A Study on the Influence of Executive Compensation Incentives on Corporate Performance

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Abstract. As the continuous development of the international economy, the performance of enterprises is affected by a variety of factors. Factors that affect corporate performance include corporate culture, company size, and executive compensation This paper selects scientific research and technology service companies listed in Shanghai and Shenzhen from 2017 to 2021 as the initial sample, and studies the impact of executive compensation incentives on company results from the sides of executive compensation and executive shareholding ratio. The study found that executive compensation and executive shareholding were positively correlated with corporate performance. Based on this conclusion, recommendations were made to use executive compensation incentives to improve corporate performance.

Keywords: Executive compensation; Executive ownership; Corporate performance.

1. Introduction

In the world economic level and the development of science and technology today, the competition between enterprises has also intensified with the development of economic globalization. How to operate efficiently and improve the performance of enterprises has become one of the most concerning issues among various enterprises. Executives are an indispensable source of strength for a enterprise, the company's executives play an indispensable role in the development of the enterprise, and executives are an indispensable source of strength for a enterprise. Some executives will be more conscientious under the incentive of compensation to promote the development of the enterprise, and some executives will harm the interests of the company when seeking benefits for themselves. Some companies with higher executive shareholdings will have higher corporate performance.

Therefore, many scholars hold different views on the relationship between executive compensation and corporate performance, and this paper focuses on this issue.

2. Theories related to executive compensation and equity incentive

2.1 Principal-agent Theory

After World War II, the capitalist economy expanded considerably, producing a new mode of management called the Principal-agent Theory. The model in which shareholders appoint proxies to run the company allows people with more managerial skills to run the company, thereby improving performance. But this model has some negative effect, because of the separation of two rights and asymmetry of information or another internal reason, the agent often starts from their interest and goals but it violates the interest of the principle and make something worst, that is good for themselves but bad for the principle. It results in a conflict between senior executives' rights and interested and shareholders' rights and interests. To reduce the chance of conflict, the consignor provides special positive measures or adds restrictive causes and punitive measures to the contract with the agent. This behavior is to make sure the consignor works for the agent's rights and interests.

It is the most common way for shareholders to appoint CEO and management. Another is the company top entrusts the company's middle management to manage the subsidiary. Jensen and MC CKLING said, two rights separation would result in the agent acting for their rights and interests against the interests of the shareholders. Then produce the agency costs. Agency is the value of the firm's assets minus the value created by the firm's management. The main reason that it is produced is the agent-only business of the company but not the owner of the company. Firstly, when the company's management does not own the business, it will bring the company some profits but no excess returns for the management. Secondly, when the company's management owns some business and tries their best to do well for the company's business, they would get some earnings but have to bear all the costs. Thirdly, if the management enjoys on-the-job consumption, individual or household consumption can be transferred to the cost of the business, causing the management of the business to enjoy excess on-the-job consumption even without effort.

2.2 Incentives Theory

Because the relationship of managers and senior managers belongs to the principal-agent relationship, the different characteristics will promote they have different aims. Managers always pursue the company's profit to be maximized but most of the senior managers want their rights and interest to be satisfied. Anyway, the benign development of this relationship needs to be maintained by certain means, and help the company reasonably avoid unnecessary "moral hazards".

Among them, the incentive theory of executive compensation has been widely adopted by more and more companies.Its essential idea is to integrate the interests of managers and the development of enterprises into one road. That is to say, when a need is satisfied, psychological satisfaction will be greatly reduced by obtaining material rewards in this respect. Meeting the personal needs of senior executives is the basic condition for their effectiveness. Then it taps into higher-level needs that drive executives to work for company performance. Therefore, enterprises can mobilize the production enthusiasm of employees through incentives, guide employees in a positive direction, and stimulate their correct behavior motivation, to improve to improve enterprise management benefit and key performance indicator, thus to promote the company long-term development.

Maslow's demand model is a typical explanation [1]. Higher executive compensation has an incentive effect on executives, improves their sense of belonging and responsibility to the enterprise, plays a positive role in the development of the enterprise, and then increases the cash flow of the enterprise.

