

Which has stronger incentives for performance - equity or compensation

Zhenwei Liu^{1,a,*}

¹*School of Economics and Management, Guangxi Normal University, Guilin, China*

^a*ou_doudou@stu.gxnu.edu.cn*

^{*}*Corresponding author*

Abstract: *The modern separation of ownership and control in listed companies has given rise to principal-agent problems, and providing incentives to senior management within the company has become one of the important means to address these issues. This study empirically examines the relationship between equity incentives, compensation incentives, and corporate performance using data from Chinese A-share listed companies during the period from 2015 to 2019. The research findings indicate that executive equity incentives contribute to improving company performance, showing a significant positive correlation. Similarly, executive compensation incentives also exhibit a significant positive impact on corporate performance. Additionally, the incentivizing effect of executive equity incentives on company performance is more pronounced compared to compensation incentives.*

Keywords: *Equity incentives; Compensation incentives; Corporate performance*

1. Introduction

In recent years, researchers both domestically and internationally have conducted extensive studies on the factors influencing corporate performance. These factors have been defined and classified based on external environments, internal conditions, employee skills, and incentive effects. Many of these studies have demonstrated the significant impact of employee incentives on corporate performance. As the planners of the entire organizational structure of a company, managers play an irreplaceable role in daily operations and long-term development through decision-making, organizational leadership, and control. In the context of the separation of ownership and control, a scientifically rational incentive system can effectively reduce the principal-agent costs caused by moral issues and information asymmetry within the company, promoting consistency between the interests and objectives of the company's managers and shareholders. Equity incentives and compensation incentives are common means of implementing incentives. On the one hand, implementing equity incentives helps managers directly participate in the allocation of company profits, while higher wages help attract and retain talent, ensuring the availability of outstanding personnel for the company's development. This paper focuses on the impact of equity incentives and compensation incentives on corporate performance. It investigates whether the implementation of equity incentive plans and compensation incentives have positive promoting effects on corporate performance or if they act as inhibitors.

2. Literature review

2.1 Equity incentives and company performance

Regarding the relationship between equity incentives and company performance, there is currently a substantial body of research and two main viewpoints. The first viewpoint, supported by scholars in favor of equity incentive plans, argues that stock incentives help motivate managers and improve company value. Scholars holding this view believe that stock incentives align the interests of managers and shareholders, prompting managers to enhance company performance. Through empirical research on A-share listed companies from 2010 to 2016, Wang Hongdun (2019) found that equity incentives can effectively improve the alignment between corporate goals, strategies, and operational decisions. Therefore, stock incentives are seen as effective means to enhance managerial efficiency, reduce agency costs, improve corporate governance, and maintain/increase corporate value. [1] The second viewpoint, however, questions whether implementing equity incentive plans really brings more benefits to

companies and whether company performance is genuinely improved as a result. Wu Yuhui and Wu Shinong (2010) analyzed the issues in the design of performance evaluation index systems for Chinese listed companies. They also discussed the key factors affecting managers' own interests, finding that self-interest behavior among executives is evident when designing equity incentive performance evaluation index systems. Additionally, they discovered that the current corporate governance structure has limited supervision and restraint on executives' self-interest behavior. [2]

2.2 Compensation incentives and company performance

Regarding whether compensation incentives can effectively promote improved company performance, after years of research, discussion, and summarization, the academic community's viewpoints can be divided into two camps. Chen Zhiguang (2002) collected data from 575 listed companies in the Shanghai stock market. The empirical research results indicated that compensation is an effective incentive mechanism. [3] Sheng Mingquan and Che Xin (2016) used data from Chinese A-share listed companies during the period from 2008 to 2014 as their sample. From the perspectives of management hierarchy and agency theory, they empirically studied the effectiveness of compensation incentives for senior executives in listed companies. Their research showed a significant positive correlation between compensation incentives and company performance. On the contrary, some scholars persist in their belief that there is no relationship between compensation incentive systems for senior executives in listed companies and company performance, nor does it offer effective motivation for managers. [4] Wei Gang (2000) analyzed empirical data from Chinese listed companies to investigate the relationship between managerial incentives and company performance. The results of this study indicated that there is no significant positive correlation between the compensation of senior executives in listed companies and the financial returns of the company. [5]

