a fee for tax adjustment. Adoption is the dummy variable, 1 if firm has adopted IFRS and 0 otherwise. Consulting is the dummy variable, 1 if any consulting service relating IFRS adoption is offered by auditor and 0 otherwise. BIG4 is the dummy variable, 1 if auditor is in alliance with BIG4 and 0 otherwise. INITIAL is the dummy variable, 1 if the audit of current auditor is initial (first) and 0 otherwise. SIZE is the natural logarithm of sales. ROA is the return on assets. LEV is the debt to total assets. LOSS is the dummy variable, 1 if firm reports net loss and 0 otherwise

[3]The samples by industry are 420-430 firm-years and about 76% of these samples include other machine and equipment manufacturers (112), non-metallic mineral products industries (88), food and soda industries (137), automobile and trailer manufacturers (148), electronics, imaging equipment, audio systems and communication equipment manufacturers (139), metal initial products industry (172), pulp, paper, paper products manufacturers (120), compound and chemicals industry (618) and other various industries and business types. In particular, the industry or business-type of the samples that were less than 10 are excluded from this study. These eight industries primarily constitute the sample that need to be analyzed to determine whether they are engaged in the relationship between additional IFRS adoption by industry and the fee for consultation and tax adjustment by auditors.

[4]The samples of this study are limited to the data on the fees paid to the auditors for non-auditing of the business report disclosed in the FSS electronic disclosure system. As such, the tax adjustment fees or the consultation related to IFRS should be assumed to have been conducted by the corporations themselves or non-auditors

Table 3: Regression result, the effect of IFRS adoption and consulting on Tax Adjustment service fees

Variables	Expected sign	1	2	3	4
Intercept	?	16.273***	16.272***	16.263***	16.208***
		(5.25)	(5.37)	(5.24)	(5.36)
Adoption	+	0.089***		0.067**	0.239**
		(2.84)	-	(2.54)	(1.99)
Consulting	+/.	-	0.118**	0.111**	0.269**
			(2.03)	(1.98)	(2.41)
Adoption×Consulting	-	-	-	-	-0.474**
					(-2.56)
BIG4	+	-0.392**	-0.393**	-0.382**	-0.367**
		(-2.11)	(-2.13)	(-2.06)	(-2.21)
INITIAL	-	-0.095**	-0.045*	-0.086*	-0.072*
		(-1.97)	(-1.68)	(-1.77)	(-1.66)
SIZE	+	0.248***	0.242***	0.240**	0.262***
		(2.69)	(2.63)	(2.59)	(2.85)
ROA	+	0.348	0.318	0.317	0.282
		(0.89)	(0.81)	(0.81)	(0.73)
LEV	+/.	1.062***	1.039***	1.028***	1.040***
		(4.37)	(4.26)	(4.20)	(4.29)
LOSS	+	0.199*	0.195*	0.194*	0.194*
		(1.69)	(1.71)	(1.74)	(1.74)
ΣIND		Included	Included	Included	Included
F-stat		259.15***	263.85***	256.44***	270.61***
Adj.R^2		0.217	0.221	0.220	0.235

*,**,***Significant at the 0.1, 0.05 and 0.01 two tailed levels, respectively, (): t-stat, Observations are 1,694 firm-years

model and Adj.R^2 ranges from 21-23%. The VIF value among the variables was less than 3. Furthermore, the problem of multicollinearity is not found to be significant. First, (1) the consideration of Adoption alone shows a level of statistical significance at 0.089 ($p<0.001$) and 0.067 ($p<0.05$), 0.239 ($p<0.05$) for (3) and (4), respectively in Table 3. Thus, the values are statistically significant. These results can be considered as the input costs of tax practitioners which can be high because of the increased time and effort exerted on tax adjustment in accounting income in respect of IFRS to taxable earnings than conventional accounting standards and that the difference between IFRS and tax law may be greater than that between conventional financial accounting standards and tax law. Consequently, hypothesis 1 is supported and the tax adjustment fees [Ln(Tax_Fee)] would be higher after the adoption of IFRS.

Consulting variables included in 2 and 3 in Table 3 show 0.118 ($p<0.05$) and 0.111 ($p<0.05$), respectively. These results are interpreted to be at the level of statistical significance despite the consultation of tax practitioners relating to IFRS at the time of IFRS adoption the tax adjustment fees increased. This outcome is due to the excessive disturbances in tax adjustment in the process of calculating taxable earnings from the accounting income, as calculated with the application of IFRS. Likewise, even when controlling the Consulting variables in 4, the interaction variable (Adoption×Consulting) shows a level of statistical significance of 0.474 ($p<0.05$). Therefore, with the services of the auditor for three areas of auditing, consultation for tax adjustment and that related to IFRS, the time and effort required for tax adjustment could be reduced because of the effect of knowledge spillover in other areas. Consequently, hypothesis 2 is supported. While tax practitioners are providing consultation or advising services on the IFRS accounting system design

of taxpayers, any additional effort for tax adjustment caused by the difference between conventional accounting standards and IFRS can be reduced. In addition, calculating taxable earsnings can now be more efficient.

