Financial Excesses and Executive Compensation Stickiness

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Abstract—This research selects China A-share listed companies from 2007-2018 as the research sample, and empirically tests the impact of financial excesses and property rights on the executive compensation stickiness. This study finds that financial excesses have a significant regulating effect on executive compensation stickiness, and the degree of stickiness regulation for enterprises with different property rights is quite different. Financial excesses inhibit executive compensation stickiness in local-state-owned enterprises and non-state-owned enterprises, but have a positive effect when it happens in central-state-owned enterprises

1 Introduction

Jackson et al.(2008) defined "executive compensation stickiness" as the phenomenon that the marginal reduction in the compensation of enterprise's senior managers when the performance decline is less than the marginal increase in the compensation of enterprise's senior managers[1]. After 2012, more than 50% of Japanese enterprises have no interest-bearing liabilities or their interest-bearing liabilities are lower than their cash holdings and their equivalents. Japanese academic scholars have named this phenomenon as "no actual borrowing". On this basis, Gan Shengdao sums up a new financial concept--financial excesses[2]. In this case, financial leverage is low, and mainly use of equity capital will intensify the supervision of the shareholders. The compensation system is more in line with the requirements of the principal-agent theory, reflecting a stronger performance sensitivity. Are there significant differences between enterprises with different property rights? We empirically test whether different performance indicators affect the degree of executive compensation stickiness, then verify whether financial excesses have an inhibiting effect on executive compensation stickiness.

This article proceeds as follows. Section 2 reviews the relevant literature and develops hypotheses. Section 3 gives data description and research design. Section 4 provides regression analysis and robustness test. Section 5 concludes the article.

2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Gaver (1998) finds the asymmetry between CEO compensation and performance indicators: CEO compensation does not decrease when the company's performance declined. A similar pattern exists between CEO compensation and non-operating gains and losses [1]. Jackson (2008) defined the executive compensation stickiness as the phenomenon that the marginal increase of executive compensation when performance change is greater than marginal decrease when performance declines.[3]Since then, foreign scholars have confirmed this discovery from many angles.

Fang Junxiong (2009) takes the financial data of China's listed companies from 2001 to 2007 as the sample. The empirical study shows that the executive compensation of Chinese listed companies initially presents a relatively significant performance sensitivity, but the executive compensation also has the characteristic of stickiness [4]. Domestic scholars find that property rights, company scale, equity structure (Fang Junxiong, 2009), compensation committee (Mao Hongtao etc. 2012), equity incentive strength (Zhao Jianmei etc. 2014), financial asset investment(Bu Danlu etc. 2013), political association (Zhang Aimin etc. 2016), and many other factors have impact on executive compensation stickiness[4-8].

Therefore, this paper explores the influencing factors of executive compensation stickiness from the point of capital structure creatively. There are some differences on executive compensation stickiness among enterprises with different property rights. The main purpose of state-owned enterprises is focusing on allocating social resources, therefore they receive more administrative supervision, public supervision and media supervision. On the contrary, non-state-owned enterprises suffers more loose external supervision. Compared with non-state-owned enterprises, executive compensation of state-owned enterprises is less sticky. The above discussions lead to the following hypothesis in alternative form:

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H1: State-owned enterprises have a lower degree of stickiness in executive compensation than non-state-owned enterprises.

Because of the mainly use of equity capital, financial excesses enterprises have more supervision from shareholders. Therefore, the salary system developed conforms to the requirements of principal-agent theory, which makes the executive compensation more sensitive to performance. The above discussions lead to the following hypothesis in alternative form:

H2: Financial excesses have an inhibiting effect on executive compensation stickiness.

State-owned enterprises is not completely seek to maximize performance, while its main goal is to maintain domestic livelihood issues. Therefore, state-owned enterprises with financial excesses need to take more social responsibility. Making profit is their second purpose[9,10].Therefore, financial excesses promotes the executive compensation of the central-controlled enterprises. However, it inhibits the local-controlled enterprises and private enterprises. The above discussions lead to the following hypothesis in alternative form:

H3: Financial excesses promote the executive compensation stickiness in central-state-owned enterprises, but it inhibits the executive compensation stickiness in local-state-owned enterprises and non-state-owned enterprises.

3 RESEARCH AND DESIGN

3.1 Data Sources

Initially, our sample is drawn from the intersection data from CSMAR for the period 2007-2018. The selection criteria is as follow: (1) All financial enterprises are excluded; (2) ST and *ST companies are excluded; (3) Samples with missing observation values were eliminated; (4) Excluding the observed value of 2007. After applying these selection criteria, we obtain a sample of 15225 firm-years spanning the period 2008-2018.

3.2 Variable Description

3.2.1 Explained variable

We use natural logarithm of the average compensation of the top three executives(lntoppay1) and natural logarithm of the average compensation of the top three directors(lntoppay2) to represent the executive compensation.

