

Non-Audit Services And The Persistence And Market Pricing Of Earnings: Evidence From Korea

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ABSTRACT

We examine the effects of the concurrent provision of audit and non-audit services on auditor independence using earnings persistence, which is one of the qualitative properties of earnings, as well as related market responses. Empirical results are as follows. First, the accruals persistence of the group that is concurrently provided audit and non-audit services in many cases is shown to be lower than that of the group that is not concurrently provided audit and non-audit services. Second, the phenomenon of low accruals persistence of the group that is concurrently provided a lot of audit and non-audit services is shown to be overestimated in the market. This study contributes to existing research in three main respects. First, from the viewpoint of earnings persistence, it is verified that rather than whether non-audit services are provided or not, the level of non-audit services acts as an important factor in determining damage to auditor independence by the concurrent provision of audit and non-audit services. Second, in relation to market rationality, whether the market appropriately reflects changes in the persistence of earnings and accruals according to whether non-audit services are provided or not is analyzed. Third, through additional analysis, it is verified that differences in the persistence of earnings and accruals among groups that are concurrently provided audit and non-audit services vary with the audit environment.

Keywords: Non-Audit Services; Auditor Independence; Earnings Persistence; Market Pricing

1. INTRODUCTION

*A*uditor independence is essential in enhancing the reliability and transparency of accounting information. As a result of recent window dressing settlement cases involving GS Engineering & Construction Corp., STX, Dong-yang, and Hyosung reported in the press, interest in the reliability of financial statements has been rising among stakeholders. Meanwhile, to enhance auditor independence, South Korea amended the Certified Public Accountant Act in 2003 to prevent auditors from providing non-audit services or only allow the provision of some non-audit services after approval by an audit committee. The position of regulators regarding this matter is that the concurrent provision of audit and non-audit services will damage independence, thereby impairing the reliability of accounting information. However, according to theories that advocate the concurrent provision of audit and non-audit services, performing two tasks simultaneously will enable more in-depth performance of audit work, maintaining or rather reinforcing the independence of the auditor. In existing studies, the relationship between the concurrent provision of audit and non-audit services and auditor independence has been a persisting study subject in the field of accounting/auditing, and two conflicting views exist with regard to the relationship¹. The first, auditors that concurrently provide audit and non-audit services suffer larger economic losses in cases of corporate adhesion or auditor replacement than those that do not. Therefore, auditors that concurrently provide audit and non-audit services cannot freely express audit-related independent opinions (Frankel et al., 2002). The second, it means that since auditors that concurrently provide audit and non-audit services better understand the

¹ DeFond et al. (2002) interpreted auditor independence as the ability of auditors to express their audit opinions objectively without being affected by client pressure or self-audit risk.

clients' management and internal control environments than those that do not, they can improve inefficiencies and perform more in-depth audits.

Recently, audit markets have reached a critical situation due to intensifying competition among auditors in which even dumping sales at fees below costs are made. To make up for audit work contracted through dumping sales, auditors sometimes make bundle contracts for audit and non-audit services as a package. In such cases, the auditor may be subordinate to the client for economic reasons, damaging the independence of the auditor. When the independence of the auditor has been damaged, opportunistic actions of managers, such as earnings management, may be left unattended, and this situation may reduce the predictive value of earnings, which is a key element showing the relevance of financial information. Jonas and Blanchet (2000) presented earnings persistence, an element to measure the predictive value of earnings from the viewpoint of information users. Therefore, in our study, the relationship between the concurrent provision of audit and non-audit services and earnings persistence was judged to represent a measure to shed new light on auditor independence, and auditor independence was investigated from the viewpoint of the qualitative properties of earnings.

The purpose of our study is to examine the effects of the concurrent provision of audit and non-audit services on auditor independence using earnings persistence, one of the qualitative properties of earnings, as well as related market responses.

In the case of accounting firms in South Korea, since audit departments and non-audit departments are separated from each other, concurrent provision of audit and non-audit services may not affect auditor independence (Gwon et al., 2004). However, if audit services become a loss leader for non-audit services, the relevant auditors will have a motive to compensate for the low audit fees by using non-audit services, and will not be willing to bear costs for auditor replacement due to the low audit fees (Jeong et al., 2009). Therefore, the independence of the auditor may be damaged more in cases where the ratio of non-audit services fees to audit fees is higher. Based on this expectation, in our study, samples will be divided into the following groups: audit and non-audit services are not concurrently provided (NG); audit and non-audit services are concurrently provided in a few cases (SG); and audit and non-audit services are concurrently provided in many cases (LG)². Differences in the persistence of earnings and accruals among the groups and market responses by group will be examined. If auditor independence is damaged by the provision of non-audit services according to the level of the provision, the predictive value of earnings of the group that is concurrently provided audit and non-audit services in a few cases or in many cases should be lower than that of the group that is not concurrently provided audit and non-audit services, and consequently the persistence of earnings and accruals will also decline. On the other hand, if damage to auditor independence has nothing to do with economic dependence of clients, differences in the persistence of earnings and accruals will not appear among the divided groups.

The empirical results of our study are as follows. First, the accruals persistence of the group that is concurrently provided audit and non-audit services in many cases is shown to be lower than that of the group that is not concurrently provided audit and non-audit services. This seems to suggest that rather than whether non-audit services are provided or not, it is the level of non-audit services that affect auditor independence, meaning that the phenomenon of damage to auditor independence by the concurrent provision of audit and non-audit services occurs only in cases where the level of non-audit services is high. Second, the phenomenon of low accruals persistence for the group that is concurrently provided audit and non-audit services is shown to be overestimated in the market. This suggests that when the level of non-audit services is high, market participants do not appropriately evaluate the persistence of accruals. Third, in audit environments, losses due to audit failure, such as those due to class actions, are shown to be put before losses due to the drop in auditor reputation.

This study contributes to existing research in three main respects. First, from the viewpoint of earnings persistence, it is verified that rather than whether non-audit services are provided or not, the level of non-audit services acts as an important factor in determining damage to the independence of the auditor by the concurrent provision of audit and non-audit services. Second, in relation to market rationality, whether the market appropriately reflects changes in the

² Refers to cases where the same auditor provides audit services and non-audit services simultaneously.

persistence of earnings and accruals according to whether non-audit services provided or not is analyzed. Third, through additional analysis, it is verified that differences in the persistence of earnings and accruals among groups that are concurrently provided audit and non-audit services vary with the audit environment. Finally, our study is expected to provide additional information at this point, where consistent study results regarding damage to auditor independence and the knowledge transfer phenomena according to the concurrent provision of audit and non-audit services have not been reported. In addition, our study is expected to provide information useful in determining differentiated supervision level according to the level of concurrent provision of audit and non-audit services.

