Internal Compensation Gap and Company's Value

Aozheng Wei

School of Economics and Management, Beijing Jiaotong University, Beijing, China

19241274@bjtu.edu.cn

Abstract. Although the compensation gap between executives and employees has received widespread attention, there are still many different opinions on how the internal compensation gap affects the company's value. Based on this background, this paper uses China's Shanghai and Shenzhen A-share listed companies as a research sample to examine the impact of the compensation gap between corporate management and employees on company value. The research in this paper found that on the whole, the research results are in line with the tournament theory, that is, the compensation gap has a positive impact on the company's value. The greater the compensation gap is, the greater the company's value is. Further research through grouping conducted an in-depth analysis of the moderating effects caused by the economic consequences of corporate heterogeneity, such as the number of executives and shareholding concentration. It is found that a large number of executives and more dispersed equity can better promote the compensation gap to affect company value. This paper provides an important perspective for the supervision and corporate sector, and its conclusions have important reference significance for corporate planning and strategic adjustment of the structure.

Keywords: Compensation Gap; Company Value; Equity Concentration; Tournament Theory.

1. Introduction

In recent years, the issue of the compensation gap between executives and employees has become a hot topic among the media and the public, which has attracted great attention from domestic and foreign regulatory agencies. For example, the Chinese government has repeatedly implemented policies to standardize the 'extraordinary' wages paid to executives of state-owned enterprises. The annual salary system for executives of state-owned enterprises, which was introduced in 2002, stipulates that the average compensation gap between executives and employees shall not exceed 12 times. On September 16, 2009, six ministries and commissions including the Ministry of Human Resources and Social Security, and the State-owned Assets Supervision and Administration Commission jointly issued the 'Guiding Opinions on Further Regulating the Remuneration Management of Persons in Charge of Central Enterprises', which stipulated that the upper limit of the salary of senior management personnel in central enterprises should not be allowed to be more than 20 times of the average salary of employees in the previous year. (1) Since January 1 in 2015, the 'Central Management Enterprise Salary System Reform Plan' has adjusted the upper limit of the compensation gap between 72 state-owned enterprise executives and employees to 8 times. The compensation gap between executives and employees has also caused widespread concern in other countries. For example, on August 5, 2015, the U.S. securities regulator passed a regulation forcing companies to disclose the compensation gap between CEOs and employees. (3) At present, the media's focus on the compensation gap is mainly on the fairness of the salary level, that is, the phenomenon of the disclosed compensation gap being too large. It has discussed the reasonable range of the compensation gap and how to achieve it. The impact of compensation gap on corporate behavior and value has not been involved. But the academia has also conducted some research on this issue. For example, the literature discusses the economic consequences of compensation gaps between executives or within companies (Kaleetal, 2009; Bankeretal, 2016; Faleyeetal, 2013; Firmetal, 2015; Jiaetal, 2016; Liu C and Sun L, 2010; Li WJ and Hu YM, 2012; Yang ZQ and Wang H, 2014), but did not conduct an in-depth grouping study on the heterogeneity of enterprises. Problems like outdated data also exist. Based on this, this paper uses Chinese Shanghai and Shenzhen A-share listed companies as a research sample, and uses multiple regression and group regression

methods to investigate the impact of the compensation gap between corporate management and employees on company value. The research conclusion in this paper is: on the whole, the research results are in line with the tournament theory, that is, the compensation gap has a positive impact on the company's value. The larger the compensation gap is, the greater the company's value is. Through grouping, the author conducted an in-depth analysis of the moderating effect of the economic consequences of the company's heterogeneity such as the number of executives and the shareholding concentration, and found that a large number of executives and more dispersed equity can better promote the compensation gap to affect the company's value. The contributions of this paper are as follows: first, it has enriched the research in the economic consequences of the executive compensation gap, and the use of recent data has further confirmed the rationality of the tournament theory; second, it has enriched the research on the influencing factors of company value, making the internal compensation gap a variable that needs to be taken into consideration in company's value-related research in future. The following arrangement of the paper is as follows: literature review on the economic consequences of the executive compensation gap and corporate value, an elaboration of the research design and sample model selection, and an analysis of the empirical results (including descriptive statistics and correlation analysis, multiple regression and group regression analysis), and then conducted a robustness test, and finally got the research conclusion.

