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## The effect of tax avoidance on discretionary expenses: evidence from Korea

### Abstract

This study investigates the relation between tax avoidance and discretionary expenses. The object of this study is to present the empirical evidence on whether additional cash from tax avoidance is used on discretionary expenses. Tax avoidance is estimated using the model suggested by Desai and Dharmapala (2006). Discretionary expenses are estimated using the index suggested by Roychowdhury (2006), which are selling and administrative expenses except taxes and dues, depreciation expenses, amortization expenses, rent expenses and insurance expenses because the management cannot manage these expenses discretionarily. Research expense and ordinary development expense are included in discretionary expenses. The empirical results of this study are as follows. First, tax avoidance is positively associated with discretionary expenses. This result means that the management spends additional cash from tax avoidance on discretionary expenses. Second, the ownership percentage of foreign investors weakens the positive relation between tax avoidance and discretionary expenses. This result suggests that foreign investors monitor the management's discretionary decision effectively. Third, the positive relation between tax avoidance and discretionary expenses is weakened as the ownership percentage of a major stockholder increases. This result suggests that a major stockholder restricts spending additional cash on discretionary expenses.

**Keywords:** tax avoidance, discretionary expenses.

**JEL Classification:** M41.

### Introduction

Because tax is a kind of expense that is incurred compulsively, companies want to reduce it. Therefore, a company tries to avoid taxation through various methods. Many previous studies on tax avoidance focus on its determinants. Tax avoidance is high in the case of aggressive financial reporting (Frank et al., 2009; Wilson, 2009). Some previous studies report that tax avoidance has a negative effect on stock price (Hanlon and Slemrod, 2009; Kim et al., 2011). However, Desai and Dharmapala (2009) report that there is no significant relationship between tax avoidance and firm value. They also find that a transparent governance structure that allows tax avoidance is positively associated with firm value or mitigates the negative relation between tax avoidance and firm value.

Other previous studies contend that it is possible for a CEO to use tax avoidance to his or her own private benefit (Phillips, 2003; Desai and Dharmapala, 2006). In such a case, a CEO discretionarily spends additional cash that is created by tax avoidance. This study focuses particularly on the effect of tax avoidance on discretionary expenses, e.g., selling and administrative expenses and expenditures on R&D. These expenses are discretionarily allocated by the management. Additional cash is created by tax avoidance, and the management can decide upon its use. This study investigates whether the management spends

additional cash flow from tax avoidance on discretionary expenses. Because some discretionary expenses are closely related to sales in the short term (selling expenses) and some have an effect on future sales (expenditure on R&D), the management can increase spending on discretionary expenses in order to increase sales except in an earnings management situation. Therefore, because the management can decide upon the use of additional cash, the management is likely to spend additional cash on discretionary expense.

The implications of this study are as follows. Firstly, many previous studies on tax avoidance presented the relationship between company characteristics and tax avoidance, and found the determinants of tax avoidance. This study goes further than previous studies and presents empirical evidence as to how the management spends the additional cash created from tax avoidance on discretionary expenses. Second, this study argues that foreign stockholders and major stockholders can control the management's decision to spend the additional cash created from tax avoidance. This result indicates that variables in the governance structure, such as foreign stockholders and a major stockholder, are associated with tax avoidance.

This study is organized as follows. Previous studies on tax avoidance are discussed in the first section, and hypotheses are developed in the second section. The research model is presented in the third section. Empirical results are discussed in the fourth section, which is followed by the conclusion.

### 1. Literature review

Many previous studies on tax avoidance examined methods of measurement of tax avoidance and

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company characteristics related to tax avoidance. Rego (2003) found that the effective tax rate of a multinational company is lower than other companies. He argued that this result evinces tax avoidance from tax planning. Plesko (2004) maintained that the ideal form of tax avoidance is a decrease in taxable income without any effect on book income and the use of a permanent book-tax difference rather than a temporary difference from tax avoidance. Desai and Dharmapala (2006) illustrated a measure of tax avoidance that arises out of that portion of the book-tax difference that cannot be attributed to total accruals. They concluded that stock-based compensation of CEOs decreases tax avoidance. Graham and Tucker (2006) contended that the debt ratio of a tax-avoiding company is low from their analysis of U.S. tax avoidance cases. Dyreng et al. (2008) defined the persistence of a cash-basis effective tax rate as a long-term tax avoidance measure. Twenty-two percent of their study's sample companies recorded a cash-basis effective tax rate of less than 20% during the past 10 years, well below the average corporate tax rate.

