Executive Incentive and Enterprise Performance: An Empirical Research Based on China’s Internet Listed Enterprises

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Abstract. The study on the relationship between executive equity and compensation incentives and enterprise performance is a hot issue in corporate governance. But in the past, most of the research was based on traditional enterprises, and few of the research on Internet enterprises. This paper takes the Internet companies listed in Shanghai and Shenzhen stock markets from 2010 to 2016 as a sample, and verifies the relationship between the executive stock incentive, compensation level and corporate performance by constructing the empirical models. It is found that the increase of the proportion of senior executives in Chinese Internet enterprises can improve the financial performance of enterprises, but it has nothing to do with the market performance; and the increase of executive compensation level can improve the financial performance of enterprises, but it will inhibit the market performance. The innovation of this paper is embodied in taking Internet enterprises as the research object, and puts forward some targeted suggestions.

Introduction

In the era of digital economy, the global Internet industry is developing rapidly. Since the Internet has entered the business field, a large number of excellent Internet enterprises have been born all over the world, such as Google, Amazon, Facebook in the United States and Baidu, Alibaba, Tencent in China. They have grown into the world's attention-catching enterprises in just 20 years. The development speed and existing scale far exceed those of other traditional industries. However, the rapid development of Internet industry not only presents some characteristics different from the traditional industry, but also brings some new characteristics of corporate governance. Internet enterprise is a kind of organization form which makes capital allocation and value creation based on information technology, talents and human resources. Therefore, compared with traditional enterprises, Internet enterprises will rely more on human resources. Then, as a very important part of the human resources of Internet enterprises, executives' incentive becomes particularly important. Therefore, this paper studies the impact of executive incentive on corporate performance from the perspective of equity incentive and compensation level, which not only enriches the relevant theoretical literature, but also empowers the improvement of corporate governance of Chinese Internet enterprises.

Literature Review and Hypotheses Development

Executive Stock Incentive and Enterprise Performance

Scholars at home and abroad mainly carry out the research on senior executives' participation in corporate governance from the perspectives of executive equity incentive and executive compensation. They have accumulated a lot of research results and obtained different conclusions. Some scholars (Singh & Davidson, 2003; Wang Xiufen & Xu Xiaopeng, 2017) used empirical analysis to verify the relationship between executive equity incentive and enterprise performance.
They came to the same conclusion that executive equity incentive can improve corporate performance. In addition, some scholars (Ang, Cole & Lin, 2000; Iqbal & French, 2007) studied the effect of equity incentive from the aspects of management buyout and enterprise merger and acquisition, and found the serious negative correlation between agency cost and executive shareholding ratio. These also further prove that executive equity incentive can have a positive impact on corporate performance. However, there are also some researchers whose conclusions are contrary to the above positive views. The conclusion of Demsetz and Villalonga (2001) shows that as an endogenous variable in the internal characteristics of a company, managerial stockholding level has no significant relationship with the enterprise performance. Due to the principal agent problem between the shareholders and the operators of the company, the problem of information asymmetry is prominent. As an agent, the manager usually takes the attitude of avoiding risks in the business decision-making. However, the shareholders hope that the enterprise can keep efficient operation and lasting operation by improving the operating efficiency. Therefore, they often expect management not to be too conservative in investment decisions. How to effectively solve the problem that the objectives of shareholders and management are inconsistent? The management can better alleviate this problem by holding shares of the company and obtaining certain residual value claim. Moreover, when the management obtains equity incentive, they will work more conscientiously to improve the enterprise performance, so as to promote the firm value. Therefore, we hypothesize:

H1: There is a positive correlation between the proportion of senior executives holding shares and the performance of Internet listed enterprises.

Executive Compensation Level and Enterprise Performance

Although the research results on the relationship between executive compensation level and enterprise performance are rich, but there is no consistent conclusion. Kaplan (1994), Gasparyan and Canarella (2008), Liu Shaowei and Chen Chaofan (2012) and other scholars take the company data of the United States, England, Japan and China as the sample data source respectively, and the research finds that the salary level of senior managers has a positive correlation with firm performance. However, the research results of Wang Beixing, Jin Shuhua and Zhou Baicheng (2007) show that the relationship between salary level of top managers and firm performance is not significant. This article considers if the linkage relationship between executive compensation and firm performance is established, it can not only strengthen the constraints on agents, but also stimulate agents, and that cut down agent cost and increase enterprise performance. Taken together, we hypothesize:

H2: There is a positive correlation between the executive compensation level and the performance of Internet listed enterprises.

