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A Study on the CEO Compensation: Focusing on the Difference between Small and Medium Business and other Firms

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Abstract

The objective of this paper is to explore the association between small and medium business and CEO compensation for Korean listed firms. More specifically, focusing on the CEO's cash compensation, we empirically investigate whether small and medium business exhibits different level of compensation when compared to other enterprises. We find that small and medium business exhibits lower level of CEO compensation relative to other firms. This result supports our argument that the lower degree of agency problem in small and medium business compared to other firms induces lower level of CEO compensation. Since understanding the mechanisms regarding CEO compensation directly is extremely hard, our research might provide useful information to the interested parties.

Keywords: CEO Compensation, Interested Parties, Small and Medium Business

1. Introduction

This paper empirically examine whether "small and medium business" (hereafter, "S and M business") and CEO compensation show systematic association. That is, focusing on the CEO's cash compensation, we investigate whether the level of compensation of S and M business is discriminated by the level of compensation of other firms.

CEO compensation is regarded as the primary device through which the interests of manager and shareholders can be aligned[1,14]. A number of prior literatures, in turn, have attempted to increase the understanding about the mechanisms of CEO compensation[4,7,13,19,24]. Nonetheless, investigating the mechanisms of CEO compensation is basically limited. This is because the explicit compensation contract between the manager and the firm seldom exist. Moreover, even if the explicit contract exists, external stakeholders find it almost impossible to get such contract information[18].

Accordingly, most of the prior researches have applied indirect method. In other words, these studies provide many determinants of CEO compensation based on the rational theories[2,3,4,8]. In this circumstance, identifying additional determinants of the CEO compensation could augment the understanding about such mechanisms. In order to explore this issue, by focusing on the cash compensation of CEO, we empirically examine whether S and M business exhibits different level of CEO compensation relative to other firms.

S and M business, among other things, is characterized by lower degree of agency problems between the manager and the shareholders[5,6,11,12]. This is because the principal (shareholders) and the agent (manager) are often identical for the S and M business, while they are not identical for the other firms.

In addition, a number of prior literatures demonstrate that the degree of agency problems and the CEO compensation has positive association[9,10,16,17]. For example, Healy shows that manager's income-increasing earnings management is positively associated with his bonus payments. Consequently, we expect that the level of CEO compensation of S and M business is relatively low when we compare it to other firms'.

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To empirically examine this issue, we hand collect CEO's cash compensation data for Korean firms from Financial Supervisory Service's Data Analysis, Retrieval and Transfer System (DART). Our specific result is given as follows. We find that the level of CEO compensation for S and M business is low compared to other firms. Given the positive association between the degree of agency problems and CEO compensation exists, our result suggests that the lower degree of agency problems of S and M business derives the lower amount of CEO compensation.

This paper contributes to the existing literatures as follows. Specifically, our research provides meaningful implication to the interested parties. CEO compensation is the core mechanism which aligns the interests between the manager and the shareholders. Consequently, the more the interests between them are aligned, the higher the firm value is. This suggests that the effectiveness of CEO compensation is the crucial factor that the shareholders focus. Therefore, shareholders might take the finding, i.e., the CEO compensation is relatively low for S and M business due to lower degree of agency costs, into account when they evaluate the effectiveness of CEO compensation contract.

The remainder of this research is organized as follows. The next section presents our hypothesis based on the related studies. Section 3 describes our research method and sample selection and Section 4 provides the empirical results. Finally, we conclude in Section 5.

2. Hypothesis Development

Many prior studies related to the agency issues argue that S and M business generates relatively lower agency costs. Specifically, they describe the reason as follows[5,6,11,12].

It is well known for S and M business that manager commonly owns the company. That is, the principal (shareholders) and the agent (manager) are virtually identical for S and M business. In contrast, shareholders often hire an independent manager who does not own the company. In this case, the principal and the agent are clearly separated. Therefore, given these facts, the conflicts of interests between the principal (shareholders) and the agent (manager) can be relatively low for S and M business.

Meanwhile, the extant researches show that the systematic association between agency costs and the CEO compensation exists. Specifically, prior studies provide relevant evidences which support the positive association between the magnitude of agency costs and the level of CEO compensation.

One stream of researches supports this positive association focusing on the manager's earnings management behavior since the earnings management is one of the prominent phenomenon related to the agency costs[9,16,17]. That is, these researches, as a whole, provide finding that as the income-increasing earnings management increases CEO's bonus payments also increase.

The second stream of researches demonstrates this positive association focusing on the corporate governance because the effectiveness of corporate governance is inversely related to low agency problems[10,15,23]. For example, Core et al. show that various measures of corporate governance explain a considerable amount of CEO compensation. In addition, Cyert et al. provide similar results with Core et al. by focusing on the top-management compensation.

Collectively, given that agency costs and the level of CEO compensation are positively linked, we expect that the lower degree of agency costs of S and M business generates relatively lower level of CEO compensation compared to other firms. Consequently, we derive our hypothesis as follows.

H: The level of CEO compensation of S and M business will be relatively low compared to other firms.

