Quality of Internal Control and Corporate Performance of Listed Companies -- Based on Empirical Research on the Shanghai and Shenzhen Stock Markets from 2013 to 2018

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Abstract: This paper analyzes the relationship between internal control quality evaluation and enterprise performance in domestic enterprises, discusses the factors that affect the results of internal control quality evaluation in listed companies, and puts forward suggestions to improve the internal control quality evaluation system.

Keywords: Internal Control Quality; A Listed Company; Internal Control Quality Evaluation System; Enterprise Performance

Introduction

The quality of internal control is the key index to evaluate the internal control ability and operation efficiency of an enterprise, which affects the operation development and performance of an enterprise. The enterprise internal control index reflects the basic level of internal control, which needs to be improved constantly. This paper analyzes the relationship between internal control quality and corporate performance of listed companies in the Shanghai and Shenzhen stock markets from 2013 to 2018, and discusses the design method of relevant evaluation system and index.

1. Theoretical basis

1.1 Relevant basic theories

1.1.1 Research on the Connotation of internal control quality evaluation

Domestic scholars believe that internal control quality evaluation is the key to study the quality of enterprise internal control, which includes two ways: self-evaluation and disclosure evaluation. The quality of internal control plays an important role in improving the efficiency of enterprise operation and realizing economic integration. At the same time, the results of internal control evaluation are also the basic way of enterprise disclosure, which plays a key role in strengthening the disclosure consciousness of managers and improving the management system.

1.1.2 Related theories and methods of internal control quality evaluation

Scholars have evaluated and analyzed the quality of enterprise internal control through different methods and theories, and put forward suggestions for improvement. Such as maximizing the objective function, analytic hierarchy process, etc., while also considering the cooperation needs of internal and external subjects, in order to improve the quality of internal control evaluation. The ICFR method helps to integrate financial reporting and internal control, improve the quality of internal control and promote capital market review.

1.1.3 Related research on internal control quality evaluation system

Scholars have studied whether the internal control quality evaluation system of listed enterprises is perfect or not, and put forward relevant suggestions. The establishment of internal control evaluation system can find and solve internal control problems and improve

enterprise performance. At the same time, it is necessary to strengthen the construction of internal control evaluation and provide a framework for thinking by referring to the research results. This paper analyzes and summarizes the internal control system of listed companies from three aspects of evaluation, and provides some suggestions for listed companies in China.

1.1.4 Relevant theoretical research on internal control quality and enterprise performance

Through theoretical methods and models, the quality of internal control can be analyzed to improve the performance of enterprises. Perfect internal control can reduce management risk, financial risk and business risk, and strengthen the company's management ability. High-quality internal control helps owners and managers to better grasp information and make optimal decisions. There is mutual influence and connection between internal control and enterprise performance, and this relationship is proved from the opposite side in the research.

1.2 Review of relevant literature

1.2.1 Related research on the status quo and problems of internal control quality evaluation

The quality and evaluation of internal control reports of domestic enterprises are improving, but they still need to be strengthened. Scholars used the data of listed companies to analyze the status quo and problems and found that the proportion and quality of disclosure are improving year by year, but the overall level is still not up to standard. There are some problems, such as a lack of standards to measure the quality of internal control self-assessment, and the conclusion of evaluation is a mere form. Some studies have pointed out that most companies can effectively identify the impact of internal control, but there is still a lack of substantive content.

1.2.2 Relevant research on recommendations for improving the quality evaluation of internal control

The internal control system of domestic enterprises is constantly improving, but there are still some problems. Scholars have proposed a number of solutions. It includes strengthening the importance of enterprise managers to internal control evaluation, improving the basic norms of report disclosure, cultivating investors and strengthening supervision. In addition, the construction of the internal control evaluation framework of listed companies is the basis for their sustainable development, and the implementation effectiveness and quality evaluation mechanism of internal control norms are also of great significance.

1.2.3 Empirical analysis of internal control quality and corporate performance

Through the research of the internal control quality index of listed companies, the internal control quality of domestic enterprises can be evaluated, and the relationship between internal control quality and corporate performance can be analyzed. The results of empirical analysis show that internal control has a significant positive correlation with the overall performance of listed enterprises, and the impact of internal control on corporate performance is different in different industries. Strengthening the internal control of enterprises can improve the performance of enterprises, but it needs to rely on external supervision, not only internal supervision. Optimizing the quality of internal control can achieve the purpose of improving enterprise performance, and the better the internal control environment, the more perfect the management structure of the company will be.

1.3 Literature review

Domestic scholars have put forward many suggestions on the quality evaluation of enterprise internal control, but in recent years, there is a lack of new sample data for analysis. The internal control quality of domestic listed enterprises is improving year by year, but there are still problems. In order to improve the quality of internal control and enterprise performance, it is necessary to actively apply theories and methods, improve the level of self-evaluation, strengthen external evaluation, pay attention to relevant factors such as internal control index and enterprise risk, and take effective measures.