3. Literature review and research hypotheses

3.1 Executive monetary compensation and corporate performance

Conyon believes that executive compensation has a positive impact on enterprise performance [2]. Based on the data of A-share listed companies over five years, Zhang Yanhong studied the relationship between executive compensation incentives and enterprise performance. The research finds that enterprise performance increases with the increase in executive compensation, and the two have a prominent positive correlation. However, the incentive effect of executive compensation is weak due to the influence of external factors such as government regulation [3]. From the perspective of solving agency problems, it is found that executive compensation incentive has a favorable impact on enhancing business performance, while CEO compensation incentive and agency cost have a stark negative relationship [4]. An empirical study was conducted on 45 new energy enterprises of listed companies [5], and the results showed that the higher the executive compensation, the lower the enterprise performance. To sum up, although there is no complete symmetry between the monetary compensation of senior executives and enterprise performance to a large extent, the monetary compensation of senior executives can mostly show a positive promoting effect on enterprise performance with the assistance of mediating variables. Therefore, this paper puts forward hypothesis 1:

Hypothesis 1: When other factors remain unchanged, executive monetary compensation has a positive correlation with enterprise performance, that is, when executive monetary compensation is larger, enterprise performance is also larger.

3.2 Executive ownership ratio and corporate performance

Through research, it is found that increasing the proportion of executive ownership is a very important incentive method, and enterprises can influence enterprise performance by adjusting the proportion of executive ownership [6]. Taking 1074 A-share listed companies in Shanghai and Shenzhen as the research object, the results show that investment behavior can regulate executive ownership and financial performance and its relationship, making the positive correlation between them more significant [7]. Taking mixed-ownership enterprises as the research object, through empirical research, it is found that corporate performance increases with the increase in executive ownership ratio [8]. Taking the data of A-share listed companies in Shanghai and Shenzhen in the past three years as samples, the study found that executive equity incentives were positively correlated with enterprise performance [9]. Finding that is a nonlinear relationship between the shareholding ratio of senior executives and the long-term M&A performance of enterprises, and the company's diversification strategy can negatively regulate the relationship between executive ownership and performance [10]. In general, the higher the executive ownership, the better. When the proportion of senior executives' shareholding increases, senior executives will improve their work efficiency, try their best to create corporate net profits, and increase their profits. Based on this analysis, this paper puts forward hypothesis 2:

Hypothesis 2: When other conditions remain unchanged, the proportion of executive ownership changes in the same direction as corporate performance. The greater the managerial ownership, the higher the corporate performance.

4. Research Design

4.1 Sample selection and data sources

In this article, the scientific research and technical service companies listed in Shanghai and Shenzhen from 2017 to 2021 are selected as the original sample in order to guarantee the validity of the selected research data, the initial sample is treated as follows:

(1) Because the executive compensation of ST enterprises fluctuates greatly with the performance of enterprises, relevant enterprises are excluded;

(2) Delete companies whose financial data is discontinuous, abnormal, or missing;

(3) All financial data is derived directly or indirectly from the China Stock Market & Accounting Research Database;

(4) To prevent the influence of extreme values, all sample data in this paper are subject to Winsor indentation at quantiles of 1% and 99%;

(5) This article mainly processes data through Excel and EViews 12.0 and Stata16.0 software. After the above processing, this article finally obtains 280 valid data.

4.2 Variable definitions

Explanatory variables: According to the investigation, if the Tobin Q value is used as a measure of corporate performance, the immaturity of the Chinese market and the differences between domestic and foreign markets are ignored. Therefore, this article chooses the return on net assets (ROE) as the benchmark for evaluating an enterprise's performance from the rigor of the indicator selection perspective [11,12].

Explanatory variables: Executive Monetary Compensation (LNPAY). Drawing on the research methods of others, the natural logarithm of the sum of the top three executive pay incomes is used in this study to calculate the motivation of executive compensation. For the variable of executive shareholding ratio (SHARE), this document uses the ratio of total executive shareholding to total share capital to quantify it [13].