3.2.2 Explanatory variable

Financial excesses(Finex)= (Monetary capital + Trading financial assets - Interest-bearing liabilities)/ Total assets.

3.2.3 Control variable

a) *Down: Dummy variable that takes the value of 1 if the company' performance is decline, and 0 otherwise.*

b) *Pre: Roe and Roa measure the company' performance.*

c) *Soe: Dummy variable that takes the value of 1 if the company is state-controlled, and 0 otherwise.*

d) *Centra: Dummy variable that takes the value of 1 if the company is central-state-controlled, and 0 otherwise.*

e) *Lnrevenue: The natural logarithm of annual operating revenue.*

f) *Lev: The ratio of long-term liabilities to total assets.*

g) *First: The largest shareholder shareholding ratio.*

h) *Dual: Dummy variable that takes the value of 1 if the two posts of chairman and general manager are separated, and 0 otherwise.*

i) *Board: The proportion of independent directors in the total number of directors.*

j) *Hold: Dummy variable that takes the value of 1 if the senior management holds the company's stock, and 0 otherwise.*

3.3 Equations

Referring to the research scheme of Fang Junxiong(2009), Xia Xuehua (2014), Liu Zhongyan(2014) and Zhang Aimin(2016), financial excesses is added on the basic model to form the financial affluence function model[8,11,12].

Model 1: basic model

$$lntoppay = \beta_0 + \beta_1 * Pre + \beta_2 * Down + \beta_3 * Down * Pre$$
$$+ \beta_4 * lnrevenue + \beta_5 * lev + \beta_6 * first$$
$$+ \beta_7 * dual + \beta_8 * board + \beta_9 * hold$$
$$+ \beta_{10} * year + \beta_{11} * industry + \varepsilon(1)$$

Model 2: financial excesses model

$$lntoppay = \gamma_0 + \gamma_1 * Pre + \gamma_2 * Down + \gamma_3 * Down * Pre$$
$$+ \gamma_4 * Finex + \gamma_5 * Finex * Pre + \gamma_6 * Finex * Down * Pre$$
$$+ \gamma_7 * lnrevenue + \gamma_8 * lev + \gamma_9 * first + \gamma_{10} * dual$$
$$+ \gamma_{11} * board + \gamma_{12} * hold + \gamma_{13} * year$$
$$+ \gamma_{14} * industry + \varepsilon(2)$$

Where, $\beta_1 + \beta_3$ measures the sensitivity of executive compensation to the company's performance when the company's performance declines. This paper expects that $\beta_1 + \beta_3 < \beta_1(\beta_3 < 0)$. Model 2 is to test whether financial excesses have an inhibitory effect on executive compensation stickiness of listed companies. Financial excesses is added on the model 1. $\gamma_1/(\gamma_1 + \gamma_6)$ is expected to be less than $\beta_1/(\beta_1 + \beta_3)$ in this paper, so as to verify hypothesis 2.

3.4 Descriptive Statistics

Table 1 presents descriptive statistics for the major variables discussed in section 3, along with additional variables that are used as control variables in our multivariate analysis. 26.7% of the samples shows a

performance decline when the company's performance was measured by Roe. Measured by Roa, 55.7% of the samples showed a performance decline. The median value of Finex is -0.031. Besides, nearly 50% of the samples have the phenomenon of financial excesses, indicating that the phenomenon of financial excesses is widespread in Chinese A-share market.

3.5 Correlation Analysis

Table 2 presents the Pearson and Spearman correlation matrix for all the variables used in our regression analysis. The two measures for executive compensation, lntoppay1 and lntoppay2, are significantly and positively correlated with each other. Executive compensation variables and company performance variables are at 1% level of significant positive correlation, which to a certain extent. Listed companies in China have been basically

established performance-related compensation mechanism, and the existing research results are basically identical[13-17].

4   EMPIRICAL TEST AND ANALYSIS

4.1 Regression Analysis

Table 3 shows the regression results of Model 1. When the performance rises, the regression coefficient of executive compensation on ROE is 1.952, which is significantly positive at the 1% level. When corporate performance declines, the sensitivity coefficient $\beta_1 + \beta_3$ of executive compensation and performance is 0.957 (1.952-0.995). The increase in executive compensation when performance increases is 2.04 times the decrease in executive compensation when performance declines, that is, the stickiness value is 2.04 (1.952/ 0.957).