Frank et al. (2009) distinguished a permanent discretionary difference from a permanent book-tax difference and defined discretionary difference as a tax avoidance measure. They reported that there is a strong positive relation between tax avoidance and aggressive financial reporting. Wilson (2009) also concluded that in the case of a tax-avoiding company, the book-tax difference is large, and the company tends to report financial information more aggressively. Hanlon and Slemrod (2009) investigated stock prices' response to tax avoidance. They found that stock price falls when news of tax avoidance is announced. Desai and Dharmapala (2009) argued that tax avoidance does not affect a firm's value, but tax avoidance is positively associated with firm value in case of a good governance structure. Kim et al. (2011) reported that tax avoidance is positively associated with the risk of stock price collapse and that this risk is weakened by a strong outside monitoring system, i.e., a high institutional ownership percentage, a large number of analysts following the corporation or a high takeover threat, etc. Lanis and Richardson (2011) postulated that tax avoidance is unlikely avoided when the proportion of outside directors on the board of director is high.

## 2. Hypotheses development

Most previous studies on tax avoidance focused on finding company characteristics associated with tax avoidance and the determinants of tax avoidance. However, previous research on where the additional cash flow from tax avoidance is used is insufficient. This study examines the use of additional cash from tax avoidance. Some previous studies insisted that

tax avoidance can inure to the private benefit of a CEO (Phillips, 2003; Desai and Dharmapala, 2006). Thus, additional cash from tax avoidance would be used according to the discretionary decisions of a CEO. The CEO would spend additional cash from tax avoidance on discretionary expenses, e.g., selling and administrative expenses and expenditures on R&D. These expenses are closely related to sales in the short term, except R&D expenditures. R&D expenditures would have an effect on sales in the long term because a company can develop new products or technologies that can create additional sales. Therefore, a CEO would decide to spend additional cash on discretionary expenses. The hypothesis is developed as follows.

Hypothesis 1: *Ceteris paribus*, tax avoidance is significantly positively associated with discretionary expenses.

According to previous studies, foreign investors monitor management effectively in Korea (Ahn et al., 2005; Kim et al., 2012). Park et al. (2004) maintain that managerial perquisite consumption decreases with efficient monitoring by foreign investors. It is expected that foreign investors control the use of additional cash from tax avoidance on discretionary expenses. We expect that the positive relation between tax avoidance and discretionary expenses is weakened as the ownership percentage of foreign investors increases. The second hypothesis is as follows.

Hypothesis 2: *Ceteris paribus*, the positive relation between tax avoidance and discretionary expenses is weakened as the ownership percentage of foreign investors increases.

Because a major stockholder invests considerable money, he or she has an incentive to check on and monitor management activity per his or her interests (Grossman and Hart, 1980). Some previous studies insist that a major stockholder monitors and controls the management's discretionary earnings management (Winton, 1993; Zwiebel, 1995; Kahn and Winton, 1998; Bennedsen and Wolfenzon, 2000). Therefore, it is expected that a major stockholder restricts the use of additional cash from tax avoidance on discretionary expenses. This phenomenon would be strongly expressed as the ownership percentage of a major stockholder increases. We expect that the positive relation between tax avoidance and discretionary expenses is weakened as the ownership percentage of a major stockholder increases. The third hypothesis is developed as follows.

Hypothesis 3: *Ceteris paribus*, the positive relation between tax avoidance and discretionary expenses is weakened as the ownership percentage of a major stockholder increases.

### 3. Research design and sample selection

**3.1. The measure of tax avoidance.** We estimate tax avoidance using the measure suggested by Desai and Dharmapala (2006). They divide book-tax difference into the difference from total accrual and another difference. The difference from total accrual is defined as the difference from the management's discretionary earnings management. Another difference is defined as the difference from tax avoidance. The empirical model suggested by Desai and Dharmapala (2006) is as follows:

$$BT_t = \beta_1 TA_t + \varepsilon_t \quad (1)$$

where,  $BT_t$ : book-tax difference in year  $t$  divided by total asset in year  $t-1$ ;  $TA_t$ : total accrual in year  $t$  divided by total asset in year  $t-1$ ; and  $\varepsilon_t$ : measure of tax avoidance in year  $t$ .

