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Study on the Relationship between Executive Incentive and Business Performance of Real Estate Listed Companies

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Abstract

This paper selects relevant data of listed companies in the real estate industry from 2016-2020, constructs a panel data model and conducts a regression analysis on the relationship between executive compensation incentives, executive equity incentives and operating performance. It is found that executive compensation incentives and executive equity incentives are significantly and positively related to operating performance and can significantly improve operating performance. Therefore, enterprises should reasonably establish executive incentive plans to fully motivate executives, strive to maximise corporate value and promote the improvement of corporate operating performance.

Keywords

Executive Compensation Incentives; Executive Equity Incentives; Business Performance; Multiple Regression.

1. Introduction

In the development of modern enterprises, the executive management function plays a very important role in strengthening the business management process. Actively mobilising the enthusiasm of executives and designing more reasonable incentive mechanisms are important solutions to modern corporate governance. The separation of ownership and control of an enterprise, the contradictory goals of managers and shareholders, and even the possibility of managers undermining shareholders' rights and interests for their own benefit. As a result, executive incentives have come into being. This paper takes the panel data of listed companies in the real estate industry from 2016-2020 as the research object and establishes a multiple regression model to study the impact of executive compensation incentives and executive equity incentives on corporate performance, deepen theoretical research, provide theoretical support for optimising executive incentive policies of real estate enterprises and improving business performance, and guide listed real estate companies to reasonably design the number of executive compensation and the ratio of executive shareholding, the thereby enhancing the competitiveness of the industry.

2. Theoretical Analysis and Research Hypothesis

2.1. Executive Compensation Incentives and Corporate Business Performance

In terms of principal-agent theory, the executive team is a core element of the company's competition and directly influences the company's decisions. However, principal-agent bears specific agency costs, so management considers its own interests, which contradicts the goals pursued by shareholders and ultimately harms the overall interests of the company, so one of the main issues facing modern corporate management is how to make management's ultimate

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goal to maximise shareholders' wealth. Optimal executive compensation contract theory suggests that the two problems of moral hazard of management and agency costs of principal-agent can be effectively solved by increasing compensation. The increase in compensation can motivate executives to participate in company operations, increase corporate innovation investment and ultimately effectively improve corporate business performance. Mingquan Sheng and Xin Che found that a higher amount of executive compensation usually brings good business performance to the company, indicating that there is a significant positive incentive effect of executive compensation on corporate business performance. In summary, this paper proposes hypothesis one.

Hypothesis 1: Executive compensation incentives are positively related to business performance

2.2. Executive Equity Incentives and Corporate Business Performance

Agency problems between shareholders and management can be effectively addressed through equity incentives. The higher the percentage of shares owned by management, the greater the alignment between management's interests and those of the company. If management does not own or holds a low percentage of the company's stock, management tends to take certain short-term actions. If management holds a higher percentage of shares, executives can be motivated to achieve their long-term growth and value maximisation goals. The literature found that: Chunling Zhao pointed out that the implementation of equity incentive acts as an incentive for executives and can promote the performance of the company. Through the above analysis, this paper proposes hypothesis two.

Hypothesis 2: Executive equity incentives are positively related to business performance

3. Model Framework

3.1. Sample Selection and Data Sources

This study investigates the panel data of listed companies in the real estate industry from 2016 to 2020, obtaining a total of 215 sample points for 41 companies, excluding B-shares, ST-class companies and samples with missing data. Meanwhile, in order to reduce the impact of a few anomalous data, the variables in this paper have been subjected to tailoring and the data processing was mainly conducted in STATA 15.0.

3.2. Variable Definitions

3.2.1. Explanatory Variables

Operating performance is a comprehensive expression of an enterprise's profitability, solvency, operating capacity and long-term development capacity over a period of time. Return on net assets is the ratio of net profit to average net assets over a certain period of time, reflecting the ability of an enterprise to earn income with capital support, and is a comprehensive indicator of an enterprise's profitability and future development capability. Therefore, this paper uses return on net assets (ROE) as a measure of business performance with reference to existing research and theoretical foundations.

3.2.2. Explanatory Variables

To investigate whether executive incentives affect business performance, this study examined the impact of executive incentives on the business performance of listed companies in the real estate industry using explanatory variables in terms of both pay incentives and equity incentives. In particular, executive compensation is measured by the natural logarithm of total director and supervisor compensation (LnTS). The key to equity incentives is the shareholding ratio of executives, and companies are always trying to find the most appropriate shareholding ratio in order to give full play to the "win-win" effect of management incentives, so this paper uses the executive shareholding ratio (MRS), which is the ratio of total shareholding to the total share capital of the company, to measure the level of executive equity incentives.