Among the control variables included in the study model as factors influencing tax adjustment fees, BIG4 indicates a negative (-) correlation at the level of statistical significance which is contrary to the findings of Lee and Hong (2009) and Yoon (2011) that more prestigious tax practitioners gain more tax adjustment fees. This result can be explained by the fact that the importance of tax adjustment can decrease when both tax adjustment and audit are conducted than when tax practitioners perform tax adjustment only. Therefore, given that the fee for auditing or other non-auditing services is higher compared with that of tax service in revenue structure of accounting firms, the fame of tax practitioners do not have much effect on the fee for tax service (Yoon, 2011). Furthermore, the coefficient of INITIAL indicates a negative (-) sign which is statistically significant. Its result, that is, any initial audit resulting from the replacement of auditors causes the tax adjustment fees to decrease, corresponds to the findings of Shin (2004) that the more experienced tax practitioners receive higher tax adjustment service fees.

SIZE, LEV and LOSS show statistically significant results as expected. Although, the sign of ROA is the same as expected, it is not statistically significant. Similarly, Shin (2004), Lee and Hong (2009) and Yoon (2011) confirm that when higher sales result in greater term loss, financial stability will have more effects on the tax adjustment fees.

Table 4 shows the analysis results of dependent variables when the change rate of the tax adjustment fees (Δtax_Fee) is replaced for natural logarithm value [Ln(Tax_Fee)] of the tax

Table 4: Regression result 2, the effect of IFRS adoption and consulting on change of Tax Ajustment service fees

Variables	Expected sign	1	2	3	4
Intercept	?	-0.170	-0.240	-0.232	-0.297
		(-0.22)	(-0.31)	(-0.30)	(-0.38)
Adoption	+	0.194*		0.183**	0.373**
		(1.81)	-	(2.11)	(1.94)
Consulting	+/.	-	0.282**	0.278**	0.439*
			(2.09)	(1.99)	(1.68)
Adoption×Consulting	-	-	-	-	-0.452**
					(-1.99)
BIG4	+	-0.273	-0.306	-0.279	-0.274
		(-0.57)	(-0.65)	(-0.59)	(-0.58)
INITIAL	-	-0.343	-0.210	-0.340	-0.348
		(-1.04)	(-0.95)	(-1.03)	(-1.05)
SIZE	+	0.094**	0.103	0.114	0.094
		(2.34)	(0.38)	(0.42)	(0.34)
ROA	+	4.391***	4.514***	4.539***	4.602***
		(4.10)	(4.20)	(4.21)	(4.26)
LEV	+/.	0.051	-0.042	-0.037	-0.042
		(0.07)	(-0.06)	(-0.05)	(-0.06)
LOSS	+	0.583*	0.578*	0.597*	0.608*
		(1.66)	(1.66)	(1.68)	(1.71)
ΣIND		Included	Included	Included	Included
F-stat		139.04***	143.65***	140.17***	138.77***
Adj.R^2		0.175	0.178	0.179	0.183

*,**,***Significant at the 0.1, 0.05 and 0.01 two tailed levels, respectively, (): t-stat, Observations are 1,694 firm-years

adjustment fees. The change rate of the tax adjustment fees is more useful in analyzing the direct effect of IFRS-related consultation on the annual fee. Adoption shows statistically significant positive (+) correlation at 1 and 3 which supports hypothesis 1 and is similar to the results in Table 4. Thus, the costs for tax adjustment should be high because more time and effort may have been spent on the process of adjusting accounting income into taxable earnings under IFRS. In the (4) of Table 4, interaction variable (Adoption×Consulting) indicates a statistically significant negative (-) correlation as well, with the Consulting factors related to IFRS being controlled. This result supports hypothesis 2, that is, when the tax practitioners conduct consultations for IFRS, they can perform tax adjustment more efficiently.

Among the control variables, ROA shows a statistically significant positive (+) correlation, unlike in Table 3. Therefore, more disturbances to tax adjustment may be found during the stage of the higher growth of corporations, given that taxpayers with a higher rate of return are likely to suffer more changes in the tax adjustment fees. However, BIG4, INITIAL, SIZE and LEV do not show statistically significant results which is a result of the difference in the distribution of variables as the dependent variables represent the change rate.

Additional analysis

Effect of IFRS adoption by the industry and IFRS-related consultation on tax adjustment service fees: Using the model of this study, this additional analysis seeks to determine if the effect of the adoption of IFRS and IFRS-related consultation has any difference among the industries. Based on the results of Shin (2004), Lee *et al.* (2008) and Lee and Hong (2009), the differences of business type and industry determine tax adjustment fees. Table 5 shows the results of the analysis of the industries that comprise the entire sample. With the entire industries, the tax adjustment fees [Ln(Tax_Fee)] after IFRS adoption have a statistically significant positive (+) sign. That is, more time and effort are spent on the process of tax adjustment after the adoption of IFRS in the industry as a whole.