In order to estimate the residual of model (1), the book-tax difference should be measured. The book-tax difference is measured as the difference between accounting earnings and taxable income. Because taxable income is not disclosed in financial statements, it should be estimated by relating accounts. Taxable income is estimated by dividing tax payment by tax rate. The measure of tax payment is as follows:

$$\text{Tax Payment} = \text{Tax Expense} + (\text{Ending Deferred Tax Asset} - \text{Beginning Deferred Tax Asset}) - (\text{Ending Deferred Tax Liability} - \text{Beginning Deferred Tax Liability}) \quad (2)$$

**3.2. Research model.** The model for investigating Hypothesis 1 is as follows:

$$DISEXP_t = \beta_0 + \beta_1 TAV_{t-1,t-2,t-3} + \beta_2 SIZE_t + \beta_3 LEV_t + \beta_4 ROA_t + \beta_5 BIG_t + \beta_6 INVOUT_t + \beta_7 FINOUT_t + \beta_8 GROWTH_t + \beta_9 LIQ_t + \sum ID + \sum YD + \varepsilon_t \quad (3)$$

where,  $DISEXP_t$ : total discretionary expenses divided by total sales in year  $t$ ;  $TAV_{t-1,t-2,t-3}$ : measure of tax avoidance in year  $t$ ;  $SIZE_t$ : natural logarithm of total assets at the end of year  $t$ ;  $LEV_t$ : debt ratio at the end of year  $t$ ;  $ROA_t$ : return on assets in year  $t$ ;  $BIG_t$ : 1 if a Big Four auditor, otherwise 0;  $INVOUT_t$ : cash payment from investing activity in year  $t$  divided by total assets at the end of year  $t-1$ ;  $FINOUT_t$ : cash payment on liability in year  $t$  divided by total assets at the end of year  $t-1$ ;  $GROWTH_t$ : total equity growth rate in year  $t$ ;  $LIQ_t$ : average operating cash flow in year  $t-1$  and in  $t$  divided by total sales in year  $t$ ;  $ID$ : industry dummy; and  $YD$ : year dummy.

We adopt the method suggested by Roychowdhury (2006) to estimate discretionary expenses. Discretionary expenses are selling and administrative expenses except for taxes and dues, depreciation expenses, amortization expenses, rent expenses and

insurance expenses because management cannot manage these expenses discretionarily. Both research expenses and ordinary development expenses are considered to be discretionary expenses.  $TAV_{t-1,t-2,t-3}$  are the measures of tax avoidance in years  $t-1$ ,  $t-2$  and  $t-3$ .  $\beta_1$  is positive if discretionary expenses increase as tax avoidance increases. Lagged variables are used in tax avoidance because the additional cash from tax avoidance would be used for the next year of tax avoidance. In Korea, the tax filling for year  $t$  is made in the January to March timeframe in year  $t+1$ . Thus, the additional cash from tax avoidance for year  $t$  cannot be used in year  $t$ .

Other independent variables are control variables.  $SIZE_t$  is a natural logarithm of total assets at the end of year  $t$ , which is used to control the effect of company size on discretionary expenses.  $LEV_t$  is a debt ratio at the end of year  $t$ , which is defined as total debt divided by total equity. A company with a high debt ratio would reduce discretionary expenses because of a large amount of interest expenses and restriction from a debt covenant.  $ROA_t$  is a proxy for profitability. A company's profitability would have an effect on discretionary expenses because a company reduces discretionary expenses when profitability decreases. Conversely, a company will be profitable when discretionary expenses are small because expenses usually decrease profitability.  $BIG_t$  is used to control audit quality, and  $INVOUT_t$  is used to control the effect of cash payment from investing activity on discretionary expenses. When a company spends a great deal of money on investing activity, a company will be unable to spend money on discretionary expenses, even if it has additional cash from tax avoidance.  $FINOUT_t$  is used to control the effect of cash payments on liability for discretionary expenses. Like  $INVOUT_t$ , it can also affect discretionary expenses.  $GROWTH_t$  is the total equity growth rate. When total equity growth rate is high, a company can spend a sizeable amount of money on discretionary expenses. Because  $LIQ_t$  represents payment capability from operating cash flow, discretionary expenses increase as  $LIQ_t$  increases.  $IND$  is included in the research model to control the differences among industries.  $YD$  is a variable to control the effect of a specific year on discretionary expenses. The model, which is used to investigate Hypothesis 2, is as follows.