Table 1.   DESCRIPTIVE STATISTICS

variable	N	mean	p50	sd	min	max	range
lntoppay1	15225.00	13.10	13.09	0.71	11.35	15.05	3.71
lntoppay2	15225.00	12.96	12.97	0.77	10.94	14.99	4.05
Roe	15225.00	0.06	0.07	0.11	-0.54	0.32	0.86
Down	15225.00	0.27	0	0.44	0	1	1
Roa	15225.00	0.04	0.03	0.05	-0.15	0.22	0.37
Droa	15225.00	0.56	1	0.50	0	1	1
Finex	15225.00	-0.02	-0.03	0.23	-0.54	0.60	1.14
soe	15225.00	0.41	0	0.49	0	1	1
centra	15225.00	0.14	0	0.35	0	1	1
lnrevenue	15225.00	20.11	20.36	2.08	12.91	24.54	11.62
lev	15225.00	0.06	0.01	0.09	0	0.41	0.41
first	15225.00	0.35	0.34	0.15	0.09	0.75	0.66
dual	15225.00	0.77	1	0.42	0	1	1
board	15225.00	0.37	0.33	0.05	0.33	0.57	0.24
hold	15225.00	0.69	1	0.46	0	1	1

The coefficient of the crossover term Down * Roe is significantly negative at the 1% level (t value is -9.10), indicating that the executive compensation stickiness is widespread in China A-share listed companies. The existing research results are basically identical[18-21].

The results show that the stickiness value increases in the order of central-state-owned enterprises, local-state-owned enterprises and non-state-owned enterprises, which are 1.44, 1.98 and 2.66. The reason should be that compared with non-state-owned enterprises, local-state-owned enterprises,

Table 2.   PEARSON CORRELATIONS

	lntoppay1	lntoppay2	Roe	Down	Roa	Droa	Finex	soe
lntoppay1	1							
lntoppay2	0.859***	1						
Roe	0.244***	0.242***	1					
Down	-0.111***	-0.116***	-0.284***	1				
Roa	0.206***	0.207***	0.718***	-0.195***	1			
Droa	-0.035***	-0.030***	-0.222***	0.123***	-0.314***	1		
Finex	0	0.007	0.199***	-0.047***	0.341***	-0.025***	1	
soe	0.044***	-0.095***	-0.056***	0.055***	-0.077***	-0.037***	-0.191***	1
centra	0.101***	-0.043***	-0.030***	0.009	-0.053***	-0.017**	-0.057***	0.493***
lnrevenue	0.174***	0.159***	0.099***	-0.088***	0.087***	0	-0.061***	0.119***
lev	0.135***	0.096***	-0.049***	0	-0.152***	0.019**	-0.562***	0.218***
first	0.019**	-0.036***	0.105***	-0.001	0.121***	-0.004	0.012	0.212***

dual	-0.023***	-0.024***	-0.007	0.038***	-0.010	-0.027***	-0.101***	0.276***
board	0.019**	-0.033***	-0.027***	-0.001	-0.036***	0.005	-0.001	-0.046***
hold	0.157***	0.197***	0.076***	-0.072***	0.072***	0.022***	0.080***	-0.260***
	centra	**lnrevenue**	**lev**	**first**	**dual**	**board**	**hold**	
centra	1							
lnrevenue	0.076***	1						
lev	0.099***	0.096***	1					
first	0.123***	0.171***	0.066***	1				
dual	0.163***	0.051***	0.090***	0.047***	1			
board	-0.012	-0.026***	0.008	0.048***	-0.100***	1		
hold	-0.125***	0.092***	-0.069***	-0.211***	-0.152***	0.018**	1	

Notes: Pearson correlations (left below) and spearman correlations (right above). *, **, *** significant at 0.10, 0.05 and 0.01 levels.

especially central-state-owned enterprises, face more administrative supervision and public opinion supervision, and have a more complete compensation system, which is conducive to alleviating compensation stickiness.

After adding financial excesses, the regression coefficient of Roe in Table 3 is 2.112. The stickiness value $\gamma_1 / (\gamma_1 + \gamma_6)$ is 1.57, which is significantly lower than the stickiness value 2.04 before adding financial excesses.

