

CEO Reputation and Internal Control Effectiveness

—Based on China A-share Listed Company Data

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Abstract—With the rapid development of information technology, reputation has become the signal of CEO's ability. The existence of high reputation enhances the CEO's enthusiasm and prudence in the work, thus promoting the operation and development of the company. This paper selects 2017 A-share listed companies in China as a research sample. According to the different nature of property rights, the CEO reputation and the effectiveness of internal control are empirically analyzed. The research finds that good CEO reputation can promote the effectiveness of internal control of enterprises, and under different property rights, the reputation of state-owned enterprise CEOs has a significant positive correlation with the effectiveness of internal control. The regression coefficient of non-state-owned enterprise CEO reputation and internal control effectiveness is negative, and has not passed the significant test. This shows that the establishment of a reputation mechanism is necessary.

Keywords—CEO reputation; Internal control effectiveness; State-owned enterprise; Non-state-owned enterprise

I. INTRODUCTION

Based on the principal-agent theory, the principal's understanding of internal information is significantly lower than that of the management, and because of information asymmetry and other uncertainties, the principal cannot evaluate the CEO's work, so CEO competence is one of the important factors for the principal to evaluate the CEO's consideration. With the development of the information age and signal theory, reputation is regarded as a signal of high and low CEO's ability because of its rapid information dissemination and widespread. Good reputation represents the high ability to help CEO get more recognition and reward, at the same time, as the company's management decision-making, the ability determines the future and destiny of enterprises, and even become the key factor in promoting economic growth [1].

Since the outbreak of the Enron incident in the United States, the US COSO Committee has successively released the *Internal Control-Integrated Framework* (hereinafter referred to as the COSO Report) and *The Enterprise Risk Management-Integrated Framework*. China also draws on the US COSO report and has successively enacted laws and regulations such as *Accounting Standards for Enterprises-Basic Standards*. However, with the occurrence of events such as LeEco and Huishan Company in recent years, it is still a long way to go to show that the internal control effectiveness of Chinese

enterprises is still a problem. According to the research of Shen Lie, Sun Dezhi and Kang Jun [2], the best "soil" of internal control should be a harmonious internal control environment, the core of which is people-oriented. As a CEO with greater decision-making power in the enterprise, it plays a huge role in the development of internal control of the enterprise.

Through the existing literature, the research on the influencing factors of the effectiveness of internal control focuses on the influence of objective factors under the Neoclassical Economics, such as the equity structure[3] and political connection[4], the nature of property rights[5], etc., on the other hand, focus on the influence of hidden factors under Upper Echelons Theory, such as female directors[6], board characteristics[7], etc. Based on the study of neoclassical economics, because Neoclassical Economics holds that managers are homogeneous and completely rational, and they do not take into account the influence of changing factors, they are questioned. In Upper Echelons Theory, the demographic characteristics—age, education, etc.—are used as the proxy characteristic variables to measure the psychological changes of managers. They believe that these factors will cause changes in managers' decision-making behaviors, which will lead to differences in strategic decision-making. The logic chain is too long to be questioned. According to Shen Lie and Guo Yangsheng[8], the management improvement hypothesis holds that managers have different abilities. Therefore, in a certain sense, managerial ability can comprehensively reflect managerial heterogeneity and bounded rationality theory. And some studies [9] have found that managerial ability has a significant positive relationship with enterprise technology innovation and corporate brand value. It can be seen that managers play an important role in the development of enterprises. However, despite this, China's research on the relationship between CEO reputation and internal control effectiveness is still lacking. Therefore, this paper aims to study whether CEO reputation is a factor affecting the effectiveness of internal control. Through theoretical and empirical analysis, it is found that the relationship between CEO reputation and internal control effectiveness, and the research perspective of internal control effectiveness.

II. THEORY AND HYPOTHESES

A. CEO Reputation and Internal Control Effectiveness

Based on the concept of incentive constraints, many organizational incentives are not caused by explicit formal incentive contracts, but by implicit concerns about career prospects. Fama [10] mentioned that business managers can work hard even if they do not have incentives from within the company for their career prospects and reputation. As one of the important factors of CEO's ability performance, reputation determines the career prospect of the CEO. For this reason, the CEO may improve the internal control level to a certain extent and effectively supervise the operation of internal control to avoid excessive risk. Therefore, the following assumptions are made:

H1: There is a positive correlation between CEO reputation and the effectiveness of internal control.

