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경영학 석사 학위논문

**CEO Compensation Incentives and
Tax Avoidance**

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Abstract

CEO Compensation Incentives and Tax Avoidance

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This paper investigates whether firms' tax avoidance differs depending on the level of CEO compensation incentives. Prior literature shows mixed results for the relationship between CEO incentives and tax avoidance – either positive or negative. The purpose of this paper is to find the reason for this opposite sign, and find the true underlying shape of the relationship. Under low levels of CEO incentives, increasing pay-performance-sensitivity leads to more tax avoidance, leading to lower ETR. However, very high levels of incentives should lead to firms reducing R&D expenditures, one of commonly used tax-favored activities, thereby increasing ETR. This leads to a U-shaped relation between CEO incentives and effective tax rates. In addition, I also document that this U-shaped relation is stronger for firms under weak corporate governance.

Keywords : CEO ownership; Effective tax rates; R&D; Corporate governance

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1. Introduction

Taxes, which are complex and opaque by their nature, represent significant cost to the firm but little research has been conducted documenting the different tax strategies depending on each firm's characteristics and its surrounding environment. One of the key determinants for a firm's tax strategy, especially in recent years, may be the portion of stock-based incentive compensation. It is generally believed that stock-based incentive aligns managers' incentives with those of shareholders and induces managers to more aggressively increase firm value. One channel of increasing firm value may be done by adopting a more aggressive tax-minimization strategy. However, this argument ignores potential non-tax costs that can accompany tax aggressiveness, especially those arising from agency problems.

Past literature searching for the effect of CEO compensation incentives on tax avoidance show mixed results. Minnick and Noga (2010) demonstrate that high pay-performance-sensitivity creates longer term incentives for managers and directors, which in turn, results in higher firm value. According to this paper, a one-unit increase in CEO pay-performance-sensitivity reduces ETR by 0.541% and cash ETR 0.571%. However, Desai and Dharmapala (2006) focus on agency problems and conclude that positive feedback effects between managerial diversion and tax sheltering can lead to increased incentive compensation reducing the level of tax sheltering. This paper does not explicitly show the relation between incentive compensation and effective tax rates, but reduction of tax sheltering may lead to higher ETR.

Main problem in these literatures is that they assume a monotonic relation between executive incentives and tax avoidance, either positive or negative. However, the relation between the two cannot be expected to be the same over different levels of compensation incentives.

Past literature on the effects of executive incentives on firm value show hump-shaped relations as opposed to monotonic relations. Kim and Lu (2011) demonstrate that large CEO ownership gives high wealth-performance sensitivity and voting rights conducive for managerial entrenchment, and their combination leads to overly conservative risk choices and thereby lower firm value. They also document that the relation between R&D, which are discretionary and risky, and CEO ownership is significant and hump-shaped. In line with Kim and Lu (2011), I expect that this risk-reducing effect under large CEO ownership will also take a role in increasing firms' effective tax rates. Under low levels of stock-based incentives, increasing pay-performance-sensitivity should lead to more tax avoidance, leading to lower effective tax rates, as their larger equity ownership and their longer investment horizons provide more incentives to lower tax expense and increase bottom-line income. However, very high levels of incentives should lead to firms reducing R&D expenditures, one of commonly used tax-favored activities, thereby increasing effective tax rates.

In line with Kim and Lu (2011), I focus on CEO ownership, rather than overall managerial ownership. CEOs tend to have the most influence on decision making, and within-firm variation in total insider share ownership is affected by changes in the number, and in the composition, of insiders over time, which may have little to do with ownership.

Using 3,312 firm-year observations in the period 1996 to 2006, I show that the relationship between CEO compensation incentives and effective tax rates

is U-shaped. Also, I re-examine the relation using research-intensive subsample to confirm that R&D reducing effect indeed takes a role in driving this U-shaped relation.

