The Effect of Adopting K-IFRS on Financial Reports – Case Study with KT&G

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Abstract

Through a case study with selected company early adopted K-IFRS, we review the changes of discretionary accruals as indicator of existence of earning management activities. We set up the following hypothesis: Discretionary accruals and its associated financial ratios changes after adopting K-IFRS reflecting increase of transparency in accounting information. Related variables are calculated for selected company, KT&G, during 2007-2010. We review the changes of indicators after introduction of K-IFRS.

The results of this study show the increase of transparency assuming the change of discretionary accruals as indicator of earning management activities. Besides, discretionary accruals and the debt ratio show positive correlation indicating better business performance can lower the incentives of earnings management.

IFRS introduction and debt ratio have the positive correlation indicating debt increase due to the change of the revenue recognition criteria and retirement benefits accounting. Also the introduction of IFRS and ROA have negative correlation, which can be explained by reassessment of assets as fair value with the introduction of K-IFRS.

Even though this case study has limitations to generalize current results to all companies adopting new accounting standards, it may indicate overall changes in financial information with new accounting standards related with transparency issues.

Keywords: *earning management, discretionary accruals, modified Jones model, K-IFRS*

1. Introduction

Korean government adopted IFRS and announced K-IFRS requiring listed corporates to generate their financial reports based on new accounting standards from 2011. The purpose of IFRS is to provide consumers unified information with same accounting standards around the world. It should be helpful for international companies having domestic and foreign business. However, IFRS is a principle based accounting standards without describing details of accounting procedures. Besides, financial statement based on market value is highly regarded in IFRS than the statement of profit or loss. Those conceptual differences from traditional accounting standards may cause confusions of financial information consumers. Some countries such as Japan, the United States, and India, have decided to delay their adopting plan for IFRS.

In spite of few disputes, adopting IFRS improves the reliability and comparability of the financial statements. It is also helpful for consumers of accounting information in evaluation of investment opportunities, performance measurement and analysis, enhancement of management control information, cost-effective cross-border mergers and acquisitions, *etc.* (Choi, 2008). Many researchers regard the improvement in transparency of accounting information as the most important positive effect of K-IFRS (Kang 2011). Among Korean listed companies, 14 companies in 2009 and 45 companies in 2010 already have adopted IFRS, but we cannot find proper data analysis on relationship between new accounting standards and transparency of accounting information yet.

We hope this case study shows clearly their relationships and checks if there's any change in earning management activities. For the purpose, we assume that the transparency of accounting information can be measured by earning management and the most common measurement of earning management is discretionary accruals. There are many disputes on the effectiveness of discretionary accruals as the primary indicator though. As the example of the counterarguments, we can refer to researches about measurement errors of discretionary accruals. Some argued discretionary accruals includes executive officer's opportunistic earnings management and private judgment on corporate performance (Na, 2004, Subramanyam, 1996). Others argued that the company's equity ownership structure may affect the size of the discretionary accruals (Paek, Cho, 2006). In spite of the arguments, we review the financial statements of selected company and check the changes in transparency of accounting information by reviewing the changes in size of discretionary accruals and related financial indexes after introduction of K-IFRS.

We selected KT&G as the exemplary company of early adopting K-IFRS in Korea. In December 2008, KT&G introduced a package solution for the first time in Korea. We set hypotheses of changes with introduction of K-IFRS and verify them referring to previous researches on characteristics of financial indexes scoring transparency level of accounting information (Choi, 2005) and characteristic ratio of financial variables of companies with high suspicion of earning management (Beneish, 1994).

Even though this case study has limitations to generalize current results to all companies adopting new accounting standards, it may indicate overall changes in financial information with new accounting standards related with transparency issues.

2. Theoretical Background and Hypothesis

2.1. Literature Review

There are a variety of researches about earning managements, but we classify them in terms of studies on discretionary accruals, studies on financial ratios and studies on effects of IFRS related to earning management.

