Internal control and non-efficiency investment of listed companies

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Abstract: Based on investment efficiency, this paper studies the influencing factors of investment efficiency and the relationship between internal control and investment efficiency. The research finds that: (1) The inefficient investment behavior of listed companies in China is mainly characterized by insufficient investment; (2) The higher the level of internal control of an enterprise, the higher its investment efficiency. The research in this paper shows that internal control plays an important role in the company's investment decision-making. Strengthening the construction of the internal control system can effectively improve the investment efficiency of the enterprise.

1. Introduction

Investment activities play an important role in the development of enterprises. At the micro level, effective investment can not only enable the company to grow rapidly, but also increase the company's value and ensure the future growth of the company's cash flow. However, the existing research in China shows that in recent years, the phenomenon of over-investment in listed companies is serious, the non-efficiency investment behavior is widespread, and the investment efficiency of enterprises is generally low. [1][2] Therefore, how to reduce the non-efficiency investment behavior and improve the efficiency of enterprise investment has become an urgent problem to be solved.

Internal control quality can affect corporate investment efficiency. Domestic and foreign regulatory agencies have successively issued a series of policies and regulations on internal control, such as the Sarbanes-Oxley Act of the United States, the Sarbanes-Oxley Act of Japan, and China's “Basic Standards for Internal Control of Enterprises”. It can be seen that strengthening internal control has become an important means for countries in the world to improve corporate governance and investment efficiency. Domestic and foreign scholars have studied the economic consequences of internal control. The research of foreign scholars mainly focuses on financing costs, enterprise risks, internal transactions, analyst forecasts, and accounting information quality. There is less literature on the impact of internal control on investment efficiency.

Different from the perspective of the above research, this paper draws on the model adopted by Richardson (2006) to measure the non-efficiency investment of the enterprise, and examines the impact of internal control on the investment efficiency of the enterprise.

2. Literature Review

The role of internal control in corporate investment is within the scope of internal control economic consequences. The study found that internal control can significantly reduce the level of non-efficiency investment, improve the investment efficiency, enhance corporate value, and protect the interests of shareholders.[3] When studying the economic consequences of internal control, foreign scholars mainly focus on related transactions, financing costs, accounting information quality, corporate risk, and analyst forecasts. The results of Doyle (2007) show that the lower the quality of the company's internal control, the less restrictive it is to the manager's opportunistic behavior, which makes the manager more likely to be offside, thus making the quality of the financial information provided by the company lower, which in turn affects investment efficiency. [4] Corporate governance and internal control can inhibit the company's inefficient investment, corporate governance can

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effectively inhibit the willingness of non-efficiency investment, and internal control can effectively inhibit operational non-efficiency investment. [5]

Biddle (2009), Cheng et al. have shown that high-quality financial reporting or disclosure of major defects in internal control can reduce the inefficient investment behavior of enterprises.[6] High-quality internal control can reduce over-investment by alleviating principal-agent problems.[7][8] At the same time, good internal control can also control the “short-selling” behavior of controlling shareholders by controlling related transactions, prevent the transfer of interests or capital occupation of controlling shareholders, protect the funds of listed companies, and avoid inefficient investment caused by such behaviors. Class behavior leads to inefficient investment. [9][10] Domestic and foreign research also found that high-quality internal control can reduce the degree of information asymmetry, reduce the investor's requirement for capital cost, and avoid the company being forced to give up good investment projects because of excessive financing costs. [11] [12]

3. Research hypothesis

In the actual production and operation of the company, the management will be affected by the adverse selection and moral hazard caused by the mismatch of information, making investment decisions that are not conducive to the interests of shareholders.

First of all, information asymmetry will cause adverse selection problems. Managers can't transmit accurate information of investment projects to the market well. Enterprises have higher financing costs because the market can't get enough information, which makes enterprises unable to get sufficient funds, and forced to give up good investment projects, resulting in insufficient investment. From the perspective of moral hazard, management will be more inclined to avoid risks and pursue stability in consideration of factors such as promotion, so when they encounter investment projects with a net present value greater than zero but with higher risk, management may choose to give up, resulting in insufficient investment in enterprises.

