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Xuexia Xu
School of Accounting,Wuhan Textile University,Wuhan,430200,China, xuxuexia19950701@163.com

Li Gao
School of Accounting,Wuhan Textile University,Wuhan,430200,China, 15527536615@163.com

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An Empirical Study On The Factors Affecting The Effectiveness Of Internal Control Of Listed Corporation

-Based On The Perspective Of Corporate Governance

Xuexia Xu[1], *Li Gao*[2*]
[1]School of Accounting,Wuhan Textile University,Wuhan,430200,China
[2]School of Accounting,Wuhan Textile University,Wuhan,430200,China

Abstract: Followed a series of financial scandals such as the "Anran" and the "worldcom",the international society has given height attention to the effectiveness of internal control. The effectiveness of internal contro1(EIC) refers to the internal control system providing the level of protection for its objectives, which is under the influence of many factors. Based on Shanghai normal 2011-2013 annual financial reports of listed companies and other financial information, the article provides an empirical study on the factors affecting the EIC from internal and external corporate governance aspects. The study shows that: executive compensation is positively related to the EIC of listed companies; the number of meetings of the Directory and Supervisory Board is positively related to the Reliability goal,while being negatively related to the Legitimacy goal; the creditor constraint mechanism is positively related to the ROE (Rate of Return on Common Stockholders' Equity) goal,being negatively related to the Reliability goal,while the size of the asset is the opposite; the market competitive mechanism is positively related to the ROE goal,while the factors of Proportion of independent (IND)directors is negatively related to the ROE goal; Ownership concentration,Supervise and Corporate Social Responsibility Report have no significant correlation with the EIC.

Keywords: the EIC, Internal Corporate Governance, External Corporate Governance

1. INTRODUCTION

1.1 background and significance

Effectiveness of internal contro1(EIC) refers to the internal control system providing the level of protection for its objectives(Chen Hanwen, Zhang YiXia, 2008)[1].The goal of internal control is defined as five targets in our country, and due to the assets of safety integrity target can be classified as other categories of internal control(Li Yuhong,2011)[2], strategic objectives depends on the realization of business objectives(Zhang XianMei,2013)[3].This study will define the EIC as: the degree of internal control to ensure the ROE goal,the Reliability goal and the Legitimacy goal.

In recent years, the Enron event, the Shengjing Shanhe financial fraud and other financial fraud cases have occurred, which disclosed the nature of weaknesses in Company's internal control and the low degree of trustworthiness of effectiveness. Besides, in Modern Corporation management system, in order to maximize the value of a company, to protect the interests of investors, strengthening the internal control of companies becomes a key measure to perfect the corporate governance.In this context, the EIC has become the focus of theories, practices and the relevant regulatory authorities concerned, so the research on the EIC has become a pressing task of the circles of theory and practice.

* Corresponding author. Email: 15527536615@163.com(Li Gao) , xuxuexia19950701@163.com(Xuexia Xu)

1.2 domestic and foreign literature review

Literature on the EIC is abundant, the following will focus on the relationship between the corporate governance and the EIC.

Through an empirical study, David,W.Robert Knechel and Helen Ling(2008)[4] concluded that effective corporate governance and internal control can reduce the company's audit fee. Gerrit Sarens and Joe Christopher(2010)[5] ,by studying the different countries of the relationship between corporate governance and internal control information disclosure system, found that, in countries with more corporate governance guidelines defects, the system of internal control and risk management level are relatively low. Jian-xin cao etc.(2009)[6]found that the size of the Directory and Supervisory Board have no significant relationship with EIC;While Zhang Xianzhi, Dai Wentao(2010)[7]considered the size of the Directory and Supervisory Board has limited impacts on the internal control.One of the reasons that lead to different conclusions is that it is inappropriate to use the size of the Directory and Supervisory Board as substitution variables of its running efficiency. BoLan, hai-xin yao[8], therefore, in their study, using the number of meetings of the Directory and Supervisory Board as substitution variables of its running efficiency, they found that the more meetings contributes the greater effect of the Board of Directors and Supervisors supervision on the EIC.