Methodology

Sample

Based on 54 Internet companies listed in stock markets of Shanghai and Shenzhen from 2010 to 2016, this paper excludes the listed companies: (1) Internet business revenue ratio has not reached 50%, (2) Listed company under special treatment. Finally the data of 46 Internet listed companies were obtained. The data of this paper mainly come from Wind database and CSMAR database for empirical analysis.

Variables Measurement

Explained variable is company performance. Previous studies generally believed that corporate performance includes two aspects. One is financial performance, that is to say, the short-term performance of an enterprise is reflected by the financial ratio in the financial report; Another is market performance, that is to say, the long-term performance of an enterprise is reflected by evaluating the value of the firm in the capital market. In this paper, Return on equity (ROE) and Tobin Q (TBQ) are respectively used to represent the financial performance and market performance of
enterprises. Explanatory variables include executive stock incentive (ESI) and executive compensation level (ECL). ESI is measured by the ratio of the total number of shares held by all senior executives divided by the total share capital of the company in this paper. ECL is measured by the top three salaries to take the natural logarithm. There are many factors which can affect company performance. This paper chooses the proportion of independent directors (INP), duality of CEO and chairman (DUAL), ownership concentration (CR), the enterprise size (SIZE), enterprises listed years (AGE), financial leverage (LEV) as control variables.

Empirical Models

In order to verify hypothesis 1 and hypothesis 2, this paper constructs two models as follows:

\[\text{ROE}(\text{TBQ}) = \alpha_i + \beta_1 \times \text{ESI}_it + \beta_2 \times \text{Control Variables}_it + \delta_{it} \] (1)

\[\text{ROE}(\text{TBQ}) = \alpha_i + \beta_1 \times \text{ECL}_it + \beta_2 \times \text{Control Variables}_it + \delta_{it} \] (2)

In the above model, \( \text{Control Variables}_it \) represents a set of control variables, \( \delta_{it} \) represents the interference term of the equation, \( i \) represents cross-sectional data, \( t \) represents a time-series data, \( it \) represents data of the \( i \)th company in year \( t \).

Results and Discussion

Sample Description

Table 1 presents the results of the descriptive analysis. The minimum value of ROE is -1.520, the maximum value is 0.850, the mean value is 0.067, the standard deviation is 0.197, which shows that the profitability of Internet listed companies is not balanced, and even some companies are still in the state of start-up and unprofitable. The minimum value of TBQ is 0.948, the maximum value is 35.903, the mean value is 7.128, the standard deviation is 6.326, the maximum value is 37.8 times of the minimum value, which further shows that the market performance of Internet listed companies is quite different. The minimum value, maximum value, mean value and standard deviation of ESI are 0, 0.647, 0.194 and 0.207, which shows that there are quite big differences in the incentive policies of the executive stock rights of Internet enterprises. In general, the executive stock ownership ratio is 19.4%. The minimum value of ECL is 10.751, the maximum value is 14.889, the mean value is 13.104, and the standard deviation is 0.690, which indicates that executive compensation is generally high, and there is little difference.

Table 1. Descriptive statistics analysis.

| Variables | N  | Minimum | Maximum | Mean   | Standard |
|-----------|----|---------|---------|--------|----------|
| ROE       | 175| -1.520  | 0.850   | 0.067  | 0.197    |
| TBQ       | 175| 0.948   | 35.903  | 7.128  | 6.326    |
| ESI       | 175| 0       | 0.647   | 0.194  | 0.207    |
| ECL       | 175| 10.751  | 14.889  | 13.104 | 0.690    |
| SIZE      | 175| 19.560  | 24.196  | 21.457 | 0.916    |
| AGE       | 175| 1       | 25      | 4.457  | 4.582    |
| LEV       | 175| 0.033   | 0.886   | 0.302  | 0.207    |
| INP       | 175| 0.333   | 0.667   | 0.383  | 0.058    |
| DUAL      | 175| 0       | 1       | 0.549  | 0.499    |
| CR        | 175| 0.045   | 0.632   | 0.288  | 0.129    |
Correlation Analysis

The Pearson correlations between executive stock incentive, executive compensation level, corporate performance, and control variables used in this analysis. Table 2 shows the Pearson correlations analysis. The results indicate significant correlations between the most variables of interest without multicollinearity concerns. But the correlation coefficient between the ESI and DUAL is 0.630 (P<0.05), which may lead to the multicollinearity problem of model 2. Therefore, DUAL is eliminated from the control variables of model 2. Additionally, multicollinearity is tested using the Variance Inflation Factor (VIF). Most commonly, prior literature recommends a value of 10 has been recognized as the acceptable maximum level of VIF. The value of 10 is used as the threshold for multicollinearity in this study and find no indication of multicollinearity.