The remainder of the paper is organized as follows. Section 2 reviews the related literature and develops the testable hypotheses. Section 3 discusses the research design. Section 4 presents the empirical results of the study. Finally, section 5 concludes the study.

2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

2.1 Literature on Auditor Independence

Recently, whether the concurrent provision of audit and non-audit services causes damage to auditor independence by increasing economic dependence on clients has been a persisting study subject. Previous studies related to damage to auditor independence are as follows. First, Dee et al. (2002) and Frankel et al. (2002) examined the relationship between the provision of non-audit services and auditor independence centering on discretionary accruals. Based on the results of these studies, the researchers reported a significant positive (+) relationship between the ratio of non-audit fees to audit fees and discretionary accruals, and suggested that in the case of samples with high ratios of non-audit services, earnings higher than values predicted by financial analysts were being reported. Swanger and Chewning (2001) conducted a questionnaire survey about auditor independence on financial analysts, and based on the results, they identified that financial analysts felt that auditor independence was damaged when a company's internal audit work was commissioned to external auditors.

Kim et al. (2008) discovered that financial statements become less conservative as both abnormal audit and non-audit fees increase. In addition, the level of audit and non-audit fees is also negatively associated with the degree of conservatism. These results suggest that higher level of both audit and non-audit fees could impair financial reporting quality. Jung et al. (2009) showed that non-audit services rendered concurrently with audit services impair auditor independence. However, they found no evidence that the ratio of non-audit services fees to audit services fees impairs auditor independence. Kim et al. (2010) examined the association between economic dependence from non-audit services and auditor independence measured as the review opinion of internal control and the disclosure of internal control weaknesses. The first result shows that economic fee dependence is not significantly related to qualified review opinion. On the other hand, the second result shows that economic fee dependence significantly affects the disclosure of internal control system weakness. Choi (2011) showed that the provision of non-audit services has a significant negative (-) effect on accrual quality. In particular, among non-audit services, only tax services have a significant negative (-) effect on accrual quality.

DeFond et al. (2002) examined the relationship between the provision of non-audit services and auditor independence, centering on audit opinions on going concerns. The results of the study indicated that non-audit services were not related to audit opinions. On the contrary, audit fees of firms that received going concern uncertainty opinions were shown to be higher.

Ghosh et al. (2009) investigated how investors recognized non-audit fees in terms of auditor independence through analysis of the relationship between non-audit fees and earnings response coefficients (ERC). The results of the study indicated that the ratio of non-audit fees to entire fees had no statistically significant relationship with auditor independence, and that the importance of businesses and earnings response coefficients (ERC) had negative (-) relationships. The results of these previous studies present an opinion that the provision of non-audit services does not damage auditor independence. Conflicting studies, analyzing the relationship between the concurrent provision of audit and non-audit services, and auditor independence mentioned earlier, investigated the relationship using diverse methods. When seen comprehensively, the study results are not consistent, as sample companies, non-audit service fees, and proxies of auditor independence differed by researcher.

2.2 Hypotheses Development

2.2.1 Non-Audit Services Group and Earnings and Accruals Persistence

Recently, audit markets have reached a critical situation due to intensifying competition among auditors in which even dumping sales at fees below costs are made. To make up for audit work contracted through dumping sales, auditors sometimes create bundle contracts for audit and non-audit services as a package. Auditors that concurrently provide audit and non-audit services suffer larger economic losses in cases of corporate adhesion or auditor replacement than those that do not. Therefore, auditors that concurrently provide audit and non-audit services cannot freely express audit-related independent opinions (Frankel et al. 2002). According to the results of a study conducted by Frankel et al. (2002), since the phenomenon of damage to auditor independence may be determined by the level of economic dependence on clients (amount of non-audit services fees), it may be intensified as the amount of non-audit services increases.

The practical opinion also exists believing that auditors that concurrently provide audit and non-audit services can perform a more in-depth audit because they better understand their clients' management and internal control environments, that auditor independence may be maintained or reinforced thanks to the knowledge transfer phenomenon, and that audit departments and non-audit departments are separated from each other in accounting firms, so the concurrent provision of audit and non-audit services should not greatly damage auditor independence. Therefore, damage to auditor independence may not be related to economic dependence on clients. Jonas and Blanchet (2000) presented earnings persistence as an element of measurement of predictive values of earnings from the viewpoint of information users. Net incomes can be divided into accruals and cash flows, and accruals can play a more important role in improving profit-making ability as a performance measure than cash flows, which are time-specific and have limitations in matching (Dechow, 1994). Therefore, accruals persistence can also be an element of measurement of the predictive value of earnings.

When auditor independence has been damaged, opportunistic actions of managers, such as earnings management, may be left unattended, and this situation may reduce the predictive value of earnings, which is a key element showing the relevance of financial information. If auditor independence is damaged by the provision of non-audit services according to the level of the provision, the predictive value of earnings of the group that is concurrently provided audit and non-audit services in a few cases or in many cases should be lower than that of the group that is not concurrently provided audit and non-audit services, and the persistence of earnings and accruals will also decline consequently. On the other hand, if damage to auditor independence has nothing to do with economic dependence on clients, differences in the persistence of earnings and accruals will not appear among the divided groups. Based on these conflicting views, we propose the following two null hypotheses:

H₁: There should be no difference in earnings persistence among the group that is not concurrently provided audit and non-audit services (NG), the group that is concurrently provided audit and non-audit services in a few cases (SG), and the group that is concurrently provided audit and non-audit services in many cases (LG).

H₂: There should be no difference in accruals persistence among the group that is not concurrently provided audit and non-audit services (NG), the group that is concurrently provided audit and non-audit services in a few cases (SG), and the group that is concurrently provided audit and non-audit services in many cases (LG).

2.2.2 Non-Audit Services Group and Market Pricing

According to the efficient market hypothesis, since market participants can utilize all information, their subjective probability distribution and objective probability distribution for evaluation of an economic phenomenon or variable become the same. In addition, market participants appropriately recognize differences in the persistence of earnings or accruals and reflect this recognition on investment activities. On the other hand, some previous studies, such as Sloan (1996), present market anomalies indicating that market participants cannot reflect accruals persistence on expected amounts of earnings. These market anomalies are considered attributable to the fact that market participants cannot accurately understand information on earnings persistence due to the functional fixation hypothesis about earnings.

According to the efficient market hypothesis, if the persistence of earnings and accruals is changed based on whether non-audit services are provided or not, or the level of the non-audit services provided, the change will be appropriately reflected in the market. On the other hand, if market anomalies appear, changes in the persistence of earnings and accruals occur according to whether non-audit services are provided or not, or the level of the non-audit services provided, will not be appropriately reflected in the market. Based on these expectations, in relation to market rationality, the following hypotheses (3 and 4) will be set and verified:

H₃: Market evaluation of the earnings of the group that is not concurrently provided audit and non-audit services (NG), the group that is concurrently provided audit and non-audit services in a few cases (SG), and the group that is concurrently provided audit and non-audit services in many cases (LG) should be appropriate.

