The Impact of the Interaction between Executive Compensation Stickiness and the Large Stockholder Control on the Performance

—Based on Sample Data of 210 Natural Person Holding Companies

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Abstract—The phenomenon of "Executive Compensation Stickiness" has been studied for scholars in recent years. This study is based on sample data of 210 natural person holding companies. It uses SPSS20.0 statistical software for data statistics and analysis to explore the impact of interaction between executive compensation stickiness and the large stockholder control on the performance. The research finds that executive compensation stickiness is widespread, and there is no correlation with large shareholder control. But the interaction between them has positive effect on corporate performance. It shows that executive compensation stickiness and large shareholder control exist rationally. For the long-term development of the enterprises, it is necessary to effectively control the stickiness of executive compensation and establish a scientific salary mechanism.

Keywords—Large stockholder; Equity control; Executive; Compensation stickiness; Corporate performance

I. INTRODUCTION

Executive compensation stickiness is an asymmetry phenomenon between executive compensation and performance of listed companies. When performance increases, the range of increasing in compensation is significantly higher than the range of decreasing during the bad performance, that is, salary stickiness exists. The large stockholder control in this study mainly refers to the equity control of large stockholders, including the controlling proportion of the largest stockholder and the equity restriction ration. A natural person holding company is a joint stock company directly controlled by a natural person. A natural person holding company distinguishes itself with high ownership concentration, poor equity restriction, and high shareholding proportion of executives. Is it common for executive compensation stickiness in such companies? Is it related to the control of the large stockholder? Does the interaction of those two affect company performance? Is the existence of executive compensation stickiness reasonable? This paper attempts to answer these questions above in order to provide some practical references for our country's corporate governance.

II. PROPOSING RESEARCH HYPOTHESES

The compensation is a reward for effort made by an enterprise to its executives. If the company performance declines, they will reduce salary, and it's difficult to retain talents, and would also weaken the enthusiasm of executive. So it is not conducive to the enterprises' long-term development, that is, objective compensation stickiness exists. The empirical results by Zhu Linxiang and others (2015)[1], Chen Shengjun and others (2015)[2], Li Fei (2015)[3] have shown that executive compensation stickiness exists in listed companies basically. Tang Xiaoli (2010)[4], Wang Xiaowei,Chen Fengbo (2014)[5], Zhang Weiting (2015)[6]and other scholars have proved that large stockholder control affects corporate performance, but the direction and extent of the impact did not come to agreement. Wang Qi and Wu Chong(2013)[7] made a study of associating the control of large stockholder with executive compensation. They found that the higher proportion of large stockholders holding, the greater influence of executive compensation effect on corporate performance; the large stockholder control has synergistic effect and entrenchment effect influencing executive compensation incentive, but it did not involve the issue of compensation stickiness. However, Tian Yuanyuan (2014)[8]made a study of associating the large stockholder control, executive compensation stickiness with governance efficiency, it is concluded that improving the equity concentration can inhibit or relieve executive compensation stickiness, and then improve the governance efficiency of the salary mechanism. From a practical standpoint, executive compensation is formulated by the Remuneration Committee of the board of directors, and the phenomenon of large stockholders controlling the board of directors is widespread, especially large stockholder will be directly participate in and formulate executive compensation in natural person holding companies with flexible system and mechanism. When the company's performance has risen substantially, the actual controller may implement "award" mechanism; when company's performance declines, "punishment" is generally not easily implemented. The author believes that the higher proportion of large stockholders holding, the more "flexible"

phenomenon is more likely to arise, so makes the following series of assumptions:

H1:The natural person holding company has sticky characteristics of executive compensation.

H2:The executive compensation stickiness of natural person holding company is positively correlated to the controlling proportion of the first largest shareholder.

H3:The executive compensation stickiness of natural person holding company is positively correlated to the equity restriction ratio.

H4:The interaction between executive compensation stickiness and the controlling proportion of the largest shareholder is beneficial to the improvement of corporate performance in natural person holding companies.

H5:The interaction between executive compensation stickiness and the equity restriction ratio is beneficial to the improvement of corporate performance in natural person holding company.

III. SAMPLE SELECTION AND MODEL CONSTRUCTION

A. Sample selection and data sources

The study takes the data of listed company controlled by natural person stockholders as the original samples in small and medium sized enterprises board, excluding ST or *ST companies, the top three executives' compensation with no changes for two consecutive years, and sample companies with missing data. Finally 210 valid samples are formed, and the study period is during 2012 to 2015. The data is derived from CNINF, CSMAR Solution professional securities website, using SPSS20.0 statistical software for data statistics and analysis.