In addition, I examine whether the relation shows different strength depending on the strength of external governance. According to Kim and Lu (2011), the hump-shaped relation between CEO ownership and firm value stands only under weak governance. They do not find significant relation for firms under strong external governance, as such environment would induce CEO to maximize firm value regardless of how much incentive he has. With this prior examination in place, it is reasonable to expect that the U-shaped relation between CEO incentives and effective tax rates will hold only under weak governance, and that is what I find.

This paper contributes to the existing literature in several ways. First, by merging two streams of literature, one on the effects of executive incentives on firm value and the other on the effects of executive incentives on firms' tax planning strategy, this paper is the first to document a U-shaped relation between CEO incentives and firms' effective tax rates. Second, where managerial or insider control of a firm is potentially an important determinant of tax aggressiveness, there is little research on this issue (Shackelford and Shevlin, 2001). I fill this gap by introducing R&D as a channel through which CEO ownership affect firms' effective tax rates.

The rest of the paper proceeds as follows. In the next section I review related literature and develop my hypothesis. Section 3 describes my sample and research design. Section 4 presents the main results, and Section 5 concludes.

2. Literature review and hypothesis development

2.1 Effects of executive incentives on firm value

The growth of stock-based incentive compensation is among the most notable developments in corporate practices in recent years (Hall and Murphy, 2003), and a vast literature has developed on its effects on firm value. The basic concept of higher-powered incentives is to align the interests of managers and shareholders, thereby inducing managers to be more aggressive about increasing firm value. However, the effects of executive incentives on firm value are not clear-cut in real life and do not show monotonic increasing relation. Morch, Shleifer, and Vishny (1988) document hump-shaped relations between Tobin's Q and insider share ownership. They argue that stock ownership improves the alignment of managerial incentives with shareholder value at low levels of ownership, but beyond a certain threshold, entrenchment effects dominate the alignment effect. Subsequent studies by Holderness, Kroszner, and Sheehan (1999), Anderson and Reeb (2003), Adams and Santos (2006), and McConnell, Servaes, and Lins (2008) also document significant relations between managerial ownership and firm performance.

Kim and Lu (2011), on the other hand, extend the literature by focusing on the one executive that has the most impact on firm value. They explain a hump-shaped relation between CEO ownership and firm value with a new approach by introducing risk-reducing effect. According to this paper, large CEO ownership gives high wealth-performance sensitivity and voting rights conducive for managerial entrenchment, and their combination leads to overly conservative risk choices and thereby lower firm value. This leads to

a U-shaped relation between CEO ownership and firm value but only under weak external governance where there is room for managerial slack. They also document the role of R&D as a channel through which risk-reducing effect comes into shaping the hump-shaped relation between CEO ownership and firm value.

While vast amount of literature documents the effects of managerial incentives on firm value, there is too little evidence connecting this stream of literature with another stream of literature on the effects of managerial incentives on firms' tax avoidance. Here, I try to fill this gap.

2.2 Executive incentives as a determinant of firms' tax avoidance

Minnick and Noga (2010) demonstrate that high pay-performance-sensitivity creates longer term incentives for managers and directors, which in turn, motivates investment decisions with longer term pay-outs that result in higher firm value. According to this paper, a one-unit increase in CEO pay-performance-sensitivity reduces GAAP ETR by 0.541% and cash ETR by 0.571%. However, it is hard to believe that the relation between CEO incentive and firms' tax avoidance should be this simple in real life.

Greater incentive compensation should help align the incentives of agents and principals and lead managers to be more aggressive about increasing firm value through tax avoidance. However, interactions between tax sheltering and diversion can over turn this result. Specifically, when there are positive feedback effects or complementarities between managerial diversion and tax sheltering, the tendency toward more aggressive sheltering could be offset by the fact that reduced diversion is associated with reduced sheltering (Desai and Dharmapala, 2006). Desai and Dharmapala (2006) find

that increases in incentive compensation tend to reduce the level of tax sheltering, in a manner that is consistent with complementarities between sheltering and diversion. They also find evidence suggesting that the negative effect of incentive compensation on tax sheltering is driven primarily by the subsample of firms that are relatively poorly governed and does not hold for well-governed firms.