2. Literature Review

Regarding the economic consequences of the company's overall compensation gap between executives and employees, from the perspective of corporate performance or corporate value, there are tournament theory and behavioral theory to explain the two opposite effects from different perspectives.

Tournament theory uses the game theory to study the principal-agent relationship, conducts a direct study on the compensation gap, and makes an in-depth interpretation of the compensation gap phenomenon in real life. As Lazear and Rosen (1981) said: once someone is promoted from deputy general manager to general manager, his salary level may double in a day. It is difficult to say that the person's ability doubles in a day. The standard economic theory believes that the salary level is determined by the marginal output, so it is difficult to explain this phenomenon within the framework of traditional marginal analysis. However, if the agent is regarded as a contestant in the promotion competition, in this order of competition, the winner will receive all the prize. This phenomenon has been fully explained. Championship theory believes that under the conditions of cooperative production and interdependent team activities, as the difficulty of monitoring increases, a large compensation gap can reduce monitoring costs and provide strong incentives for the interests of principals and agents, thus increasing the compensation gap can increase company value. Research such as Rosen (1986), Henderson and Fredrickson (2001) all support the theory of tournaments.

There are three important branches of theory of action (Lin, 2003): 1. Relative deprivation theory. The theory holds that the managers compare personal salaries with the salaries of higher-level personnel in the organization. If lower-level managers feel that they are not getting the salary they deserve, they will feel exploited, which will lead to sabotage and strikes. Such negative behaviors will also lead to managers' indifference to organizational goals and the decline of corporate cohesion. 2. The theory of organizational politics. This theory believes that a large compensation gap will increase the effort level of subordinates, but they do so by reducing cooperative efforts and increasing self-interested efforts, and at the same time increase the possibility of engaging in political conspiracies. 3. The theory of allocation preference. The theory believes that the salary should be based on 'not bringing dissatisfaction to the person receiving the salary' and determined in the interaction between the salary setter and the recipient. When (1) maintaining social harmony is important; (2) the individual marginal contributions are difficult to measure; (3) competitions among team members can lead to political intrigue in interdependent work; (4) when teamwork becomes important, even if there are obvious differences in individual performance, relatively equal

compensation should be used. Therefore, behavioral theory believes that a small compensation gap will increase cooperation and enhance company value. Research supporting behavioral theory include Deutsch (1985), Bloom (1999), etc.

This paper studies the impact of the executive compensation gap on company value. The reason for studying the value of a company is that the effectiveness of the company's management decisions can ultimately be reflected in the company's value level to a certain extent, and it is of practical significance to study the influencing factors of the company's value. This paper refers to the past literature (Xin, 2004; Liu, Sun, 2010) and mainly uses Tobin's Q value as a proxy variable of company value. However, as a comprehensive concept, company value is more difficult to measure through a single value indicator. Therefore, this article also uses company value indicators such as price-to-book ratio (PB) and enterprise value multiple (EV/EBITDA) to test.

Lin (2003) used data in 1999 and 2000 as samples to examine the relationship between the compensation gap within the senior management team and company performance in China, and found that there is a positive correlation between the compensation gap of listed companies in China and future company value. Chen (2006) divided listed companies into two groups of samples with different growth potentials and found that there is a significant positive correlation between the executive compensation gap of high-growth companies and the company's market performance, and the executive compensation gap of low-growth companies is related to the company's per share. There is a significant positive correlation between the income indicators. Lin, Shen and Su (2005) took 4,759 executives from 450 listed companies from 1999 to 2002 as a sample, and the test found that salary increased with the increase of the manager's level in the company; greater salary dispersion led to better performance. Zhao (2012) used data from 1999 to 2009 as a sample to conduct an empirical study on the relationship between the executive-employee compensation gap and corporate performance. The study found that the relationship between compensation gap and corporate performance is not a purely linear relationship, but an inverted U-shaped curve. Liang (2019) used 2005-2014 data as a sample to study the impact of the company's life cycle on the relationship between the internal compensation gap and the company value, and found that on the whole, the company's internal compensation gap is conducive to company value and supports the tournament theory; combined with life cycle inspection, the effect of internal compensation gap on the company's value is gradually weakened as the company's life cycle goes on. It can be seen that there are still some inconsistencies in the research conclusions of these documents on how the compensation gap affects the value of the company. This paper believes that the widening of the compensation gap will make the 'tournament prizes' more abundant, and thus play a role in motivating executives, thereby enhancing corporate performance, and ultimately achieving the effect of enhancing company value. Based on this, the research hypothesis H_1 in this paper is proposed,

H_1: The internal compensation gap has a significant positive impact on the company's value.