B. Definition of variables and construction of models

The calculation of executive compensation stickiness is formula 1:

$$|ECS| = \left| \frac{PNA_t - PNA_{t-1}}{PNA_{t-1}} \middle/ \frac{EC_t - EC_{t-1}}{EC_{t-1}} \right| \quad (1)$$

PNA and EC respectively show the performance of listed companies and executive compensation. Among them, PNA take Per Net Asserts as a measure target of corporate performance; EC take the total compensation of top three executives as a measure target of executives' compensation; i indicates the year i, using $\frac{PNA_t - PNA_{t-1}}{PNA_{t-1}}$ to represent company performance's amplitude of fluctuation, and using $\frac{EC_t - EC_{t-1}}{EC_{t-1}}$ to represent executives compensation's amplitude of fluctuation. This paper use ln|ECS| as a variable of executive compensation stickiness. The definitions and calculation methods of other variables are shown in Table 1.

The construction of model which shows the interaction between executive compensation stickiness and controlling shareholder on corporate performance is in formula 2. Among this model, α is intercept; $\theta_1 \sim \theta_2$, $\gamma_1 \sim \gamma_3$ is regression coefficient; ε is random error.

$$Q = \alpha + \theta_1 \ln|ECS| * YD + \theta_2 \ln|ECS| * ZD + \gamma_1 SIZE + \gamma_2 LEV + \gamma_3 Growth + \varepsilon \quad (2)$$

TABLE I.   THE DEFINITION AND COMPUTING METHOD OF VARIABLE

Types	Name	Definitions	Computation
Explained variable	Tobin' s Q	Enterprise value	(The market value of trade-able shares + non trade-able * Per Net Assets + The book value of liabilities)/(The book value of liabilities+ The owner's equity)
Explanatory variable	|ECS|	Executive Compensation Stickiness	The change rate of per net assets / The change rate of top three executive compensation
	YD	The controlling proportion of the first largest stockholder	The numerical proportion of the first largest stockholder
	ZD	Equity restriction ratio	Total of the second to the fifth largest shareholding ratio / The controlling proportion of the first largest stockholder
Control variable	SIZE	The size of enterprises	Ln(Total assets in company at the end of the year)
	LEV	Asset-liability ratio	The total of liabilities at the end of the year / Total assets at the end of the year
	Growth	The ability to grow	(The main business income in current period - The main business income at previous period)/ The main business income at previous period

Notes: Arranged by the author

TABLE II.   THE CORRELATION COEFFICIENT BETWEEN EACH VARIABLE SUMMARY

		Tobin's Q	Ln|ECS|	YD	ZD	SIZE	LEV	Growth
Tobin's Q	Relevance	1						
	Significance							
Ln|ECS|	Relevance	0.116	1					
	Significance	0.093						
YD	Relevance	.166[*]	0.066	1				
	Significance	0.016	0.340					

Cont. to TABLE II								
ZD	Relevance	0.035	0.026	-.682**	1			
	Significance	0.619	0.713	0.000				
SIZE	Relevance	-.424**	0.112	0.104	-0.13	1		
	Significance	0.000	0.106	0.131	0.059			
LEV	Relevance	-.483**	0.006	0.042	-0.13	.479**	1	
	Significance	0.000	0.936	0.541	0.060	0.000		
Growth	Relevance	0.130	0.037	-0.004	.155*	0.065	-0.061	1
	Significance	0.060	0.592	0.959	0.024	0.350	0.381	

Notes: Arranged by the author **P<0.01,* P<0.05

TABLE III.   THE RESULT OF MULTIVARIATE REGRESSION ANALYSIS OF MODELS

Empirical tests	Nonstandard Coefficients		Standardized Coefficients	t	Sig	Co linearity Statistic		Other results
	B	Std.Error	Beta			Tolerance	VIF	
(Constant)	20.965	3.856		5.437	0.000			Adjusting R^2=0.303, Dubin-Waston＝2.122 F=19.210(0.000)
ln|ECS|* YD	0.018*	0.008	0.169*	2.246	0.026	0.574	1.743	
ln|ECS|* ZD	0.083	0.09	0.07	0.926	0.356	0.591	1.692	
SIZE	-0.782**	0.184	-0.288**	-4.25	0.000	0.727	1.375	
LEV	-1.936**	0.378	-0.341**	-5.118	0.000	0.749	1.335	
Growth	0.516*	0.245	0.123*	2.112	0.036	0.984	1.016	

Notes: Arranged by the author **P<0.01,* P<0.05

IV. EMPIRICAL TESTS

A. Correlation analysis

From the correlation analysis table 2, it shows corporate performance (Tobin's Q) is positively correlated to the controlling proportion of the first largest stockholder (YD), but there are no significant correlation with executive compensation stickiness (ln|ECS|) and equity restriction ratio (ZD). In addition, corporate performance is positively correlated to the size of enterprise (SIZE) and asset-liability ratio (LEV).