As pointed out in Shackelford and Shevlin (2001), managerial or insider control of a firm is potentially an important determinant of tax aggressiveness, but there is little research on this issue and the results thus far are not consistent. I will fill this gap by examining the impact of CEO stock-based incentives on tax aggressiveness. I will also provide additional analysis on whether the relation is different for the subsample of poorly governed firms as opposed to the subsample of well-governed firms.

2.3 Hypotheses

The purpose of this study is to document a dynamic relation between firms' tax avoidance and CEO incentives. Past literature show conflicting results on whether managers' stock-based compensation incentives should lower or raise effective tax rates. Where Minnick and Noga (2010) demonstrate that higher CEO pay-performance-sensitivity better align managerial incentive and reduce effective tax rates, Desai and Dharmapala (2006) find that with complementarities between managerial diversion and tax sheltering, increases in incentive compensation tend to reduce the level of tax sheltering.

Where existing studies assume monotonic, whether positive or negative, relations between managers' compensation incentives and tax avoidance, it is reasonable to expect a curve-shaped relation. Under low levels of CEO

incentives, increasing pay-performance-sensitivity should lead to more tax avoidance, as their larger equity ownership and their longer investment horizons provide more incentives to lower tax expense and increase bottom-line income. However, under high levels of share ownership, high wealth-performance sensitivity leads to CEOs making overly conservative risk choices. Kim and Lu (2011) document that high levels of share ownership reduce firm value by discouraging the CEO from taking risk. They examine the role of R&D, which is discretionary and risky, as a channel through which CEO ownership affects firm value, and find that the relation between R&D and CEO ownership is significant and hump-shaped. With this risk-reducing effect in place, high levels of CEO ownership may lead to higher ETR, as one of the most commonly used tax-favored investments, R&D, is used less. This leads to my first hypothesis;

H1: The relation between CEO incentives and effective tax rates will exhibit U-shape.

Furthermore, Kim and Lu (2011) show that the hump-shaped relation between CEO ownership and firm value holds only under weak external governance. They do not find significant relation for firms under strong external governance, as such environment would induce CEO to maximize firm value regardless of how much incentive he has. Also, Desai and Dharmapala (2006) find that the negative relation between incentive compensation and the level of tax sheltering is mostly driven by poorly-governed firms. With these prior literature in place, it would be reasonable to expect that the relation defined by H1 will be different for

firms with poor governance as opposed to firms with good governance, leading to my second hypothesis;

H2: The relation between CEO incentives and effective tax rates will be stronger for subsample of weak-governance firms.

The measure of governance I use is the competitive pressure from product markets, as proxied by industry concentration ratio (ICR). Product market competition exerts external pressure to increase efficiency and control agency problems. Recent evidence shows that such competition improves governance and serves as an effective external governance mechanism (Kim and Lu, 2011).

3. Sample and research design

3.1. Sample

I construct a sample of US firms from 1996 through 2006, constructed by merging the executive data in ExecuComp with accounting data in Compustat. The ExecuComp database provides yearly data on salary, bonus, stock option and restricted stock grants for the top executives of firms in the Standard& Poor's (S&P) 500, S&P Midcap 400, and S&P Smallcap 600. Consistent with the previous literature, I exclude firms in the financial service industries and in the utility sector.

3.2. Effective tax rates, CEO incentives, corporate governance

Effective tax rates: The *ETR* is defined as the ratio of total tax expense to pre-tax income for a given firm *i* in year *t*¹⁾ :

$$ETR_{i,t} = TaxExpense_{i,t} / PretaxIncome_{i,t}$$

where tax expense and pre-tax income are from Compustat.

