An Empirical Study of the Effectiveness of Internal Control and Influencing Factors

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Abstract: Internal control in the enterprise has always attracted considerable interest in recent years. Throughout the relevant domestic internal control research literature, most of them outstanding performance on formal research methods, internal control effectiveness of the all-round, and research the subject and content hollowing out. In China, the "18 guidelines" about internal control is bound to bring new internal and external environment for the implementation of internal control in 2010. In this paper, the factors affecting the effectiveness of internal controls are analyzed deeply using the data from listed companies in the new environment, so that companies could understand and implement the internal control better.

Keywords: Internal control, Effectiveness, Influencing factors

1 Introduction

Internal control system construction starts lately in our country. In 1999, the revision of the Accounting Law makes provision for internal control system in companies at first. Subsequently, in other rules internal control was regulated from different perspectives. However, Internal control implementation in the enterprise is not very optimistic. Until 2010, Ministry of Finance, CBRC and other departments according to "Enterprise Internal Control Standards" developed a very specific guideline, included "Internal Control Practice", "Internal Control Evaluation Guidelines" and "Enterprise Internal Control Audit Guidelines". The guideline rules as follows: Since January 1, 2011, the Company listed in the onshore and offshore; since January 1, 2012, the Company listed on the Main Board in Shanghai and Shenzhen, and so on. We can see these related norms and the introduction of "supporting guidelines" actually not only promotes the construction of internal control of listed companies but also standardize the audited entity's internal control evaluation when our CPA audits company's statements. As compared with the internal control standards of the enterprise in the United States, you can find the main aspects of the concept, objectives, and other elements of our enterprise internal control is the same with the United States. This indicates that our internal control framework is more international.

However, in the practical realm, few companies are able to truly grasp the "soul" of the internal control. Few companies put internal check mechanism as a core element of the internal control system to give attention. When it comes to strengthen internal control, more focus on the design of a more cumbersome approval the process, little attention on improving and enhancing the real center of gravity position in the internal containment mechanisms.

This paper argues that we need clarify the impact elements on the effectiveness of internal control factors in order to prescribe the right medicine. Our understandings of the internal control either theory or practice is in a rapidly changing, so studies on the effectiveness of the factors with the perspective of development are very necessary. In this paper, by empirical tests there is a significant correlation between shareholders' meeting attendance rate, corporate development stage, enterprise scale and the effectiveness of internal control indeed. The concentration of ownership and the CEO duality impact on the effectiveness of internal control with different effects. Thus, it indicates that the corporate governance structure and enterprise scale are important factors affecting the effectiveness of internal control.

2 Literature Review

Though Internal Control theory has been developed of not so many years, many scholars study the effectiveness of internal control internal control in our country.

2.1 The effectiveness of internal controls
Zhang Yixia (2008) pointed out that the effectiveness of internal controls and effective internal controls are two related but different concepts, the effectiveness of internal control is to ensure the degree of internal control providing for the realization of related goals. Further, Zhang Ying and Zheng Hongtao (2010) argued the effectiveness of internal control should be defined as "internal control provides assurance for compliance objectives, reporting objectives, and business objectives and strategies goals. The higher the internal controls provides assurances for achieving the targets, it means the internal control is more effective." Wang Hailin (2009) believes that the reason why the current evaluation of internal control is not fitted for the reality is because that internal control mostly focused on the implementation of the results of the evaluation of internal control, while internal control evaluation should include evaluation of the results of the implementation and the process. From this perspective, Wang Hailin's view of the effectiveness of internal control is more comprehensive and reasonable than Zhang Ying and Zheng Hongtao's.

2.2 Factors on internal control
Fu Zenggui (2012) examined the impact on the effectiveness of internal controls from two aspects-board governance and executive compensation. Liu Yexiao, Dong Shalu (2013) found that the effectiveness and profitability of assets is positively correlated with the effectiveness of internal control. Therefore, we concluded that more efforts should be put in asset turnover and profitability of assets.

Our internal control system is built up gradually; the implementation of internal control in enterprises is also established slowly. In 2012, due to the Shenzhen and Shanghai Stock Exchange made mandatory that internal control in some companies were able to get a more complete implementation, and therefore, studies were made in accordance with previous data may be inappropriate due to changes in internal and external environment. It may be not an accurate description of the relationship between internal control and its related factors. In addition, in the recent one or two years, study on the effectiveness of internal control factors focused on one aspect, and the corporate environment is faced with complex, one factor is likely to contact or interaction between other factors, an analysis of individual factors is likely to cause results with certain limitations. This paper studies selected the data which is got after "Basic Standards for Enterprise Internal Control" implemented and consider the relationship between various factors.