Table 3. REGRESSION ANALYSIS

lntoppay1

	Model 1				Model 2			
	ALL	CSOE	LSOE	NSOE	ALL	CSOE	LSOE	NSOE
lnrevenue	0.048***	0.020***	0.034***	0.062***	0.948***	0.874***	0.599***	1.236***
	(-16.34)	(-3.16)	(-7.62)	(-13.31)	(-12.46)	(-4.65)	(-5.12)	(-10.63)
lev	0.701***	0.560***	0.219**	1.008***	-0.039	0.179*	-0.167**	-0.103**
	(-10.42)	(-3.36)	(-2.20)	(-9.63)	(-1.08)	(-1.92)	(-2.55)	(-2.10)
first	-0.012	0.214**	-0.134**	-0.085*	-0.005	-0.183***	-0.004	-0.049***
	(-0.33)	(-2.31)	(-2.02)	(-1.72)	(-0.39)	(-4.34)	(-0.11)	(-3.54)
dual	-0.007	-0.186***	-0.007	-0.050***	0.025	0.175	0.173	-0.056
	(-0.59)	(-4.36)	(-0.21)	(-3.57)	(-0.27)	(-0.86)	(-0.97)	(-0.45)
board	0.001	0.067	0.134	-0.065	0.129***	0.216***	0.208***	0.073***
	(-0.01)	(-0.33)	(-0.74)	(-0.53)	(-11.31)	(-8.60)	(-10.91)	(-4.16)
hold	0.134***	0.214***	0.209***	0.079***	2.112***	2.168***	2.302***	2.053***
	(-11.66)	(-8.52)	(-10.89)	(-4.50)	(-23.51)	(-9.76)	(-14.74)	(-16.59)
Pre	1.952***	1.727***	2.252***	1.945***	0.011	0.025	-0.021	0.029
	(-22.52)	(-9.15)	(-14.60)	(-16.04)	(-0.83)	(-0.75)	(-0.90)	(-1.52)
Down	0.007	-0.002	-0.015	0.026	-0.950***	-0.785**	-0.923***	-1.133***
	(-0.50)	(-0.06)	(-0.63)	(-1.42)	(-7.75)	(-2.50)	(-4.17)	(-7.02)
Down*Pre	-0.995***	-0.530**	-1.112***	-1.214***	0.948***	0.874***	0.599***	1.236***
	(-9.10)	(-2.25)	(-5.79)	(-7.94)	(-12.46)	(-4.65)	(-5.12)	(-10.63)
Finex					0.056*	0.083	0.213***	0.012
					(-1.73)	(-1.15)	(-3.33)	(-0.21)
Finex*Pre					2.062***	2.706***	1.562***	2.192***
					(-7.51)	(-4.65)	(-2.93)	(-5.57)
Finex*Down*Pre					-0.774*	-1.897**	0.005	-0.586
					(-1.91)	(-2.19)	(-0.01)	(-1.00)
Constant	11.185***	11.876***	10.969***	11.106***	11.195***	11.814***	10.996***	11.127***
	(-135.45)	(-69.70)	(-78.54)	(-93.58)	(-135.38)	(-68.96)	(-79.75)	(-93.31)
industry	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
year	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Observations	15,225	2,172	4,021	9,032	15,225	2,172	4,021	9,032
adj.R^2	0.263	0.385	0.292	0.260	0.269	0.397	0.300	0.266
F	144.50	43.28	56.23	86.47	138.50	41.60	6.33	80.39

Notes: Standard deviation in brackets. *, **, *** significant at 0.10, 0.05 and 0.01 levels.

The results showed the restraint effect of financial excesses on compensation stickiness, which confirmed the Hypothesis 2. According to model 2, in the group test based on the nature of the actual controller, the stickiness values of the executive compensation of local government and private enterprise were 1.00 and 1.40 respectively, both of which were significantly lower than the stickiness values of 1.98 and 2.66 before the financial excesses was added. It is worth noting that the executive compensation stickiness value of the central state-owned enterprises rose to 8.00, which is a significant improvement over the stickiness value before adding the financial excesses of 1.44. The financial excesses significantly promoted the impact of the compensation stickiness on the central state-owned enterprises, thereby verifying Hypothesis 3.

4.2 Robustness Test

In this paper, the average compensation of the top three directors ' compensation is used instead of the top three executives' compensation to test the robustness of Model 1 and Model 2. The stickiness value $\beta_1/ (\beta_1 + \beta_3)$ is 1.93. The stickiness values of central state-owned enterprises, local state-owned enterprises and private enterprises are 1.61, 1.84 and 1.73 respectively, which are basically consistent with the results of empirical research using executive compensation. When using the model 2 to test the adjustment of financial excesses, the stickiness value of 1.51 is significantly lower than the stickiness value of 1.93 of the full sample in the model 1, thus confirming Hypothesis 2. The stickiness values of central state-owned enterprises, local state-owned enterprises and private enterprises are 9.25, 1.00 and 1.31 respectively, consistent with Hypothesis 3. This paper also uses Roa to measure company performance, which is basically consistent with the above results, and due to space limitations we will not continue to discuss here.

5 CONCLUSION

This research empirically tests the impact of financial affluence and property rights on the executive compensation stickiness. This study finds that financial excesses have a significant regulating effect on executive compensation stickiness, and the degree of stickiness regulation for enterprises with different property rights is quite different. Financial excesses inhibit executive compensation stickiness in local-state-owned enterprises and non-state-owned enterprises, but have a positive effect when it happens in central-state-owned enterprise. In the future, we will explore the differences in the effects of other capital structure characteristics on executive compensation stickiness.

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