3.2.3. Control Variables

The size of a company can measures the scope of its production and operation. Within a certain range, the larger the size of a company, the greater the impact on the efficiency of its production and operation, as well as reducing the total cost of production and operation and improving the business performance of the company. It is beneficial to the company. The solvency of a company can be reflected through the gearing ratio. Moderate debt can help an enterprise to expand its overall production scale, but an overall level of debt that is too high can lead to excessive financial risk for the enterprise, which in the end will affect the high or low business performance of the enterprise itself. Growth reflects the prospects of an enterprise's development; the higher the growth, the better the enterprise's development status. Therefore, on the basis of existing research and the above theoretical analysis, enterprise size (SIZE), gearing ratio (LEV) and enterprise growth (GROWTH) were selected as the control variables for this study.

3.3. Model Architecture

In order to control the influence of the two factors of variable heterogeneity and multicollinearity on the validity of the empirical results and to improve the stability of the empirical results, this paper constructs model (1) and model (2) to test the influence of executive compensation incentives and executive equity incentives on the business performance of enterprises.

$$\text{Model (1)}: ROE_{it} = \alpha_0 + \beta_1 LnTS_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 GROWTH_{it} + \varepsilon$$

$$\text{Model (2)}: ROE_{it} = \alpha_0 + \beta_1 MRS_{it} + \beta_2 SIZE_{it} + \beta_3 LEV_{it} + \beta_4 GROWTH_{it} + \varepsilon$$

In the model, $ROE_{it}, LnTS_{it}, MRS_{it}, SIZE_{it}, LEV_{it}, GROWTH_{it}$ represent the operating performance, executive compensation incentives, executive equity incentives, enterprise scale, asset-liability ratio, and enterprise growth of the ith listed company in the real estate industry in the t year.

4. Empirical Analysis

4.1. Descriptive Statistics

Table 1 shows the results of the descriptive statistics. It shows that the average operating performance of all the sample companies was 9.99%, indicating that the overall operating performance of real estate companies in China was low. Analysis of the natural logarithm of total executive remuneration shows that the maximum value in all samples is 17.93, so the maximum total salary of directors, supervisors and senior executives is 61.22 million; the minimum value in all samples is 14.07, so the minimum total salary of directors, supervisors and senior executives is 1.29 million. This shows that there is a wide disparity in executive remuneration between different listed companies in the real estate industry. In terms of the shareholding ratio of executives, the maximum value in all samples was 17.3% and the minimum value was 0. The minimum value of the shareholding ratio of executives was 0, which means that there are still some listed companies in the real estate industry that have not implemented the shareholding incentive for executives.

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Table 1. Descriptive statistics

	Number of samples	Average value	Standard deviation	Minimum value	Maximum value
ROE	215	0.0999	0.0973	-0.780	0.317
LnTS	215	15.77	0.915	14.07	17.93
MRS	215	0.00970	0.0281	0	0.173
LEV	215	0.691	0.145	0.190	0.907
SIZE	215	24.58	1.452	21.13	27.86
GROWTH	215	0.318	1.182	-0.847	11.91

4.2. Relevance Analysis

Table 2 shows the results of the correlation analysis. As shown in the table, the correlation coefficient between executive compensation and the operating performance of real estate listed companies was 0.362 and passed the 1% significance level test, which shows that executive compensation is significantly and positively correlated with the operating performance of listed companies in the real estate industry. So executive compensation incentives can be chosen as one of the options if one wants to promote the improvement of the operating performance of enterprises. Thus, the preliminary judgment of hypothesis one is valid. The correlation coefficient between the shareholding ratio of executives and the business performance of listed companies in the real estate industry is 0.0350, which means that the higher the shareholding ratio of executives, the higher the business performance of the enterprise. But the positive correlation is not significant and needs to be seen through further regression analysis.

Table 2 also shows that the correlation coefficient between enterprise size and business performance of listed real estate companies is 0.412, which passes the 1% significance test; the correlation coefficient between enterprise growth and business performance of listed real estate companies is 0.138, which passes the 5% significance test; the correlation coefficient between gearing and business performance of listed real estate companies is -0.335, which passes the 1% significance test. Therefore, from the analysis of the correlation results of the three control variables of enterprise size, growth and gearing ratio, it can be seen that the larger the enterprise size and enterprise growth, the higher the operating performance of listed real estate companies, and there is a significant positive correlation. While the higher the gearing ratio, the greater the financial risk of the enterprise, and the lower the operating performance of the enterprise, so there is a significant negative correlation between the two.