B. The influence of CEO reputation on the effectiveness of internal control under different property rights

According to the characteristics of China's system, this paper divides enterprises into state-owned enterprises and non-state-owned enterprises. In 2008, China issued the "Basic Standards for Internal Control of Enterprises", and some large state-owned enterprises were used as pilot enterprises to carry out mandatory internal control system design, operation and maintenance. State-owned enterprises, as the vanguard of the internal control construction industry, need to lead by example and regard the establishment and development of internal control as the focus, compared with non-state-owned enterprises. Second, due to the property rights characteristics of Chinese enterprises, state-owned enterprises are not just an economic organization, but are related to politics. For the CEOs of state-owned enterprises, their promotion and transfer are often decided by the government. Therefore, relative to the uncontrolled non-state-owned enterprise CEO, the reputation is more binding to the CEO of the state-owned enterprise. In addition to the unconventional change of executives as a mechanism for breach of contract punishment, CEO reputation plays a role in restricting executives through this punishment mechanism. State-owned enterprise CEOs need reputation to avoid the motives and needs of unconventional changes. Therefore, the following assumptions are made:

H2: Compared with the non-state-owned enterprise CEO, the positive correlation between the reputation of the state-owned enterprise CEO and the effectiveness of internal control is more significant.

III. RESEARCH DESIGN

A. Data source and sample selection

This paper selects the 2017 A-share listed company in China as a research sample and filters the sample data according to the following principles: a. Excluding ST, *ST listed companies; b. Excluding financial and insurance listed companies; c. Exclude companies with data defects and abnormalities in the study interval. Finally, 2,816 companies were selected as sample data. The data is mainly from the

CSMAR database and the DIB internal control database. In order to control the influence of extreme value pairs on the empirical results, we performed winsorize tailing processing on the main continuous variable data below 1% and above 99%.

1) Internal Control Effectiveness

This paper uses "DIB Internal Control Index of Chinese Listed Companies" as the proxy variable of the effectiveness of internal control. The index is based on the basic framework system of internal control of enterprises. The research and design of national key accounting research projects approved by the Ministry of Finance can accurately reflect the level of effectiveness of internal control, and has certain authority. (The internal control effectiveness is simply referred to as IC below.)

2) CEO Reputation

In economic organizations, the CEO refers to the highest administrative staff responsible for operation and management in a company. The CEO of the company may be the chairman, vice chairman and general manager. Combined with the purpose of this paper and the actual meaning of the listed company in China, this article defines the CEO as the chairman of the board. Because the chairman is only one person, it plays a decisive role in the business process, and the public is familiar with the chairman. It is bigger than the managers of other positions, and it can reflect the degree of reputation of managers in reality. This article refers to Yu Jiahe et al. [11] selected Baidu news search CEO news exposure rate as a proxy variable of CEO reputation. First, for the news media, the probability that each company CEO is exposed is roughly the same. Second, the public media dissemination target is the entire public, and the evaluation of the CEO is objectively reflected, and the exposed CEO has a certain cognitive basis in the public. The practice is to search for the number of news in "CEO name + company stock abbreviation" in Baidu News, and exclude noises such as post bars and forums. According to the analysis of relevant scholars [12], Baidu News can accurately reflect the number of searches of CEO names in a single year, and the number of searches accumulated in the year and before, and about 90% of the news reports are neutral, only 1%. The left and right reports are bad reviews, so it is more scientific to use media exposure to measure the CEO's reputation. (Hereinafter, the CEO reputation is referred to as REP)

3) Control variable

According to the research literature on the factors affecting the effectiveness of internal control, this paper selects the company size(the natural logarithm of total assets at the end of the year, referred to as SIZE), financial leverage(ratio of annual total liabilities to annual average total assets, referred to as LEV), profitability(the ratio of net profit to shareholder equity average, referred to as ROE), CEO term(data period minus CEO's last year, referred to as TERM), equity nature(State-owned holding is 1, otherwise 0, referred to as EQUITY), board committees (number of committee settings, referred to as BC), external audit(Internal control audit opinion is standard unqualified opinion is 1, otherwise 0, referred to as AUDIT) as control variables.

B. Model building

$$IC = \beta_0 + \beta_1 REP + \beta_2 SIZE + \beta_3 LEV + \beta_4 ROE + \beta_5 TERM + \beta_6 EQUITY + \beta_7 SC + \beta_8 AUDIT + \varepsilon(1)$$

β_0 is the intercept, β is the regression coefficient, and ε is the residual of the regression equation.

