

Research on the relationship between the effectiveness of internal control and corporate value

Jiapei Wang

School of Economic and Management, Nanjing University of Science and Technology, Nanjing, China

Abstract. As one of the important governance mechanisms of a company, the internal control system plays a pivotal role in enhancing corporate value. The convening of the 20th National Congress, the Ministry of Finance, in conjunction with the China Securities Regulatory Commission, has decided to promote listed companies and enterprises preparing listing to strengthen their internal control systems. This paper, based on the panel data of ten leading enterprises in the new energy industry among the Shanghai and Shenzhen A-share listed in 2023, employs a fixed effects model to empirically analyze the relationship between internal effectiveness and corporate value. The results show that effective internal control can promote the improvement of value. After drawing the above conclusion, this paper proposes suggestions based on the development trend of new energy enterprises, aiming to strengthen their internal control and enhance corporate value.

Keywords: Effectiveness of internal control; corporate value; empirical analysis.

1. Introduction

The 19th National Congress of the Communist Party of China pointed out that China's economy has shifted from a phase of high-speed growth to a phase of high-quality development, necessitating the enhancement of total factor productivity and the vitality of microeconomic entities. As the micro-subjects of the market economy, enterprises must continuously bolster their own vitality and improve their total factor productivity to facilitate the realization of high-quality development in China's economy. In the process of sustainable development, the state has continuously issued various requirements for internal control within enterprises. This indicates that the performance of China's listed companies in achieving the five major objectives of internal control generally falls short of standards and is unsatisfactory.

In recent years, enterprises in the new energy industry have suffered significant losses. This is due to the fact that they had previously been supported by national policies, which led to a continuous increase in market value. However, as the support from national policies has weakened, the internal controls of new energy enterprises are still inadequate in dealing with such a situation. Under such severe conditions, enterprises in the new energy industry should perform better than the average listed companies. Based on the above background, this paper selects front-end enterprises in the new energy industry as the research object to study the relationship between the effectiveness of internal controls and corporate value.

2. Literature review and Hypothesis presentation

2.1. Domestic and International Literature review

Foreign scholars have conducted in-depth research on internal control and corporate value, with most literature primarily analyzing from the perspective of corporate value. Both Jensen and Payne (2003) and Willis et al. (2000) proposed in their articles that internal control is an effective component of corporate governance, and the effectiveness of internal control can play a positive role in further enhancing corporate value. Ezeae (2006) believes that improving internal control is beneficial to enhancing corporate value. Zhang (2007) points out that the introduction of internal control-related laws may lead to negative market expectations, which in turn may have a negative relationship with



corporate value. Hang J (2015) found that the quality of internal control is significantly correlated with operational efficiency. Improving the quality of internal control can enhance a company's operational efficiency, but it cannot yet serve as a basis for company evaluation. Tsai W H (2015) studied the relationship between political connections and corporate value and found that effective internal control systems in enterprises can better protect corporate value under political shocks.

Although the development of internal control construction in China is relatively late, related research has developed rapidly. Lin Zhonggao (2007) found that improving the quality of internal control is conducive to reducing corporate irregularities and lowering the first and second types of agency costs, thereby enhancing corporate value. Yang Youhong (2008) discovered a positive relationship between the quality of internal control and the intrinsic value of information. The higher the quality of internal control in an enterprise, the greater the value of its information disclosure. Wang Dong (2009) proposed in his article that internal control and corporate value are correlated. By establishing and improving internal control, increasing cash flow, avoiding risks, and reducing discount rates, the value of the enterprise can be continuously enhanced. Xiao Hua (2013) explored the relationship between internal control quality and earnings persistence as well as corporate value from the perspective of internal control quality. Empirical analysis found that the higher the quality of internal control in an enterprise, the better the earnings persistence and the greater the corporate value. Liu Jiahong's (2016) research found that internal control has a value-adding function, with the goal of maximizing corporate value. The more effective the internal control, the more it can promote the creation of value in the enterprise. Zhang Yazhou (2020) pointed out that although internal control does not directly create value, it can exert an impact on corporate value through certain paths.