H₄: Market evaluation of the accruals of the group that is not concurrently provided audit and non-audit services (NG), the group that is concurrently provided audit and non-audit services in a few cases (SG), and the group that is concurrently provided audit and non-audit services in many cases (LG) should be appropriate.

3. RESEARCH DESIGN

3.1 Research Models

3.1.1 Non-Audit Services Group and Earnings and Accruals Persistence

A model to verify differences in earnings persistence between the group that is concurrently provided audit and non-audit services can be seen in Equation (1). Equation (2) is a model to verify differences in accruals persistence between the group that is concurrently provided audit and non-audit services in which the continuing income in period t, which is an explanatory variable in Equation (1), is subdivided into accruals and operating cash flows.

$$E_{t+1} = \alpha_0 + \alpha_1 E_t + \alpha_2 SG + \alpha_3 LG + \alpha_4 E_t \times SG + \alpha_5 E_t \times LG + \alpha_6 MVE_t + \alpha_7 LEV_t + \beta_8 BM_t + \beta_9 BETA_t + \beta_{10} EP_t + \sum IND + \sum YD + \varepsilon_t \tag{1}$$

$$E_{t+1} = \alpha_0 + \alpha_1 ACC_t + \alpha_2 SG + \alpha_3 LG + \alpha_4 ACC_t \times SG + \alpha_5 ACC_t \times LG + \alpha_6 CFO_t + \alpha_7 MVE_t + \alpha_8 LEV_t + \beta_9 BM_t + \beta_{10} BETA_t + \beta_{11} EP_t + \sum IND + \sum YD + \varepsilon_t \tag{2}$$

Where,

- E_t Continuing income deflated by lagged total assets;
- SG 1 if the ratio(non-audit fees / audit fees) in a sample that is concurrently provided audit and non-audit services is smaller than the industrial-yearly median, if not, 0;
- LG 1 if the ratio (non-audit fee s /audit fees) in a sample that is concurrently provided audit and non-audit services is larger than the industrial-yearly median, if not, 0;
- ACC_t (continuing income – operating cash flow) deflated by lagged total assets;
- CFO_t Operating cash flow deflated by lagged total assets;
- MVE_t The natural logarithm of total market value;
- LEV_t Total debt divided by total assets;
- BM_t Total book value divided by total market value;
- $BETA_t$ The systematic risk (3 years) estimated by the market model;
- EP_t Continuing income divided by total market value;
- IND Industry dummy
- YD Year dummy

Among the variables in Equation (1) and Equation (2), SG represents the group that is concurrently provided audit and non-audit services in a few cases, and is set as 1 in the case of samples in the group that is concurrently provided audit and non-audit services with a ratio (non-audit fees/audit fees) lower than the industrial yearly median, and is set as 0 in the case of other samples. LG represents the group that is concurrently provided audit and non-audit services in many cases, and is set as 1 in the case of samples in the group that is concurrently provided audit and non-audit services with a ratio (non-audit fees/audit fees) higher than the industrial yearly median, and is set as 0 in the case of other samples. E×SG and ACC×SG in Equations (1) and (2) refer to differences in the persistence of earnings and accruals between the group that is concurrently provided audit and non-audit services in a few cases and the group that is not concurrently provided audit and non-audit services, and E×LG and ACC×LG refer to differences in the persistence of earnings and accruals between the group that is concurrently provided audit and non-audit services in many cases and the group that is not concurrently provided audit and non-audit services.

If differences in the persistence of earnings and accruals occur between the group that is concurrently provided non-audit services and the group that is not concurrently provided audit and non-audit services, the regression coefficients of E×SG, E×LG, ACC×SG and ACC×LG should have significant values. If the self-audit risk view is valid, the persistence of earnings and accruals of the group that is concurrently provided non-audit services should be lower than that of the group that is not concurrently provided audit and non-audit services, so that the regression coefficients of interaction variables should have negative (-) values. On the other hand, if the view of the knowledge transfer phenomena is valid, the persistence of earnings and accruals of the group that is concurrently provided non-audit services should be higher than that of the group that is not concurrently provided audit and non-audit services, so that the regression coefficients of interaction variables should have positive (+) values.

Earnings persistence model control variables are as follows. MVE was included to control business scales, and LEV was included to control business capital structures. BM and BETA (systemic risk) were included in the model to control the effect of company risk on the persistence of earnings and accruals, and EP was included to control earnings-price abnormalities. YD (year dummies) and IND (industry dummies) were included in the model to control the effects of years and industries on the persistence of earnings and accruals.

3.1.2 Non-Audit Services Group and Market Pricing

To verify market rationality for earnings by the group that is concurrently provided audit and non-audit services, the rates of return of hedge portfolios are examined through yearly regression analysis. A model to verify market rationality for earnings by the group that is concurrently provided audit and non-audit services can be seen in Equation (3) below, which is a model of portfolio priorities for future rates of return, earnings, and other control elements. Equation (4) is a model for verification of market rationality for accruals by the group that is concurrently provided audit and non-audit services, subdividing the continuing income in period t, which is an explanatory variable in Equation (3), into accruals and operating cash flows.

$$SAR_{t+1} = \beta_0 + \beta_1 E_t^{dec} + \beta_2 MVE_t^{dec} + \beta_3 BM_t^{dec} + \beta_4 BETA_t^{dec} + \beta_5 EP_t^{dec} + \beta_6 SAR_t^{dec} + \varepsilon_t \quad (3)$$

$$SAR_{t+1} = \beta_0 + \beta_1 ACC_t^{dec} + \beta_2 CFO_t^{dec} + \alpha_3 MVE_t^{dec} + \alpha_4 BM_t^{dec} + \alpha_5 BETA_t^{dec} + \alpha_6 EP_t^{dec} + \alpha_7 SAR_t^{dec} + \varepsilon_t \quad (4)$$

Where,

- E_t Decile group (value obtained by dividing values in a range of 0~9 by 9) of (continuing income / lagged total asset);
- ACC_t Decile group (value obtained by dividing values in a range of 0~9 by 9) of [(continuing income-operating cash flow) / lagged total asset];
- CFO_t Decile group (value obtained by dividing values in a range of 0~9 by 9) of (operating cash flow / lagged total asset);
- SAR_t Decile group (value obtained by dividing values in a range of 0~9 by 9) of (size-adjusted returns);

