

The Impact of Corporate International Diversification on Audit Fees and Audit Hours

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Abstract

This study investigates the association between corporate international diversification and audit fees and audit hours. Korean firms' overseas investment has rapidly increased in recent years and the trend of international diversification is expected to accelerate in the future. Thus, it is important to investigate how auditors respond to globally diversified firms. Our empirical findings show that internationally diversified firms incur higher audit fees and audit hours. This suggests that auditors perceive global diversification as being a higher business risk and require higher external audit fees so that they can decrease audit risk arising from inherent organizational complexity. Further, auditors expand audit procedures to collect more audit evidences, exerting increased audit effort. This study provides empirical evidences that corporate global diversification results in higher audit fees and audit hours. Auditors may refer to these results when planning their audit and determining audit fees and audit hours.

Keywords: *International Diversification, Audit Fees, Audit Hours, Audit Risk*

1. INTRODUCTION

International diversification refers to a strategy in which a firm expands its business activities to geographical locations or markets different from the country to which it belongs. Korean firms focused on increasing exports through active overseas market exploration, resulting in remarkable economic growth in Korea. In recent years, Korean companies' overseas investment has increased significantly to eliminate trade barriers and reduce costs. As this trend of corporate international diversification is expected to accelerate in the future, it is important to investigate the effect of international diversification on firms' accounting information. Further, detailed information on overseas business sectors has not been sufficiently disclosed. Therefore, capital market participants are paying more attention to how international diversification, which increases the proportion of overseas business, affects the quality of accounting information.

A company's entry into overseas markets has advantages in terms of reducing dependence on the domestic market, where future growth opportunities are limited, and seeking new growth opportunities [1]. Hughes et al. [2] find that as the level of international diversification increases, the systematic risk and the unsystematic risk of the company, measured by beta and average stock return, decreases at the same time. Goldberg and Heflin [3] provide empirical evidence that international diversification of individual firms reduces the cost of

equity as it decreases overall earnings volatility of those firms. Jiraporn et al. [4] document that the level of international diversification is negatively associated with firms' earnings management. They suggest that higher level of international diversification reduce the earnings volatility, resulting in lower incentives for the managers to perform earnings management. Kim et al. [5] report that internationally diversified Korean firms show higher value relevance of earnings, suggesting that investors have positive assessment of earnings for globally diversified firms. Park [6] finds that corporate international diversification is negatively associated with a future stock price crash risk in Korean stock market, supporting positive impact of international diversification.

On the other hand, Harris et al. [7] document that internationally diversified firms have higher information asymmetry between the head office and overseas branches. As a result, the decision-making costs of the entire company increases, and accordingly, the value of the firm decreases. El Mehdi and Seboui [8] find that there is positive relationship between the level of global diversification and earnings management. They argue that managers in internationally diversified firms are more likely to involve in earnings management by utilizing overseas business sectors with relatively high information asymmetry. Yoo et al. [9] provide empirical evidence that high level of international diversification in Korea increases firms' cost of equity capital. They suggest that companies conducting business in various countries bear higher operating risks due to exchange rate fluctuations or political instability in the respective countries. Chun [10] shows that globally diversified Korean firms have higher cost of debt capital, implying that credit rating agency provides negative evaluation for internationally diversified firms. In addition, Yoo et al. [11] find that internationally diversified firms are more likely to engage in real earnings management. They argue that globally diversified firms actively involve in real earnings management using overseas business segments which tend to show poor disclosure quality.

Given the mixed results of the effect of global diversification, this study investigates whether corporate international diversification affects audit fees and audit hours. Auditors should have comprehensive understanding about clients' business in order to perform effective auditing procedure. Auditors can assess clients' audit risk by evaluating the clients' business risk. International diversification could affect audit fees and audit hours in two opposing perspectives. On one hand, globally diversified firms contribute to higher profitability and profit stability to the entire firm's level, resulting in hedging benefits from diversification [12, 13] Moreover, internationally diversified companies are more likely to show earnings smoothing effect as earnings from each foreign business sectors of are offset. Accordingly, managers have less incentives to manage earnings and make short-term business decisions that damage the corporate value [4, 14, 15, 16]. Therefore, as auditors are less likely to perceive globally diversified firms to have high inherent risk, we expect that they will not demand higher audit fees and expend more audit hours to reduce audit risk.

