

The Impact of Executive Shareholding on Corporate Governance Efficiency—from Firm Life Cycle Perspective

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Abstract: *Currently, there is a certain shift in the management mode of enterprises in China, and at the same time, higher standards are put forward for corporate governance. Taking 2012-2021 GEM listed companies as a sample, the impact of executive shareholding on corporate governance efficiency is examined from the dynamic level of enterprise life cycle. The empirical results show that executive shareholding has a positive impact on corporate governance efficiency, and there are differences in the impact of executive shareholding on corporate governance efficiency when enterprises are in different life cycles. From the expansive analysis, it can be seen that female executive shareholding has an inverted "U"-shaped relationship with corporate governance efficiency, and this effect only exists in the growth period of the enterprise's life cycle. This paper enriches the research on executive shareholding and corporate governance efficiency, and provides theoretical references for the implementation of executive shareholding plans in GEM companies.*

Keywords: *executive shareholding, female executive shareholding, corporate governance efficiency, life cycle*

1. Introduction

In order to solve the conflict of interest caused by principal-agent, shareholders usually implement equity incentives for executives to achieve the goal of maximizing the interests of the company. In order to return the equity incentives given by the enterprise and maximize the value of their own equity holdings, the executives will do their best to improve the company's performance. Jensen (1976) and other studies have also shown that companies with a higher percentage of executive shareholding have a higher corresponding corporate governance efficiency^[1]. However, with the widespread use of executive shareholding plans, the proportion of executive shareholding increased at the same time, the managerial power and shareholders' right to monitor the contradiction is increasingly prominent, providing a breeding ground for self-interested behavior of executives, damaging the interests of the company and shareholders, and forming a trench defense effect. According to the theory of enterprise life cycle, enterprises will go through different stages in the process of growth, and enterprises in different stages of development have different resources and capabilities, and face different goals and challenges (Liu Kaihao et al., 2023)^[2]. So what role does executive shareholding play in corporate governance efficiency? How does executive shareholding affect corporate governance efficiency when companies are in different life cycles? Are there any differences?

The possible main contributions of this paper are as follows: first, it analyzes the impact of executive shareholding on corporate governance efficiency with a dynamic perspective, which enriches the related literature. Most of the existing studies study the issue of executive shareholding and corporate governance efficiency from a static perspective. Second, this paper has some practical guidance, and the findings of this paper can provide empirical evidence for the implementation of executive shareholding plans in enterprises.

2. Literature Review and Research Hypotheses

At present, there is no unified conclusion on the relationship between executive equity incentives and corporate governance efficiency. Scholars mainly focus on the "convergence of interests hypothesis" and the "management defense hypothesis" for the executive stock ownership plan. The goal of executives is

to improve the core competitiveness and market position of the enterprise, so that the enterprise can develop stably in the long term.

2.1. Executive shareholding and corporate governance efficiency

A large number of research results show that executive shareholding is significantly correlated with the company's business performance. Zhou Yunbo et al. (2020) studied the value creation function of China's executive shareholding plan based on the data of listed companies in China from 2006 to 2017, and concluded that the implementation of executive shareholding plan can improve the governance efficiency of listed companies through improving the business performance of enterprises, attracting institutional investors to hold shares and other channels [3]. Executive shareholding can also enhance corporate governance efficiency through paths such as reducing managers' on-the-job consumption, reducing information asymmetry, and improving management performance pay (Liu Baohua, 2018)[4]. Wei Wenjun (2017)[5] found that executive shareholding can strengthen managerial "Ownership" consciousness, prompting executives to improve the level of corporate management. Ni Yan et al. (2021)[6] used the propensity score matching method to conclude that executive shareholding has a significant increase in corporate performance, indicating that the higher the intensity of executive shareholding, the more obvious the performance improvement, and thus the higher the efficiency of corporate governance. Jensen (1976) et al. believe that a company with a better intensity of executive shareholding and executive compensation also has a higher level of corporate governance accordingly [1]. Lei Hui et al. (2016)[7] took the A-share listed companies in Shenzhen and Shanghai from 2009 to 2014 as the research samples, and from the corporate governance mechanism as well as principal-agent cost as the starting point, considered that the influence of executive shareholding on corporate governance efficiency is more important. Lv Xinjun (2015)[8] used the heterogeneous stochastic boundary model, to quantitatively estimate the governance efficiency of listed companies in China. The design of executive shareholding plan realizes the problem of the correspondence between the residual control right and residual claim right of the business operators to a certain extent, which helps to improve the corporate governance efficiency. Li Lianwei et al. (2023)[9] systematically examined the impact of executive shareholding on the governance efficiency of listed companies based on the perspective of human capital, and concluded that executive shareholding mainly plays the role of "incentive", which can reduce the agency cost of the enterprise and improve the governance efficiency of listed companies, and the effect is more significant in the state-controlled listed companies.