3 Research Hypotheses

According to the existing research and the reality of China's enterprises, in this paper we proposed the hypotheses from the following aspects.

3.1 Corporate governance and internal control effectiveness
Corporate governance structure is composed of owners, board of directors and senior managers which is to prevent opportunistic behavior arrangements. Internal control is the reasonable assurance process. Thus, the corporate governance structure and internal control are still closely linked in terms of the implementation of the main goals. Generally, the higher the degree of ownership concentration the company owns, the more the chance that a major shareholder makes a decision which is not conducive to the company. Based on the above analysis, assuming that:
H1a: Ownership concentration is negatively correlated with the effectiveness of internal control
Pi (1993) considered the overlap of board chairman and CEO will increase the agency conflicts and

reduces corporate earnings as a unified decision-making management and decision-making. Cheng Xiaoling and Wang Huaiming (2008) also found that CEO duality will significantly reduce the quality of financial reporting by a sample of 1,162 listed companies. I believe that the chairman of the board of directors serving as general manager with the monitoring function will cause the company's supervisory mechanism ineffective (Molz, 1988), and then would be detrimental to the development of the company. Based on the above analysis, assuming that:

H1b: CEO duality is negatively correlated with the effectiveness of internal control

Cheng Xiaoling, Wang Huaiming (2008) study the relationship between corporate governance and internal control effectiveness, and they found shareholders' meeting attendance rate in the end of a year was significant positive with the effectiveness of internal control. The higher the year-end shareholders' meeting attendance rate, the more favorable for the development of the company. Based on the above analysis, the following assumptions:

H1c: Year-end shareholders' meeting attendance rate is positively correlated with the effectiveness of internal control.

3.2 Enterprise scale and effectiveness of internal control

Cao Xin, Wang Chunli and Zou Jun (2009) viewing the A-share listed companies as samples analyzed the effectiveness of internal control factors and the scale of a company, and found that the larger company has the more effective internal controls. Zhang Ying, Zheng Hongtao (2010) also believes that asset size is an important factor affecting the level of effectiveness of internal control. In general, the larger the scale, the more sound financial system, the better the effectiveness of internal controls; while the presence of economies of scale, the marginal cost of internal controls will decrease with the increasing scale, and due to a cost-effectiveness principle, companies will increase the internal control inputs (Zhu Rongen, 2004). Based on the above analysis, we use the logarithmic of the company's total assets at the end to measure the size of a company, and made the following assumptions:

H2: Firm size is positively related to the effectiveness of internal control

3.3 Enterprise development stage and the effectiveness of internal control

According to the corporate life cycle theory, company's development stage can be divided into: entrepreneurship, growth, maturity and decline. Different stages of development have a close link with effectiveness of internal control and we use cash flow method to determine the stages of enterprise development. And then make the following assumptions:

H3: When business is mature, the effectiveness of its internal controls is higher.

4 Variable Selection and Model Design

4.1 Variable selection

To test the assumption we need construct empirical models so at first we should design the related dependent variables and the independent variables to present the appropriate indicators, and do some settings for the control variables.

According to the above theoretical analysis this paper will define the effectiveness of internal control are: reasonable assurance that the internal control system make for the operating efficiency, reliability of financial reporting and the degree of realization of national laws and regulations. Effectiveness of internal control will be divided into three parts judged respectively. The first is the degree of realization of operating efficiencies: this paper's uses the gains rate of the assets to measure the efficiency of operations and effectiveness (Cheng Xiaoling, 2008). Second is the degree of realization of the reliability of financial reporting: If financial reporting is reliable, CPA will issue a standard auditing report, otherwise non-standard views. Therefore, this article uses the audit opinion issued by the accounting firm as a measure of the reliability of financial reporting. Finally, the degree of compliance with the national laws and regulations: the compliance of laws and regulations may be judged by

whether they are punished by the SFC and the Stock Exchange publicly (Cheng Xiaoling, 2008).
According to the analysis of the study hypothesis, the independent variable selected in the paper includes ownership concentration; the attendance of the general meeting, CEO duality, enterprise-scale, and enterprise development stage. Attendance rates should be selected the highest proportion.
Due to the effect of business efficiency is also affected by the operation and solvency, when we make a regression analysis we add the control variables: (1) Asset-liability ratio. As to a company with lower asset-liability ratio, the same core business assets yield greater financial risk. (2) Total assets turnover. Lower total asset turnover implies poor operational capacity. In this case, even if a higher rate of return on assets cannot suggest the internal control in the enterprise has played a positive and effective role.
After the above analysis, the variables of the empirical part are summarized in Table 1.