3. Research Design

Research design and sample selection:

A. Data Source

This paper uses the data of China's A-share listed companies from 2007 to 2018 as the initial sample, excluding financial and insurance industries, and samples with incomplete or missing data, and a total of 22,111 sample observations are obtained. In this paper, all continuous variables have been narrowed down by 1% (Winsorize). All data in this paper comes from the CSMAR database. This paper uses Stata16.0 statistical software for data processing and analysis.

B. Definition of main variable

1) Explained variable: company value (TQ). In the empirical research on the value of listed companies, Tobin Q is one of the most commonly used company value indicators (Liu C and Sun L, 2010; Xin Z, 2004; Zhao R, 2012). This paper selects Tobin Q as a measure of indicator of company value. Tobin's Q is the ratio of a company's market value to its asset replacement cost,

reflecting the ratio of two different value estimates for a company. This paper is defined as the sum of the company's stock market value and its total liabilities divided by the year-end total assets.

2) Explanatory variables: internal compensation gap (Wgap), the gap between the salary of the company's management (directors, supervisors, and senior management) and the salary of ordinary employees. Refer to Zhang ZT (2008), using two methods of absolute value and relative value: the absolute internal compensation gap (Wgap_abs) is the natural logarithm of the difference between the average salary of management and the average salary of ordinary employees, and the relative internal compensation gap (Wgap_ratio) It is the natural logarithm of the ratio of the average salary of management to the average salary of ordinary employees.
3) Control variables: This paper refers to previous related studies and introduces control variables related to company value, including employee salary level (Lnempcp), company size (Size), growth (Growth), financial leverage (Lev), management shareholding ratio (Mshare), two-occupation integration (Dual), independent director ratio (Rinde), the size of the board of supervisors (Mcsize), the shareholding ratio of the largest shareholder (Sh1), the degree of equity balance (Sh2_5), and the level of marketization (Index).

Detailed variable is displayed in chart 1.

4. Regressive Model Design

To verify the research hypothesis, this paper establish multiple regression model as follows:

$$TQ = \beta_0 + \beta_1 Wgap + \gamma Control + Industry + Year + \varepsilon$$

In the model, TQ is the company value, *Wgap* represents the absolute internal compensation gap (Wgap_abs) or the relative internal compensation gap (Wgap_ratio), and *Control* represents the control variable selected in this paper. In addition, this paper also controls industry fixed effects and annual fixed effects to improve the robustness of the conclusions.

Table 1. Definition of Variables

Variable	Name	Symbol	Definition
Explained variable	Company's value	*TQ*	(Market value of equity capital + book value of liabilities) / total assets
Explanatory variable	Absolute internal compensation gap	*Wgap_abs*	In(Average salary of management-average salary of ordinary employees)
	Relative internal compensation gap	*Wgap_ratio*	In(Average salary of management/average salary of ordinary employees)
Control variable	Company's size	*Size*	In(total asset)
	Company's growth	*Growth*	(Operating income of the current period-operating income of the previous period)/Operating income of the previous period
	Financial leverage	*Lev*	Total liabilities/total assets
	Management shareholding ratio	*Mshare*	Number of shares held by management/total number of shares of the company

	Two-occupation integration	*Dual*	The chairman and general manager are combined to 1, otherwise 0
	Independent director ratio	*Rinde*	Number of independent directors/number of directors
	Shareholding ratio of the largest shareholder	*Sh1*	Number of shares held by the largest shareholder/total number of shares of the company
	Size of the board of supervisors	*Mcsize*	Number of the board of supervisors
	Degree of equity balance	*Sh2_5*	The sum of the number of shares held by the second to fifth largest shareholders / the total number of shares of the company
	Employee salary level	*Lnempcp*	In (Total salary of ordinary employees/Number of ordinary employees)
	Level of marketization	*Index*	The marketization index of the company's location