First, researches on discretionary accruals follow. The modified Jones model is the most widely used as discretionary accruals estimation. Several researches on additional re-modifications of modified Jones model pointed out several accounting items which are not changed in proportion of sales. Also the re-modified models are more appropriate to the situation of domestic companies. Won (2000) added items to modified Jones model such as sales and general administrative expenses, non-operating income and non-operating costs to increase the correctness of measurement according to Korean capital market situation. Yoon & Miller (2002) suggested new model controlling the accounts payables, depreciation expenses, and retirement benefits with sales revenue instead of assets.

Besides earnings management through discretionary accruals, many researches describe earning management through real activities manipulation (Roychowdhuryn, 2006). Cohen, *et al.*, (2008) insisted they can substitute each other and Zang (2006) showed negative correlation between them. Through a survey of corporate executives, Graham, *et al.*, (2005) proved they prefer earning management through real activities manipulation. However, other results show most managers use both of them (Lin, *et al.*, 2006, Ahn, Kim, 2009). Park (2011) measured the quality of financial information with the size of the discretionary accruals and showed a significant relationship between quality of financial information and probability of delist from capital market.

The followings are the studies on financial ratios related earnings management.

Choi (2005) reviewed the financial characteristics of companies classified with high possibility of earning management and itemized to score for transparency of accounting information. She selected discretionary accruals, debt-to-equity ratio, net profit margin to sales ratio, and accounts receivable ratio as monitoring factors. Beneish (1994) analyzed the relationship between financial statements and reported higher increase of accounts receivable and discretionary accruals. Kim (2009) pointed out the possibility of accounting transparency decrease and economic loss with lack of preparations in early stage of adopting of K-IFRS. Powmall & Schipper (1999) identified transparency of accounting information and complete public disclosure as indicators of new accounting standards' success.

Finally, the researches related to the introduction of IFRS follow.

Kang (2011) surveyed the people working with accounting system to recognize their expectation for introduction of K-IFRS in terms of transparency. Questionnaire analysis result showed the introduction of K-IFRS is expected to be helpful for increasing the transparency of accounting information. Joh, *et al.*, (2010) investigated the current status of IFRS adopting status for foreign countries and identified the benefits of adopting IFRS. According to them, adopting IFRS helps transparency, credibility, efficiency, and fraud accounting reduction with consolidated financial statements. Gassen & shelhorn (2006) analyzed German companies voluntarily adopted IFRS and reported that they have a tendency for conservative accounting.

Shin (2010) examined the Australian companies adopted IFRS and reported they have significant increases in debt and assets. Knowledge on details of IFRS is required to understand the reasons of those significant changes in them.

2.2. Hypothesis Development

As mentioned in previous section, the major effect of the K-IFRS introduction is increase of transparency (Kang, 2011, Gassen, Shelhorn, 2006). We already assume that leading indicator determining the presence of earnings management activities is discretionary accruals. We can check other financial ratios, which are known to be correlated discretionary accruals or earning management activities (Choi, 2005, Lin, *et al.*, 2006). We examine the correlation of them as indicators of earnings management and their changes with adopting K-IFRS.

Hypothesis 1. Discretionary accruals and its associated financial ratios changes after adopting K-IFRS reflecting increase of transparency in accounting information.

Increasing the transparency of accounting data after introduction of K-IFRS also will change financial ratios which are related to earning management. As we assumed, discretionary accrual is the measure of the transparency of accounting information and it will be reduced with adopting K-IFRS. It will affects other financial ratios correlated with discretionary accruals.

3. Empirical Analysis

3.1. Data

We selected KT&G as the exemplary company of early K-IFRS adopting company because it introduced a package solution for new accounting standards in 2008.

With introducing the new package solution, KT&G integrated all financial management job of 12 separate companies of corporate group to build a system in conjunction with corporate affiliates, including early adoption of IFRS. With open of new accounting system, KT&G expects to enhance the transparency of accounting information and to reinforce central controls for efficient financial management. Systematized management accounting, disclosure standards and financial reporting for various purposes are available including consolidated financial statements.