MVE_t	<i>Decile group (value obtained by dividing values in a range of 0~9 by 9) of (log value of market value);</i>
LEV_t	<i>Decile group (value obtained by dividing values in a range of 0~9 by 9) of (liability total/asset total);</i>
BM_t	<i>Decile group (value obtained by dividing values in a range of 0~9 by 9) of (capital total/ market value);</i>
$BETA_t$	<i>Decile group (value obtained by dividing values in a range of 0~9 by 9) of (three year estimated beta using a market model);</i>
EP_t	<i>Decile group (value obtained by dividing values in a range of 0~9 by 9) of (continuing income/ market value);</i>

A dependent variable in Equations (3) and (4) is size-adjusted returns in period t+1 and all explanatory variables are divided by 9 after identifying the decile to be set to maintain values in the range of 0~1. The regression coefficients of the converted variables represent the rates of return of zero investment portfolios made by buying groups with relatively high values of individual variables and selling groups with relatively low values of individual variables. The regression coefficient of E^{dec} in Equation (3) represents the non-expected rate of return of the zero investment portfolio based on profit information, and ACC^{dec} represents the non-expected rate of return of the zero investment portfolio based on accrual information³. If the persistence of earnings and accruals is overestimated in the market, the regression coefficients of E^{dec} and ACC^{dec} should have negative (-) values. On the other hand, if the persistence of earnings and accruals is appropriately evaluated according to the efficient market hypothesis, the regression coefficients of E^{dec} and ACC^{dec} should not be significant.

Market rationality model's control variables are as follows. MVE was included to control business scales. BM and BETA (systemic risk) were included in the model to control variation in the future returns due to risk. EP was included as a control variable to control earnings-price abnormalities and SAR was included to control the trend of short-term returns.

3.2 Sample Selection

In this study, samples that satisfy sample selection criteria during the period of 2001-2012, among firms listed on the Korea Stock Exchange (KSE) that run non-banking business, were selected. Table 1 presents the sample selection criteria and number of firms excluded before arriving at our final sample. We obtained financial data from KIS-VALUE, which provides financial statements of all listed firms, and analyst forecasts from the Fn-Guide.

First, financial firms were excluded to secure accounting comparability and samples with no financial data or stock price data were excluded. To secure reliability based on audit reports, samples with audit opinions other than unqualified opinions were excluded and samples without audit fees were excluded. Consequently, a total of 6,262 samples were finally selected. Of the final 6,232 samples, 4,131 are those in which the same auditors do not concurrently provide audit and non-audit services. The number of samples in which audit and non-audit services are concurrently provided is 2,131, the number of samples in which the amount of non-audit service fees was smaller compared to audit fees is 1,124, and the number of samples in which the amount of non-audit service fees was larger compared to audit fees is 1,007. The financial data of the samples for analysis were winsorized at extreme value 1% before being used⁴.

³ The significance of variables is measured by calculating standard deviations from the distribution of yearly coefficients, according to Fama and Macbeth (1973).

⁴ The results of analysis after removing extreme values of 1% of the data showed similar values to those of the winsorized empirical results.

Table 1. Sample Selection

Sample Selection Criteria		Firm-Year Observations
Firm-years with December fiscal year-ends and listed on the KSE (2001-2012)		7,704
(Less) Firm-years with no financial data		(704)
(Less) Firm-years with no stock price		(701)
(Less) Firm-years with audit opinions other than unqualified opinions		(28)
(Less) Firm-years without audit fees		(9)
Total		6,262
Final Sample	The group that is not concurrently provided audit and non-audit services (NG)	4,131
	The group that is concurrently provided audit and non-audit services in a few cases (SG)	1,124
	The group that is concurrently provided audit and non-audit services in a many cases (LG)	1,007

4. EMPIRICAL RESULTS

4.1 Descriptive Statistics and Correlation Analysis

Table 2 shows the descriptive statistics of major variables and the results of verification of the average differences between non-audit service groups. In PANEL A, the averages of continuing incomes in period t and those in period $t+1$ are shown to be 0.037 and 0.040, respectively, and this can be interpreted as increases on average in the continuing incomes of stock-listed corporations. Whereas the averages of continuing incomes are shown as positive (+) values, the average of accruals is shown as -0.02 , a negative (-) value. Dechow (1994) and Ko and Yun (2006) mention that total accruals have negative (-) values because of non-current accruals such as depreciation, and the same phenomenon was identified in the samples of this study.

Panel B shows average differences in major variables among the group that is not concurrently provided audit and non-audit services, the group that is concurrently provided audit and non-audit services in a few cases, and the group that is concurrently provided audit and non-audit services in many cases. Whereas size-adjusted returns in period $t+1$ are shown to not be different among the groups, continuing incomes, accruals, and operating cash flows are shown to be different among the groups.

Table 2. Descriptive Statistics and Differences Among Groups

Panel A: Descriptive Statistics						
Variable	N	Mean	Std.	Min	Median	Max
$Et+1$	6,262	0.040	0.087	-0.305	0.039	0.305
$SARt+1$	6,262	-0.027	0.493	-1.156	-0.098	1.940
Et	6,262	0.037	0.083	-0.303	0.038	0.278
ACC	6,262	-0.020	0.089	-0.324	-0.019	0.251
CFO	6,262	0.052	0.081	-0.199	0.050	0.286
MVE	6,262	25.516	1.767	22.492	25.187	30.409
LEV	6,262	0.448	0.194	0.059	0.452	0.936
BM	6,262	1.761	1.359	0.123	1.394	7.233
$BETA$	6,262	0.892	0.521	-1.773	0.870	3.585
EP	6,262	0.035	0.338	-2.008	0.082	0.755
$SARt$	6,262	-0.027	0.538	-1.364	-0.101	2.146

(Table 2 continued on next page)

(Table 2 continued)

Panel B: Differences Among Groups

Variable	NG (n=4,131)	SG (n=1,124)	LG (n=1,007)	ANOVA (F-value)
	Mean	Mean	Mean	
E_{t+1}	0.037	0.043	0.047	5.87***
SAR_{t+1}	-0.026	-0.032	-0.022	0.13
E_t	0.035	0.038	0.045	6.80***
ACC	-0.018	-0.027	-0.022	4.49**
CFO	0.048	0.059	0.060	13.92***

1) Variables definitions.