5. Analysis on Empirical Studies

Table 2. Description and Analysis of Main Variables

Variable	N	mean	sd	p50	p75	min	max
TQ	22111	2.0096	1.2076	1.6127	2.3059	0.8860	7.8200
Wgap_abs	22111	11.7215	1.0664	11.8111	12.4154	8.2999	14.1063
Wgap_ratio	22111	1.0086	0.5711	0.9443	1.3610	0.0415	2.6894
Size	22111	22.1218	1.2684	21.9466	22.8332	19.8474	26.0644
Growth	22111	0.1888	0.4106	0.1190	0.2797	-0.5014	2.7075
Lev	22111	0.4279	0.2052	0.4211	0.5834	0.0526	0.8877
Mshare	22111	0.1345	0.2007	0.0039	0.2476	0.0000	0.6920
Dual	22111	0.2609	0.4391	0.0000	1.0000	0.0000	1.0000
Rinde	22111	0.3736	0.0530	0.3333	0.4286	0.3333	0.5714
Sh1	22111	0.3448	0.1469	0.3247	0.4454	0.0848	0.7387
Mcsize	22111	3.5702	1.0465	3.0000	4.0000	2.0000	7.0000
Sh2_5	22111	0.1873	0.1128	0.1738	0.2657	0.0129	0.4694
Lnempcp	22111	11.3751	0.5216	11.3842	11.7148	10.0350	12.6286
Index	22111	8.1930	1.8744	8.3300	9.7300	2.9200	10.9600

A. Descriptive Statistics and Correlation Analysis

Table 1 shows the descriptive statistics of the main variables of the sample. The mean (median) value of the company value (TQ) is 2.0096 (1.6127), the minimum (maximum) is 0.8860 (7.8200), and the standard deviation is 1.2076, indicating that the company value of different companies is significantly different; the mean and median of absolute internal compensation gap (Wgap_abs) are 11.7215 and 11.8111, respectively, which are very close to Liu C and Sun L (2010), Li WJ and Hu YM (2012), and higher than Zhang ZT (2008); the average value of the financial leverage of the sample company is 42.79 %, the average shareholding ratio of the largest shareholder is 34.48%, the average management shareholding ratio is 13.45%, two-occupation-combined companies account for 26.09%, independent directors account for 37.36%, and statistics on other control variables are all within a reasonable range.

The unreported correlation coefficient matrix shows that the correlation coefficient between the absolute internal compensation gap (Wgap_abs) and the relative internal compensation gap

(Wgap_ratio) is 0.826, showing that the two kinds of measures have high consistency; the absolute internal compensation gap (Wgap_abs), internal salary Relative gap (Wgap_ratio) and company value (TQ) are negatively correlated, but its specific relationship needs to be further investigated by adding control variables. The correlation coefficients among other main variables are not more than 0.6, and the variance inflation factor (VIF) of each variable is within 5 during regression, so the regression results will not be seriously interfered by multicollinearity.

B. Multiple Regression Analysis

Table 3. The Impact of Compensation gap on the Company's Value

Variable	(1) TQ	(2) TQ
Wgap_ratio	0.2005*** (14.21)	
Wgap_abs		0.0759*** (10.04)
Size	-0.4578*** (-46.55)	-0.4408*** (-45.90)
Growth	0.1330*** (6.97)	0.1357*** (7.09)
Lev	-0.4979*** (-9.67)	-0.5170*** (-10.04)
Mshare	-1.0060*** (-24.19)	-1.0083*** (-24.20)
Dual	0.0425** (2.57)	0.0412** (2.48)
Rinde	1.0320*** (7.79)	1.0481*** (7.89)
Sh1	-0.8780*** (-4.35)	-0.9525*** (-4.70)
Sh2_5	-0.0832 (-1.23)	-0.0701 (-1.04)
Mcsize	0.0137** (2.18)	0.0103 (1.63)
Lnempcp	0.3970*** (19.39)	0.2865*** (15.86)
Index	-0.0145*** (-3.27)	-0.0123*** (-2.75)
Constant	7.1148*** (27.98)	7.3250*** (28.81)
Industry	Control	Control
year	Control	Control
N	22111	22111
$AdjR^2$	0.3568	0.3539
F	192.5712	192.0236

Note: *, **, *** mean significant at the level of 10%, 5%, and 1% respectively, the same as below

