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What Determines Ceo Compensation Effectively? Taking the Case of Henan Province as an Example

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Abstract: How to determine CEO compensation has been a topic theme. Many scholars tried to testify the close relation between top management compensation and firm performance and determine CEO compensation furtherly. This paper selects the core of Central Plain Economic Zone, i.e., Henan Province, as an objection to analyze the determinants of CEO compensation. The result shows CEO compensation is positively related to firm size and earnings capacity, while negatively related to liability capacity. And CEO compensation has no close to development and operation capacity apparently. These results suggest we should lead CEO to focus on firm's long-term development and using funds effectively.

Key words: CEO compensation, determinants, henan province

INTRODUCTION

Highest compensation of the management is disclosed in China, while management's compensation has been restricted in America. It has been a focus in our society. The asymmetry information between shareholders and management is the core of agent-principle problem. The top management own lots of internal information so that they have the possibility of hazard risk and adverse select. Then how to stimulate the top management to make decision considering the shareholders' benefits is becoming the hot topic.

Many literatures empirically analyze the relation between the top management compensation and firm performance. Jensen and Murphy (1990) estimated the incentive effect of cash, shares and fired threat on the top management. Abowd (1990) analyzed the relation between rate of assets, rate of equity, gross earnings after tax, market earnings and cash compensation with a sample of 250 listed companies from 1981-1986 and found little relation of market earnings and cash compensation. Dossi (2010) had the same result.

Tosi and Gomez-Mejia (1994) think that the high sensitivity of CEO compensation and performance has a positive relation with future performance. Hall and Liebman (1998) studied the relation of management compensation and firm performance with a sample of the biggest over 100 listed companies in few years and found there was significant relation between them., Deborah Allcock (2010), Katherine Lingling (2012) and

Muslu (2010) analyzed CEO compensation from the aspect of corporate governance mechanism. Besides, few scholar's analyzed the compensation with new measures such as uncertain linguistic variable and gravity model other than linear regression equation (Huang, 2012; Ma and Zhang 2013).

Recently, there are many empirical literatures relating to the top management compensation. Wei (2000) and Li (2000) found the incentive effect was not significant, management compensation was not related to firm performance, but it was related to firm size significantly. Chen (2002) thought the top management compensation was positively related to firm performance in listed companies in China.

Generally speaking, there are little literatures to analyze the top management compensation in some district. Henan Province is the strategic core of Centre Plains Economic Zone. So, this paper will analyze the top management compensation in listed companies in Henan Province from 1998-2009.

EMPIRICAL ANALYSIS

At first, we definite the content of CEO and compensation since there are different opinions of them.

CEO: There are many agent-principle levels in firms. Among these levels, the agent level of CEO (Chief Executive Officer) and shareholders is the most important. CEO is an officer dealing with the ordinary operation business, who is selected by the board of

Table 3: Total variance explained

Component	Initial eigenvalues			Rotation sums of squared loadings		
	Total	Variance (%)	Cumulative (%)	Total	Variance (%)	Cumulative (%)
1	5.172	27.222	27.222	3.819	27.313	27.313
2	2.872	15.113	42.335	2.950	15.527	42.84
3	1.695	13.923	56.258	2.603	13.699	56.539
4	1.243	11.329	67.587	1.378	12.356	68.895
5	1.189	8.534	76.121	1.373	7.226	76.121
6	0.976	4.231	80.352			
7	0.953	4.089	84.441			
8	0.940	3.072	87.513			
9	0.864	2.548	90.061			
10	0.735	2.269	92.33			
11	0.536	2.123	94.453			
12	0.510	1.082	95.535			
13	0.393	1.069	96.604			
14	0.280	1.075	97.679			
15	0.226	1.009	98.688			
16	0.099	0.519	99.207			
17	0.093	0.492	99.699			
18	0.045	0.239	99.938			
19	0.012	0.062	100			

Table 4: Rotated component matrix(a)