CEO incentives: ExecuComp data are provided at the manager-year level. Because within-firm variation in total executive ownership is affected by changes in the number, and in the composition, of executives over time, I focus on CEO ownership (Kim and Lu, 2011). I calculate measures of stock-based compensation that are widely employed in the literature on incentive compensation (e.g., Mehran, 1995; Desai and Dharmapala, 2006). For firm *i* in year *t*, CEO incentives are calculated as the ratio of the sum of the values of stock options and restricted stock grants of CEOs to their total compensation (defined as the sum of the value of stock options, restricted stock grants, salary, and bonus).

Corporate Governance: In line with Kim and Lu (2011), I follow the Economic Census approach to calculate the industry concentration ratio (ICR) and define it as the sum of the market share of the 20 biggest firms in sales among all firms in Compustat in the same industry and same year. A lower ratio indicates greater competition and stronger governance. Industries are defined by 48 Fama and French (1997) industry groupings. I also use Herfindahl-Hirschman Index (HHI) of all firms in Compustat to

1) ETR is set as missing when the denominator is zero or negative. Also, I truncate ETR to the range [0,1].

check robustness. HHI is calculated as the sum of the squares of percentage market share of all firms in Compustat in each industry as defined by Fama-French (1997).

3.3. Research Design

To test my first hypothesis (H1), I estimate the following cross-sectional regression:

$$\begin{aligned}
 ETR_{i,t} = & \alpha + \beta_1 CEO_Inc_{i,t} + \beta_2 (CEO_Inc)^2_{i,t} + \\
 & \beta_3 ROA_{i,t} + \beta_4 LEV_{i,t} + \beta_5 PPE_{i,t} + \beta_6 INTANG_{i,t} + \\
 & \beta_7 R\&D_{i,t} + \beta_8 SIZE_{i,t-1} + \beta_9 MB_{i,t-1} + \\
 & \text{Year Dummies} + \text{Industry Dummies}
 \end{aligned}$$

where $ETR_{i,t}$ is the effective tax rate measure as discussed above; $CEO_Inc_{i,t}$ is the CEO incentive measure calculated as the ratio of the sum of the values of stock options and restricted stock grants to their total compensation; $(CEO_Inc)^2_{i,t}$ is included to reflect any curve-shaped relation between $CEO_Inc_{i,t}$ and $ETR_{i,t}$; $ROA_{i,t}$ the return on assets for firm i , year t , measured as operating income scaled by lagged assets; $LEV_{i,t}$ the leverage for firm i , year t , measured as long-term debt scaled by lagged assets; $PPE_{i,t}$ the plant, property, and equipment (PPE) for firm i , year t , scaled by lagged assets; $INTANG_{i,t}$ the intangible assets for firm i , year t , scaled by lagged assets; $R\&D_{i,t}$ the R&D expenditures for firm i , year t , scaled by lagged assets; $SIZE_{i,t-1}$ the natural logarithm of the market value of equity for firm i , at the beginning of year t ; $MB_{i,t-1}$ the market-to-book ratio for firm i , at the beginning of year t , measured as market value of

equity, scaled by book value of equity.²⁾

The first set of control variables (*ROA*, *LEV*) captures firms' profitability and leverage. The second set of control variables (*PPE*, *INTANG*, *R&D*) captures differences in book and tax reporting that can affect the tax avoidance measure. Following Chen et al., I include *PPE* to capture the fact that capital intensive firms are affected more by the different treatments of depreciation expense for tax and financial reporting purposes. Lastly, firm size and growth (proxied by *MB*) are included as growing firms may make more investments in tax- favored assets that generate timing differences in the recognition of expenses. In addition, for all regressions I include dummies to control for year and industry fixed effects.