First, test the internal compensation gap and company value. Table 2 presents the regression results. The explained variable is company value (TQ). The explanatory variable in column (1) is the absolute internal compensation gap (Wgap_abs), and the explanatory variable in column (2) is the relative internal compensation gap (Wgap_ratio). In terms of control variables, the coefficient of employee salary level (Lnempcp) is positive and significant at the 1% level, indicating that the employee salary level has a positive effect on the company's value; the coefficient of financial leverage (Lev) is negative, and is at significant at the level of 1%, indicating that the higher the capital structure has, the lower the company value is, which is consistent with Liu C and Sun L (2010), Li WJ and Hu YM (2012); the growth coefficient is positive, and at the level of 1% Significantly, the higher the

company's sales revenue growth rate has, the greater the company's value is, which is consistent with Liu C and Sun L (2010); the coefficient of company's size (Size) is negative and significant at the level of 1%. Increasing, the value of the company tends to decrease, which is consistent with Liu C and Sun L (2010), Li WJ and Hu YM (2012), and Zhao R (2012); the coefficient of the ratio of independent directors (Rinde) is positive and significant at the 1% level. A higher ratio of independent directors is conducive to company value, which is consistent with Zhao R (2012). The coefficient of management's shareholding ratio (Mshare) is negative and significant at the level of 1%. An increase in management's shareholding ratio will increase the company's agency costs and reduce the company's value. This is consistent with the findings of Xu DW. (2005) Consistent; the coefficient of the shareholding ratio of the largest shareholder (Sh1) is negative, and the coefficient of the square of the shareholding ratio of the largest shareholder is positive, and both are significant at the level of 1%. There is a positive U-shaped relationship between share ratios, which is consistent with the findings of Bai (2004) and Bai CE et al. (2005). Based on the control of these variables, it can be found that the coefficients of the absolute internal compensation gap (Wgap_abs) and the relative internal compensation gap (Wgap_ratio) in columns (1) and (2) are both positive and significant at the level of 1%. This result shows that the increase in the internal compensation gap is conducive to improving the company's value and supports the tournament theory. Therefore, the hypothesis H_1 is established in this paper. This result is different from Zhang ZT (2008), but consistent with the findings of most previous documents (Liu C and Sun L, 2010; Li WJ and Hu YM, 2012).

C. Further Analysis

In order to further explore the mechanism of the influence of the internal compensation gap on the formation of company value, two adjustment variables-the number of executives and the shareholding concentration are selected as the basis for grouping, and the model of influence mechanism is further improved from the two aspects of teamwork motivation and championship incentive energy.

1) Number of Executives

Compared with a small-scale executive team, a large-scale executive team has more sources of knowledge and is more likely to produce different opinions because its members are more diverse, and they all represent various professional skills and suggestions. Therefore, a large-scale team will handle more complex information and cognitive conflicts that may be caused by cognitive differences than a small-scale team. Companies hire more people to form a senior management team, which is to expect them to have better collaboration to complete various business activities. Therefore, when the scale of the enterprise's senior management team becomes larger, the collaboration needs of the senior management team become stronger. To a certain extent, the increase in the number of teams means that more people participate in the promotion of positions, thereby increasing the difficulty of promotion. According to Mclaughlin, when the number of contestants or the degree of external uncertainty increases, the motivation of contestants to win the contest is weakening (Zhang ZT 2007). The compensation gap can be used as compensation for the decline in the motivation of the executive team. Therefore, in theory, in a team with large number of senior managements, the increase in the compensation gap provides the team with stronger overall coordination and competitiveness, making it more obvious to enhance the value of the company. Accordingly, the research hypothesis H_2 of this paper is proposed,

H_2: When there are a large number of executives, the compensation gap has a more obvious effect on the company's value enhancement.

Therefore, according to the median of the number of senior executives, the sample companies are divided into a multi-senior executive group and a small-senior executive group. In Table 3, the coefficients of the multi-senior management group in columns (1) and (3) are 0.2193 and 0.0972, respectively; the coefficients of the low-senior management group in columns (2) and (4) are 0.1785 and 0.0547, respectively. It can be seen that both the relative internal compensation gap and the absolute internal compensation gap have a significant impact on company value at the level of 1%, and there is a big difference. The impact of internal compensation gap on company's gap is more obvious, in line with theoretical expectations, and hypothesis H_2 holds.