E: Continuing operations income deflated by lagged total assets;

SAR: The size adjusted return cumulated over a 12-month period;

ACC: Accruals measured as (continuing income – operating cash flow) deflated by lagged total assets;

CFO: Operating cash flow deflated by lagged total assets;

MVE: The natural logarithm of total market value;

LEV: Total debt divided by total assets;

BM: Total book value divided by total market value;

BETA: The systematic risk (3 years) estimated by the market model;

EP: Continuing operations income divided by total market value;

NG: The group that is not concurrently provided audit and non-audit services;

SG: The group that is concurrently provided audit and non-audit services in a few cases;

LG: The group that is concurrently provided audit and non-audit services in a many cases;

2) *, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 3 below shows the results of correlations among variables in the 6,262 sample businesses from 2001 to 2012. Continuing incomes and operating cash flows in period t are shown to have positive (+) correlations and accruals and operating cash flows are shown to have negative (-) correlations. These results are the same as those of Dechow (1994) and Ko and Gwon (2006). The continuing incomes, accruals, and operating cash flows are shown to be larger in larger businesses indicating that larger businesses are more profitable. Businesses with higher debt ratios are shown to have smaller continuing incomes, accruals, and operating cash flows. This is interpreted to be attributable to interest costs, which are the costs of debts. Businesses with higher BM and BETA, which indicate company risk, are shown to have lower profitability. Businesses with larger continuing incomes are shown to have higher earnings-price ratios, indicating that businesses with larger continuing incomes are more underestimated in the market.

Table 3. Correlations among the Variables

	E^{t+1}	SAR^{t+1}	E^t	ACC	CFO	MVE	LEV	BM	$BETA$	EP
SAR^{t+1}	0.198									
E^t	0.534	0.024								
ACC	0.042	-0.042	0.451							
CFO	0.440	0.065	0.464	-0.532						
MVE	0.235	-0.038	0.296	0.021	0.237					
LEV	-0.219	-0.012	-0.334	-0.157	-0.165	-0.067				
BM	-0.167	0.098	-0.156	0.023	-0.129	-0.460	-0.035			
$BETA$	-0.095	-0.021	-0.091	0.022	-0.107	0.139	0.165	-0.074		
EP	0.258	0.037	0.701	0.429	0.251	0.111	-0.286	0.009	-0.085	
SAR^t	0.218	0.011	0.203	0.063	0.127	0.079	-0.027	-0.095	-0.016	0.177

1) Please see <Table 2> for variable definitions

2) This table presents Pearson correlations. Coefficients shown in bold are significant at $p < 0.05$ (two-tailed test).

4.2 Multivariate Results

4.2.1 Non-Audit Services Group and Earnings and Accruals Persistence

Table 4 shows the results of regression analysis of the persistence of earnings and accruals by the non-audit services group. According to PANEL A, the earnings persistence regression coefficient of the group that is not concurrently provided audit and non-audit services is 0.650, that of the group that is concurrently provided audit and non-audit services in a few cases is 0.782, and that of the group that is concurrently provided audit and non-audit services in many cases is 0.520, and the differences between the values are shown to be significant at a 1% significance level.

Compared to the group that is not concurrently provided audit and non-audit services, the group that is concurrently provided audit and non-audit services in a few cases is shown to have slightly higher earnings persistence, and the difference is shown to be significant at a 10% significance level. Compared to the group that is not concurrently provided audit and non-audit services, the group that is concurrently provided audit and non-audit services in many cases is shown to have lower earnings persistence, but the difference is shown to not be significant.

According to Panel B, the accruals persistence regression coefficients of the group that is not concurrently provided audit and non-audit services, the group that is concurrently provided audit and non-audit services in a few cases, and the group that is concurrently provided audit and non-audit services in many cases are shown to be 0.471, 0.528, and 0.240, respectively, and the differences between the values are shown to be significant at a 1% significance level. Compared to the group that is not concurrently provided audit and non-audit services, the group that is concurrently provided audit and non-audit services in a few cases is shown to have higher accruals persistence, but the difference is shown to not be significant. Compared to the group that is not concurrently provided audit and non-audit services, the group that is concurrently provided audit and non-audit services in many cases is shown to have lower accruals persistence, and the differences between the values are shown to be significant at a 1% significance level.

Table 4. The Persistence of Earnings and Accruals of Non-Audit Services Group

Panel A: The Persistence of Earnings of Non-Audit Services Group								
Variable	NG (n=4,131)		SG (n=1,124)		LG (n=1,007)		Full Sample(n=6,262)	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Intercept</i>	-0.091	-3.59***	0.010	0.26	-0.048	-1.13	-0.064	-3.53***
<i>E</i>	0.650	30.64***	0.782	22.56***	0.520	14.07***	0.640	34.08***
<i>SG</i>							-0.002	-0.63
<i>LG</i>							-0.001	-0.35
<i>E×SG</i>							0.055	1.90*
<i>E×LG</i>							-0.018	-0.6
<i>MVE</i>	0.005	4.8***	0.002	1.19	0.004	3.19***	0.004	5.77***
<i>LEV</i>	-0.035	-5.26***	-0.029	-2.49**	-0.073	-5.12***	-0.033	-6.24***
<i>BM</i>	-0.008	-8.4***	-0.003	-2.02**	-0.011	-5.26***	-0.006	-7.23***
<i>BETA</i>	-0.009	-4.06***	0.002	0.41	-0.014	-3.1***	-0.008	-4.53***
<i>EP</i>	-0.055	-11.66***	-0.080	-9.08***	-0.029	-3.05***	-0.055	-14.38***
<i>Industry and Year Dummy</i>	Included		Included		Included		Included	
<i>Adj. R²</i>	0.32		0.45		0.37		0.35	
Panel B: The Persistence of Accruals of Non-Audit Services Group								
Variable	NG (n=4,131)		SG (n=1,124)		LG (n=1,007)		Full Sample(n=6,262)	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Intercept</i>	-0.060	-2.37**	0.035	0.87	-0.027	-0.62	-0.032	-1.74*
<i>ACC</i>	0.471	21.97***	0.528	13.53***	0.240	6.09***	0.452	24.59***
<i>SG</i>							0.000	0.08
<i>LG</i>							-0.003	-0.96
<i>ACC×SG</i>							0.021	0.77
<i>ACC×LG</i>							-0.072	-2.61***
<i>CFO</i>	0.729	31.58***	0.802	20.16***	0.539	12.59***	0.713	39.6***
<i>MVE</i>	0.003	3.26***	0.001	0.6	0.004	2.45**	0.002	3.57***
<i>LEV</i>	-0.032	-4.89***	-0.027	-2.28**	-0.074	-5.15***	-0.037	-6.99***
<i>BM</i>	-0.008	-8.98***	-0.006	-3.25***	-0.012	-6.13***	-0.009	-11.4***
<i>BETA</i>	-0.009	-3.82***	0.002	0.54	-0.014	-3.04***	-0.008	-4.29***
<i>EP</i>	-0.040	-8.59***	-0.045	-4.96***	-0.003	-0.35	-0.035	-9.24***
<i>Industry and Year Dummy</i>	Included		Included		Included		Included	
<i>Adj. R²</i>	0.33		0.45		0.37		0.35	