	Component				
	1	2	3	4	5
Liquidity ratio	-0.055	0.025	0.953	0.121	-0.018
Quick-liquidity ratio	-0.069	-0.004	0.964	0.111	-0.023
Assets-liability ratio	-0.010	-0.426	-0.720	0.128	-0.276
Earnings per share	0.336	0.840	0.059	0.193	0.105
Return of main business	-0.031	0.688	0.078	0.021	0.221
Return of assets	0.224	0.865	0.247	0.099	0.207
Return of equity	0.073	0.757	0.063	0.049	-0.487
Earning quality of operating	0.011	0.534	0.012	0.133	0.018
Turnover of total assets	0.479	0.348	-0.200	-0.034	0.668
Turnover of inventory	-0.020	0.124	-0.051	-0.071	0.635
Turnover of accounts receivable	0.311	-0.035	-0.084	-0.017	0.711
Growth rate of total assets	0.020	0.300	-0.001	0.672	-0.002
Growth rate of main business	0.135	0.441	-0.324	0.521	0.211
Growth rate of net profit	0.040	-0.016	0.003	0.714	0.180
Main business percent	0.059	-0.020	0.037	0.342	-0.005
Shares	0.833	0.384	0.031	0.146	0.063
Operating cash flows	0.130	0.130	0.065	0.049	0.055
Assets	0.819	-0.044	-0.088	0.145	0.030
Net profit	0.062	0.547	0.062	0.116	0.037

- significant at 0.01. These results show the size of firms is one of the main factors
- The second factor is earnings capacity indexed by earnings per share, return of main business, return of assets, return of equity, earnings quality of operating and net profit. The relation coefficients among earnings per share, return of assets and return of equity are 0.961, 0.773 and 0.487, respectively, which are significant at 0.00. It suggests the higher earnings per share is, the higher return of assets and return of equity are. The relation coefficients among return of main business, earnings quality of operating and net profit are 0.65, 0.87 and 0.52, respectively, which are significant at 0.10. These coefficients suggest the primary profit is brought out by the main business and the operating earnings in the listed companies in Henan Province
 - The third factor is liability delegated by liquidity ratio, quick-liquidity ratio and asset-liability ratio. The relation coefficient between liquidity ratio and quick-liquidity ratio is 0.96, which is significant at 0.00. It shows the liquidity of assets is quicker. The higher liquidity ratio is, the higher quick-liquidity ratio is. The relation coefficient between these two ratios and asset-liability ratio is 0.45, which is significant at 0.10
 - The fourth one is development capacity indexed by growth rate of main business, growth rate of total assets and growth rate of net profit. The relation coefficients among growth rate of main business, growth rate of total assets and growth rate of net profit are 0.87 and 0.32, respectively. These show the increasing assets are demanded by the growth of

Table 5: Pearson coefficients

	CEO compensation	Firm size	Earnings capacity	Liability capacity	Development capacity	Operation capacity
CEO compensation	1	0.207	0.262	-0.185	0.040	0.010
		0.002	0.000	0.006	0.294	0.435
Firm size	0.207	1	-0.038	0.026	-0.068	-0.002
			0.066	0.362	0.045	0.491
Earnings capacity	0.262	-0.038	1	0.089	-0.069	-0.023
				0.067*	0.027	0.174
Liability capacity	-0.185	0.026	0.089	1	0.081	0.060
					0.028	0.037
Development capacity	0.040	-0.068	-0.069	0.081	1	-0.008
						0.208
Operation capacity	0.010	-0.002	-0.023	0.060	-0.008	1
	0.435	0.491	0.174	0.037	0.208	

*No. in the first line are relation coefficients and those in the second line are significance levels

Table 6: Model summary

Model	R	R square	Adjusted R square
1	.753	.567	.432

Table 7: Coefficients

Models	Unstandardized coefficients		Standardized coefficients		
	B	Sed. Error	B	t	Sig.
(Constant)	117.135	9.315		12.575	0.000
Firm size	32.092	9.335	0.213	3.438	0.001
Earnings capacity	25.769	9.335	0.171	2.761	0.006
Liability capacity	-26.219	9.335	-0.174	-2.809	0.005
Development capacity	0.243	9.335	0.002	0.026	0.979
Operation capacity	1.594	9.335	0.011	0.171	0.865

main business. However, the relation between main business and net profit is worse

- The last one is operation capacity interpreted by turnover rate of total assets, turnover rate of accounts receivable and turnover rate of inventory. These relation coefficients among turnover rate of total assets, turnover rate of accounts receivable and turnover rate of inventory are 0.43 and 0.45, which is significant at 0.10. Though, turnover rate of accounts receivable and turnover rate of inventory are higher, the turnover rate of total assets in 0.72 at the average. It shows the turnover of other assets is slower except accounts receivable and inventory