On the other hand, globally diversified firms may experience severe agency problems and serious information asymmetry arising from its inherent organizational complexity. In this complex and globally diversified firms, it is more difficult to monitor managers' important business decisions [11, 17]. In addition, empirical evidences document that internationally diversified firms are more likely to involve in earnings management, implying that diversified firms suffer from information asymmetry [8]. Based on these perspectives, global diversification tends to create a business and information environment that triggers managers' opportunistic decisions, resulting in higher inherent risk. As a result, auditors may expand the audit procedure to obtain more audit evidences so that they can lower audit risk. Furthermore, auditors are more likely to expend more time and effort to mitigate audit risk. Based on these arguments, we predict that international diversification has positive association with audit fees and audit hours.

Using a sample of companies listed in the Korean stock market from 2003 to 2017, this study finds that corporate international diversification increases both audit fees and audit hours, supporting the negative effect

of globalization caused by agency problems and information asymmetry due to inherent organizational complexity. This paper contributes to the existing literature on the determinants of audit fees and audit hours. This study provides empirical evidence that auditors perceive globally diversified firms to have higher audit risk as managerial opportunistic motives are reinforced in complex business environment.

This study is organized as follows. Section 2 reports research design, and Section 3 presents empirical findings. Finally, Section 4 concludes the paper.

2. RESEARCH DESIGN

2.1 Model

We develop a model to investigate the association between international diversification and audit fees.

$$AFEE_t = \beta_0 + \beta_1INTD_{t-1} + \beta_2SIZE_{t-1} + \beta_3LEV_{t-1} + \beta_4MTB_{t-1} + \beta_5INVREC_{t-1} + \beta_6GROWTH_{t-1} + \beta_7LOSS_{t-1} + \beta_8BIG_t + \beta_9OPINION_{t-1} + \text{INDUSTRY DUMMIES} + \text{YEAR DUMMIES} + \varepsilon \quad (1)$$

where:

AFEE = The natural logarithm of audit fees;

INTD = International diversification = INTD1, INTD2;

INTD1=Foreign sales scaled by total sales;

INTD2= Foreign assets scaled by total assets;

SIZE = The natural logarithm of total sales;

LEV = Total liabilities scaled by total equity;

MTB = The market value of equity scaled by the book value of equity;

INVREC = The inventory and receivables scaled by total assets;

GROWTH = The percentage change in sales;

LOSS = Indicator variable equal to 1 if net income is less than zero, 0 otherwise;

BIG = Indicator variable equal to 1 if the firm is audited by one of the Big 4 auditors, otherwise;

OPINION = Indicator variable equal to 1 if the firm did not receive unqualified opinion, 0 otherwise.

The dependent variable in Equation (1) is the logarithm of the external audit fees. International diversification, which is our main explanatory variable, is measured as foreign sales divided by total sales and foreign assets divided by total assets, respectively. As control variables, we include firm size, business risk, complexity, firm growth, and auditor-specific characteristics [18, 19, 20]. First, we include the natural logarithm of total assets (SIZE) and the inventory and receivables scaled by total assets (INVREC) to capture client size and audit complexity. Second, to control for client business risk, leverage (LEV) and an indicator variable for firms incurring loss (LOSS) are included. Further, an indicator variable for companies that do not receive unqualified audit opinion is included to reflect audit risk. Third, we control for whether the firm is audited by a Big 4 auditor (BIG) for auditor-specific characteristics. Fourth, the percentage change in sales revenue from the prior year (GROWTH), and the market value of equity divided by the book value of equity (MTB) are included to control firm growth. Finally, industry and year dummies are included to capture the differences in industry and year characteristics.

We estimate the following regression model to test the association between the international diversification and audit hours. The dependent variable in this study is the natural logarithm of the audit hours. The independent variables are identical to the variables in Equation (1).

$$\begin{aligned} AHR_t = & \beta_0 + \beta_1 INTD_t + \beta_2 SIZE_t + \beta_3 LEV_t + \beta_4 MTB_t + \beta_5 INVREC_t \\ & + \beta_6 GROWTH_t + \beta_7 LOWW_t + \beta_8 BIG_t + \beta_9 OPINION_t \\ & + \text{INDUSTRY DUMMIES} + \text{YEAR DUMMIES} + \varepsilon \end{aligned} \quad (2)$$

where:

AHR = The natural logarithm of audit hours;

See Equation (1) for definition of other variables.

2.2 Data

We include a sample of firms satisfying the following criteria: (1) firms listed on the Korean Stock Exchange from 2003 to 2017, (2) firms (excluding financial institutions) with their accounts closing in December, (3) firms with audit fees and audit hours extracted from business reports filed by Korean financial supervisory authorities. (4) firms with financial data obtained from the KIS-Value database from the Korea Investor Services. To eliminate the impact of any outlier bias, the top and bottom 1% of all the continuous variables are winsorized. Our final sample consists of 13,804 firm-year observations.