3. Theoretical Hypothesis

This article primarily utilizes the analysis method of linear regression to study and discuss the correlation between equity incentives, compensation incentives for senior management, and corporate operational performance in listed companies. The incentives discussed in this article only include the quantifiable factors of equity incentives and compensation incentives. Non-quantifiable factors such as personal prestige, executives' social status, and sense of achievement are not included in the scope of this evaluation. The boards of directors, supervisory boards, and senior management of Chinese listed companies have absolute influence over strategic decision-making and the execution of business decisions. In the course of operations, information asymmetry and conflicts of interest among stakeholders are inevitable. If effective measures are not taken, significant risks can arise for the company. Equity incentives and compensation incentive systems derived from the principal-agent theory help mitigate these risks for companies, improve the alignment of interests between capital and agents, and reduce agency costs for listed companies. It is generally argued in academia that there is a significant positive relationship between the intensity of equity incentives and compensation incentives for senior management and company performance. Furthermore, equity incentive systems have a long-lasting impact on the motivation of senior management, and compared to compensation incentives, equity incentives establish a closer link between senior managers and company performance. Therefore, it can be inferred that the incentive effect of equity incentives on company performance is expected to be better than that of compensation incentives. Based on the above discussion, this article proposes the following three hypotheses:

H1: There is a significant positive correlation between the intensity of equity incentives for senior management and company performance.

H2: There is a significant positive correlation between the intensity of compensation incentives for senior management and company performance.

H3: Advanced management equity incentives have a more significant motivating effect on company performance compared to compensation incentives.

4. Research design

4.1 Research design

This study selects data from Chinese A-share listed companies from 2015 to 2019 as research samples. To ensure the validity of the study, the initial sample is screened through the following steps before data analysis: excluding ST and *ST listed companies, excluding financial industry listed companies, and excluding listed companies with missing or abnormal financial data. After the above processing, a total of 1997 valid samples from listed companies are obtained. The data in this study are sourced from CSMAR and the continuous variables are subjected to Winsorization with upper and lower 1% trimming during empirical research analysis.

4.2 Variable definition and research model

4.2.1 Dependent variable: Company performance

There is still no consensus on the measurement method for company performance in the academic community. In order to provide a more comprehensive and objective reflection of a company's financial returns and operational management capabilities, this study selects Return on Assets (*ROA*) as the metric to measure company performance.

4.2.2 Independent variables: Equity incentives, Compensation incentives

In this study, the proportion of shares held by the board, supervisors, and senior executives in the total shares of the company, as well as the logarithm of the total amount of compensation, are taken as variables to measure equity incentives and compensation incentives. They are respectively defined as *R_BSM* and *S_BSM*.

4.2.3 Control variables

In this study, company size (*SIZE*), growth ability (*GROWTH*), degree of equity concentration (*OC*), proportion of independent directors (*IDP*), and board size (*BOARD*) are selected as control variables. Moreover, individual and year fixed effects are included in the model.

4.2.4 Model design

To explore the relevant relationship between equity incentives, compensation incentives, and company performance among senior management, this study employs the following multiple linear regression models for empirical testing:

$$Y_{i,t} = \alpha_0 + \alpha_1 X_{i,t} + \alpha_2 \sum \text{Controls}_{i,t} + \alpha_3 \sum \text{Company} + \alpha_4 \sum \text{YEAR} + \varepsilon_{i,t}$$

5. Empirical analysis

5.1 Descriptive statistics

Table 1: Descriptive statistical analysis results.