Table 5: Effect of IFRS adoption and consulting on Tax Adjustment service fees by industry

Variables	α_0	β_1	β_1	β_1	Adj.R2	N
Other machine and equipment manufacturers	0.707***	0.087**	0.062	-0.752	0.356	112
	(5.70)	(2.15)	(1.17)	(-0.74)		
Non-metallic mineral products industries	0.924**	0.217**	0.027**	-0.104*	0.223	88
	(5.66)	(2.22)	(2.02)	(-1.75)		
Food and soda industries	0.341***	0.509**	0.075***	-0.107*	0.464	137
	(5.79)	(1.83)	(2.71)	(1.67)		
Automobile and trailer manufacturers	0.883***	0.027*	0.163*	0.344	0.187	148
	(5.66)	(1.81)	(1.69)	(0.76)		
Electronics, imaging equipment, audio system	0.621***	0.577**	0.208**	-0.094**	0.298	139
and communication equipment manufacturer	(6.91)	(2.05)	(1.99)	(-2.26)		
Metal initial products industry	0.924***	0.021**	0.027***	-0.208	0.223	172
	(5.66)	(2.22)	(2.62)	(-0.12)		
Pulp, study, study products manufacturer	0.333***	0.092*	0.335***	-0.084**	0.266	80
	(6.61)	(1.67)	(3.64)	(-2.03)		
Compound and chemicals industry	0.500***	0.092**	0.245*	0.089	0.267	410
	(5.58)	(2.36)	(1.68)	(0.28)		

*,**,***Significant at the 0.1, 0.05 and 0.01 two tailed levels, respectively, (): t-stat

A statistically negative (-) sign was found In the β_3 non-metallic mineral products industries, food and soda industries, electronics, imaging equipment, audio system and communication equipment manufacturers and pulp, study, study product manufacturers. This observation indicates that, although IFRS adoption generally causes the disturbances on tax adjustment to increase, the four industries reduced the degree of the increment of tax adjustment fees paid to tax practitioners that provided IFRS-related consultation services.

CONCLUSION AND LIMITATIONS

This study was performed to test whether the applications of conventional financial accounting standard and of IFRS show any influence in cost input to tax adjustment by tax practitioners when calculating taxable earnings from accounting income. In this study, 1,694 year-corporations were selected. The service of tax adjustment was offered by auditors from 2008-2011, with the goal of determining whether there was any difference in the tax adjustment fees and the effect the IFRS-related consultation had on the correlation between IFRS adoption and tax adjustment service fees. The results of the study are as follows. First, a statistically significant positive (+) correlation between IFRS adoption and tax adjustment fees was observed which may be caused by the greater difference between IFRS and tax law than that between conventional financial accounting standards and tax law. Moreover, owing to the increase of the tax adjustment fees after the adoption of IFRS, more input cost, such as time and effort, is spent by tax practitioners on the adjustment of the accounting income calculated through IFRS into taxable earnings than through conventional financial accounting standards.

Second, the consultation elated to IFRS by tax practitioners was observed to reduce (-) the correlation between IFRS adoption and tax adjustment fees. Thus, in general, the tax adjustment fees increased after IFRS adoption. Moreover, if tax practitioners conducted IFRS consultation, the degree of the increase declines which may be the cause of knowledge spillover across different areas, such as the appreciation of the accounting and tax treatment of taxpayers during the consultation of tax agents for the design of IFRS accounting system and the taxation burden of IFRS. In addition, the tax agents, who can reduce such input costs as time and effort in the course of tax adjustment with respect to using IFRS in taxable earnings, can make tax adjustments more efficient.

Furthermore, after the analysis that determined whether the adoption of IFRS by the industry has made any difference in the tax adjustment fees, this study analyzed whether IFRS-related consultation contributed to the reduction of the tax adjustment fees for non-metallic mineral product industries, food and soda industries, electronics, imaging equipment, audio system and communication equipment manufacturers and pulp, study product manufacturers. However, tax agent consultation was confirmed to have no statistically significant effect on the efficiency of tax adjustment in other machine and equipment manufacturers, automobile and trailer manufacturers, initial metal products industry and compound and chemicals industry.

Nevertheless, interpreting the study results should be made with caution because of the following limitations. First, the study samples included only the fees paid to auditors for tax adjustment and consultation related to IFRS. That is, the subject of the analysis focused only on corporations that obtained audit, tax adjustment and consultation services from the same accounting firm at the same time. Accordingly, further analysis of the effect of IFRS adoption and IFRS-related consultation on the tax adjustment fees needs information on whether the

corporations themselves conducted their own tax adjustment and IFRS consultation and data on the fees paid to the auditors and external experts for tax adjustment and consultation. Second, although this study considers only the economic consequences of IFRS adoption with respect to tax accounting, the analysis that includes the audit area of financial accounting is necessary for a more precise and efficient analysis, as only one side being examined cannot facilitate the analysis of the factors affecting the decision making of managers. According to Scholes *et al.* (2002), both tax and non-tax costs should be considered in designing an efficient plan for tax accounting.

Despite the above limitations, the results of this study are meaningful in that it analyzed the effect of the adoption of IFRS with respect to tax accounting. In addition, the present study contributed to the proposal of policy implications that introducing any new accounting standard in financial institutions and tax offices which may increase the compliance cost for taxpayers.

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