2.2. Hypothesis presentation

The establishment of an internal control system in an enterprise is firstly conducive to reducing the irrationality of the internal organizational structure and adhering to the principle of separating incompatible positions within the enterprise. It can further reduce the illegal earnings management behaviors of the management through internal control and external supervision, thereby improving the quality of corporate information disclosure and exerting a positive impact on the value of the enterprise to a certain extent.

Assumption a: The quality of internal control in an enterprise is positively correlated with its value.

However, some studies have found that there is a negative relationship between the quality of internal control and corporate value. This is mainly due to the fact that a relatively well-established internal control system requires significant costs in the early stages. Firstly, there are compliance costs and process costs for each department and employee within the company.

Hypothesis b: The quality of internal control in enterprises is negatively correlated with enterprise value.

3. Research Design

3.1. Sample Selection and Data Sources

This article selects the top ten new energy leading enterprises as the research subjects, aiming to analyze the leading enterprises' role in driving development amidst the downward trend in the new energy industry. Through screening, financial data from 10 sample enterprises were obtained as valid observations. The financial indicators required for this article are sourced from the financial statements on Sina Finance, while the internal control data comes from the Dibao Internal Control Index of listed companies on the Shenzhen and Shanghai Stock Exchanges' A-share market, provided by the Shenzhen Dibao Database.

3.2. Variable Definition

(1) The Dependent Variable

Enterprise value (TQ): This article uses the numerical calculation (TQ) from the financial statement database of Sina Finance to measure enterprise value. $TQ = \text{market value} / \text{total assets}$ at the end of the period.

(2) Explanatory Variables

Internal Control Effectiveness (ICI): This paper selects the DIBAO Internal Control Index to measure the effectiveness of internal control in enterprises. The higher the index, the more effective the internal control of the enterprise.

(3) Control Variables

When selecting control variables, we primarily considered factors that have a significant impact on corporate value. Additionally, drawing on previous scholars' perspectives, this paper controls for the effects of firm age (AGE), total debt to assets ratio (DTA), firm size (SIZE), and return on equity (ROE).

3.3. Model construction

This article constructs the following model to verify the aforementioned hypothesis.

Model: $TQ = \beta_0 + \beta_1 ICI + \beta_2 AGE + \beta_3 DTA + \beta_4 SIZE + \beta_5 ROE + \varepsilon$

4. Empirical Analysis

4.1. Descriptive statistics

This article conducts descriptive statistics on the variable data of all leading new energy enterprises, and the results are presented in data. Data reveals that the enterprise value (TQ) indicates a relatively small disparity in enterprise value among leading companies in China's new energy industry. Internal control (ICI) suggests that the quality of internal control among listed companies in China's non-ferrous metal industry varies evenly, with a relatively concentrated internal control index, but there are still differences in the level of internal control among different enterprises. The significant difference between the maximum and minimum values of the enterprise establishment age (AGE) and total debt (DTA) indicates that new enterprises continue to be registered and established in the new energy industry, and there is a notable disparity in debt levels. The standard deviation of enterprise size (SIZE) indicates a significant variation in the scale levels of enterprises in the new energy industry, with a considerable gap in size among leading enterprises. However, the maximum and minimum values of return on equity (ROE) suggest a relatively even profitability among various enterprises.

4.2. Regression analysis

The experimental results present the regression outcomes of the panel fixed effects for Model 1. According to the correlation coefficients and significance levels in Table 1, it can be inferred that there is a significant positive correlation between the effectiveness of internal control and corporate value in the leading new energy industry enterprises at the 5% level, which fully validates our proposed hypothesis. The reason lies in the fact that the process of implementing internal control in enterprises is also the process of value management, which is a continuous and dynamic management cycle. Therefore, the more effective the internal control of an enterprise is, the more controllable the risks associated with its business activities become. This enhances its profitability and controls risk situations, ultimately promoting the increase in its corporate value.