Table 4. Group Regression Test Results Based on the Number of Executives (TQ is the explained variable)

Variable	(1) Group with many executives	(2) Group with few executives	(3) Group with many executives	(4) Group with few executives
Wgap_ratio	0.2193*** (13.09)	0.1785*** (6.92)		
Wgap_abs			0.0972*** (10.88)	0.0547*** (4.14)
Size	-0.3487*** (-31.65)	-0.6422*** (-35.96)	-0.3344*** (-31.19)	-0.6252*** (-35.66)
Growth	0.1687*** (7.77)	0.0923*** (2.98)	0.1716*** (7.89)	0.0949*** (3.06)
Lev	-0.7270*** (-11.69)	-0.1555* (-1.90)	-0.7441*** (-11.97)	-0.1735** (-2.12)
Mshare	-0.7428*** (-14.65)	-1.2793*** (-18.95)	-0.7489*** (-14.73)	-1.2722*** (-18.85)
Dual	0.0359* (1.80)	0.0428 (1.55)	0.0346* (1.73)	0.0407 (1.47)
Rinde	0.7665*** (5.22)	0.9343*** (3.93)	0.7827*** (5.33)	0.9445*** (3.96)
Sh1	-0.3465 (-1.52)	-1.4656*** (-3.86)	-0.3925* (-1.72)	-1.5901*** (-4.17)
Sh2_5	-0.0125 (-0.17)	-0.4034*** (-3.21)	-0.0001 (-0.00)	-0.3963*** (-3.15)
Mcsize	0.0060 (0.88)	0.0425*** (2.99)	0.0035 (0.50)	0.0371*** (2.61)
Lnempcp	0.4281*** (18.22)	0.3565*** (9.65)	0.3030*** (14.99)	0.2655*** (7.94)
Index	-0.0099* (-1.90)	-0.0316*** (-4.00)	-0.0080 (-1.52)	-0.0300*** (-3.78)
Constant	4.5406*** (16.48)	11.4913*** (24.52)	4.7394*** (17.14)	11.7232*** (25.10)
industry	Control	Control	Control	Control
year	Control	Control	Control	Control
N	14032	8079	14032	8079
AdjR2	0.3431	0.4038	0.3403	0.4015
F	133.2881	75.1426	132.7575	74.9478

Note: *, **, *** mean significant at the level of 10%, 5%, and 1% respectively, the same as below

2) Shareholding Concentration

Under a relatively concentrated shareholding structure, large shareholders have less information asymmetry than small and medium shareholders do, and the free-riding situation is not serious. Therefore, there are sufficient ability and motivation to monitor senior executives and tend to monitor and manage directly their decision-making and action plan (Lin JQ, 2003), and he is unwilling to choose a larger pay gap to avoid the resulting unfairness. On the contrary, a more dispersed ownership structure can provide sufficient tournament incentives, which theoretically makes the increase in the compensation gap more obvious to the company's value. Accordingly, the research hypothesis H_3 of this paper is proposed,

H_3: When the shareholding structure is more dispersed, the compensation gap has a more obvious effect on the company's value enhancement.

Therefore, according to the median of the shareholding concentration, the sample companies are divided into a high shareholding concentration group and a low shareholding concentration group. In Table 4, the coefficients of the high shareholding concentration groups in columns (5) and (7) are 0.1896 and 0.0785, respectively; the coefficients of the low shareholding concentration groups in columns (6) and (8) are 0.2532 and 0.0915, respectively. It can be seen that the relative internal compensation gap and the absolute internal compensation gap have a significant impact on the value

of the company at the level of 1%, and there is a big difference. The impact is more obvious, in line with theoretical expectations, and hypothesis H_3 holds.

Table 5. Grouped Regression Test Results Based on Shareholding Concentration (take TQ as the explained variable)