Also, to examine the interactive effects of external governance and CEO incentives (H2), I separate firm-year observations into strong and weak governance subsamples. An observation is considered to be under strong (weak) governance if its industry concentration ratio (*ICR*) or Herfindahl-Hirschman Index (*HHI*) is below (above) the sample median. Separate estimation for each subsample allows for coefficients of the control variables and fixed effects to vary across strong and weak governance regimes. All of the variables used in the paper are defined in Appendix A.

Table 1 contains summary statistics of all variables used in this study. The statistics are based on merged samples using Compustat and ExecuComp database. The common link for conducting regression analysis is that they contain information on CEO compensation incentives. *ICR* and *HHI* have

2) The control variables are extracted from prior literature searching for the influence of corporate governance on tax avoidance (Chen et al., 2010; Minnick and Noga, 2010).

the largest number of observations as they do not need CEO compensation data.

[Insert table1 about here]

4. Results

4.1. CEO incentives and tax avoidance

Table 2 presents the regression analysis of my hypothesis (H1). Column 1 reports the estimation result based on the assumption that the relation between CEO incentives and effective tax rates is monotonic. The coefficient on CEO_INC is negative but the significance level is low. Column 2 shows the regression result for my hypothesis that the relation between CEO incentives and effective tax rates is U-shaped. The coefficients on CEO_INC and (CEO_INC)² are significantly negative and positive, each at the 1% and 5% level. The F-statistic also is highly significant. The result is consistent with my hypothesis that effective tax rates are significantly related to CEO compensation incentives in a U-shaped fashion.

[Insert table2 about here]

My attempt to explain the U-shaped relation between CEO incentives and effective tax rates hinges critically on R&D reduction under high levels of incentives. To confirm that R&D indeed is an important driver for the relation, I conduct regression analysis with subsample of R&D-intensive

firms. Cui and Mak (2002) calculate the ratio of R&D/sales and ratio of R&D/total assets for all firms in Compustat and define seven SIC industries as research-intensive industries. These seven industries are ‘Drugs and biotech products (2830– 2839)’, ‘Computer and office equipment (3570– 3579)’, ‘Communication equipment (3660– 3669)’, ‘Electronics (3670– 3679)’, ‘Measurement and lab analysis instruments (3820– 3829)’, ‘Medical apparatus (3840– 3849)’, and ‘Programming and software (7370– 7379)’. Estimation results are reported in Table 3. The sample size is reduced to 815. The relation continues to be significant and U-shaped. The coefficients on CEO_INC and (CEO_INC)² are significantly negative and positive, both at the 1% level. Also, I confirm that the absolute values of the coefficients are significantly higher than when using all firms in the regression.

[Insert table3 about here]

4.2. Interactive effects of external governance and CEO ownership

The negative relation between CEO ownership and ETR under high levels of ownership will be stronger when external governance is too weak to prevent CEOs from reducing project risk choices. By contrast, strong external governance allows for less slack for agency problems, making the risk-reducing effects weaker. To examine the interactive effects of external governance and CEO ownership, I separate firm-year observations into strong and weak external governance subsamples. Table 4 reports the subsample results. Panel A shows the result using industry concentration ratio (ICR) as the measure of governance. An observation is considered to be under strong

(weak) governance if it belongs to an industry with below (above) the sample median industry concentration ratio. The result reveals no relation when external governance is strong, but a significant U-shaped relation when governance is weak. The absolute values of the coefficients on CEO_INC and (CEO_INC)² are also bigger for the weak governance subsample than those for the whole sample. For sensitivity check, Panel B shows the result using Herfindahl- Hirschman Index (HHI) of all firms in Compustat. The result is consistent with Panel A - significant U-shaped relation only for weak external governance subsample.