Control variables: In the process of corporate governance, the size of the enterprise, operational efficiency, management structure, and equity allocation will all have an impact on the performance of the enterprise. In order to avoid the interference of other factors on corporate performance, this paper selects company SIZE (SIZE), BOARD SIZE (BOARD) and debt-to-asset ratio (DAR) as the control variables, and YEAR (YEAR) as the dummy variable.

Specific definitions of explanatory variables, see Table 1 for specific definitions of the three variables.

Table 1. Description of variables

variable type	variable name	variable symbol	Variable definitions
Explained variable	Business performance	ROE	Net Profit/Net Assets
Explanatory variables	Management monetary remuneration.	LNPAY	The natural logarithm of the total remuneration of the three most senior managers.
	The shareholding ratio of executives	SHARE	Total number of shares owned by executives/Total share capital of the company
control variable	Company size	SIZE	Natural logarithm of total assets
	Board size	BOARD	Total number of board members
	Year	YEAR 1-4	The year the paper selects the data
	Debt to asset ratio	DAR	Total Liabilities/Total Assets

4.3 Model Construction

To analyze the relationship of executive compensation incentive and corporate performance, this document sets out Model 1:

$$ROE=\lambda_0+\lambda_1 LNPAY+\lambda_2 SIZE+\lambda_3 DAR+\lambda_4 Board+\sum_{i=1}^{4}\lambda_i YEAR+\varepsilon \quad (1)$$

To further investigate the impact of the ratio of shareholdings of the executives on the performance of the enterprises, this document sets out Model 2:

$$ROE=\alpha_0+\alpha_1 SHARE+\alpha_2 SIZE+\alpha_3 DAR+\alpha_4 BOARD+\sum_{i=1}^{4}\alpha_i YEAR+\varepsilon \quad (2)$$

5. Empirical Analysis

5.1 Descriptive Statistical Analysis

This paper listed on the Shanghai and Shenzhen two city science and technology services of 96 companies, has carried on the descriptive statistical analysis, as shown in Table 2.

Table 2. Descriptive statistical analysis

	N	Mean	SD	Min	Median	Max
ROE	280.000	0.078	0.113	-0.740	0.090	0.349
LNPAY	280.000	14.908	0.622	12.753	14.855	17.528
SHARE	280.000	0.193	0.196	0.000	0.142	0.761
BOARD	280.000	8.354	1.593	5.000	9.000	15.000
DAR	280.000	0.354	0.172	0.020	0.343	0.837
SIZE	280.000	21.613	0.945	19.408	21.651	24.733

5.2 Correlation analysis

To further verify the relationship between related variables, this paper tests the correlation of variables.

As can be seen from the following table, both the dependent variable and control variable show obvious significance in enterprise performance. As can be seen from Table 3, executives monetary compensation to corporate performance was a positive correlation at 1% level, which preliminarily verifies hypothesis 1, that is, the greater the monetary compensation of senior executives is, the greater the corporate performance will be. Otherwise, it decreases. Enterprise performance and variables executives shareholding both at the 1% level is significantly related to the same preliminary verified the assumption 2, indicating that executive ownership and corporate performance change in the same direction. The larger the managerial ownership, the higher the corporate performance.

Table 3. Pearson correlation coefficient for the sample variable of firm performance

Variables	(ROE)	(LNPAY)	(SHARE)	(BOARD)	(SIZE)	(DAR)
ROE	1.000					
LNPAY	0.174***	1.000				
SHARE	0.169***	-0.089	1.000			
BOARD	-0.097*	0.206***	-0.255***	1.000		
SIZE	0.128**	0.395***	-0.357***	0.230***	1.000	
DAR	0.169***	-0.255***	-0.332***	-0.255***	0.308***	1.000

**** p<0.01, ** p<0.05, * p<0.1*

5.3 Multicollinearity analysis

None of the correlated inflation factor VIF values is greater than 10, and indicates that there is no multicollinearity among the independent variables which meets the conditions for further regression analysis. Therefore, the next regression analysis is carried out according to the following table to verify the hypothesis in this paper.