$$DISEXP_t = \beta_0 + \beta_1 TAV_{t-1,t-2,t-3} + \beta_2 FRN_t + \beta_3 FRN_t \times TAV_{t-1,t-2,t-3} + \beta_4 SIZE_t + \beta_5 LEV_t + \beta_6 ROA_t + \beta_7 BIG_t + \beta_8 INVOUT_t + \beta_9 FINOUT_t + \beta_{10} GROWTH_t + \beta_{11} LIQ_t + \sum ID + \sum YD + \varepsilon_t \quad (4)$$

where,  $FRN_t$ : 1 if ownership by foreign investors is higher than the median in the individual industry in year  $t$ , otherwise 0.

Because it is expected that the positive relation between tax avoidance and discretionary expenses is weakened as the percentage of ownership by foreign investors increases, the coefficient  $\beta_3$  should be significantly negative. The model for testing Hypothesis 3 is as follows:

$$DISEXP_t = \beta_0 + \beta_1 TAV_{t-1,t-2,t-3} + \beta_2 OWN_t + \beta_3 OWN_t \times TAV_{t-1,t-2,t-3} + \beta_4 SIZE_t + \beta_5 LEV_t + \beta_6 ROA_t + \beta_7 BIG_t + \beta_8 INVOUT_t + \beta_9 FINOUT_t + \beta_{10} GROWTH_t + \beta_{11} LIQ_t + \sum ID + \sum YD + \varepsilon_t \quad (5)$$

where,  $OWN_t$ : 1 if the ownership by a major stockholder is higher than the median in the individual industry in year  $t$ , otherwise 0.

According to Hypothesis 3, it is expected that the relation between tax avoidance and discretionary expenses is weakened as the percentage of ownership by a major stockholder increases. Thus, the coefficient  $\beta_3$  should be significantly negative like Hypothesis 2.

**3.3. Sample selection.** Our sample consists of companies that were listed on the Korean Exchange (KRX) from 2005 to 2014. Firm years with a fiscal year end other than December 31 and businesses in the financial industry are not included in our sample. Firm years in which taxable income is estimated as negative and in which capital impairment was suffered are eliminated. We also eliminate firm years in which the number of firms in the same industry is smaller than eight because we estimated tax avoidance using the model suggested by Desai and Dharmapala (2006) on the basis of year and industry. Firm years for which financial and ownership percentage data are available in the TS2000 are included in our sample. In order to

enhance comparability, firm years in which tax avoidance cannot be estimated, even in just one year from  $t-1$  to  $t-3$ , are eliminated. Finally, we winsorize the values of samples above the top 1% or under bottom 1% to set them equal to the value of the top or bottom 1%. The final sample consists of 2,129 firm years. Table 1 presents the industrial distribution of our samples.

Table 1. Sample distribution by industry

Industry	Number of firm years
Chemical substance and chemicals	266
Service	192
Medical substance and pharmaceuticals	188
Wholesale and commodities brokerage	170
Automobile and trailer	169
Electronic components, computer, display, sound and telecommunication equipment	167
Primary metal	158
Other machinery and equipment	138
Food	127
Construction	121
Rubber and plastic	91
Clothes, accessories and furs	67
Nonmetallic mineral	66
Electrical equipment	66
Pulp, paper and paper products	55
Retail	49
Electricity, gas, steam and air conditioning supply	39
Total	2,129

## 4. Empirical results

**4.1. Descriptive statistics.** Table 2 presents descriptive statistics for the variables used in this study.

Table 2. Descriptive statistics

	Mean	St. dev.	Min	Median	Max
$DISEXP_t$	0.1573	0.1480	0.0165	0.0983	0.7399
$TAV_{t-1}$	-0.0022	0.0590	-0.1622	-0.0061	0.2182
$TAV_{t-2}$	-0.0047	0.0600	-0.1622	-0.0078	0.2182
$TAV_{t-3}$	-0.0069	0.0620	-0.1622	-0.0098	0.2182
$SIZE_t$	19.6185	1.4700	17.0289	19.3666	24.6400
$LEV_t$	0.8886	0.7840	0.0398	0.6827	4.5134
$ROA_t$	0.0429	0.0720	-0.2928	0.0465	0.2055
$BIG_t$	0.7022	0.4600	0	1	1
$INVOUT_t$	0.2298	0.3500	0.0002	0.1342	5.8150
$FINOUT_t$	0.2851	0.4800	0	0.0984	4.7110
$GROWTH_t$	0.0950	0.2290	-0.7610	0.0641	2.9205
$LIQ_t$	0.0696	0.3980	-2.8521	0.0557	11.8378