[Insert table4 about here]

5. Conclusion

This paper is basically an extension of the Kim and Lu (2011) paper, which explains a hump-shaped relation between CEO ownership and firm value with risk-reducing effect. Focusing on the risk-reducing effect for firms with high CEO ownership, I examine the relation between CEO compensation incentives and firms' effective tax rates. On the contrary to prior literature explaining the relation based on the assumption that the relation between the two will be monotonic, I document that the risk-reducing effect at high levels of CEO incentives drives the relation to be U-shaped. Also, in line with Kim and Lu (2011) which documents that the risk-reducing effect takes place only for firms under weak governance, I find that the U-shaped

relation between CEO compensation incentives and firms' effective tax rates exists only for weak governance subsample.

This paper contributes to a better understanding of the impact of CEO incentives on firms' tax avoidance. By introducing R&D as a channel through which CEO ownership affect firms' effective tax rates, this paper is the first to document a U-shaped relation. For future studies, there can be factors other than R&D-reducing effect that drive this U-shaped relation. The hump-shaped relation between CEO incentives and firm value is traditionally explained by the entrenchment effect. Searching for how entrenchment effect comes along in the relation between CEO incentives and firms' tax avoidance can be a meaningful study.

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Appendix A. Variable measurement

<i>ROA_{i,t}</i>	Return on assets for firm i, year t, measured as operating income (#170–#192) scaled by lagged assets (#6);
<i>LEV_{i,t}</i>	Leverage for firm i, year t, measured as long-term debt (#9) scaled by lagged assets(#6);
<i>PPE_{i,t}</i>	Property, plant, and equipment (#8) for firm i, year t, scaled by lagged assets;
<i>INTANG_{i,t}</i>	Intangible assets (#33) for firm i, year t, scaled by lagged assets;
<i>R&D_{i,t}</i>	Research and development expense (#46) for firm i, year t, scaled by lagged assets;
<i>SIZE_{i,t-1}</i>	Natural logarithm of the market value of equity (#199*#25) for firm i, at the beginning of year t;I
<i>MB_{i,t-1}</i>	Market-to-book ratio for firm i, at the beginning of year t, measured as market value of equity (#199*#25), scaled by book value of equity (#60);
<i>ICR</i>	Industry concentration ratio: The sum of the percentage of market share (in sales) of the 20 biggest firms among all firms in Compustat in each industry as defined by Fama and French (1997)
<i>HHI</i>	Herfindahl-Hirschman Index: The sum of the squares of percentage mardet share of all firms in Compustat in each industry as defined by Fama and French (1997)

Table 1

Summary statistics for all variables used in the paper.

The descriptions of the variables are provided in Appendix A. The sample period covers 1996 through 2006 for all variables. The number of observations for each variable varies due to data availability.

Variable	N	Mean	Median	Min	Max	Std Dev
	(1)	(2)	(3)	(4)	(5)	(6)
CEO_INC	5,435	0.534	0.544	0.001	1.000	0.232
ROA	5,435	0.417	0.279	0.001	17.058	0.553
LEV	5,423	0.943	0.417	0.000	52.340	1.983
PPE	5,428	1.753	0.587	0.005	85.913	3.964
INTANG	4,866	0.747	0.283	0.000	27.886	1.587
RND	5,435	0.060	0.001	0.000	1.296	0.099
LagSIZE	3,564	7.483	7.279	-0.378	12.701	1.567
LagMB	3,564	3.822	2.690	-280.439	827.940	16.674
ICR	72,294	0.722	0.709	0.489	1.000	0.144
HHI	72,294	0.062	0.047	0.022	1.000	0.066

Table 2

Examination of the relation between effective tax rates and CEO ownership

The descriptions of the variables are provided in Appendix A. Regressions include year and firm fixed effects. Coefficients marked with *, **, and *** are significant at 10%, 5%, and 1%, respectively.