IV. RESEARCH RESULTS

A. Descriptive statistics

Descriptive statistics are shown in TABLE I. From the maximum and minimum values of the IC, it can be found that the sample company's internal control effectiveness has a large gap. It can be seen from the REP that after eliminating the extreme value, the mean value of the whole sample is 100.378, and the standard deviation is 100.036. This shows that the CEO reputation of listed companies in China is extremely polarized. Among the control variables, there are certain differences in SIZE, LEV, AUDIT and ROE. From the perspective of TERM, the average TERM of each company is 4 years, which is greater than the average CEO period of China for 3 years, indicating that most of the listed companies in China consider replacing the CEO after one employment period. The results of BC show that most of the listed companies in China have set up board committees.

TABLE I. DESCRIPTIVE STATISTICS

Variable	N	Min	Max	Mean	Standard deviation
IC	2816	0.000	8.050	6.284	1.444
REP	2816	3	609	100.378	100.036
SIZE	2816	20.091	26.390	22.476	1.306
LEV	2816	0.065	0.890	0.428	0.200
ROE	2816	-0.185	0.270	0.054	0.064
TERM	2816	0.000	17.750	4.038	3.376
EQUITY	2816	0.000	1.000	0.415	0.493
BC	2816	0.000	6.000	3.963	0.441
AUDIT	2816	0.000	1.000	0.758	0.429

B. Correlation analysis

Before performing multiple linear regression analysis, this paper first analyzes the correlation of all variables included in the regression model. It can be seen from TABLE II that the correlation coefficient between all explanatory variables and control variables does not exceed 0.5, and the significance is mostly less than 0.05. Therefore, it can be preliminarily determined that there is no serious multicollinearity problem between the variables of the model. Satisfying the requirements of basic statistical assumptions also proves that the evaluation indicators and control variables in the model are selected reasonably.

TABLE II. CORRELATION ANALYSIS

	IC	REP	SIZE	LEV	ROE	TERM	AUDIT	EQUITY	BC
IC	1								
REP	0.064*** (0.001)	1							
SIZE	0.093*** (0.000)	0.369*** (0.000)	1						
LEV	-0.073*** (0.000)	0.152*** (0.000)	0.546*** (0.000)	1					
ROE	0.210*** (0.000)	0.066*** (0.000)	0.152*** (0.000)	-0.070*** (0.000)	1				
TERM	0.086*** (0.000)	0.049*** (-0.009)	0.034 (0.073)	-0.001 (0.943)	0.013 (0.506)	1			
AUDIT	0.159*** (0.000)	-0.024 (0.205)	0.207*** (0.000)	0.102*** (0.000)	0.060*** (0.002)	0.047** (0.012)	1		
EQUITY	0.005 (0.805)	-0.142*** (0.000)	0.259*** (0.000)	0.201*** (0.000)	0.035 (0.065)	-0.045** (0.018)	0.340*** (0.000)	1	
BC	(-0.032) (0.094)	(0.008) (0.674)	0.108*** (0.000)	0.076*** (0.000)	(0.017) (0.377)	(0.007) (0.709)	0.054*** (0.004)	0.073*** (0.000)	1

a- ***, **, * respectively indicate significant correlation at the 1%, 5%, and 10% levels.

C. Regression analysis

After excluding the collinearity between variables by correlation analysis, in order to study the relationship between CEO reputation and internal control effectiveness, we used SPSS 22.0 software to perform multiple regression analysis on sample data. The regression results are shown in TABLE III.

It can be seen from the regression results that there is a positive correlation between the reputation of CEOs of listed companies and the effectiveness of internal control, and is significantly correlated at the level of 10%. It shows that a good CEO reputation has a significant effect on the effectiveness of internal control. The better the CEO's

reputation, the better the internal control effectiveness of the company, and vice versa, thus verifying the H1. From the perspective of control variables, SIZE, LEV, ROE, TERM, and AUDIT are all positively correlated with IC, and are significantly related at the 1% level. However, BC has a significant negative correlation with IC at 5%, indicating that the establishment of board committees will reduce the effectiveness of internal control. This situation may arise because of the overlap of members of the board committees, Studies have shown that in fact, the members of the board committees do overlap [13], which leads to the inability of members to concentrate on one thing, thus lacking supervision and understanding of affairs, and the effectiveness of internal control cannot be Play an active role.