Table 1 Variable description

Sort	Variable	Description
Dependent variable	Returns	Operating profit divided by total assets at the end of the year
	Reliability	According to the audit result of current financial report, 1 if is standard audit report, otherwise 0
	Legality	1 they are punished by the SFC and the Stock Exchange publicly, otherwise 0
Independent variable	Concentration	The proportion of the first shareholder and the second largest shareholder shareholding ratio
	Attendance	Be selected the highest proportion among the general meeting of shareholders to attend
	Duality	1 if CEO duality, otherwise 0
	Size	The logarithm of the assets at the end of the year
	Lifecycle i	Dummy variable. When the enterprise is in mature period (i=1), Lifecy1 1, or 0; when the enterprises in pioneering period (i=2), Lifecy2 1, or 0; when the enterprise in the growth period (i=3), Lifecy3 1, or 0;
Control variable	Turn	The proportions of the assets at the end of the year in audit-year profit
	Liability	The proportions of the liabilities at the end of the year in the assets at the end of the year.

4.2 Model design
Based on the above analysis, we build the model as follows:
Returns=C+b1Concentration+b2Attendance+b3duality+b4Size+b5Lifecy1+b6Lifecy2+b7Lifecy3+b8Turn+b9Liability+ε
(model 1)
Reliability=C+b1Concentration+b2Attendance+b3duality+b4Size+b5Lifecy1+b6Lifecy2+b7Lifecy3+ε
(model 2)
Legality= C+b1Concentration+b2Attendance+b3duality+b4Size+b5Lifecy1+b6Lifecy2+b7Lifecy3+ε
(model 3)
Explanation of the model: In the above formula, returns indicate the operational efficiency goals of the internal control effectiveness, reliability indicates the reliability of financial reporting objectives, Legality said on state laws and regulatory compliance objectives. C is a constant, b1-b8 as the corresponding coefficient of variation, b9, b10 as coefficients of the control variable of the model.

5 Empirical Results

This paper selected 2012 A-share listed companies as sample data, and made the following treatments:

(1) The exclusion of such listed company such as ST and finance and insurance industries, due to their special nature, subject to strict supervision, it have significant difference with other listed companies on setting up the board of directors and internal control system; (2) Proposed abnormal data and companies with missing data values.

5.1 Descriptive statistics

Table 2 Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Returns	2342	0.042 321	0.062 537 8	-0.596 448 5	0.680 219 5
Reliability	2342	0.979 077 7	0.143 154 8	0	1
Legality	2342	0.874 893 3	0.330 910 6	0	1
Concentration	2342	13.754 12	30.894 16	1	610.25
Duality	2342	0.0341 588	0.181 675 8	0	1
Attendance	2342	56.143 04	18.439 07	3.84	100
Size	2342	9.483 883	0.558 636 5	6.831 203	12.336 23
Lifecy1	2342	0.299 316 8	0.458 056 6	0	1
Lifecy2	2342	0.022 203 2	0.147 375 5	0	1
Lifecy3	2342	0.459 436 4	0.498 458 3	0	1
Tum	2342	0.663 347 6	0.560 522 4	0.011 249 6	8.011 584
Liability	2342	0.425 435 4	0.225 178 7	0.011 033 5	0.954 386 2

Descriptive statistical analyses are shown in Table 2. The average proportion of the largest shareholder and the second largest shareholding ratio is approximately 13.754 12, with the largest shareholding ratio of 610.25, the control of the largest shareholder is strong and the companies are quite different. Shareholders' meeting attendance rate was 56.14% on average, the lowest of 3.84%. According to the internal control requirements of the separation of chairman and general manager, the samples showed the perfect implementation after the internal control guidelines. The difference in total assets at the end of the samples is relatively large. According to the cash flow method, the enterprise is divided into four stages, and it is clearly visible that Companies in the growth stage accounted for a large proportion.

The correlation coefficient between the variables in Table 3, it can be seen that there is no significant correlation between most of the variables.