VARIABLES	N	Mean	SD	Min	Max
<i>ROA</i>	9985	0.033	0.059	-0.278	0.182
<i>R_BSM</i>	9985	0.126	0.214	0.000	0.862
<i>S_BSM</i>	9985	15.650	0.698	14.020	17.600
<i>SIZE</i>	9985	22.570	1.266	20.220	26.410
<i>GROWTH</i>	9985	0.170	0.402	-0.520	2.473
<i>OC</i>	9985	56.330	14.530	24.110	89.900
<i>IDP</i>	9985	0.376	0.054	0.333	0.571
<i>BOARD</i>	9985	2.131	0.199	1.609	2.708

By observing table 1, we can find that the average value of company performance (*ROA*) is 0.033, with a variance of 0.059. The minimum and maximum values are -0.278 and 0.182, respectively, indicating a significant disparity in profitability among listed companies. The maximum value of equity incentive intensity (*R_BSM*) is 86.2%, the minimum value is 0, and the average value is 12.6%, with a variance of 21.4%. This suggests a significant variation in the importance placed on equity incentives and the implementation of equity incentive intensity among listed companies. The mean value of 12.6%

reflects that the overall level of equity incentive implementation in Chinese listed companies is still relatively low. The maximum value of compensation incentive intensity (S_BSM) is 17.6, the minimum value is 14.02, the average value is 15.65, and the variance is 0.698. These data indicate that Chinese listed companies generally attach great importance to compensation incentives for senior management and the intensity of their implementation shows little variation. This demonstrates a convergence of views among Chinese listed companies regarding the construction of a compensation incentive system.

5.2 Correlation analysis

By observing the values, we can conclude that the correlation coefficient between equity incentives and company performance is 0.045, which is significant at the 0.01 level. This indicates a high likelihood of positive promotion effect of equity incentives on company performance, which preliminarily supports hypothesis H1. The correlation coefficient between monetary incentives and company performance is also significantly positive at the 0.01 level, with a value of 0.171. This suggests that monetary incentives also have a positive impact on company performance to some extent, preliminarily supporting hypothesis H2.

5.3 Regression analysis

In table 2, the first column corresponds to H1. According to the regression results, the correlation coefficient between equity incentive intensity (R_BSM) and company performance (ROA) is significant at the 0.01 level and positive. This indicates that as the equity incentive intensity for senior management increases, company performance improves. This confirms the validity of H1. In the second column of table 2, corresponding to H2, the regression results show a positive and significant correlation coefficient between monetary incentive intensity (S_BSM) and company performance (ROA) at the 0.01 level. This suggests that an increase in monetary incentives for senior management promotes improvements in company performance. This confirms the validity of H2. Furthermore, while controlling for consistent variables and significant correlation coefficients at the same level, the correlation coefficient between equity incentives and company performance is larger than that between monetary incentives and company performance. This somewhat indicates that equity incentives have a better effect on motivating senior management compared to monetary incentives. This supports the validity of hypothesis H3.

Table 2: Regression analysis results.

VARIABLES	(1) <i>ROA</i>	(2) <i>ROA</i>
<i>R_BSM</i>	0.033*** (2.90)	
<i>S_BSM</i>		0.013*** (5.51)
<i>Controls</i>	YES	YES
Constant	-0.299*** (-3.50)	-0.427*** (-5.11)
N	9,985	9,985
R-squared	0.083	0.087
Company FE	YES	YES
YEAR FE	YES	YES

Robust t-statistics in parentheses

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

5.4 Robustness test

In order to ensure the robustness of the aforementioned regression conclusions and improve the credibility of the results, this study applies the proxy variable replacement method to test the model. The explained variable, Return on Assets (ROA), is replaced with Return on Equity (ROE).