Secondly, the occurrence of non-efficiency investment is also affected by two types of agency problems. The separation of ownership and management rights will inevitably lead to conflicts of interest between management and shareholders, which will also cause managers to make decisions that deviate from the interests of shareholders and ignore the interests of shareholders. Managers tend to expand the scale of the business abnormally, even for projects with a net present value less than zero, because it helps managers get more on-the-job consumption and facilitates the construction of their own empire.[13] At the same time, the phenomenon that the controlling shareholder of a listed company is short-selling is more common.[14] The controlling shareholders will invest in related party investment projects with low returns, with the aim of increasing their control rights and interests, thus triggering excessive investment.

A complete internal control system can effectively restrict the phenomenon of enterprise inefficient investment caused by agency problems and information asymmetry.

Firstly, internal control system can effectively alleviate the problem of information asymmetry. Timely and effective communication can improve the transparency of financial information of the company, shareholders can understand the business situation better, and managers can be more effectively supervised. At the same time, the main way for the market and the shareholders to obtain information is the financial report of the company. The quality of the financial report information determines the quality of the information obtained by shareholders and the market. The higher the quality of internal control, the higher the quality of financial reporting, which can reduce the problem of excessive corporate financing costs due to adverse selection and alleviate the lack of investment.

Secondly, a complete internal control system can reduce non-efficiency investments caused by agency problems. More specific rules help to clarify the job responsibilities of the various contract parties of the company and to curb the inefficient investment caused by the subjective assumptions of managers. [15]Based on the above, this paper proposes hypothesis,

H1: Other conditions remain unchanged, internal control levels are inversely related to non-efficiency investments.

4. Research design

4.1 Sample selection and data source

The data in this paper mainly comes from Guotaian Database (CSMAR) and Shenzhen Dibo Risk Management Technology Co., Ltd. Taking the 2010-2016 A-share listed companies in China's Shanghai and Shenzhen stock markets as the initial sample, and eliminating the financial industry, ST and PT samples, and companies with incomplete data, all samples were subjected to a 1% level of tail processing.

4.2 Model Design and Variable Selection

4.2.1 Measurement of enterprise investment efficiency

This paper draws on the model built by Richardson (2006) to measure the non-investment efficiency of enterprises.[16]

$$Investment_t = \alpha_0 + \alpha_1 Growth_{t-1} + \alpha_2 Leverage_{t-1} + \alpha_3 Cash_{t-1} + \alpha_4 Age_{t-1} + \alpha_5 Size_{t-1} + \alpha_6 Ret_{t-1} + \alpha_7 \text{ In } v_{t-1} + \sum \text{ Industry } + \sum Year + \varepsilon \quad (1)$$

4.2.2 Inspection model of relationship between internal control level and investment efficiency

This paper draws on the research methods of Xin Qingquan (2007) and Li Wanfu (2010) to test the impact of internal control on investment efficiency. Building the model (2):

$$INV_t(UnderINV_t \text{ or } OverINV_t) = \beta_0 + \beta_1 ICQ_t + \beta_2 Owner_t + \beta_3 MSH_t + \beta_4 FSH_t + \beta_5 LnCOM_t + \beta_6 Leverage_t + \beta_7 FCF_t + \beta_8 size_t + \sum Industry + \sum Year + \varepsilon \quad (2)$$

Table 1 Variable definition

Variable type	Variable name	symbol	Definition or calculation method
Explained variable	New capital investment	Investment	(purchasing fixed assets, long-term investments and cash paid for intangible assets - disposal of fixed assets, long-term investments and net profit or loss of intangible assets) / average total assets
		INV	Absolute value of residual obtained in model (1)
	Underinvestment	UnderINV	The residual of less than zero obtained by model (1), taking the absolute value
	Overinvestment	OverINV	The residual obtained by the model (1)is greater than zero
Explanatory variables	Internal Control	ICQ	Dibo - China's listed company internal control index
	Nature of property	Owner	Dumb variable, take 1 if the actual controller is a local government, otherwise 0
Control variable	Growth opportunity	Growth	Tobin-Q = (year-end circulation market value + non-tradable shares net assets book value + total liabilities) / year-end total assets
	Cash holdings	Cash	Year-end cash holdings / year-end total assets
	Financial leverage	Leverage	Year-end asset-liability ratio
	Stock income	Ret	Annual return on stock
	Time to market	Age	Company's listing period
	Business scale	Size	Natural logarithm of total assets at the end of the year
	New capital investment	Investment	Same as Investmentt, time lag
	Management shareholding	MSH	Year-end management shareholding ratio
	The largest shareholder	FSH	Proportion of the largest shareholder at the end of the year
	Executive compensation	LnCOM	Natural logarithm of total annual remuneration of directors, supervisors and senior executives
	Free cash flow	FCF	(Operating cash flow - depreciation - amortization - expected new investment) / average total assets
	Years	Year	virtual variable
	Industry	Industry	virtual variable

5. Empirical results

5.1 Inefficient Investment Measurement

The specific regression results are shown in Table 2 below.