	Dependent Variable: Taxrates	
	(1)	(2)
Intercept	0.369 ** (16.83)	0.383 ** (16.93)
CEO_INC	-0.014 * (-1.87)	-0.081 *** (-2.92)
(CEO_INC)2		0.065 * (2.52)
ROA	0.003 (0.73)	0.003 (0.73)
LEV	0.004 ** (2.01)	0.004 * (1.90)
PPE	-0.002 ** (-2.24)	-0.002 * (-2.21)
INTANG	0.005 *** (3.32)	0.005 *** (3.37)
RND	-0.155 *** (-6.63)	-0.160 *** (-6.85)
LagSIZE	-0.004 *** (-3.37)	-0.003 *** (-3.25)
LagMB	0.000 (-0.83)	0.000 (-0.90)
N	3,312	3,312
Adjusted R2(%)	15.4	15.5
F-statistics	12.2	12.1

Table 3

Relation between effective tax rates and CEO ownership with subsample of R&D-intensive firms

R&D-intensive firms are firms that belong to research-intensive industries as defined by Cui and Mak (2002). These seven industries are 'Drugs and biotech products (2830– 2839)', 'Computer and office equipment (3570– 3579)', 'Communication equipment (3660– 3669)', 'Electronics (3670– 3679)', 'Measurement and lab analysis instruments (3820– 3829)', 'Medical apparatus (3840– 3849)', and 'Programming and software (7370– 7379)'. Coefficients marked with *, **, and *** are significant at 10%, 5%, and 1%, respectively.

	Dependent Variable: Taxrates	
	(1)	(2)
Intercept	0.390 *** (12.64)	0.444 *** (12.31)
CEO_INC	-0.021 (-1.23)	-0.232 *** (-3.07)
(CEO_INC) ²		0.180 *** (2.86)
ROA	0.030 (1.61)	0.034 * (1.82)
LEV	0.004 (0.46)	0.005 (0.50)
PPE	-0.022* (-1.84)	-0.023* (-1.92)
INTANG	0.016 *** (2.74)	0.016 *** (2.64)
RND	-0.057* (-1.76)	-0.061* (-1.88)
LagSIZE	-0.006 *** (-2.71)	-0.006 ** (-2.51)
LagMB	0.000 (0.60)	0.000 (0.28)
N	815	815
Adjusted R2(%)	7.1	7.9
F-statistics	4.0	4.2

Table 4

Effective tax rates and CEO ownership under strong and weak external governance

External Governance is measured by industry concentration ratio(ICR) or Herfindahl-Hirschman Index(HHI). An observation is considered to be under strong (weak) governance if it belongs to an industry with below (above) the sample median ICR or HHI. Coefficients marked with *, **, and *** are significant at 10%, 5%, and 1%, respectively.

Panel A: External governance is measured by industry concentration ratio (ICR)

	Dependent Variable: Taxrates			
	Weak Governance		Strong Governance	
	(1)	(2)	(3)	(4)
Intercept	0.354 *** (13.59)	0.373 *** (13.82)	0.378 *** (30.11)	0.380 *** (25.19)
CEO_INC	-0.027 **	-0.124 ** (-3.26)	0.000 (0.03)	-0.010 (-0.24)
(CEO_INC) ²	-2.650	0.095 *** (2.64)		0.009 (0.25)
ROA	0.006 (1.03)	0.006 (1.04)	-0.006 (-0.75)	-0.006 (-0.75)
LEV	0.004 (1.37)	0.003 (1.23)	0.010 ** (2.75)	0.010 *** (2.74)
PPE	-0.001 (-0.91)	-0.001 (-0.87)	-0.011 ** (-5.81)	-0.011 ** (-5.80)
INTANG	0.002 (0.90)	0.002 (0.99)	0.007 *** (3.54)	0.007 *** (3.54)
RND	-0.059 * (-1.55)	-0.067 * (-1.77)	-0.221 *** (-7.57)	-0.222 *** (-7.56)
LagSIZE	-0.004 * (-2.30)	-0.003 * (-2.17)	-0.002 (-1.19)	-0.002 (-1.19)
LagMB	0.000 (-0.67)	0.000 (-0.70)	0.000 (-0.82)	0.000 (-0.84)
N	1,756	1,756	1,556	1,556
Adjusted R2(%)	12.7	15.5	20.9	20.9
F-statistics	6.0	6.0	18.1	17.4