However, some scholars believe that there is a trench defense effect. Executives may utilize the power in their hands to influence the operational decisions of the enterprise. The executive shareholding plan will reduce the agency cost between shareholders and management and enhance the transparency of information (Stulz R.M, 1988)[10], but as the proportion of executive shareholding continues to increase, the power of managers continues to expand, and the benefits from implementing self-interested behaviors are greater than the benefits from the results of the operation, and executive shareholding has a negative effect on the governance efficiency of the company (Dong Zhu et al., 2019)[11]. There is also a part of scholars believe that due to the different proportion of executive shareholding will also have different effects on the company. Equity incentives and risk taking is not a simple linear relationship, but there is an inverted "U" type relationship, when the proportion of executive shareholding reaches a certain level, increasing the proportion of shareholding will reduce the level of risk taking of the company (Li Xiaorong et al., 2014)[12].

In summary, from the literature, it can be found that scholars believe that there is mainly a linear relationship between executive shareholding and corporate governance efficiency. Executive shareholding helps to improve the synergy between executives and corporate shareholders, make their interests converge, by reducing the degree of information asymmetry between shareholders and executives thus easing the conflict between the two and enhancing the performance of the company, thus improving the efficiency of corporate governance.

Therefore, the following hypotheses are proposed:

H1: There is a positive correlation between executive shareholding and corporate governance efficiency, all other conditions being equal.

2.2. Executive shareholding and corporate governance efficiency under different enterprise life cycles

Based on the theory of enterprise life cycle, enterprises have dynamic growth laws and have differentiated organizational structure, corporate governance, etc. under different life cycle stages,

specifically:

When the enterprise is in the growth period, the enterprise is in a stage of strong rise and development, gradually develop a certain market share, facing sufficient investment opportunities, the strong demand for new managers who have just entered the company will be full of enthusiasm for the work, the executives will give full play to their own management talent to improve the efficiency of the enterprise's operation. However, due to the lack of stability in the development of the enterprise organization, the organizational structure, rules and regulations continue to establish and improve, when the company's executives shareholding ratio reaches a certain level (Fama et al., 1983)[13], it will gradually increase the control of the enterprise, the emergence of agency conflicts, which may lead to the pursuit of personal interests of the managers to maximize the deviation from the goal of maximizing the value of the company.

When the enterprise is in the maturity period, the development speed of the enterprise in the maturity period is slowed down, and its position in the industry is also relatively stable, occupying a dominant position in the market, the sales scale reaches a high level, the financial situation, the company's operation and management tends to be stabilized, and the internal governance mechanism of the enterprise tends to be perfect, and the behavior of executives is easy to be supervised and managed by the Board of Directors and the Supervisory Board, which is very difficult to take the opportunist behaviors to make the value of the enterprise be harmed.

When the enterprise is in recession, when the enterprise products in the market renewal has lost the established demand side, resulting in the loss of market competitiveness, corporate image no longer exists towards aging and extinction, the cash flow can not meet the daily operation of the enterprise, profitability weakened, the loss of development potential, financial risk, business risk climbing, the enterprise scale is gradually shrinking, the organization of the conflict intensified. At this time, the implementation of executive stock ownership plan is of little significance, and is likely to become a tool for executives to make money.

Therefore, the following hypotheses are proposed:

H2a: There is an inverted U-shaped relationship between executive shareholding and corporate governance efficiency in growing companies.

H2b: Executive shareholding in mature companies is positively related to corporate governance efficiency.

H2c: There is no correlation between executive shareholding and corporate governance efficiency in declining companies.