Table 2 Non-efficiency investment model regression results

Variable	Symbol	Coefficient	T value
α0		-0.0169**	-2.10
α1 (Growtht-1)	+	0.0009***	3.45
α2 (Leverage t-1)	-	0.01***	-4.78
α3 (Cash t-1)	+	0.018***	5.24
α4 (Age t-1)	-	0.003***	-4.63
α5 (Size t-1)	+	0.002***	5.22
α6 (Ret t-1)	+	0.003***	4.74
α7 (Invest t-1)	+	0.5664***	76.6
Adjusted R2	0.4163		
N	10635		
F	1082.86		

*P<0.1, **P<0.05, ***P<0.01

First of all, according to the adjusted R2 and F values, the regression equation has a good overall fit, and there is a significant linear relationship between the dependent variable and the independent variable. Secondly, the company's growth opportunities, cash holdings, firm size, stock return, and the new capital investment are significantly positively correlated with the investment level of the year, which is consistent with the expected results of the Richardson model.

5.2 Relationship between internal control level and investment efficiency

It can be seen from the regression results that, firstly, there is a significant negative correlation between the non-efficiency investment and the internal control quality, indicating that the higher the internal control quality of the enterprise, the better the improvement of investment efficiency, and the lower the level of non-efficiency investment. This shows that better internal control can alleviate the problem of low investment efficiency, and the regression results are consistent with the expectations of this paper, H1 is verified. Secondly, in the control variables, the nature of the company's equity, free cash flow, the proportion of the largest shareholder and the size of the company are significantly positively correlated with the non-efficiency investment of the company. First, the free cash flow and firm size are significant in all three sets of samples. This shows that the more free cash flow, the larger the asset size, the more serious the abuse of funds, resulting in more inefficient investment behavior. Secondly, for enterprises with high concentration of ownership, their decision-making power is relatively concentrated, which leads to the decision-making of enterprises is deeply affected by the investment preferences of major shareholders. If the major shareholders of enterprises prefer high-risk investment, it is very likely to cause over-investment, on the other hand, leads to under-investment. The regression result of the debt level is consistent with the result in model (1), and the results are significantly positive in the full sample regression and over-investment groups, because managers try to get rich returns through aggressive investment strategies, resulting in over-investment.

5.3 Robustness test

In order to test the robustness of the above regression results, this paper conducted the following robustness analysis.

5.3.1 Eliminate the maximum absolute value of residuals

This paper draws on Li Qingyuan's method and divides the obtained non-efficiency investment residuals into 5 groups according to the absolute value, and then removes the largest group. The

remaining samples are subjected to regression analysis, and the regression results are basically consistent with the above test results.

5.3.2 Transform internal control quality measurement variables

This article replaces the proxy variable that measures the quality of internal control with "whether internal controls disclose important and significant defects," and sets dummy variables: ICQ takes 1 if the internal control of the listed company discloses important and major defects, otherwise it takes 0. Using this variable, the model (2) is again regressed, although the quality of the internal control is reduced, it is still significant. The results are in line with expectations.

Table 3 Regression results

Variable	INV	OverINV	UnderINV
ICQ	-0.0004**	-0.0008*	-0.0015**
	(-2.03)	(-1.94)	(-2.36)
Owner	-0.0010	-0.003*	-0.0003
	(-1.60)	(-1.91)	(-0.48)
FSH	0.000	-0.0010	0.002
	(0.03)	(-0.23)	(1.07)
MSH	0.0054***	0.0026	0.0069***
	(2.93)	(0.64)	(4.07)
LnCOM	-0.0013***	-0.0034***	-0.0003**
	(-2.87)	(-3.39)	(-2.34)
FCF	0.01***	-0.0411***	0.0153***
	(2.60)	(4.39)	(4.39)
Leverage	-0.004**	-0.004	-0.0079***
	(-2.24)	(1.16)	(-5.54)
Size	-0.0014***	-0.0015**	-0.0016***
	(-4.25)	(-2.02)	(-5.11)
R^2	0.342	0.368	0.384
N	9695	3761	5934
F	18.87	22.99	29.08