Table 4. Multicollinearity analysis

	Coefficient	Uncentered	Centered
Variable	Variance	VIF	VIF
LNPAY	0.000132	709.677	1.231
SHARE	0.001381	2.533	1.284
SIZE	6.76E-05	766.643	1.458
DAR	0.001703	6.376	1.210
BOARD	1.84E-05	32.300	1.129
C	0.036	869.253	NA

5.4 Regression analysis

From the results of variable regression analysis (Tables 5 and 6), in model 1, the regression coefficient between executive monetary compensation and enterprise performance is 0.026, which is significant at the level of 5%, It shows that the higher the executive monetary compensation, the incentives to the monetary income of administrative officer of enterprises will also promote the improvement of enterprise merits, this way can verify hypothesis 1 of this paper. Executive monetary compensation incentives can mobilize and give play to the potential ability of executives and stimulate the vitality of work. The improvement of work efficiency depends on the sense of responsibility and mission of senior executives and employees, which is closely related to salary incentives. The higher the monetary remuneration of executives, the higher the profitability of enterprises, thus promoting the improvement of enterprise performance. It can be seen that the fitting effect of the model to the sample data is good through the determinable coefficient R-square is 0.085. Since F1 = 3.163 is greater than fa (1278) = 2.72, It is believed that the monetary income of the top management and the stock ratio held by the top management will have a positive impact on the merits of the enterprise. In model 2, the regression coefficient of the ratio of stocks held by senior management to enterprise performance is 0.109. Through the 1% level significance test, it is proved that the shareholding ratio of higher management has a good impact on the performance of enterprises, and suppose 2 is proved. Since F2 = 3.662 is greater than fa (1278) = 2.72, it is believed that the higher the monetary income and stock holding rate of the top management, the better the merits of the enterprise

Table 5. Regression analysis model 1 of executive monetary compensation and firm performance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.599	0.190	-3.144***	0.002***
LNPAY	0.027	0.012	2.255**	0.025 **
DAR	-0.108	0.041	-2.659***	0.008 ***
SIZE	0.019	0.008	2.309**	0.022 **
BOARD	-0.011	0.004	-2.643***	0.009 ***
D1	0.008	0.021	0.352	0.725
D2	0.001	0.021	0.035	0.972
D3	0.024	0.020	1.198	0.232
D4	0.003	0.018	0.177	0.859
R-squared	0.085	Mean dependent var		0.078
Adjusted R-squared	0.058	S.D. dependent var		0.113
S.E. of regression	0.109	Akaike info criterion		-1.557
Sum squared resid	3.240	Schwarz criterion		-1.440
Log-likelihood	226.997	Hannan-Quinn criter.		-1.510
F-statistic	3.163	Durbin-Watson stat		1.358
Prob(F-statistic)	0.002			

Table 6. Regression analysis Model 2 of executive shareholding ratio on firm performance

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SHARE	0.112	0.038	2.967***	0.003 ***
SIZE	0.031	0.008	3.975	0.000***
DAR	-0.085	0.042	-2.036 **	0.043 **
BOARD	-0.007	0.004	-1.648 *	0.100 *
D1	-0.004	0.021	-0.192	0.848
D2	-0.009	0.020	-0.432	0.666
D3	0.020	0.020	1.022	0.308
D4	-0.001	0.018	-0.071	0.944
C	-0.518	0.165	-3.149	0.002
R-squared	0.098	Mean dependent var		0.078
Adjusted R-squared	0.071	S.D. dependent var		0.113
S.E. of regression	0.109	Akaike info criterion		-1.571
Sum squared resid	3.197	Schwarz criterion		-1.454
Log-likelihood	228.870	Hannan-Quinn criter.		-1.524
F-statistic	3.662	Durbin-Watson stat		1.349
Prob(F-statistic)	0.000			

5.5 Robustness check

In the previous article, the return on net assets (ROE) is taken as the measurement index of enterprise performance. To test the robustness of the previous results, this paper uses the rate of return on total assets (ROA) of listed companies to measure the performance of enterprises. From the analysis results of the robustness test among variables (tables 7 and 8), It can be concluded that the regression coefficient between the income of senior managers and the total average rate of return is

0.027, there have an obvious positive correlation at the level of 1%; The regression coefficient between the stock holding rate of senior managers and corporate merits is 0.876 which at the 5% stage, there is an obvious promotion relationship. It shows that the experimental data and achievements are robust, which proves that the experimental data and results in this paper have good robustness. It can be seen that the fitting effect of the model to the sample data is good through the determinable coefficient R-square is 0.131.