We perform regression analysis with modified Jones model with KT&G's financial statements during 2002- 2006 and compare estimated and actual discretionary accruals during 2007-2010. In addition, the financial statements comparison between two time periods, 2007-2008 and 2009-2010, categorized with the introduction of IFRS will give more insight on changes of discretionary accruals and other financial ratios. We can find any progress on transparency of accounting information based on their changes with new accounting standards.

3.2. Analysis Model

As we assumed, Indicator to determine the presence of earnings management activities is discretionary accruals and we use the modified Jones model to get estimate of discretionary accruals. Equation (1) and equation (2) summarize the modified Jones model obtaining the estimate of discretionary accruals by subtracting the estimate of non-discretionary accruals from total accruals.

$$\frac{NDA_t}{A_{t-1}} = \hat{a}_0 \left[\frac{1}{A_{t-1}}\right] + \hat{a}_1 \left[\frac{(\Delta REV_t - \Delta AR_t)}{A_{t-1}}\right] + \hat{a}_2 \left[\frac{PPE_t}{A_{t-1}}\right] + \varepsilon_t \qquad (1)$$

Cf) NDA_k = non-discretionary accruals in time t
A_t: natural log of company asset amount in time t
ΔREV_t = revenue change in time t
ΔAR_t = accounts receivable change in time t
PPE_t = tangible assets in time t

$$DA_t = \frac{TA_t}{A_{t-1}} - \left(\hat{a}_0 \left[\frac{1}{A_{t-1}}\right] + \hat{a}_1 \left[\frac{(\Delta REV_t - \Delta AR_t)}{A_{t-1}}\right] + \hat{a}_2 \left[\frac{PPE_t}{A_{t-1}}\right]\right) \qquad (2)$$

Cf) TA_t = Total Accruals in time t
DA_t = Discretionary Accruals in time t

In addition, we examine the relationship between financial ratios and discretionary accruals. As described in research of Choi (2005), we also review the debt-to-equity ratio, sales cash flow, ROA, firm size. Debt-to-equity ratio is calculated as debt capital compared to total assets. Sales cash flow is calculated as operating cash flow compared to revenues. Besides, the firm size is obtained as the natural logarithm of the total asset value. We review the changes of the suggested financial ratios and discretionary accruals with the introduction of K-IFRS.

3.3. Analysis Results

To check the relationship between discretionary accruals and related financial ratios concerning with earnings management, we calculated KT&G's values for the variables and displayed them in table 1.

All discretionary accruals of KT&G are negative values and it decreased in 2009 with value of -0.182 from value of -0.145 in 2008. The change is consistent with the result of Gassen & Shelhorn (2006) reporting that companies adopted IFRS has a tendency of being conservative with new accounting standards.

We can also observe change of debt ratio from 0.210 in 2007 to 0.174 in 2010 and change of SCF from 0.359 in 2007 to 0.286 in 2010, while SIZE shows a slight increase during the period.

Table 1. Financial Rate Estimated Discretionary Accruals of KT&G (2007-2010)

Year	TA	DR	SCF	ROA	SIZE	Discretionary accruals (estimate)
2007	0.0557	0.210	0.359	0.166	22.104	-0.273
2008	0.055	0.192	0.255	0.204	22.201	-0.145
2009	0.000	0.195	0.269	0.156	22.289	-0.182
2010	0.045	0.174	0.286	0.177	22.382	-0.149

Cf) TA : Total Accruals
DR : Debt ratio
SCF: Sales cash flow
ROA: return on assets
SIZE: natural log of total assets

Table 2 summarize the change of financial ratios of KT&G since the introduction of K-IFRS. We can observe decrease of TA from 0.0552 to 0.0228 and decrease of DR from 0.201 to 0.185 while SIZE increased slightly.