*P<0.1, **P<0.05, ***P<0.01

6. Conclusions

This paper focuses on the relationship between internal control and investment efficiency. Through empirical tests, the following conclusions are drawn: (1) In 2010-2016, the inefficient investment behavior of listed companies in China is mainly due to insufficient investment; (2) the internal control level of enterprises is negatively correlated with their non-efficiency investment; The higher the control level, the higher the investment efficiency of the company. It can be seen that internal control plays a very important role in corporate investment decisions.

This paper puts forward the following suggestions: First, from the perspective of the enterprise itself, it is necessary to strengthen the construction of the internal control system and further improve the implementation of the internal control system. Secondly, from the outside of the enterprise, the relevant departments should strengthen the supervision of the internal control of the enterprise, for example, the accounting firm can issue an internal control audit report for the enterprise to convey information about the quality of internal control of the enterprise to stakeholders.

References

[1] Zhang Chun, Lu Wei. Information disclosure, information intermediary and over-investment of enterprises [J]. Accounting Research, 2009 (1): 11-12.

[2] Qi Mingxia. Research on the Impact of Earnings Management on the Investment Efficiency of Chinese Listed Companies[J]. Friends of Accounting, 2017(04): 56-60.

[3] Fang Ying. Internal Control, Inefficient Investment and Enterprise Value[J]. Friends of Accounting, 2017(04): 79-83.

[4] Doyle J, Ge W, McVay S. Determinants of Weaknesses in Internal Control over Financial Reporting [J]. Journal of Accounting and Economics,2007(44):49-56.

[5] Fang Hongxing, Jin Yuna. Corporate Governance, Internal Control and Inefficient Investment: Theoretical Analysis and Empirical Evidence[J]. Accounting Research, 2013(07): 63-69+97.

[6] Cheng M, Dhaliwal D., Zhang Y. Does Investment Efficiency Improve after the Disclosure of Material Weakness in Internal Control over Financial Reporting? [J]. Journal of Accounting and Economics, 2013,56(1):1-18.

[7] Narayanan M. V. Debt vs Equity under Asymmetries Information [J]. Journal of Financial and Quantitative Analysis, 1988(23):39-51.

[8] Zhou Hongxia, Ouyang Ling. A Summary of Research on Inefficient Investment Behavior of Enterprises--A Perspective of Conflicts of Interests Between Shareholders and Managers[J]. Management Science, 2011 (2): 81-99.

[9] Yang Deming, Lin Bin, Ren Ying. Internal Control, Governance Environment and Investor Protection[J]. Securities Market Herald, 2010(4): 53-60.

[10] Yang Yufeng, Wang Huoxin, Cao Qiong. Research on Correlation between Internal Control Information Disclosure Quality and Agency Cost[J]. Audit Research, 2010(1):82-88.

[11] Chen Hanwen, Zhou Zhongsheng. Internal Control Quality and Corporate Debt Financing Costs[J]. Nankai Management Review, 2014, 17(3): 103-111.

[12] Dhaliwal D., Hogan C, Trezevant R. Wilkins M. Internal Control Disclosure, Monitoring, and The Cost of Debet [J]. Accounting Review, 2011, 86(4): 1131-1156.

[13] Jensen, M. C. The Agency Cost of Free Cash Flow, Corporate Finance, and Takeovers. American Economic Review,1986 (76): 323-329.

[14] Li Zengquan, Sun Wei, Wang Zhiwei. “Sketchout” and Ownership Arrangement--Evidence from the Occupation of Major Shareholders of Listed Companies in China[J]. Accounting Research, 2004(12): 3-13+97.

[15] Li Wanfu, Lin Bin, Song Yu. The role of internal control in corporate investment: efficiency promotion or suppression [J]. Management World, 2011 (2): 81-99.

[16] Richardson S. Over-investment of Free Cash Flow[J]. Review of Accounting Studies, 2006(11): 159-189.