Table 7. Robustness test Model 1 of executive monetary compensation and Return on Total Assets

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LNPAY	0.029	0.007	4.126	0.000 ***
SIZE	0.001	0.005	0.260	0.795
DAR	-0.068	0.024	-2.829***	0.005 ***
BOARD	-0.010	0.003	-4.048	0.000 ***
D1	0.019	0.013	1.518	0.130
D2	0.010	0.012	0.824	0.410
D3	0.019	0.012	1.668	0.097
D4	0.006	0.011	0.534	0.594
C	-0.298	0.112	-2.673	0.008
R-squared	0.131	Mean dependent var		0.055
Adjusted R-squared	0.105	S.D. dependent var		0.068
S.E. of regression	0.064	Akaike info criterion		-2.627
Sum squared resid	1.111	Schwarz criterion		-2.511
Log likelihood	376.832	Hannan-Quinn criter.		-2.581
F-statistic	5.091	Durbin-Watson stat		1.256
Prob(F-statistic)	0.000			

Table 8. Robustness test Model 2 of executive shareholding ratio and ROA

Variable	Coefficient	Std. Error	t-Statistic	Prob.
SHARE	0.054	0.023	2.393**	0.017 **
SIZE	0.011	0.005	2.359**	0.019 **
DAR	-0.062	0.025	-2.485**	0.014 **
BOARD	-0.007	0.003	-2.808***	0.005 ***
D1	0.009	0.013	0.706	0.481
D2	0.003	0.012	0.223	0.824
D3	0.016	0.012	1.391	0.165
D4	0.004	0.011	0.334	0.739
C	-0.114	0.099	-1.154	0.249
R-squared	0.095	Mean dependent var		0.055
Adjusted R-squared	0.068	S.D. dependent var		0.068
S.E. of regression	0.065	Akaike info criterion		-2.587
Sum squared resid	1.156	Schwarz criterion		-2.471
Log likelihood	371.230	Hannan-Quinn criter.		-2.540
F-statistic	3.563	Durbin-Watson stat		1.230
Prob(F-statistic)	0.001			

6. Results and advice

It is based on enterprise performance explained variable, executives' monetary compensation, executive's shareholding as an explained variable, with 2017-2021 scientific research and technology service industry enterprise data of listed companies as research samples, studied the executive's monetary compensation for the influence of enterprise performance and further analyzes the executive's shareholding impact on enterprise performance relationship. The results show that, after controlling for other variables, the monetary income and shareholding ratio of senior executives are significantly and positively correlated with corporate performance.

The results show that, after taking into account other variables, the monetary remuneration of executives is significantly positively correlated with the company's performance. the proportion of executives holding equities was similar to the cash compensation of executives, which was also highly correlated to the company's performance. On the basis of the above conclusions, this paper suggests: (1) Enhance incentive for management compensation and increase sensitivity between management cash compensation and company performance. As a result of the separation of powers between the grantor and the mandatary, the mandatary has the right to control the information. Consequently, the agents of the enterprise will use their powers to pursue private interests. If the incentive to managers is increased, the pressure on the company's agency costs will be reduced, the enthusiasm of managers will be mobilized, which is good for working efficiency and enterprise performance. (2) Enterprises shall appropriately increase the shareholding ratio of senior executives, formulate effective equity incentive policies, and establish a sound and attractive compensation system for senior executives. As the management, senior executives play a guiding role for employees. Appropriate compensation incentives can improve the work enthusiasm of senior executives, help them make better corporate decisions, stimulate their work enthusiasm, improve corporate performance, and improve corporate competitiveness.

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