Overall, the domestic and foreign literature on the EIC are mainly from the perspective of the internal corporate governance,while this empirical study on the factors affecting the EIC is from both internal and external corporate governance aspects,which not only enriches the research literature on the EIC, but also provides practical advice for real world corporate governance.

2. THEORETICAL AND ASSUMPTIONS

The research on corporate governance is a broad concept, including two aspects of internal corporate governance and management of external company(Cheng Shanshan,2012)[9].

2.1 characteristics of internal corporate governance and the EIC

This study selected the degree of ownership concentration, the number of meetings of Directory and Supervisory Board, the IND(Independent Director) and executive compensation as four variables to measure company's internal governance, because they can better represent the decision-making , oversight and incentive functions of corporate governance.

Through an empirical study, Ma (2010) [10] found that the ownership concentration can improve the performance of a company.Generally speaking, in a company with high concentrated ownership, major shareholders have the will and ability to support the development of listed companies from all aspects, thus contribute to the EIC improvement and development.

H1: the ownership concentration is positively related to the EIC.

Bu lei and Fan Yadong (2014)[11],through empirical analysis, concluded that meetings held by the Board of Directors and Supervisors,provide protection for the normal operation of the company, and is conducive to the effective implementation of internal control.

H2:the number of meetings held by the Directory and Supervisory Board is positively related to the EIC.

Goh(2009) [12]believes that the higher the proportion of independent directors, the more timely remedy for internal control deficiencies.

H3: the IND is positively related to the EIC.

As company managers, executives have the important responsibility for the effective implementation of the internal control, and their compensations as a direct and effective incentives can incentive executives to achieve a better long-term business objectives .

H4:The executive compensation is positively related to the EIC.

2.2 characteristics of external corporate governance and the EIC

External governance structure mainly includes the external supervision mechanism, creditors constraint mechanism, market competitive mechanism and CSRR(Corporate Social Responsibility Research).

External audit can provide effective supervision measures. Bedard(2009)[13]found that auditor can promote the company's internal control information disclosure.

H5:The external supervision mechanism is positively related to the EIC.

Actually, bond financing can reduce agency cost between shareholders and managers, and needs being repaid by cash, so it relatively reduces the behaviors of operators damaging the interests of the shareholders for the pursuit of self-interest.

H6: The creditors constraint mechanism is positively related to the EIC.

Liu QiLiang(2012)[14]suggests that the higher the degree of marketization , the higher the quality of internal control.

H7: fully effective and fair market competitive mechanism is positively related to the EIC.

In an increasing complex business environment, more and more companies choose to publish corporate social responsibility reports.Wang Jiacan, Shen Xiaojia(2012)[15]believes that corporate social responsibility reports can improve the company's internal control environment, the quality and efficiency of internal controls.

H8: CSRR is positively related to the EIC.

3. STUDY DESIGN

3.1 sample selection and data sources

Based on Shanghai 2011-2013 annual financial reports of listed companies , the article makes the following provisions: First, only A-share listed companies being studied; second, excluding financial and insurance listed companies; Third, excluding listed companies with missing data;Fourth, excluding ST, PT listed companies; Finally end up with 787 companies, 787 valid samples selected.

The data mainly comes from the Shanghai stock exchange official website, while secondly from Resset financial database and CSMAR database, being hand-sorted and processing by using SPSS17.0 software.

3.2 variable selection and definition

Table 3-1. Variables and its definitions

Variable nature	Variable name	Variable definitions
dependent variable	ROE	ROE = Net profit / average balance of shareholders' equity
	Reliability	Dummies.If annual financial statement audit opinion is the standard unqualified opinion, 1;otherwise 0
	Legitimacy	Dummies. If not illegal, 1; otherwise 0
independent variable	Ownership5	The proportion of top five shareholders of listed Corporation
	Meetings	The total number of meetings held by Directory and Supervisory Board
	InD	Number of independent directors / total number of Board of Directors
	LnS	Logarithm of total compensation of the top three executives
	Supervise	Dummies.If the listed company hired the "Big Four" accounting firm to audit the financial statements,1; otherwise 0.
	Creditor	Asset-liability ratio = total liabilities / total assets
	Marketing	Net profit margin = net income / sales
	CSRR	Dummies.If corporate social responsibility report is issued that year, 1; otherwise 0
Control variable	LnA	Logarithm of the total assets of listed companies