3. EMPIRICAL RESULTS

Table 1 presents the descriptive statistics of the variables analyzed in this study. The mean values for audit fees and audit hours, the dependent variables, are 11.197 and 6.776, respectively. The mean values of our main explanatory variables, INTD1 and INTD2, 0.249 and 0.060, respectively. The average leverage ratio is 0.408, and about 25.3% of the firms in our sample incurred losses. Further, approximately 52.7% of the sample firms were audited by Big 4 auditors.

Table1. Descriptive Statistics

Variable	Mean	Std.	Q1	Median	Q3
AFEE	11.197	0.675	10.758	11.082	11.462
AHR	6.776	0.767	6.317	6.690	7.139
INTD1	0.249	0.306	0.000	0.080	0.473
INTD2	0.060	0.096	0.000	0.016	0.078
SIZE	18.421	1.484	17.401	18.188	19.133
LEV	0.408	0.199	0.249	0.409	0.557
MTB	1.439	1.399	0.612	0.986	1.708
INVREC	0.278	0.161	0.157	0.262	0.383
GROWTH	0.079	0.312	-0.064	0.044	0.167
LOSS	0.253	0.435	0.000	0.000	1.000
BIG	0.527	0.499	0.000	1.000	1.000
OPINION	0.002	0.047	0.000	0.000	0.000

AFEE = The natural logarithm of audit fees;
 AHR = The natural logarithm of audit hours;
 INTD = International diversification = INTD1, INTD2;
 INTD1=Foreign sales scaled by total sales;
 INTD2= Foreign assets scaled by total assets;
 SIZE = The natural logarithm of total sales;
 LEV = Total liabilities scaled by total equity;
 MTB = The market value of equity scaled by the book value of equity;
 INVREC = The inventory and receivables scaled by total assets;
 GROWTH = The percentage change in sales;
 LOSS = Indicator variable equal to 1 if net income is less than zero, 0 otherwise;
 BIG = Indicator variable equal to 1 if the firm is audited by one of the Big 4 auditors, otherwise;
 OPINION = Indicator variable equal to 1 if the firm did not receive unqualified opinion, 0 otherwise.

Table 2. Correlation Matrix

	AFEE	AHR	INTD1	INTD2	SIZE	LEV
AFEE	1.000					
AHR	0.816***	1.000				
INTD1	0.070***	0.055***	1.000			
INTD2	0.027***	0.030***	0.425***	1.000		
SIZE	0.727***	0.682***	0.049***	-0.002	1.000	
LEV	0.227***	0.160***	0.083***	0.056***	-0.062***	1.000
MTB	0.061***	0.042***	-0.006	0.039***	0.312***	0.080***
INVREC	-0.138***	-0.158***	0.049***	0.215***	-0.232***	0.252***
GROWTH	-0.019**	-0.043***	-0.004	0.031***	0.046***	0.045***
LOSS	-0.041***	-0.041**	0.040***	0.017**	-0.200***	0.220***
BIG	0.402***	-0.435***	0.003	-0.024***	0.342***	0.052***
OPINION	-0.005	-0.005	0.003	-0.011	-0.016*	0.017**
	MTB	INVREC	GROWTH	LOSS	BIG	OPINION
MTB	1.000					
INVREC	-0.038***	1.000				
GROWTH	0.089***	0.075***	1.000			
LOSS	0.143***	-0.040***	-0.155***	1.000		
BIG	-0.041***	-0.068***	-0.017**	-0.098***	1.000	
OPINION	0.042***	-0.012	-0.037***	0.057***	-0.019**	1.000

See Table 1 for variable definitions. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table 2 reports the correlations between the variables used in this study. The two international diversification variables (INTD1 and INTD2) are positively correlated with audit fees (AFEE) and audit hours (AHR). Also, both AFEE and AHR are positively correlated with firm size (SIZE), leverage (LEV), market-to-book value of equity (MTB), and Big 4 auditors (BIG). Further, the inventory and receivables scaled by total assets (INVREC), growth rate (GROWTH), and firm loss (LOSS) are significantly and negatively correlated with both AFEE and AHR. Because univariate tests are likely to be influenced by other correlated omitted variables that can influence AFEE and AHR, we perform regression analyses by including control variables.