Table 2. Pearson correlation test

	ROE	LnTS	MRS	LEV	SIZE	GROWTH
ROE	1					
LnTS	0.362***	1				
MRS	0.0350	-0.0730	1			
LEV	-0.335***	0.357***	-0.185***	1		
SIZE	0.412***	0.632***	-0.124*	0.664***	1	
GROWTH	0.138**	-0.0300	0.0180	-0.0920	-0.0840	1

Note: *, ** and *** indicate significant at the 10%, 5% and 1% levels, respectively.

4.3. Regression Analysis

Table 3 shows the results of the regression analysis. According to the regression results of model (1), the regression coefficient of executive compensation and business performance is 0.036, and it passes the 1% significance level test. It can be seen that the incentive of executive compensation is significantly and positively related to the business performance of the enterprise, and the increase of executive compensation of listed companies in the real estate industry can effectively motivate the executives and motivate them to maximise the value of the enterprise, thus promoting the improvement of the business performance of the enterprise, so hypothesis one is right. According to the regression results of model (2), the coefficient of regression between executive shareholding and corporate operating performance is 0.348, and also passes the 1% significance level test. The higher the shareholding ratio of executives in real estate listed companies, the higher the business performance of the companies, so hypothesis two is valid. Therefore, enterprises should appropriately increase the shareholding ratio of executives, so as to motivate executives to commit themselves to the long-term development of the enterprise, thereby enhancing the enterprise's business performance and improving its core competitiveness.

Table 3. Regression results of executive compensation incentives, equity incentives and business performance

Variables	Model (1) ROE	Models (2) ROE
LnTS	0.036***	
	(2.65)	
MRS		0.348***
		(2.76)
LEV	-0.149	-0.093
	(-1.17)	(-1.20)
SIZE	0.041**	0.023***
	(2.26)	(4.66)
GROWTH	0.018***	0.015***
	(3.73)	(3.73)
Constant	-1.395**	-0.545***
	(-2.56)	(-4.46)
Observations	215	215
R^2	0.130	0.218
F	6.281	9.202

Note: *** p<0.01, ** p<0.05, * p<0.1

4.4. Robustness Tests

In this paper, the measures of the explanatory variables are changed. The return on total assets (ROA) is used instead of return on net assets (ROE) to conduct robustness tests on the relationship between executive compensation incentives, executive equity incentives and business performance, so as to reduce the influence of chance and anomalous variables on the results. The results show that executive compensation incentive is significantly and positively related to operating performance of listed real estate companies, so hypothesis 1 still holds. Executive equity incentive is significantly and positively related to operating performance of listed real estate companies, so hypothesis 2 also holds. It can be seen that changing the measurement index of the explained variable means that the result of the regression analysis with the total return on assets has not changed substantially. So, the results of the empirical study passed the robustness test.

5. Conclusions and Recommendations

This paper selects relevant data of listed companies in the real estate industry from 2016-2020 and empirically analyses the relationship between executive compensation incentives, executive equity incentives and corporate business performance using a multiple linear regression model. From the above findings, it can be seen that: firstly, executive compensation incentive is significantly and positively related to corporate operating performance. A good level of executive compensation incentive can increase the enthusiasm of executives to participate in corporate operating business, with the goal of achieving long-term corporate development as well as profit maximisation, which is conducive to improving corporate operating performance. Secondly, executive equity incentive is significantly and positively correlated with business performance. A good level of executive equity incentive can fully motivate executives and increase their willingness to invest in innovation, which is conducive to the enterprise's core competitiveness to promote business performance.

Based on the results of the empirical study, this paper makes the following recommendations: First, listed companies in the real estate industry must establish and implement a reasonable incentive and restraint mechanism for executive compensation to address management's moral hazard and principal-agent costs, to give full play to the incentive effect of executive compensation on corporate performance, and to motivate management to take maximising corporate value as their primary goal and to put the interests of the company first and lastly consider Self-interest. Secondly, listed companies in the real estate industry should give full consideration to their own actual situation, reasonably design executive equity incentive schemes, give full play to their positive role, prompt the enterprises to improve their governance structure and promote the steady improvement of their business performance. At the same time, enterprises should establish and implement executive discipline mechanisms, including policies related to laws and regulations, company rules and regulations, and company control management systems. In order to mobilize the enthusiasm of executives to participate and motivate them to maximize the value of the enterprise, thus promoting the improvement of the enterprise's business performance and long-term development.

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