3.3 model

As there are three dependent variable in this study, three models are established as below:

$$ROE=C+\alpha_1 Ownership5+\alpha_2 Meetings+\alpha_3 InD+\alpha_4 LnS+\alpha_5 Supervise+\alpha_6 Creditort+\alpha_7 Marketing+\alpha_8 CSRR+\alpha_9 LnA+\varepsilon \quad \text{(Model 1)}$$

$$Reliability= C+\alpha_1 Ownership5+\alpha_2 Meetings+\alpha_3 InD+\alpha_4 LnS+\alpha_5 Supervise+\alpha_6 Creditort+\alpha_7 Marketing+\alpha_8 CSRR+\alpha_9 LnA+\varepsilon \quad \text{(Model 2)}$$

$$Legitimacy= C+\alpha_1 Ownership5+\alpha_2 Meetings+\alpha_3 InD+\alpha_4 LnS+\alpha_5 Supervise+\alpha_6 Creditort+\alpha_7 Marketing+\alpha_8 CSRR+\alpha_9 LnA+\varepsilon \quad \text{(Model 3)}$$

Which, $\alpha 1 \sim \alpha 9$ is the regression coefficient of each variable, C a constant term, and ε a random constant term.

4. EMPIRICAL ANALYSIS

4.1 descriptive statistics

Table 4-1. Descriptive statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROE	2327	-9.558797	22.853598	0.12540446	1.171226389
Reliability	2327	0	1	0.97	0.161
Legitimacy	2327	0	1	0.9	0.302
Ownership5	2327	0.029786	0.910633	0.50263488	0.16837502
Meetings	2327	0	49	10.41	4.651
InD	2327	0.0588	0.6667	0.351204	0.0852024
LnS	2327	11.8493977	16.96373642	14.1073845	6.985439965
Supervise	2327	0	1	0.04	0.203
Creditor	2327	0.04666413	0.95438619	0.520776017	1.990888958
Marketing	2327	-3.18501111	34.26989045	0.114795576	1.23972079
CSRR	2327	0	1	0.32	0.465
LnA	2327	17.60425949	27.20284122	22.2838323	1.271725113

Available through the analysis of the table 4-1:the average ROE is 12.54%; the average of the top five shareholders holding is 50.26%. The minimum proportion of independent directors is 5.88%, the maximum is 66.67%, the average is 35.12%, in line with the regulation that the IND of listed companies shall not be less than the specified 1/3. The total compensation of senior executives of listed companies is on the logarithmic, and its standard deviation is 6.98, indicating that the selected sample data are more dispersed.The sample in the employ of the "big four" accounting firm to audit the financial report of the year accounted for only 4%, may being caused by the high audit fee.There have been 32% sample data of the listed Corporation to produce social responsibility report.

4.2 correlation analysis

Derived from Table 4-2: in the case of asset size as the control variable, the ownership concentration and executive compensation is positively related to the EIC ;the number of meetings of the Directory and Supervisory Board is positively related to the Reliability goal,while being negatively to the ROE goal and Legitimacy goal ;the IND is positively related to the Reliability goal,while being negatively related to the ROE goal and not related to legal compliance.

Derived from Table 4-3: hiring "Big Four" accounting firm to audit the financial statements is positively related to the ROE goal and Legitimacy goal,while having no significant relation with the reliability target.The ROE of the EIC is positively related to the asset-liability ratio and Net profit margin;the asset-liability ratio is negatively related to the Reliability goal.Whether corporate social responsibility report issued has a positive impact on ROE and Reliability goals, but the impact is minimal.