Table 3. International diversification and audit fees

Variables	Dependent Variable: audit fees			
	Coefficient	t-value	Coefficient	t-value
Intercept	4.420	84.43***	4.421	84.82***
INTD1	0.032	2.68***		
INTD2			0.241	6.52***
SIZE	0.354	128.73***	0.354	129.52***
LEV	0.943	52.37***	0.946	52.91***
MTB	-0.105	-37.25***	-0.106	-37.54***
INVREC	-0.043	-1.88*	-0.077	-3.27***
GROWTH	-0.038	-3.64***	-0.038	-3.68***
LOSS	0.118	14.22***	0.118	14.27***
BIG	0.159	22.23***	0.159	22.22***
OPINION	0.290	4.30***	0.292	4.33***
IND		Included		Included
YR		Included		Included
Adj R_2		0.68		0.68
F-value		853.34***		856.54***
N		13,804		13,804

See Table 1 for variable definitions. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table 4. International diversification and audit hours

Variables	Dependent Variable: audit hours			
	Coefficient	t-value	Coefficient	t-value
Intercept	0.329	5.09***	0.331	5.14***
INTD1	0.029	2.00**		
INTD2			0.225	5.01***
SIZE	0.344	101.81***	0.343	102.26***
LEV	0.829	37.28***	0.832	37.61***
MTB	-0.121	-36.82***	-0.121	-37.02***
INVREC	-0.079	-2.74***	-0.111	-3.78***
GROWTH	-0.092	-6.92***	-0.093	-6.97***
LOSS	0.122	12.01***	0.122	12.03***
BIG	0.320	36.28***	0.320	36.30***
OPINION	0.093	1.10	0.099	1.17
IND		Included		Included
YR		Included		Included
Adj R_2		0.63		0.63
F-value		663.47***		665.09***
N		13,804		13,804

See Table 1 for variable definitions. ***, **, and * represent significance at 1%, 5%, and 10%, respectively.

Table 3 shows the results of regression analysis, which examines the association between corporate international diversification and audit fees. International diversification (INTD1 and INTD2), our main explanatory variable, are measured in two ways. INTD1 is computed as foreign sales divided by total sales, and INTD2 is calculated as foreign assets divided by total assets. The results of regression analysis indicate that the coefficients of INTD1 and INTD2 are both positive and significant at the 1% level. This shows that firms with global diversification incur higher external audit fees. The results suggest that auditors evaluate globally diversified firms as having higher business risk, thus requiring higher audit fees due to higher audit risk. With respect to control variables, the coefficients of SIZE, LOSS, LEV, BIG, and OPINION are significant and positive. This suggests that larger firms, highly leveraged and loss incurring firms, and firms audited by Big 4 auditors and did not receive unqualified audit opinion incur higher external audit fees. However, the coefficients of MTB, INVREC, and GROWTH are significantly negative, implying that higher firm growth reduces audit fees.

Table 4 reports the results of regression analysis, which investigates the relationship between international diversification and audit hours. The results in Table 4 show that the coefficients of INTD1 and INTD2 are significantly positive at the 5% level, and at the 1% level, respectively. This indicates that corporate global diversification increases audit hours. These results imply that auditors expand audit procedure to decrease audit risk, as globally diversified firms' inherent organizational complexity intensify agency problems and information asymmetry. The coefficients of control variables present qualitatively equivalent results to the results of Table 3.

4. CONCLUSION

This study examines how auditors respond to corporate international diversification. As overseas investment of Korean companies has significantly increased in recent years and the trend of global diversification is expected to accelerate in the future, it is important to examine the response of auditors to internationally diversified firms. Our empirical results indicate that globally diversified firms exhibit higher audit fees and audit hours. This implies that auditors evaluate international diversification as being a higher business risk. As a result, they require higher external audit fees to reduce audit risk arising from inherent organizational complexity. In additions, auditors exert increased audit effort by expanding the audit scope so that they can collect more audit evidences.

This paper suggests that firms tend to incur higher audit fees and audit hours when they are more globally diversified. These results provide theoretical implications by showing that firms may incur the costs in auditing due to international diversification. In addition, this study presents practical implications in auditing because auditors may consider our findings when they determine audit fees and audit hours. For example, since globally diversified firms tend to have higher information asymmetry and inherent organizational complexity, auditors may reflect these aspects in planning analytical procedures. However, this study has following limitations. First, foreign sales (assets) ratio are used to measure international diversification in this study. Future research may use additional measures for global diversification to reflect various global diversification characteristics of individual firms. Second, this study analyzes audit fees and audit hours to examine auditors' response to international diversification. Further study may use audit report lag to investigate auditors' response as longer audit report lag implies that auditors expend greater audit effort by performing more audit procedures.

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