B. Multiple regression analysis and robustness test

1) Multiple regression analysis.

The research uses the regression method to do empirical analysis. For variable stepping method, the probability of using F to engage is 0.05, and to delete is 0.10. The results of multiple regression analysis are shown in Table 3. Table 3 shows that firstly, the adjustment of R^2= 0.303, goodness of fit is ordinary; secondly, Dubin-Waston value is about 2, which means there are no positive correlation among the independent variables in the model; thirdly, the value of VIF meets the standards range of 0 to 10, it shows there is no multi-disciplinary in each variable in the model, and the Sig=0.000 shows that all variables are significant at the level of 0.01. As a result, the constructed model has passed the F test, and it is valid.

Regression result of table 3 shows the cross term is significant positively correlated between ln|ECS| and YD, and it is positively correlated between ln|ECS| and ZD but not significant.

2) Robustness test.

In order to better validate the impact of interaction on corporate performance between executive compensation stickiness and the controlling of large stockholder in the natural person holding companies, and use total return on assets (ROA) to replace Tobin's Q. Total return on assets = Net profit / Average total assets*100%.(As space is limited, the form is omitted). By comparing the results of multiple regression analysis and the robustness test, we can see that by using the total return on assets (ROA) to replace Tobin's Q, the results are consistent. It means the robustness test is adopted in this study.

TABLE IV.   TABLE OF ASSUMPTIONS AND EMPIRICAL RESULTS

Analysis	Hypothesis	Brief introduction of research hypothesis	Empirical results
Correlation analysis	H1	The natural person holding company has sticky characteristics of executive compensation stickiness	Exist
	H2	The executive compensation stickiness of natural person holding company is positively correlated to the controlling proportion of the first largest shareholder	↑ No significant
	H3	The executive compensation stickiness of natural person holding company is positively correlated to the equity restriction ratio	↑ No significant
regression analysis	H4	The interaction between executive compensation stickiness and the controlling proportion of the first largest shareholder is beneficial to the improvement of enterprise value	↑ Significant
	H5	The interaction between executive compensation stickiness and equity restriction ratio is beneficial to the improvement of enterprise value	↑ No significant

Note: ↑ is positively correlated

V. CONCLUSIONS AND RECOMMENDATIONS

Comprehensive studies of hypothesis and empirical results (Table 4) show that in the natural person holding companies, executive compensation stickiness is widespread, and there is not much related to the equity control of main stockholder. But the interaction between them has a positive effect on corporate performance. It shows that the executive compensation stickiness of natural person holding companies and the equity control of large shareholders not only do not harm the company performance, but also improve the companies' performance, thus proving the rationality of its existence.

For the long-term development of the enterprise, it suggests as follows:

(1) Effective control of executive compensation stickiness. While hiring professional managers, it should avoid the "executive inertia" due to the excessive compensation stickiness, and pay attention to the linkage between executive compensation and companies' performance.

(2) Establish a scientific salary assessment mechanism. In reality, due to the related executive responsibilities are not clear, rights and obligations is unclear or difficult to measure, which requires the salary development team should have strong professional ability, and develop scientific and reasonable compensation plan.

REFERENCES

[1] Zhu Linxiang. Study on Executive Compensation Stickiness of Listed Company in SME Board [D].Yangzhou University, 2015.(In Chinese)

[2] Chen Shengjun, Li Chunling, Zhang Xu. Study on Executive Compensation Stickiness of non-financial listed companies in China [J]. Journal of Beijing Technology and Business University (Social Sciences), 2015(2):110-118.(In Chinese)

[3] Li Fei, Research of the Influence of directorate's Characteristics on executive compensation stickiness [D].Shenyang Ligong University, 2015.(In Chinese)

[4] Tang Xiaoli, Study on Governance Mechanism and Effect of Listed Company Controlled by Natural Person [D]. Xibei University, 2010.(In Chinese)

[5] Wang Xiaowei, Chen Fengbo, Ownership Structure and Enterprises' Value of Growth Enterprise Market Listed Companies [J].Journal of Management Science.2014(6):40-52 (In Chinese)

[6] Zhang Weiting, Wei Zijie, You Shibing. The Characteristics of Large Shareholders, Shareholder Balance and Corporate Value—Empirical Study Based on EVA [J].Journal of Accounting and Economics, 2015(04):86-100.(In Chinese)

[7] Wang Qi, Wu Chong, Large Shareholder Control, Executive Compensation and Corporate Performance: Empirical Evidence from the Private Listed Companies in China[J].Journal of Beijing University of Aeronautics and Astronautics (Social Sciences Edition) 2013(06) :80-85 (In Chinese)

[8] Tian Yuanyuan. An Empirical Study on the executive compensation stickiness of listed company [D].Hebei University.2014. (In Chinese)