Table 2. Change of Financial Rate with Introduction of K-IFRS

Period	TA	DR	SCF	ROA	SIZE
Before K-IFRS	0.0552	0.201	0.307	0.185	22.152
After K-IFRS	0.0228	0.185	0.278	0.166	22.336

The following Table 3 and Table 4 are showing the correlation between discretionary accruals, financial ratios and introduction of K-IFRS. As shown in Table 3, DA and DR have positive correlation and we can expect companies with higher debt-to-equity ratio have higher discretionary accruals. As we assume the discretionary accruals as indicator of earnings management, it implies that those companies have higher possibility of earning management, which support the result of previous studies (Choi, 2005, Ki, 2011). However, it is contradictory result to Park (2003) reported negative relations between them.

ROA (ROA) representing profitability of the company, are expected to have negative correlations with discretionary accruals because managers will have lower incentive for earning management with better business results. The result also shows negative correlation between them as -0.5305. Also the correlation between discretionary accruals and company size has negative correlation as -0.7357, which is consistent with the report of Watts and Wimmerman (1986). They expected larger company will not try earning management activities to reduce its political risks.

Table 3. Pearson Corelation Coefficents between Variables

Var.	DA	TA	DR	SCF	ROA	SIZE	NDA
DA	1.000	0.1517	0.8376	0.9273	-0.5305	-0.7357	0.6716
TA		1.000	0.0660	0.3729	0.6633	-0.4213	0.8318
DR			1.000	0.6042	-0.2729	-0.9225	0.5487
SCF				1.000	-0.4287	-0.5814	0.7793
ROA					1.000	-0.0880	0.2226
SIZE						1.000	-0.7363
NDA							1.000

Table 4. Pearson Correlation Coefficients with K-IFRS

	K-IFRS	DA	TA	DR	SCF	ROA	SIZE	NDA
K-IFRS	1.000	-0.418	0.151	0.837	0.927	-0.530	-0.735	-0.808

In Table 4, introduction of K-IFRS and discretionary accruals have negative correlation as value of -0.418. With our assumptions, we can conclude the introduction of K-IFRS increases transparency of accounting information. Besides, introduction of IFRS and DR has coefficient of 0.837 indicating positive (+) correlation. The increase of debt can be explained with change of revenue recognition criteria and retirement benefit accounting methods, which is consistent with the result of Yang (2010) reporting approximately 38% increase of debt after adopting IFRS. Finally the introduction of IFRS and ROA have negative (-) correlation, which can be explained by reassessment of assets as fair value with the introduction of K-IFRS.

4. Discussions

Introduction of K-IFRS is supposed to increase the transparency of accounting information (Kang, 2011, Gassen, Shelhorn, 2006). 59 domestic companies already adopted IFRS in 2009 and 2010, but empirical analysis on the relationship is not fully conducted yet.

We selected a sample corporate, KT&G, which introduced package solution for IFRS compliance in 2008 and reviewed its financial statements during 8 years to identify the effect of K-IFRS introduction. We reviewed the changes in debt ratio, sales, cash flow, ROA, and size in assets to verify following hypothesis.

(1) Companies suspicious for earning management have certain patterns in discretionary accruals. Also discretionary accruals and associated financial ratios have high correlation.

(2) Introduction of K-IFRS and suggested financial variables have higher correlations.

The results of analyses are as follow.

First, discretionary accruals and the debt ratio has positive correlations and the result supports previous researches insisting that companies with high debt-to-equity ratio try earning management to upward the profit (Choi, 2005). However, the correlation between discretionary accruals and ROA has negative coefficient, -0.5303, and companies with good business performance has low possibility of earning management. Also the size of company has negative correlation coefficient with discretionary accruals.

Second, IFRS introduction and debt ratio positively correlated with coefficient value of 0.837. KT&G's capital decreased due to the change of the revenue recognition criteria and debt increased due to the consideration of retirement benefits. Also total assets increased as fair value and it also make ROA decreased, which means the introduction of IFRS has negative impacts on ROA.

Even though the result of analysis on KT&G cannot apply to other companies adopted K-IFRS, we can anticipate the effect of adopting K-IFRS on discretionary accruals and other financial indexes. Considering overall analytic result of the effects, we can expect the introduction of K-IFRS provides an opportunity to improve transparency of accounting information in Korean capital market.

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