3. Research Design

3.1 Regression Model

We construct a regression model to examine the association between S and M business and CEO compensation. In addition, we include control variables previously identified as determinants of CEO compensation. The specific form of the model is as follows:

$$COMP_t = \beta_0 + \beta_1 S\&M_t + \beta_2 ROA_t + \beta_3 RET_t + \beta_4 SIZE_t + \beta_5 MB_t + \beta_6 LEV_t + ID + YD + \varepsilon_t \quad (1)$$

Where:

$COMP_t$ = CEO cash compensation in year t = ln{Sum of top management cash (salary + bonus) compensation (in thousand) in year t / number of top management in year t};

$S\&M_t$ = dummy variable equal to 1 if the firm is S and M business in year t and 0 otherwise;

ROA_t = return-on-assets in year t = income from operation in year t / total assets in year t;

RET_t = annual stock return in year t;

$SIZE_t$ = natural logarithm of market value of equity in year t;

MB_t = market-to-book ratio in year t = the market value of equity in year t / the book value of equity in year t;

LEV_t = leverage in year t = liability in year t / book value of equity in year t;

ID = the industry dummy;

YD = the year dummy.

The dependent variable of Equation (1) is CEO's cash compensation (COMP). We define this variable as the average of top management's cash compensation since for Korean firms collecting individual CEO compensation data is not publicly available.

The main variable of interest is SMDM which classify our samples into S and M business and other firms. In Section 2, we predict that S and M business would show lower level of CEO compensation relative to other firms. Thus, we expect the coefficient of S and M business, i.e., β1, to be significantly positive. Also, for the purpose of mitigating the omitted variables problem, we control for standard economic factors that prior literatures identified.

First, traditional agency theory demonstrates that CEO compensation and firm performance reveal positive association[10]. By using accounting-based performance (ROA) and market-based performance (RET), we control the effect of firm performance.

Second, a number of both theoretical and empirical studies show that firm size and growth opportunities explain the amount of CEO compensation. Thus, we include firm size (SIZE) and growth opportunities (MB) as control variables in Equation 1.

Third, firm risk is the factor that affects the amount of CEO compensation and prior researches provide mixed results[20,21,22]. We control for firm leverage (LEV) to control the risk of firm.

Fourth, we also include in Equation 1 Industry Dummy (ID) and Year Dummy (YD) variables to control for the industry and year fixed effects.

3.2 Samples

For empirical analysis, we use Korean firms listed in Korea Stock Exchange (KSE). Our sample period begins from 2002 to 2009. We hand collect the CEO's cash compensation data from Financial Supervisory Service's Data Analysis, Retrieval and Transfer System (DART). Financial data for companies is collected from TS 2000 database which is operated by Korea Listed Companies Association. We exclude financial firms and firms whose fiscal years end in December. We winsorize the highest 1% and the lowest 1% of the samples based on each variables in order to alleviate the effect of outliers. The number of our final sample for our analysis is 3,842 firm-years.

4. Empirical Results

4.1 Descriptive Statistics

Table 1. shows the descriptive statistics for our samples.

Table 1. Descriptive Statistics (N = 3,842)

Variables	Mean	Std. Dev.	25%	75%
COMP	12.041	0.850	11.467	12.551
SMDM	0.122	0.327	0.000	0.000
ROA	0.055	0.068	0.019	0.088
RET	0.244	0.710	-0.202	0.496
SIZE	18.514	1.758	17.248	19.451
MB	0.988	0.928	0.412	1.201
LEV	1.161	1.239	0.429	1.437

1) Refer to section 3.1 for the definitions of all the variables in Table 1.

CEO's cash compensation (COMP) shows a positive mean (12.041). The SMDM which is defined as 1 if the firm is S&M business and otherwise has a mean value of 0.122. This indicates that about 12% of our total samples belong to S and M business. Accounting-based performance (ROA), market-based performance (RET), firm size (SIZE) and firm growth (MB) are positive on average (0.055, 0.244, 18.514 and 0.988, respectively). The sample distributions of the variables in Table 1 are generally consistent with prior literatures.

4.2 Main Results

We present our main result in Table 2 as follows. Specifically, the result in Table 2. is the estimated value of multivariate regressions of CEO's cash compensation on S and M business.

As shown, the estimated coefficient of SMDM is significantly negative (Coefficient = -0.113, t-stats. = -3.14), demonstrating that the level of CEO's cash compensation is relatively low for S and M business. We

expect that S and M business will exhibit lower amount of CEO compensation due to the lower degree agency costs compared to other firms. Therefore, this finding supports our main hypothesis.

Table 2. Multivariate Regression of CEO's Cash Compensation on S & M Business

Variables	Coeff	t-value
Intercept	5.720***	26.45
SMDM	-0.113***	-3.14
ROA	1.054***	6.07
RET	-0.051***	-2.71
SIZE	0.301***	38.41
MB	-0.126***	-8.30
LEV	0.056***	5.82
Industry effect	Included	
Year effect	Included	
Adj. R2	0.419	
F-value	111.71***	
N. of Obs.	3,842	

1) *** : indicate significance level at less than 1 percent.

2) Refer to section 3.1 for the definitions of all the variables in Table 2.

In addition, control variables are generally consistent with prior studies. First, accounting-based performance (ROA) is positively associated with CEO compensation. Second, firm size (SIZE) shows significantly positive association with CEO compensation. This implies that due to the higher complexity of larger firms CEO receives more compensation.

5. Conclusion

In this paper, we empirically examine the association between CEO compensation and S and M business. Specifically, we investigate the impact of S and M business on the level of CEO's cash compensation using Korean firms.

We find that the level of CEO's cash compensation is relatively low for S and M business. We expect that since S and M business generates less agency problems due to the interest alignment between the principal and the agent S and M business might exhibit lower amount of CEO compensation compared to other firms. Therefore, this result clearly provides the evidence which supports our main argument.

This paper might contribute to the body of evidence relating to the mechanisms of CEO compensation contract. Specifically, with respect to the determinants of CEO compensation, our research would provide useful information to the related parties. However, given that it is fundamentally limited to understand the exact form of CEO compensation contract, exploring potential determinants would be essentially needed.

6. References

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