Table 4-2. The correlation coefficient table of internal governance and EIC

	ROE	Reliability	Legitimacy	Ownship5	Meetings	InD	LnS
ROE	1	-0.036	0.018	0.018	-0.028	-0.07	0.07
Reliability		1	0.114	0.012	0.043	0.022	0.09
Legitimacy			1	0.001	-0.056	0	0.051
Ownship5				1	-0.15	-0.037	0.05
Meetings					1	0.033	0.102
InD						1	-0.022
LnS							1

Table 4-3. The correlation coefficient table of external governance and EIC

	ROE	Reliability	Legitimacy	Supervise	Creditor	Marketing	CSRR
ROE	1	-0.036	0.018	0.019	0.121	0.28	0.008
Reliability		1	0.114	0	-0.143	0.027	0.009
Legitimacy			1	0.051	-0.039	-0.107	-0.004
Supervise				1	-0.065	0.019	0.047
Creditor					1	0.044	-0.088
Marketing						1	0.008
CSRR							1

Control Variables:LnA

4.3 regression analysis

Derived from Model 1: we can conclude the effect of corporate governance factors on the ROE goal:First, executive compensation is significantly positively correlated with the company's ROE goal at the 10% confidence level , indicating that an increase of executive compensation can motivate executives to improve the company management level.Second, the IND was significantly negatively correlated with the ROE goal at the 10% confidence level . In addition, creditors constraint mechanisms and market competitive mechanism has significant positive correlation with the ROE goal at the 1% level .Finally, the size of the asset is significantly negatively correlated with the ROE goal at the 1% level .

Derived from Model2:We can conclude the impact of corporate governance factors on the Reliability goal:First, the number of meetings of the Directory and Supervisory Board , executive compensation is significantly positively correlated with the Reliability goal at the 10% confidence level.Second, creditors mechanisms is significantly negatively correlated with the Reliability goal at the 1% confidence level.Again, there is a significant positive correlation between the size of the asset and the Reliability goal at the 1% level , indicating that a large-scale company has a strong ability to ensure the reliability of financial reporting.

Derived from Model3:We can conclude the impact of corporate governance factors on the Legitimacy goal:The number of meetings of the Directory and Supervisory Board is significantly positively correlated with the Legitimacy goal at the 10% confidence level.

Table 4-4. Regression results

	ROE(Model 1)		Reliability(Model 2)		Legitimacy (Model 3)	
	B	t	B	Wald	B	Wald
Constant	1.363	1.371	-19.632***	11.75	-5.149*	3.064
Ownership5	0.17	0.648	0.359	0.04	-4.441	0.301
Meetings	-0.009	-1.034	0.139*	3.609	-0.044*	3.25
InD	-0.859*	-1.835	1.777	0.394	-0.001	0
LnS	0.165*	2.578	0.709*	3.775	0.257	1.715
Supervise	0.103	0.506	16.167	0	18.705	0
Creditor	0.783***	3.614	-3.268***	7.924	-0.384	0.363
Marketing	0.258***	8.048	0.612	0.876	-0.74	2.63
CSRR	0.041	0.402	-0.052	0.06	-0.073	0.067
LnA	-0.166**	-3.964	0.605***	6.966	0.211	2.649
R2/ Adjust R2	0.115/0.105					
Cox&Snell / Nagelkerke R2			0.048/0.219		0.030/0.061	
***, **, and * indicate statistical significance at the 0.01, 0.05, and 0.10 levels.						

5. ROBUSTNESS TEST

To test the robustness of the results, we performed a method by changing of dependent variable, namely using the rate of return on total assets(ROA) to measure operation condition, which is consistent with the conclusion above. Due to space limitations, the author has not shown the robustness test results in this paper.

6. CONCLUSIONS

Based on the theoretical basis of effects on the EIC by corporate governance and the above empirical analysis, the following conclusions can be drawn:executive compensation is positively related to the EIC of listed companies; the number of meetings of the Directory and Supervisory Board is positively related to the Reliability goal,while being negatively related to the Legitimacy goal; the creditor constraint mechanism is positively related to the ROE goal,being negatively related to the Reliability goal,while the size of the asset is the opposite; the market competitive mechanism is positively related to the ROE goal,while the factors of Proportion of independent directors is negatively related to the ROE goal; the factors of Ownership,Supervise and Corporate Social Responsibility Report has no significant correlation with the EIC.

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