Table 2. Pearson correlation analysis.

| Variables | ROE | TBQ | SP  | PAY | SIZE | AGE  | LEV  | INP | DUAL | CR  |
|-----------|-----|-----|-----|-----|------|------|------|-----|------|-----|
| ROE       | 1   |     |     |     |      |      |      |     |      |     |
| TBQ       | 0.156** | 1   |     |     |      |      |      |     |      |     |
| SP        | 0.188** | -0.094 | 1   |     |      |      |      |     |      |     |
| PAY       | 0.162** | 0.016 | -0.079 | 1   |      |      |      |     |      |     |
| SIZE      | 0.088 | -0.157** | -0.052 | 0.460*** | 1   |      |      |     |      |     |
| AGE       | -0.093 | 0.137* | -0.279** | 0.115 | 0.140* | 1   |      |     |      |     |
| LEV       | -0.250*** | -0.084 | -0.072 | 0.076 | 0.368*** | -0.035 | 1   |     |      |     |
| INP       | 0.071 | 0.183** | -0.025 | 0.109 | -0.070 | 0.241*** | 0.014 | 1   |      |     |
| DUAL      | 0.150** | 0.040 | 0.630*** | -0.167** | -0.105 | -0.254** | -0.060 | -0.125* | 1   |     |
| CR        | 0.296*** | 0.044 | 0.126* | 0.076 | -0.012 | -0.373*** | -0.161* | 0.067 | 0.080 | 1   |

Note: *,**,*** respectively indicated that the estimated values of parameters were significant at 10%, 5% and 1%.

Regression Analysis

Table 3 shows the results of regression analysis. The positive correlation between ESI and ROE, but no significant correlation between ESI and TBQ. It shows that increasing the proportion of ESI can improve short-term performance, but not long-term performance. ECL is positively related to ROE, but negatively related to TBQ. It shows that the improvement of ECL helps to improve both short-term and long-term performance of Internet enterprises. In addition, the regression results of the two models show that the longer the listing time is, the higher the market performance of Internet companies will be; improving the asset liability ratio will reduce the financial performance of Internet companies; the improvement of equity concentration can not only improve the financial performance of Internet enterprises, but also promote the market performance.

Robustness Test

In addition, the substitution variable method is used to test the robustness of the empirical model. The explained variable ROE is replaced by return on total assets (ROA) and TBQ by Price-to-Sales (PS). Due to the limited space, the inspection process is not described in detail here. The regression analysis results after replacing variables are consistent with the previous results, which shows that the conclusions are robust and trustworthy.
Conclusion and Enlightenment

Conclusion

On the basis of reviews at home and abroad, some assumptions about the relationship between executive incentive and corporate performance of Internet enterprises are put forward, and makes an empirical analysis on the data of the Internet companies listed in the Shanghai and Shenzhen Stock Exchange Markets from 2010 to 2016, and draws the following conclusions: First, improving executive compensation level and shareholding ratio can promote the financial performance of Internet enterprises. This is consistent with Zhang Huiming (2002) and Liu Wenhua (2012) who hold the view that "the shareholding ratio of senior executives is positively related to the return on net assets". Second, improving executive pay will inhibit the market performance of Internet enterprises. This validates the view that "executive compensation is a negative correlation with the change of TobinQ in this period" (Du Xingqiang, Wang Lihua, 2007). Thirdly, there is no significant relationship between proportion of senior executives' equity and market performance of Internet companies.

Enlightenment

Some following suggestions are put forward in this paper. First, establish and improve the manager market. The market competition mechanism can effectively restrict the agent motivation of managers. Therefore, we should give full play to the regulatory role of the market to select outstanding talents, and establish and improve the guarantee and exit mechanism of managers. Second, improve relevant laws and regulations. Through the establishment of the relevant information platform of senior executives to strengthen the information disclosure of listed companies, in order to meet the majority of investors' right to know about listed companies, and form an effective incentive and constraint mechanism. Third, improve the incentive mechanism for executives. Internet companies can improve executive incentive mechanism by adjusting executive compensation structure, broadening executive compensation methods, and increasing executive share options, etc.
incentive channels, improving executive shareholding ratio and transparent executive promotion system. Fourth, perfect internal and external supervision mechanism. The effective implementation of the incentive mechanism can be ensured by strengthening the supervision function of independent directors, employing high-quality audit services, increasing the proportion of institutional shareholding and other external supervision mechanisms.

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