The first column in the table 3 corresponds to the robustness test results of the regression analysis between equity incentives and company performance. The data shows a significant positive correlation coefficient between equity incentives (R_BSM) and the proxy variable for company performance (ROE) at the 0.01 level. The second column in the table 3 corresponds to the robustness test results of the regression analysis between monetary incentives and company performance. The data shows a significant

positive correlation coefficient between monetary incentives (S_BSM) and the proxy variable for company performance (ROE) at the 0.01 level. Furthermore, the correlation coefficient between equity incentives and company performance is larger than that between monetary incentives and company performance. Based on the results of the robustness test, it can be concluded that the original hypothesis holds true.

Table 3: Robustness test results.

VARIABLES	(1)	(2)
	ROE	ROE
R_BSM	0.074*** (3.16)	
S_BSM		0.027*** (4.93)
Controls	YES	YES
Constant	-0.813*** (-3.98)	-1.072*** (-5.42)
N	9,985	9,985
R-squared	0.079	0.082
Company FE	YES	YES
YEAR FE	YES	YES

Robust t-statistics in parentheses

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

6. Conclusions

This article explores three questions. First, whether there is a significant positive correlation between the intensity of equity incentives for senior management in listed companies and company performance. Based on this, the article investigates the correlation coefficient between executive equity incentives and company performance after controlling for multiple variables and eliminating individual and year differences, and finds a significant positive correlation, indicating that executive equity incentives contribute to improving company performance. Second, what kind of relationship exists between the intensity of compensation incentives for senior management in listed companies and company performance. Through a series of studies, it is found that executive compensation incentives also have a significant positive impact on company performance improvement. Third, through further data comparison, it is confirmed that under the premise of consistent control variables and significant correlation coefficients at the same level, the fact that the correlation coefficient between equity incentives and company performance is higher than that between compensation incentives and company performance remains unchanged, indicating that executive equity incentives have a more significant effect on company performance improvement compared to compensation incentives. Through theoretical and analytical demonstration, all three hypotheses in this article are supported. It confirms that both executive compensation incentives and equity incentives have a positive promoting effect on corporate performance, and also compares the strength of incentives for executive personnel between compensation and equity incentives. However, there are still some limitations in this article. It does not explore how equity incentives and compensation incentives work on company performance and which variables can play a moderating role in this process.

With the deepening of reforms and the intensification of economic globalization, market competition has become increasingly fierce. How to effectively improve company performance, build a talented workforce, enhance core competitiveness, and increase company value has become a major issue. The adoption of effective incentive mechanisms such as equity incentives and compensation incentives, which are studied in this paper, is an excellent solution to the problem of increased agency costs caused by agency problems. Before implementing equity incentives and compensation incentives, it is important to pay attention to whether the incentive system is suitable for the actual situation of the company. During the implementation of the incentive system, it is necessary to scientifically and reasonably evaluate the effectiveness of the incentives at a certain frequency, in order to effectively control the impact of the implemented incentives and achieve the goal of improving company performance.

References

- [1] Wang Hongdun, Yue Hua, Zhang Xu. *Research on the Relationship between Corporate Governance Structure and Corporate Performance—A Perspective based on Corporate Total Factor Productivity* [J]. *Shanghai Journal of Economics*, 2019, (04): 17-27.
- [2] Wu Yuhui, Wu Shinong. *Study on Selfish Behaviors of Corporate Executives and Their Influencing Factors - Evidence Based on the Draft of Equity Incentive for Listed Companies in China* [J]. *Journal of Management World*, 2010, (05): 141-149.
- [3] Chen Zhiguang. *An Empirical Research on a Senior Executive's Remuneration* [J]. *Modern Economic Science*, 2002, (05):58-63+70-95.
- [4] Sheng Mingquan, Che Xin. *Managerial Power, Executive Compensation and Corporate Financial Performance* [J]. *Journal of Central University of Finance & Economics*, 2016, (05): 97-104.
- [5] Wei Gang. *Incentives for Top-Management and Performance of Listed Companies* [J]. *Economic Research Journal*, 2000, (03): 32-39+64-80.