Table 1. Regression coefficient of Model 1

	TQ	
ICI	9.237** (6.592)	
AGE	0.941 (2.008)	
DTA	0.018 (0.226)	
SIZE	-0.278 (-1.748)	
ROE	9.217* (2.285)	

Note: ***, **, *indicate significance at the 1%, 5%, and 10% levels, respectively, with clustered robust standard errors in parentheses.

5. Conclusion

Through empirical analysis, the following conclusions are drawn: there is a positive and relatively close correlation between the effectiveness of internal control and corporate value. Effective internal control can promote the enhancement of corporate value. The Dibao Index is based on the degree of achievement of the five major objectives of internal control, that is, by improving the effectiveness of internal control through the enhancement of the five major objectives of internal control. At the same time, the setting of corporate objectives is based on maximizing corporate value. The higher the degree of achievement of corporate objectives, the higher the possibility of achieving maximum corporate value.

References

- [1] Jensen K L, Payne J L. Management Trade-Offs of Internal Control and External Auditor Expertise [J].: Auditing: A Journal of Practice & Theory, 2003, 22 (2): 99 - 119. DOI: 10. 2308.
- [2] Willis D, Lightle S. Management Reports on Internal Controls [J]. Journal of accountancy, 2000, 190: 57.
- [3] Jain P K, Rezaee Z. The Sarbanes-Oxley Act of 2002 and Security Market Behavior: Early Evidence [J]. Contemporary Accounting Research, 2006, 23 (3): 629 - 654.
- [4] Zhang I X. Economic consequences of the Sarbanes-Oxley Act of 2002 [J]. Journal of Accounting & Economics, 2007 (1 - 2).
- [5] Hang J, Zhao R, Wu Y. Research on Correlation between Chinese Listed Company Performances and Internal Control Quality [M]. Proceedings of the 5th International Asia Conference on Industrial Engineering and Management Innovation (IEMI2014). Atlantis Press, 2015.
- [6] SHI Biao, LI Yu Xia, YU Xhuan, YAN Wang. Short-term load forecasting based on modified particle swarm optimizer and fuzzy neural network model. Systems Engineering-Theory and Practice, 2010, 30 (1): 158 - 160.
- [7] Tsai W H, Hsieh C L, Wang C W, et al. The impact of IT management process of COBIT 5 on internal control, information quality, and business value [C]. 2015 IEEE International Conference on Industrial Engineering and Engineering Management (IEEM). IEEE, 2015.
- [8] Lin Zhonggao, Zheng Jun, and Wang Shuzhen. Research on Internal Control and Corporate Value: An Empirical Analysis from A-shares in Shanghai and Shenzhen Stock Markets [J]. Finance and Trade Economics, 2007 (04).
- [9] Yang Youhong, Chen Lingyun. Research on Self-evaluation of Internal Control of Shanghai and Shenzhen Companies in 2007 - Data Analysis and Policy Recommendations [J]. Accounting Research, 2009 (06).
- [10] Xiao Hua, Zhang Guoqing. Internal Control Quality, Earnings Persistence, and Corporate Value [J]. Accounting Research, 2013 (5): 8. DOI: 10.3969/j.issn.1003 - 2886.2013. 05. 010.
- [11] Wang Dong. Analysis of the Correlation between Corporate Internal Control and Corporate Value [J]. Economic Research Guide, 2009 (13): 31 - 32.
- [12] Liu Jiahong. Internal Control and Corporate Value [J]. The Executive, 2016 (8): 62.
- [13] Zhang Yazhou. Effectiveness of Internal Control, Financing Constraints, and Corporate Value [J]. Research on Financial and Economic Issues, 2020 (11): 109 - 117.