1) Please see Table 2 for variable definitions. 2) SG: 1 if the ratio (non-audit fees/audit fees) in a sample that is currently provided audit and non-audit services is smaller than the industrial-yearly median, if not, 0; LG: 1 if the ratio (non-audit fees/audit fees) in a sample that is currently provided audit and non-audit services is larger than the industrial-yearly median, if not, 0; 3) *, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 5 shows the results of the analysis of differences in earnings persistence according to whether audit and non-audit services are concurrently provided or not, and differences in earnings persistence according to the level of concurrent provision of audit and non-audit services. According to Panel A, whether audit and non-audit services are concurrently provided or not do not affect earnings persistence or accruals persistence. On the other hand, according to the results of the analysis of differences in the persistence of earnings and accruals between the group that is concurrently provided audit and non-audit services in a few cases and the group that is concurrently provided audit and non-audit services in many cases, the group that is concurrently provided audit and non-audit services in many cases is shown to have a lower persistence of earnings and accruals than the other group. As mentioned earlier, this suggests that whether audit and non-audit services are concurrently provided or not do not greatly affect auditor independence, and that a phenomenon of great damage to auditor independence appears in the group that is concurrently provided audit and non-audit services in many cases.

Table 5. The Differences in Earnings and Accruals Persistence according to whether Non-Audit Services are provided or not and the Level of Non-Audit Services

Panel A: The Differences in Earnings and Accruals Persistence according to whether Non-Audit Services are provided or not					
Variable	Coefficient	t-value	Variables	Coefficient	t-value
Intercept	-0.058	-3.16***	Intercept	-0.032	-1.72*
E	0.646	34.72***	ACC	0.449	23.29***
NF	-0.001	-0.51	CFO	0.710	33.99***
E×NF	0.020	0.88	NF	-0.002	-0.68
			ACC×NF	-0.021	-0.83
			ACC×NF	0.008	0.3
Controls, Industry And Year Dummy	Included		Controls, Industry And Year Dummy	Included	
N	6,262		N	6,262	
Adj. R ²	0.35		Adj. R ²	0.35	
Panel B: The Differences in Earnings and Accruals Persistence according to the Level of Non-Audit Services					
Variable	Coefficient	t-value	Variables	Coefficient	t-value
Intercept	-0.013	-0.45	Intercept	0.010	0.36
E	0.691	22.36***	ACC	0.453	13.00
LG	0.001	0.33	CFO	0.722	19.79***
E×LG	-0.071	-1.98**	LG	0.001	0.04
			ACC×LG	-0.133	-3.23***
			ACC×LG	-0.082	-1.88***
Controls, Industry And Year Dummy	Included		Controls, Industry And Year Dummy	Included	
N	2,131		N	2,131	
Adj. R ²	0.40		Adj. R ²	0.40	

1) Please see Table 2 for variable definitions.

2) NF: 1 if a sample that is currently provided audit and non-audit services, if not, 0;

LG: 1 if the ratio (non-audit fees/audit fees) in a sample that is currently provided audit and non-audit services is larger than the industrial-yearly median, if not, 0;

3) *, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

4.2.2 Non-Audit Services Group and Market Pricing

Table 6 shows the results of market responses to differences in the predictive values of earnings between the group that is concurrently provided audit and non-audit services. To this end, the level of market rationality of the individual group that is concurrently provided audit and non-audit services is verified through an estimation of the rates of return according to hedge portfolios, based on the methodology of Sloan (1996). To estimate the rates of return according to hedge portfolio strategies, regression analyses are conducted year by year, according to Fama-Macbeth (1973).

According to Panel A, the empirical results of the market rationality of earnings indicates that differences in regression coefficients of earnings between the group that is concurrently provided audit and non-audit services is not significant. This means that if businesses follow investment strategies based on earnings, no significant unexpected return will

occur, and that capital market participants appropriately evaluate the earnings persistence of individual group that is concurrently provided audit and non-audit services.

Panel B shows the empirical results of the market rationality of accruals of individual group that is concurrently provided audit and non-audit services. According to PANEL B, the accruals regression coefficient of the group that is concurrently provided audit and non-audit services in many cases is shown to be -0.153 which is significant at a 10% significance level. This means that accrual abnormalities exist in the case of the group that is concurrently provided audit and non-audit services in many cases, and that if this group implements investment strategies using the accruals, unexpected returns of approximately 15% can be secured. This indicates that market participants do not appropriately analyze the phenomenon of the lower accruals persistence of the group that is concurrently provided audit and non-audit services in many cases compared to the other group, and that market participants do not implement investment strategies using differences in accruals persistence.

Table 6. The Empirical Results of Market Pricing of Non-Audit Services Group

Panel A: The Empirical Results of Market Rationality of Earnings						
Variable	NG (n=4,131)		SG (n=1,124)		LG (n=1,007)	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Intercept	-0.152	-3.4***	0.220	-2.54**	-0.135	-1.33
E^{dec}	0.061	0.93	-0.087	-0.71	-0.153	-1.54
$SIZE^{dec}$	-0.026	-0.45	0.009	0.14	0.006	0.08
LEV^{dec}	0.210	3.6***	0.191	3.28***	0.118	1.6
BM^{dec}	-0.001	-0.02	0.155	1.62	0.180	2.32**
$BETA^{dec}$	-0.033	-1.38	-0.007	-0.08	-0.041	-0.45
EP^{dec}	0.039	1.01	0.098	1.01	0.106	2.21**
Adj. R^2	0.05		0.07		0.04	

Panel B: The Empirical Results of Market Rationality of Accruals						
Variable	NG (n=4,131)		SG (n=1,124)		LG (n=1,007)	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Intercept	-0.163	-3.62***	0.203	-2.18*	-0.091	-0.82
ACC^{dec}	-0.062	-1.05	-0.126	-1.44	-0.153	-2.13*
CFO^{dec}	0.103	1.94***	0.043	0.61	-0.050	-0.44
$SIZE^{dec}$	-0.025	-0.43	-0.024	-0.43	-0.022	-0.23
LEV^{dec}	0.214	3.88***	0.236	3.27***	0.140	2.4**
BM^{dec}	0.035	0.56	0.120	1.64	0.104	1.39
$BETA^{dec}$	-0.027	-1.1	-0.001	-0.01	-0.004	-0.05
EP^{dec}	0.034	0.93	0.077	0.76	0.111	2.23**
Adj. R^2	0.06		0.08		0.05	

1) Please see Table 2 for variable definitions

2) All explanatory variables are divided by 9 after identifying the decile to be set to behave values in a range of 0~9

3) *, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

4.3 Additional analyses

4.3.1 Big Four and Earnings and Accruals Persistence of Non-Audit Services Group

In the case of large-scaled accounting firms (Big Four), since measures to create earnings are diverse and losses due to deterioration of the auditor's reputation will be larger than economic losses due to auditor replacement, auditor independence can be maintained even if audit and non-audit services are concurrently provided. For this reason, DeAngelo (1981) mention large accounting firms as a representative proxy variable for audit quality. In the same context, the possibility of damage to independence according to whether non-audit services are provided or not and the levels of non-audit services are expected to be lower in the case of large accounting firms than in other firms, and no difference in the persistence of profits and accruals is expected in large accounting firms. As the first additional analysis, auditors are divided into large accounting firms and other accounting firms, and differences in the earnings and accruals persistence according to whether non-audit services are provided or not and the levels of non-audit

services are examined.