2. Empirical design

The following hypothesis is formulated in this paper.

H0: There is no relationship or a negative relationship between the quality of internal control and the corporate performance of listed companies.

H1: The quality of internal control of listed companies is positively related to corporate performance.

This paper assumes that the quality of internal control of listed companies is positively correlated with corporate performance, selects state-owned and non-state-owned A-share listed companies in Shanghai and Shenzhen from 2013 to 2018 as research samples, and excludes B shares, H shares, ST shares, PT shares, listed companies in finance and insurance industries and samples with missing data. Finally, 16,022 valid sample points of 3,410 listed companies were obtained. The explained variable is ROE (return on equity), and the explanatory variable is the internal control quality index after the standardization of the DIB database. Control variables include business risk (asset-liability ratio), business size (the logarithm of total assets at the end of the period), and asset growth rate. This paper uses the internal control quality index to measure the internal control quality index, which is obtained from the DIB database and uses STATA14 for data analysis.

The meanings of variables used by the model in this paper are shown in Table 2.1:

Table 2.1 The meanings of variables used by the model

Variable Type	Code	Variable Name	Variable Definition
Explained variables	roe	Achievements	Return on Net Assets
Explanatory variables	ic	Quality of Internal control	DIB control index divided by 100
Controlled variables	lev	Enterprise Risk	debt to asset ratio
	size	Enterprise Size	Total assets are logarithmic
	gro	Development Level	Asset growth rate

2.2 Model

In summary, the regression model is constructed in this paper as follows.

$$roe = \alpha + \beta 1ic + \beta 2size + \beta 3lev + \beta 4gro + \varepsilon$$

3. Empirical analysis

3.1 Descriptive statistical analysis

Table 3.1 Descriptive statistical analysis

Variables	N	Average value	Standard deviation	Median	Minimum value	Maximum value
roe	16022	0.0494	0.144	0.0632	-0.901	0.303
ic	16022	6.293	1.394	6.587	0	8.063
size	16022	22.22	1.320	22.06	15.58	28.52
lev	16022	0.429	0.207	0.418	0.0572	0.894
gro	16022	0.197	0.487	0.110	-0.570	3.261

Table 3.1 shows that the overall profitability of China's listed companies is good (average return on equity is 0.0494), but the level of debt is high (average asset-liability ratio is 0.429), which may not be conducive to internal control. The average size of enterprises is 22.22, and the average growth rate of assets is 0.197, indicating good development ability. The mean value of proxy variable ic for internal control quality is 6.293 and the median value is 6.587, indicating that the internal control quality level of the sample company is not high.

3.2 Correlation analysis

Table 3.2 Correlation analysis

	roe	ic	size	lev	gro
roe	1				

ic	0.420***	1		
size	0.114***	0.112***	1	
lev	-0.193***	-0.108***	0.504***	1
gro	0.174***	0.101***	0.040***	0.022***	1

Note: *** significant at 1% level; ** significant at 5% level, * significant at 10% level

Table 3.2 shows that there is a significant positive correlation between the internal control index and ROE at the significance level of 1%, between enterprise size and ROE at the significance level of 1%, between asset-liability ratio and ROE at the significance level of 1%, and between asset growth rate and ROE at the significance level of 1%. The correlation coefficients are all less than 0.8, and there is no multicollinearity influence, which is suitable for further regression analysis. It can be preliminarily shown that internal control quality is positively correlated with enterprise performance. The larger the enterprise scale, the higher the internal control quality, the higher the asset-liability ratio will reduce the enterprise performance level, and the increase in asset growth rate will improve the enterprise performance level.

3.3 Regression analysis

Regression analysis was performed on the data according to the model, and the results were as follows:

Table 3.3 Correlation analysis

Variable	Parameter Estimate	Standard Error	T Value	Pr>|t|
Intercept	-0.5785***	0.0015	-16.89	0.000
Ic	0.0353***	0.0013	22.77	0.000
Size	0.0197***	0.0102	15.31	0.000
Lev	-0.1937***	0.0026	-19.04	0.000
gro	0.0395***	0.0065	14.73	0.000

Note: *** significant at 1% level; ** significant at 5% level, * significant at 10% level

Table 3.3 shows that the internal control index and enterprise size are positively correlated to enterprise performance, the asset-liability ratio is negatively correlated to enterprise performance, and the growth level is positively correlated to enterprise performance. The results of the robustness test show that there is no substantial change in the results when earnings per share and return on total assets are substituted for return on equity.

Conclusion

Based on the theory and system of internal control quality evaluation, this paper puts forward suggestions on the relationship between internal control quality and corporate performance of listed companies, and makes an empirical analysis with internal control index. The conclusion is that internal control quality is positively correlated with corporate performance. Improving the quality of internal control requires strengthening supervision and communication from both internal and external perspectives. However, there are some problems in this paper, such as large sample size and calculation error, which require empirical analysis in many aspects.

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