Panel B: External governance is measured by Herfindahl-Hirschman Index (HHI)

	Dependent Variable: Taxrates			
	Weak Governance		Strong Governance	
	(1)	(2)	(3)	(4)
Intercept	0.345 *** (12.60)	0.358 *** (12.65)	0.352 *** (19.04)	0.365 *** (18.00)
CEO_INC	-0.030 ** (-2.77)	-0.098 ** (-2.50)	-0.001 (-0.05)	-0.062 (-1.57)
(CEO_INC)2		0.068 * (1.81)		0.058 (1.61)
ROA	0.011 (1.61)	0.010 (1.56)	-0.005 (-0.70)	-0.005 (-0.67)
LEV	0.003 (0.83)	0.002 (0.75)	0.010 ** (3.31)	0.010 *** (3.25)
PPE	-0.001 (-0.82)	-0.001 (-0.76)	-0.006 *** (-3.83)	-0.006 *** (-3.85)
INTANG	0.002 (0.72)	0.002 (0.79)	0.006 ** (3.33)	0.006 ** (3.34)
RND	-0.098 ** (-2.43)	-0.104 ** (-2.56)	-0.189 *** (-6.65)	-0.193 *** (-6.78)
LagSIZE	-0.004 * (-2.36)	-0.004 * (-2.31)	-0.003 * (-1.84)	-0.002 * (-1.73)
LagMB	0.000 (-0.65)	0.000 (-0.68)	0.000 (-0.90)	0.000 (-0.99)
N	1,634	1,634	1,678	1,678
Adjusted R2(%)	13.6	13.7	18.2	18.3
F-statistics	6.0	6.0	13.9	13.5

국문초록

세금은 기업에 있어 상당한 비용을 발생시킴에도 기업의 특성에 따라 달라지는 세제전략에 대한 연구는 미비한 실정이다. CEO에 대한 주식기준 보상비율은 기업의 세제전략을 결정하는 요인으로 최근 들어 그 중요도가 증가하였다. 주식기준보상은 주주-관리자間 이해관계를 일치시킴으로써 관리자로 하여금 기업가치 극대화를 위해 최선의 노력을 기울일 유인을 제공한다. 따라서 주식기준보상을 받는 경영자의 경우 기업가치 극대화 수단의 하나로서 세금 최소화 전략을 선택할 것으로 예상할 수 있으나, 이는 세금회피전략이 수반하는 비세금비용을 무시한 주장이다.

CEO에 대한 주식기준보상비율과 기업의 실효세율 간의 관계에 대하여 선행연구가 존재하나, 양의 관계를 밝힌 연구와 음의 관계를 밝힌 연구가 공존하고 있다. 선행연구는 CEO 주식기준보상 비율과 기업 실효세율 간의 관계를 단순증가 또는 단순감소로 예상하였지만, 나는 그 관계가 U자 형태를 보일 것이라 예상하였다. 높은 CEO 주식소유비중 하에서는 CEO의 성과-부(富) 민감도가 높아져 리스크 회피성향이 높아지고, R&D 지출이 줄어든다. R&D 지출은 세금우대를 받는 가장 대표적 항목이므로 R&D 지출 감소는 실효세율 증가로 이어질 것으로 예상하였다. 즉, CEO 주식기준보상 비율이 낮은 경우에는 성과보상민감도의 증가가 기업의 세금회피성향을 높여 실효세율을 낮추지만, 아주 높은 주식기준보상 비율 하에서는 세금우대를 받는 R&D 지출이 줄어들어 실효세율이 증가할 것으로 예상하였다.

주요어 : CEO; 주식기준보상비율; 실효세율; R&D; 기업지배구조

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