Regression analysis: We will analyze the five factors with regression model:

$$SA = \beta_0 + \beta_1 \text{Factor1} + \beta_2 \text{Factor2} + \beta_3 \text{Factor3} + \beta_4 \text{Factor4} + \beta_5 \text{Factor5} + \mu$$

where, SA is CEO compensation. In order to ensure the accuracy of regression results, we standardized the indicator. Factor 1 is firm size of listed companies; Factor 2 is earnings capacity; Factor 3 is liability capacity; Factor 4 is development capacity; Factor 5 is operating capacity. β_0 is constant of regression model, β_1, \dots, β_5 are standardized coefficients of five factors, μ is stochastic error.

Firstly, we analyze the relation efficiencies between CEO compensation and the above five factors, which is showed in Table 5.

From Table 5, it is showed there is not multicollinearity in our regression model. The regression results are showed in Table 6 and 7.

Table 6 shows R square is 56.7% and adjusted R square is 43.2%, which suggests the fit of regression model is better.

From Table 7, we can find CEO compensation is positively related to firm size and earnings capacity, which are significant at 0.01. Larger the firm size is, higher CEO compensation is. Also, higher the earnings capacity is, higher CEO compensation is. i.e., CEO compensation will improve 21.3% when there is 1% increase in firm size. CEO compensation will improve 17.1% when there is 1% increase in earnings capacity.

CEO compensation is negatively related to liability capacity, which is also significant at 0.01. Higher the liability is, lower CEO compensation is. i.e., CEO compensation will decrease 17.4% when there is 1% increase in liability capacity. As we all know that the moderate liability can have financial leverage effect, which makes firm earn more profit with less equity funds. However, this result suggests CEO do his best to avoid liability since liability brings out more risk.

CEO compensation is positively related to development capacity and operation capacity. The relation coefficients are 0.002 and 0.011, respectively. Also, we can see these coefficients are not significant at 0.10. These results are different from analysis conclusion of Wei Gang (2000). CEO compensation will improve 0.2% when there is 1% increase in development capacity and improve 1.1% when there is 1% increase in operation capacity. This is why CEO focuses on short-term investments other than long-term investments. Long-term investments could not bring out profit rapidly in CEO's tenure. So, CEO tends to invest the short-term schemes to achieve earnings quickly and he could be awarded owing to these achievements.

All in all, CEOs tend to make firm size larger, improve the short-term earnings and decrease the liability of listed companies in Henan Province since their compensation can be increased rapidly based on these indicators. On the contrary, CEOs do not focus on long-term development and operating capacity because of their worse relation.

CONCLUSION

Firstly, CEO compensation is positively related to firm size in Henan Province. There are explicated administrative structures in larger firm than that in smaller firm. The complex of management demands CEO more efforts. Besides, administration capacity of CEO in larger firm has been recognized easily than that in smaller firm. These results have been testified by many literatures. So, the listed companies in Henan Province tend to price CEO achievements according to firm size. CEO has more pay in larger firm than that in smaller firm.

Secondly, CEO compensation is positively related to earnings capacity in Henan Province. Generally speaking, greater earnings indicate greater distributed profit. However, firms may use earnings to invest, balance losses, increase capital or pay share dividends, which will not improve CEO compensation. This may be the reason why CEO compensation has not a significant relation with earnings in many literatures. But CEO compensation is closely related to firm earnings in Henan Province. This will stimulate CEO to work with more efforts.

Thirdly, CEO compensation is negatively related to liability capacity in Henan Province. Due debts have to be repaid with interests; otherwise the debtors will demand the liquidity. The procedure can restrict CEO to overinvest and lavish cash flows. Therefore, higher debts can cause lower management compensation, i.e. financial leverage can restrict CEO behaviour at some extent.

Fourthly, CEO compensation is not close to development capacity in Henan Province. At present, more companies give salary incentive to CEO, which is a short-term incentive. However, the firm development is a long-term theme. So, we should improve the incentive structure to relate CEO compensation to the firm's future development such as shares incentive in Henan Province. Lastly, CEO compensation is not significantly positively related to operation capacity in Henan Province. Operation capacity is the efficiency of using fund indexed by turnover rate of assets, inventory or accounts receivable. The fastest the fund turns, the strongest management capacity is. This paper indicates CEO may be limited to use the funds.

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