Table 7. Big Four and Earnings and Accruals Persistence of Non-Audit Services Group

Panel A: Big Four and Earnings Persistence of Non-Audit Services Group				
Variable	Big Four		Non-Big Four	
	Coefficient	t-value	Coefficient	t-value
Intercept	-0.012	-0.55	-0.122	-2.97***
E	0.621	26.12***	0.623	19.99***
SG	-0.003	-1.07	0.001	0.3
LG	-0.002	-0.58	-0.006	-0.93
E×SG	0.025	0.71	0.107	2.11**
E×LG	0.020	0.58	-0.162	-2.57**
Industry and Year Dummy	Included		Included	
N	3,958		2,304	
Adj. R ²	0.39		0.31	

Panel B: Big Four and Accruals Persistence of Non-Audit Services Group				
Variable	Big Four		Non-Big Four	
	Coefficient	t-value	Coefficient	t-value
Intercept	0.019	0.9	-0.091	-2.19**
ACC	0.457	19.02***	0.420	14.43***
SG	-0.003	-0.95	0.004	0.91
LG	0.000	-0.16	-0.016	-2.58**
ACC×SG	0.008	0.25	0.022	0.44
ACC×LG	-0.038	-1.21	-0.191	-3.47***
Industry and Year Dummy	Included		Included	
N	3,958		2,304	
Adj. R ²	0.37		0.32	

1) Please see Table 2 for variable definitions.

2) SG: 1 if the ratio (non-audit fees/audit fees) in a sample that is currently provided audit and non-audit services is smaller than the industrial-yearly median, if not, 0;

LG: 1 if the ratio (non-audit fees/audit fees) in a sample that is currently provided audit and non-audit services is larger than the industrial-yearly median, if not, 0;

3) *, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively.

Table 7 provides the results of differences in earnings and accruals persistence between the group that is concurrently provided audit and non-audit services, according to whether auditor is one of the Big Four or not. In cases where the firm is audited by a large accounting firm (Big Four), the earnings and accruals persistence is not different for those that are not concurrently provided audit and non-audit services and those that are concurrently provided audit and non-audit services in a few cases or in many cases. On the other hand, in cases where the firm is not audited by a Big Four, those that are concurrently provided audit and non-audit services in many cases show a lower earnings and accruals persistence than those that are not concurrently provided audit and non-audit services. Given this, it can be seen that the phenomenon of damage to the independence of the auditor following the provision of non-audit services appears in cases where the auditor is not a Big Four. On the other hand, in the case of Big Four, since measures to create earnings are diverse, and losses due to deterioration of the auditor's reputation will be larger than economic losses due to auditor replacement, auditor independence can be maintained even if audit and non-audit services are concurrently provided in large scale.

4.3.2 Audit Risk and Earnings and Accruals Persistence of Non-Audit Services Group

In the case of businesses with high audit risk, if auditors neglect managers' opportunistic actions, the risk of accounting enforcement actions may increase. Since economic losses will be incurred due to class actions and auditor replacement if accounting enforcement actions occur, even in cases where non-audit services have been provided, the auditor should perform the audit considering risk following audit failure. Therefore, auditor independence is expected to be maintained even in cases where non-audit services have been provided in the case of groups with high audit risk, and the phenomenon of damage to the independence of the auditor is expected to occur in group with low audit risk. Based

on these expectations, in this section, differences in earnings persistence between the group that is concurrently provided audit and non-audit services according to the level of audit risk will be examined. To this end, group with high audit risk are set as those group where the absolute value of discretionary accruals is higher than the industrial yearly median⁵.

Table 8. Audit Risk and Earnings and Accruals Persistence of Non-Audit Services Group

Panel A: Audit Risk and Earnings Persistence of Non-Audit Services Group				
Variable	High Audit Risk		Low Audit Risk	
	Coefficient	t-value	Coefficient	t-value
Intercept	-0.071	-2.35**	-0.047	-2.25**
E	0.561	21.55***	0.815	29.22***
SG	0.000	0.03	-0.003	-0.97
LG	-0.004	-1	0.005	1.36
E×SG	0.039	1.02	0.086	1.94**
E×LG	0.007	0.17	-0.090	-2.04**
Controls, Industry And Year Dummy	Included		Included	
N	3,068		3,194	
Adj. R ²	0.31		0.44	

Panel B: Audit Risk and Accruals Persistence of Non-Audit Services Group				
Variable	High Audit Risk		Low Audit Risk	
	Coefficient	t-value	Coefficient	t-value
Intercept	-0.027	-0.88	-0.031	-1.42
ACC	0.399	16.55***	0.649	18.8***
SG	0.001	0.31	0.001	0.47
LG	-0.005	-1.23	-0.003	-0.96
ACC×SG	0.018	0.53	0.071	1.16
ACC×LG	-0.029	-0.85	-0.299	-5.32***
Controls, Industry And Year Dummy	Included		Included	
N	3,068		3,194	
Adj. R ²	0.31		0.42	

1) Please see Table 2 for variable definitions.

2) SG: 1 if the ratio (non-audit fees/audit fees) in a sample that is currently provided audit and non-audit services is smaller than the industrial-yearly median, if not, 0;

LG: 1 if the ratio (non-audit fees/audit fees) in a sample that is currently provided audit and non-audit services is larger than the industrial-yearly median, if not, 0;

3) *,**,*** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively

The results of analysis of differences in earnings persistence between the group that is concurrently provided audit and non-audit services according to the level of audit risk are presented in Table 8. According to the results, in the case of group with high audit risk, the persistence of profits and accruals of the group that is concurrently provided audit and non-audit services in a few cases or in many cases is not different from that of the group that is not concurrently provide audit and non-audit services. On the other hand, in the case of group with low audit risk, the persistence of profits and accruals of the group that is concurrently provided audit and non-audit services in many cases is lower than that of the group that is not concurrently provide audit and non-audit services. This means that in the case of businesses with high audit risk, auditor independence is maintained even in the case of the group that concurrently provided audit and non-audit services in many cases, because economic losses following audit failure are larger than losses due to auditor replacement. This also suggests that the phenomenon of damage to the independence of the group that is concurrently provided audit and non-audit services in many cases occurs in group

⁵ Discretionary accruals are estimated according to the performance-matched modified Jones model proposed by Kothari et al. (2005). The estimation formula is as follows:

$$TA_{it}/A_{it-1} = a_0 (1/A_{it-1}) + a_1 [(\Delta Sales - \Delta AR)_{it}/A_{it-1}] + a_2 (PPE_{it}/A_{it-1}) + a_3 ROA_{it} + e_t$$

where TA_{it}: total accruals (net income – operating cash flow); Sales_{it}: sales; AR_{it}: account receivables; A_{it-1}: total assets in the immediately preceding year; PPE_{it}: tangible assets; ROA_{it}: net income/underlying total assets

with a low possibility of audit failure, that is, group with low audit risk.