Table 3 Pearson (upper triangle) and Spearman (lower triangle) correlations

	Returns	Legality	Reliability	Concentration	Attendance	Duality	Size	Lifecy1	Lifecy2	Lifecy3	Tum	Liability
Returns	1	0.0969***	0.168***	-0.0763***	0.258***	-0.0217	-0.0006	0.0166	-0.0955***	0.1838***	0.0551***	-0.3744***
Legality	0.1042***	1	0.089***	0.0499**	0.0182	-0.0639***	0.0866***	0.0104	-0.0131	0.0197	0.0368*	0.0166
Reliability	0.1578***	0.0890***	1	0.0158	0.0803***	-0.0546***	0.0945**	0.0174	-0.0387*	0.015	0.0214	-0.0947**
Concentration	-0.0945***	0.0452**	0.0215	1	-0.0118	0.004	0.1633***	0.0071	-0.0022	0.0217	0.051**	0.1552***
Attendance	0.3128***	0.016	0.082***	-0.141***	1	-0.0595***	0.039*	0.0536***	-0.1003***	-0.0196	-0.0017	-0.2643***
Duality	-0.0479**	-0.0639***	-0.0546**	0.0141	-0.0678***	1	0.0037	0.0259	-0.0124	-0.0083	-0.0211	0.0713***
Size	-0.0585***	0.087***	0.0701***	0.2021***	-0.0119	0.0141	1	0.1295***	-0.09***	-0.0535**	0.0816***	0.5204***
Lifecy1	0.0279	0.0104	0.0174	-0.0257	0.0327	0.0259	0.1254***	1	-0.0985***	-0.6026***	-0.0489**	0.0812***

Lifecy2	-0.0953***	-0.0131	-0.0387*	0.003	-0.0988***	-0.0124	-0.0921***	-0.0985**	1	-0.1389**	0.0167	0.0147
Lifecy3	0.1778***	0.0197	0.015	0.0228	0.0035	-0.0083	-0.0518*	-0.6026**	-0.1389**	1	0.0666***	-0.1748**
Tum	0.1141***	0.037*	0.0638***	0.0771***	-0.0019	-0.0133	0.0895*	-0.0124	-0.0193	0.0872***	1	0.1725***
Liability	0.4383***	-0.0181	0.0852***	-0.1932***	0.2715***	-0.0713***	-0.5595**	-0.0861**	-0.0076	0.1734***	-0.1574**	1

5.2 Regression analysis

Table 4 The regression results

.	Model 1	Model 2	Model 3
Concentration	-0.000 105 9***	6.52e-06	0.000 389 9*
Duality	0.005 816 8	-0.040 453 3**	-0.116 027 9**
Attendance	0.000 434 8***	0.000 555 7***	-0.000 794 7
Lifecy1	0.019 435 5***	0.012 533 9	-0.000 507 8
Lifecy2	-0.007 108 3	-0.011 228 8	-0.017 263 3
Lifecy3	0.024 982 5***	0.014 997 5*	0.002 786 5
Size	0.023 967 1***	0.022 610 8***	0.047 909 6***
Tum	0.012 381 4***		
Liability	-0.122 513 ***		
_cons	-0.181 441***	0.722 951 5***	0.413 100 6
Adj R-squared	0.244 6	0.014 2	0.010 8

Through the Table 4, we can find: (1) Ownership concentration and the goal of operational efficiency of internal control were significantly negatively correlated. And the reliability of financial reporting was no significant correlation with ownership concentration, which is not entirely consistent with the hypothesis; maybe because large shareholders put more attention to public information disclosure, and it will decrease the extent of financial reporting manipulation because of more caution. Meanwhile, it proved that the focus on equity is in favor of compliance with laws and regulations. (2) CEO duality and operational efficiency objectives was no significant relationship and is significantly negatively correlated with financial reporting objectives and compliance with laws and regulations, which is consistent with the hypothesis. CEO duality is bound to have a negative impact on the effective implementation of internal control. (3) Shareholders' meeting attendance rates and the effectiveness of internal control is significant positive correlation with each other; if the rate of year-end shareholders' meeting attendance is higher, it indicated that the shareholders put more attention on the company's financial position, operating results and improving internal controls; (4) The enterprise scale and effectiveness of internal control is significant positive. Because the larger companies which generally suffered a certain period of development accumulate a certain amount of experience of corporate governance and the internal control construction have a certain understanding and exploration; (5) Business development stage and the effectiveness of internal control showing different significant relationships. When business is mature, companies own better internal control effectiveness; while in the growth statement, operational efficiency objectives of internal control and financial reporting reliability targets has a significant positive correlation.

6 Conclusion

According to the analysis, this paper makes the following conclusion: (1) Companies should be properly

cut the large shareholder stake making it down to a reasonable level. (2) Companies can increase the year-end shareholders' meeting attendance rate, so that the major shareholders give full play to the supervisory role in the decision-making and enhancing the effectiveness of internal control; (3) Avoid Directors serving as general manager. Through this way corporate governance structure will achieve a better containment and make managers dutifully work for the company, present their individual potential and devote to the development for the company. (4) Expand the scale of enterprises appropriately. Establish better internal control system to improve the effectiveness of internal controls; (5) When the company is in the enterprise mature state, improving internal control will achieve better results.

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