From the sub-samples, the REP of state-owned enterprises and the effectiveness of internal control are significantly positively correlated at the 1% level, indicating that in state-owned enterprises, good CEO reputation can promote the effectiveness of internal control, thus verifying hypothesis H2. The regression results of control variables show that SIZE, ROE, TERM and AUDIT have significant positive correlation with IC at different levels, indicating that the economic strength of enterprises has a great impact on internal control. Moreover, CEOs with high reputation have a good ability and long-term experience. They have a good understanding of the internal control of enterprises, and can accurately grasp the internal control problems, so as to help the internal control of enterprises operate effectively. However, LEV, BC and IC have a significant negative correlation between 1% and 10%, respectively, indicating that higher financial leverage has a negative impact on the effectiveness of internal control of enterprises, and the increase in the number of board committees will also affect enterprises. The effectiveness of internal control has a negative effect.

The regression coefficient of the REP of non-state-owned enterprises is negative and fails to pass the significance test. Therefore, the reputation of this type of CEO cannot have a significant impact on internal control. The reason may be that the non-state-owned enterprises are affected by the company size, profitability, financial leverage and other factors. The foundation of internal control is poor, and there is a lack of reliable operation methods. Despite the high reputation of CEO management, the effectiveness of internal control is also difficult to improve. In the control variable, the difference is the effect of company size and profitability in non-state-owned enterprises is more obvious. This also shows that if non-state-owned enterprises can improve the company's economic strength and management ability have a significant positive effect on the development of internal control.

TABLE III. REGRESSION RESULT

Dependent variable	IC		
	Full sample	State-owned enterprise sample	Non-state-owned enterprise sample
REP	0.026* (1.296)	0.099*** (3.274)	-0.032 (-1.225)
SIZE	0.108*** (4.418)	0.098*** (2.738)	0.109*** (3.473)
LEV	0.108*** (-5.799)	-0.123*** (-3.692)	-0.115*** (-4.135)
ROE	0.175*** (9.454)	0.074** (2.594)	0.260** (10.869)
TERM	0.069*** (3.839)	0.076*** (2.742)	0.066*** (2.830)
BC	-0.042** (-2.318)	-0.040* (-1.440)	-0.048** (-2.060)
AUDIT	0.155*** (7.992)	0.253*** (9.137)	0.108*** (4.568)
Constant	3.285*** (5.949)	2.959*** (3.295)	3.797*** (4.810)
R-squared	0.090	0.116	0.118
F	34.557***	21.732***	31.312***
Sample observations	2816	1168	1648

^b ***, **, * respectively indicate significant correlation at the 1%, 5%, and 10% levels, and t values in parentheses.

V. CONCLUSION

Based on the sample of A-share companies listed in China in 2017, this paper empirically studies the relationship between CEO reputation and the effectiveness of internal control. According to the different nature of property rights, the sample is divided into state-owned enterprises and non-state-owned enterprises, and the performance of CEO reputation under different property rights background is examined. The research finds that there is a significant positive correlation between CEO reputation and the effectiveness of internal control, that is, good CEO reputation can promote the development of internal control of enterprises, and under the reaction of reputation, CEO is more cautious about the establishment and implementation of internal control in order to avoid the loss of reputation. Under the background of different property rights, the CEO reputation of state-owned enterprises has a significant positive correlation with the effectiveness of internal control. Although the CEO reputation of non-state-owned enterprises has a negative correlation with the effectiveness of internal control, it has not passed the significant test. This phenomenon may be caused by the poor foundation of internal control construction of non-state-owned enterprises. The study also finds that the board committees set up by Listed Companies in China have not played a positive role in the effectiveness of internal control, which also means that there are some problems in the implementation of the board committees of Listed Companies in China. In response to the above empirical results, the following suggestions are made:

A. Establish CEO reputation evaluation system.

The establishment of the CEO reputation evaluation system has an important impact on improving the external manager market and forming a normal entry and exit mechanism. Especially for state-owned enterprises, pushing the CEO to the manager market is a necessary trend for the reform of state-owned enterprises. Through the evaluation mechanism of CEO reputation, the company is conducive to the selection of talents and the understanding of the work of managers.

B. Pay attention to the design, operation and supervision of the internal control system

According to the "Analysis Report on the Implementation of the Internal Control Standard System of China's Listed Companies in 2017" issued by the Ministry of Finance of China, there were 883 companies that did not engage accounting firms for internal control audits in 2017, thus indicating that Chinese listed companies lack certain attention to internal control issues. Internal control is crucial to the development of the enterprise. Regardless of the nature of the enterprise, it should pay attention to the internal control problem, which not only can help enterprises effectively manage and utilize assets, but also improve the operational efficiency of the enterprise. Therefore, listed companies in China should attach importance to the issue of internal control.

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