Based on the results in Table 8 analyzed earlier, it can be expected that differences in earnings persistence may occur between the group that is concurrently provided non-audit services, depending on whether the auditor is a Big Four or not, as well as the level of audit risk. Causes that make differences between the group can be considered to be the possibility of economic losses following deteriorated auditor reputation and the possibility of audit failure risk. To determine a more important cause between the two cases, analyses by group were conducted according to whether the auditor is a Big Four and the level of audit risk.

According to the results shown in Table 9, in the case of group with high audit risk, differences in the persistence of profits and accruals did not appear in both Big Four and Non-Big Four. On the other hand, in the case of group with low audit risk, the phenomenon of declines in accruals persistence in group that is concurrently provided audit and non-audit services in many cases occurs regardless of whether the group is a Big Four or not. This suggests that auditors consider losses following audit failure such as those due to class actions to be more important than losses due to the deterioration of auditor reputation.

Table 9. Audit Risk, Big Four and Earnings and Accruals Persistence of Non-Audit Services Group

Panel A: Earnings Persistence of Non-Audit Services Group								
Variable	High Audit Risk				Low Audit Risk			
	Big Four		Non-Big Four		Big Four		Non-Big Four	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Intercept</i>	-0.024	-0.69	-0.079	-1.19	-0.003	-0.13	-0.152	-3.19 ^{***}
<i>E</i>	0.537	15.88 ^{***}	0.561	13.34 ^{***}	0.788	23.19 ^{***}	0.808	16.56 ^{***}
<i>SG</i>	-0.002	-0.49	0.004	0.57	-0.002	-0.59	-0.003	-0.56
<i>LG</i>	-0.001	-0.25	-0.018	-1.92*	-0.003	-0.78	0.021	2.66 ^{***}
<i>E×SG</i>	0.040	0.86	0.036	0.52	0.015	0.28	0.202	2.65 ^{***}
<i>E×LG</i>	-0.018	-0.38	0.029	0.35	0.056	1.16	-0.749	-7.19 ^{***}
<i>Controls, Industry And Year Dummy</i>	Included		Included		Included		Included	
<i>N</i>	1,889		1,179		2,069		1,125	
<i>Adj. R²</i>	0.34		0.27		0.47		0.42	

Panel B: Accruals Persistence of Non-Audit Services Group								
Variable	High Audit Risk				Low Audit Risk			
	Big Four		Non-Big Four		Big Four		Non-Big Four	
	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
<i>Intercept</i>	0.033	0.93	-0.087	-1.29	-0.005	-0.18	-0.057	-1.16
<i>ACC</i>	0.391	12.21 ^{***}	0.383	10.14 ^{***}	0.637	14.2 ^{***}	0.646	11.56 ^{***}
<i>SG</i>	-0.001	-0.19	0.004	0.53	-0.001	-0.22	0.005	0.83
<i>LG</i>	-0.002	-0.35	-0.023	-2.52 ^{**}	-0.001	-0.23	-0.017	-2.14 ^{**}
<i>ACC×SG</i>	-0.005	-0.11	0.013	0.21	0.087	1.22	0.103	0.88
<i>ACC×LG</i>	-0.016	-0.4	-0.101	-1.5	-0.127	-1.99 ^{**}	-0.737	-6.25 ^{***}
<i>Controls, Industry And Year Dummy</i>	Included		Included		Included		Included	
<i>N</i>	1,889		1,179		2,069		1,125	
<i>Adj. R²</i>	0.33		0.29		0.45		0.37	

1) Please see Table 2 for variable definitions.

2) SG: 1 if the ratio (non-audit fees/audit fees) in a sample that is currently provided audit and non-audit services is smaller than the industrial-yearly median, if not, 0;

LG: 1 if the ratio (non-audit fees/audit fees) in a sample that is currently provided audit and non-audit services is larger than the industrial-yearly median, if not, 0;

3) *, **, *** Indicate significance at the 10 percent, 5 percent, and 1 percent levels, respectively

5. CONCLUSION

In this study, based on two conflicting views of the relationship between the concurrent provision of audit and non-audit services and auditor independence, the relationship between the concurrent provision and auditor independence

was examined from the viewpoint of earnings persistence, and market responses to the relationship were reviewed. Empirical results are as follows. First, the accruals persistence of the group that is concurrently provided audit and non-audit services in many cases is shown to be lower than that of the group that is not concurrently provided audit and non-audit services. Second, the phenomenon of low accruals persistence of the group that is concurrently provided audit and non-audit services is shown to be overestimated in the market. Through additional analysis, differences in the persistence of earnings and accruals between the group that is concurrently provided audit and non-audit services, according to whether the auditor is a Big Four and the level of audit risk, are analyzed, and differences in the persistence of earnings and accruals between the group that is concurrently provided audit and non-audit services are not observed in the case of a Big Four in which losses due to the deterioration of auditor reputation are large and in cases where losses due to audit failure are large.

This study contributes to the existing research in three main respects. First, from the viewpoint of earnings persistence, it is verified that rather than whether non-audit services are provided or not, the level of non-audit services acts as an important factor for determining damage to auditor independence by concurrent provision of audit and non-audit services. Second, in relation to market rationality, whether the market appropriately reflects changes in the persistence of earnings and accruals according to whether non-audit services are provided or not is analyzed. Third, through additional analysis, it is verified that differences in the persistence of earnings and accruals among groups that are concurrently provide audit and non-audit services vary with audit environments. Finally, our study is expected to provide additional information at this point in time where consentaneous study results regarding the damage to the independence of the auditor and knowledge transfer phenomena following concurrent provision of audit and non-audit services have not been reported.

Limitations of our study are that different types of non-audit services could not be separately analyzed due to limitations in the acquisition of data, and that although accruals were used as a proxy for the independence of the auditor, the validity of this can still be questioned.

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