Variable	(5) High shareholding concentration group	(6) Low shareholding concentration group	(7) High shareholding concentration group	(8) Low shareholding concentration group
Wgap_ratio	0.1896*** (9.95)	0.2532*** (12.07)		
Wgap_abs			0.0785*** (8.09)	0.0915*** (7.89)
Size	-0.3389*** (-30.23)	-0.5917*** (-37.77)	-0.3275*** (-29.63)	-0.5647*** (-37.16)
Growth	0.1247*** (5.71)	0.1492*** (5.23)	0.1280*** (5.85)	0.1509*** (5.27)
Lev	-0.7264*** (-12.61)	-0.3221*** (-4.16)	-0.7419*** (-12.86)	-0.3480*** (-4.49)
Mshare	-0.6632*** (-12.47)	-1.3729*** (-20.87)	-0.6655*** (-12.49)	-1.3759*** (-20.86)
Dual	-0.0113 (-0.51)	0.0809*** (3.51)	-0.0146 (-0.65)	0.0809*** (3.49)
Rinde	0.9776*** (5.72)	0.7059*** (3.63)	0.9806*** (5.71)	0.7492*** (3.84)
Sh1	0.8474 (1.20)	4.4611*** (4.46)	0.8709 (1.23)	4.2240*** (4.19)
Sh2_5	-0.1787* (-1.93)	-0.0340 (-0.35)	-0.1572* (-1.69)	-0.0209 (-0.21)
Mcsize	0.0173** (2.09)	-0.0041 (-0.44)	0.0143* (1.73)	-0.0075 (-0.80)
Lnempcp	0.4350*** (15.33)	0.3778*** (12.79)	0.3307*** (13.44)	0.2393*** (9.06)
Index	-0.0141** (-2.37)	-0.0128** (-1.99)	-0.0128** (-2.14)	-0.0091 (-1.41)
Constant	4.0178*** (11.67)	9.5250*** (23.05)	4.2268*** (12.38)	9.7011*** (23.38)
industry	Control	Control	Control	Control
year	Control	Control	Control	Control
N	10714	11397	10714	11397
$AdjR^2$	0.3422	0.3887	0.3400	0.3842
F	97.3757	106.4456	96.8424	105.7183

Note: *, **, *** mean significant at the level of 10%, 5%, and 1% respectively, the same as below

D. Robustness test:

In this paper, the multiple regression test is performed again by replacing the variables to further enhance the stability of the research conclusions.

To ensure the reliability of the research conclusions, two company value substitution variables (PB and EV/EBITDA) were used to replace Tobin Q in the model, and multiple regression analysis was performed again. According to the regression results of the relationship between the price-to-book ratio (PB) and the enterprise value multiple (EV/EBITDA) and the internal compensation gap, the results of the regression between the two substitution variables of the company value and the internal compensation gap can be confirmed. There is a significant positive correlation between company value and internal compensation gap.

Similarly, for the group regression using the number of executives and the equity concentration adjustment variable, the substitution variable method is also used, and the two company value substitution variables, the price-to-book ratio (PB) and the enterprise value multiple (EV/EBITDA), are substituted. Tobin Q in the model obtained the same remarkable results as before, which further verified the reliability of the results.

6. Conclusion

This paper analyzed the data of Chinese A-share listed companies from 2007 to 2018 to empirically test the impact of corporate compensation gap on company's value. From the empirical test results, it can be seen: (1) The increase in the internal compensation gap is conducive to improving the value of the company, supporting the tournament theory, and after changing the measurement method of the research variables, the research conclusion has not changed. (2) In a team with large number of senior executives, the increase in the compensation gap provides the team with stronger overall coordination and competitiveness, making it more obvious to enhance the value of the company; a more dispersed shareholding structure can provide sufficient incentive energy of the tournament, making the increase in the compensation gap more obvious to the company's value enhancement. This paper enriches the relevant research on the economic consequences of the compensation gap, and provides more evidence to explain the factors affecting the company's value. Under the background that the country attaches great importance to promoting the development of the real economy and the domestic and foreign regulatory agencies pay close attention, the research has certain practical reference value. If the company pays too much attention to the fair and even distribution of compensation, it will make the company's internal incentives insufficient, which will affect the company's value in future. Therefore, realizing the reasonable allocation of salary between the senior executives and employees can promote the achievement of greater economic benefits of the enterprise. At the same time, according to the empirical test results, when the number of executives is large and the shareholding is relatively dispersed, the motivation of the company is the most sufficient, and the result of the impact on the future company's value is more obvious. To this end, the company should pay more attention to the ratio of its own management group, shareholding distribution and other important features. The research has certain limitations. Although the findings support the tournament theory, it cannot be ruled out that the possible negative effects of the compensation gap on the company's value. Because the empirical test in this paper can only show the net effect of the compensation gap on innovation output. In fact, in terms of the compensation gap affecting company's value, tournament theory and behavior theory may play a role at the same time, but the former dominates.

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