Notes: Variable definitions:  $DISEXP_t$ : total discretionary expenses divided by total sales in year  $t$ ;  $TAV_{t-1,t-2,t-3}$ : measure of tax avoidance in year  $t$ ;  $SIZE_t$ : natural logarithm of total assets at the end of year  $t$ ;  $LEV_t$ : debt ratio at the end of year  $t$ ;  $ROA_t$ : return on assets in year  $t$ ;  $BIG_t$ : 1 if a Big 4 auditor, otherwise 0;  $INVOUT_t$ : cash payment from investing activity in year  $t$  divided by total assets at the end of year  $t-1$ ;  $FINOUT_t$ : cash payment on liability in year  $t$  divided by total assets at the end of year  $t-1$ ;  $GROWTH_t$ : total equity growth rate in year  $t$ ;  $LIQ_t$ : average operating cash flow in year  $t-1$  and  $t$  divided by total sales in year  $t$ .

The mean of  $DISEXP_t$  is 0.1573, which means an expenditure on discretionary expenses that averages

16% of total sales. Because we winsorize the value of samples above the top 1% or under bottom 1% to

set them equal to the value of the top or bottom 1%, the maximums and minimums of  $TAV_{t-1}$ ,  $TAV_{t-2}$  and  $TAV_{t-3}$  are same. The mean of  $SIZE_t$  is 19.6185, which means that the amount of total assets is 3,313 hundred million Korean won on average. The mean of  $LEV_t$  is 0.88886, which means the average debt ratio is approximately 89%. The mean and median of  $ROA_t$  are 0.0429 and 0.0465, respectively. The mean of  $BIG_t$  is 0.7022, which means that 70% of our samples are audited by a Big Four accounting firm. The mean of  $INVOUT_t$  is 0.2298, which means that the average cash payment from investing activity is approximately 23%

of total assets. The mean of  $FINOUT_t$  is 0.2851, which means the average cash payment on liability is approximately 29% of total assets. The mean of  $GROWTH_t$  is 0.0950, which means that the equity growth rate is 10% on average. The mean of  $LIQ_t$  is 0.0696, which means the average operating cash flow in the current year and in the previous year is approximately 7% of the current year's total sales.

**4.2. Regression results.** Table 3 presents the results of a regression analysis conducted to test Hypothesis 1.

Table 3. Regression results on Hypothesis 1

	Estimated coefficients	t-stat	Estimated coefficients	t-stat	Estimated coefficients	t-stat
Intercept	0.3867	9.41***	0.3921	9.47***	0.3975	9.61***
$TAV_{t-1}$	0.3530	6.89***				
$TAV_{t-2}$			0.2372	4.79***		
$TAV_{t-3}$					0.2105	4.45***
$SIZE_t$	-0.0052	-2.35**	-0.0054	-2.39**	-0.0055	-2.47**
$LEV_t$	-0.0002	-4.36***	-0.0002	-4.12***	-0.0002	-4.07***
$ROA_t$	-0.0033	-7.04***	-0.0037	-8.05***	-0.0039	-8.38***
$BIG_t$	0.0134	2.03**	0.0125	1.88*	0.0138	2.07**
$INVOUT_t$	-0.0017	-0.21	-0.0029	-0.35	-0.0030	-0.36
$FINOUT_t$	-0.0205	-3.41***	-0.0213	-3.52***	-0.0222	-3.68***
$GROWTH_t$	0.0004	3.03***	0.0004	2.92***	0.0003	2.66***
$LIQ_t$	0.0003	4.25***	0.0003	4.35***	0.0003	4.25***
ID	Included					
YD	Included					
Observations	2,129		2,129		2,129	
Adj. R <sup>2</sup>	0.275		0.266		0.265	
F-value	43.416		41.66		41.432	

Notes: \*\*\*, \*\* and \* denote significance at the 1%, 5%, and 10% percent levels, respectively, based on a two-tailed test. See Model (3) for definitions of the variables used.

The coefficients of  $TAV_{t-1}$ ,  $TAV_{t-2}$  and  $TAV_{t-3}$  are significantly positive, which means that discretionary expenses increase as tax avoidance increases. These results suggest that additional cash from tax avoidance is used on discretionary expenses. Thus, Hypothesis 1 is supported. The coefficient of  $SIZE_t$  is significantly negative. This result suggests that discretionary expenses are small in a large company. The coefficient of  $LEV_t$  is also significantly negative, which means that a company with a low debt ratio spends a small amount on discretionary expenses.  $ROA_t$  is negatively associated with  $DISEXP_t$ . This result means that a company reduces discretionary expenses when its profitability is low.  $BIG_t$  is significantly positively associated with  $TAV_{t-1}$ ,  $TAV_{t-2}$  and  $TAV_{t-3}$ . This result

suggests that a company spends on numerous discretionary expenses when it is audited by a Big Four audit firm.  $FINOUT_t$  is negatively associated with  $DISEXP_t$ . This result suggests that discretionary expenses are reduced when a company pays a sizeable amount of money on debt redemption. The coefficient of  $GROWTH_t$  is significantly positive, which means that a company with a high total equity growth rate spends on a large number of discretionary expenses.  $LIQ_t$  is significantly positively associated with  $TAV_{t-1}$ ,  $TAV_{t-2}$  and  $TAV_{t-3}$ . This result means that the bigger the operating cash flow, the bigger the discretionary expenses on which a company spends.

Table 4 presents the result of a regression analysis conducted to test Hypothesis 2.

Table 4. Regression results on Hypothesis 2

	Estimated coefficients	t-stat	Estimated coefficients	t-stat	Estimated coefficients	t-stat
Intercept	0.4073	9.38***	0.4099	9.36***	0.4123	9.43***
$TAV_{t-1}$	0.5707	8.50***				

Table 4 (cont.). Regression results on Hypothesis 2

	Estimated coefficients	t-stat	Estimated coefficients	t-stat	Estimated coefficients	t-stat
$TAV_{t-2}$			0.4185	6.40***		
$TAV_{t-3}$					0.3471	5.55***
$FRN_t$	-0.0014	-0.22	-0.0014	-0.22	-0.0008	-0.12
$FRN_t \times TAV_{t-1}$	-0.4797	-4.98***				
$FRN_t \times TAV_{t-2}$			-0.3966	-4.22***		
$FRN_t \times TAV_{t-3}$					-0.3012	-3.33***
$SIZE_t$	-0.0065	-2.70***	-0.0064	-2.63***	-0.0064	-2.64***
$LEV_t$	-0.0002	-4.08***	-0.0002	-3.89***	-0.0002	-3.97***
$ROA_t$	-0.0029	-6.02***	-0.0034	-7.26***	-0.0037	-7.93***
$BIG_t$	0.0141	2.14**	0.0125	1.88*	0.0135	2.03**
$INVOUT_t$	-0.0063	-0.76	-0.0054	-0.65	-0.0042	-0.51
$FINOUT_t$	-0.0186	-3.10***	-0.0206	-3.42***	-0.0215	-3.55***
$GROWTH_t$	0.0004	2.99***	0.0004	2.78***	0.0003	2.50**
$LIQ_t$	0.0003	4.54***	0.0003	4.40***	0.0003	4.29***
ID	Included					
YD	Included					
Observations	2,129		2,129		2,129	
Adj.R <sup>2</sup>	0.282		0.272		0.268	
F-value	40.884		38.823		38.176	

Notes: \*\*\*, \*\* and \* denote significance at the 1%, 5%, and 10% levels, respectively, based on a two-tailed test. See Model (3) and (4) for definitions of the variables used.

Like Table 3,  $TAV_{t-1}$ ,  $TAV_{t-2}$  and  $TAV_{t-3}$  are significantly positively associated with  $DISEXP_t$ . Our main variables of interest in testing Hypothesis 2,  $FRN_t \times TAV_{t-1}$ ,  $FRN_t \times TAV_{t-2}$  and  $FRN_t \times TAV_{t-3}$ , are significantly negatively associated with  $DISEXP_t$ . These results suggest that the use of additional cash

from tax avoidance on discretionary expenses is restricted when the ownership percentage of foreign investors is high. These results also mean that foreign investors effectively monitor management in Korea. These results support Hypothesis 2. The result of testing Hypothesis 3 is presented in Table 5.

Table 5. Regression Results on Hypothesis 3

	Estimated coefficients	t-stat	Estimated coefficients	t-stat	Estimated coefficients	t-stat
Intercept	0.4037	9.74***	0.4082	9.77***	0.4167	9.96***
$TAV_{t-1}$	0.4205	6.32***				
$TAV_{t-2}$			0.3150	4.74***		
$TAV_{t-3}$					0.2282	3.56***
$OWN_t$	-0.0208	-3.74***	-0.0217	-3.88***	-0.0208	-3.70***
$OWN_t \times TAV_{t-1}$	-0.1673	-1.76*				
$OWN_t \times TAV_{t-2}$			-0.1781	-1.90*		
$OWN_t \times TAV_{t-3}$					-0.0595	-0.66
$SIZE_t$	-0.0058	-2.59***	-0.0058	-2.60***	-0.0062	-2.74***
$LEV_t$	-0.0002	-4.36***	-0.0002	-4.11***	-0.0002	-4.20***
$ROA_t$	-0.0032	-6.75***	-0.0036	-7.70***	-0.0038	-8.21***
$BIG_t$	0.0140	2.13**	0.0129	1.95*	0.0143	2.15**
$INVOUT_t$	-0.0022	-0.27	-0.0030	-0.37	-0.0030	-0.36
$FINOUT_t$	-0.0184	-3.06***	-0.0194	-3.21***	-0.0201	-3.33***
$GROWTH_t$	0.0004	2.91***	0.0003	2.72***	0.0003	2.65***
$LIQ_t$	0.0003	4.45***	0.0003	4.57***	0.0003	4.37***
ID	Included					
YD	Included					
Observations	2,129		2,129		2,129	
Adj.R <sup>2</sup>	0.280		0.272		0.269	
F-value	40.344		38.817		38.349	

Notes: \*\*\*, \*\* and \* denote significance at the 1%, 5%, and 10% levels, respectively, based on a two-tailed test. See Model (3) and (5) for definitions of the variables used.

$OWN_t \times TAV_{t-1}$  and  $OWN_t \times TAV_{t-2}$  are significantly negatively associated with  $DISEXP_t$ . However,  $OWN_t \times TAV_{t-3}$  is not significantly associated with  $DISEXP_t$ . These results mean that the relation between tax avoidance and discretionary expenses is weakened as the major stockholder's ownership increases. It suggests that the major stockholder controls the use of additional cash from tax avoidance on discretionary expenses. Therefore, Hypothesis 3 is supported.

## Conclusion

This study investigates the relation between tax avoidance and discretionary expenses. The object of this study is to present empirical evidence on whether additional cash flow from tax avoidance is used on discretionary expenses. Tax avoidance is estimated using the model suggested by Desai and Dharmapala (2006). Discretionary expenses are estimated using the index suggested by Roychowdhury (2006), which encompasses selling and administrative expenses except for taxes and dues, depreciation expenses, amortization expenses, rent expenses and insurance expenses because the management cannot manage these expenses discretionarily. Both research expenses and ordinary development expenses are considered to be discretionary expenses. The empirical results of this study are as follows. First, tax avoidance is positively associated with discretionary expenses. This result means that the management spends additional cash from tax avoidance on discretionary expenses. Second, the percentage of ownership by foreign investors weakens the positive relation between tax avoidance and discretionary expenses. This result suggests that foreign investors effectively

monitor the management's discretionary decisions. Third, the positive relationship between tax avoidance and discretionary expenses is weakened as the percentage of ownership by a major stockholder increases. This result suggests that a major stockholder restricts the management from spending additional cash on discretionary expenses.

This study contributes to the literature by presenting empirical evidence on the use of additional cash from tax avoidance, unlike previous studies on tax avoidance. Most previous studies on tax avoidance focused on finding the determinants of tax avoidance. However, this study investigated the relationship between tax avoidance and discretionary expenses and presented empirical evidence on the object of tax avoidance. This study also investigated the effect of foreign investors and a major stockholder on the relation between tax avoidance and discretionary expenses. The accompanying analysis presented additional empirical evidence on the role of foreign investors and a major stockholder. This information suggests that foreign investors and a major stockholder monitor the management's discretionary decisions.

The limitations of this study are as follows. First, we use only one measure suggested by Desai and Dharmapala (2006) to estimate tax avoidance. Therefore, there might be measurement error in the empirical results of this study. Second, this study analyzes the relation between tax avoidance and discretionary expenses only in the context of listed, non-financial companies in Korea. Thus, there might be an industrial or regional limitation on the results of this study.

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