3. Research Design

3.1. Sample Selection and Data Collection

In this paper, the data of GEM listed companies from 2010 to 2021 are selected as the initial research sample to empirically investigate the life cycle characteristics of executive shareholding and corporate governance efficiency, excluding ST, *ST and missing data samples, and excluding samples of financial and insurance industries, and finally obtaining an unbalanced panel sample of 6773 observations. The empirical part uses STATA17 software. All the data used in the study are from the Cathay Pacific database (CSMAR).

3.2. Model Setting and Variable Measurement

3.2.1. Explained Variables

Corporate governance efficiency (ROA). Drawing on Huang, Wenqing (2017) [14], ROA is used as a measure of corporate governance efficiency.

3.2.2. Explanatory variables

Executive shareholding ratio (MSR). The number of shares held by executives/the total number of shares of the enterprise.

3.2.3. Corporate life cycle (CY)

This paper refers to the method of Dickinson (2011)^[15], Xie Peihong and Wang Chunxia (2017)^[16], and adopts the cash flow portfolio method to divide the enterprise, and divides the life cycle of China's listed companies into three stages, namely, growth, maturity and decline, and the detailed division criteria are shown in Table 1.

Table 1: Cash flow mix of firms at different life cycle

| Cash flow portfolios | growth | | Maturity | | | recession | | |
|----------------------|-----------|--------|----------|-----------|-----------|-----------|-----------|-----------|
| | inception | growth | Maturity | turbulent | turbulent | turbulent | recession | recession |
| operating | - | + | + | - | + | + | - | - |
| Investment | - | - | - | - | + | + | + | + |
| Financing | + | + | - | - | + | - | + | - |

3.2.4. Control variables

This paper refers to the existing literature in the model to control the variables that may affect both executive shareholding and corporate governance efficiency, these variables include gearing ratio (LEV), equity concentration (H3), firm size (SIZE), and the proportion of sole director (IDR). The relevant variables are defined as shown in Table 2.

Table 2: Description of variables

| variant | symbol | Meaning of variables and their descriptions |
|---------------------------------|--------|---|
| Corporate governance efficiency | ROA | Net profit/average balance of total assets |
| Executive Shareholding Ratio | MSR | Executive Shareholding/Total Share Capital |
| gearing ratio | LEV | Total liabilities / total assets |
| equity concentration | H3 | Sum of shareholdings of the top three largest shareholders |
| enterprise regulation | SIZE | Natural logarithm of total company assets |
| Ratio of sole director | IDR | Number of independent directors / Total number of board members |

3.2.5. Regression Model

According to the research of this paper and the designed variables, the following multiple regression model is constructed:

$$ROA = \alpha_0 + \alpha_1 MSR + \alpha_2 LEV + \alpha_3 H3 + \alpha_4 SIZE + \alpha_5 IDR + \epsilon \tag{1}$$

$$ROA = \alpha_0 + \alpha_1 MSR + \alpha_2 MSR^2 + \alpha_3 LEV + \alpha_4 H3 + \alpha_5 SIZE + \alpha_6 IDR + \epsilon \tag{2}$$

where α_0 is the constant term, $\alpha_n (n=1,2,3,4,5)$ is the regression coefficient of each independent variable, and ϵ is the error term.

4. Analysis of empirical results

4.1. Descriptive statistical analysis

Table 3 reports the descriptive statistical characteristics of each variable for the full sample as well as for different life cycles. The great and small values of executive shareholding ratio are 0.843 and 0, respectively, indicating that there is a large gap in executive shareholding among different GEM enterprises; the mean values of corporate governance efficiency in the growth, maturity and decline periods are 0.0612, 0.054 and 0.0146, which show a decreasing trend, but with a smaller magnitude, in which the mean values of corporate governance efficiency in the growth and decline periods are higher relative to that of the enterprises in the maturity period. The proportion of executive shareholding in the growth, maturity and decline periods is 0.168, 0.163, 0.139, respectively, showing a decreasing trend, but the magnitude is small. From the analysis of descriptive statistics results of the whole sample, it can be seen that the mean value of executive shareholding of GEM-listed companies is 0.163, which indicates that the overall level of executive shareholding is higher in GEM-listed companies. The mean value of corporate governance efficiency is 0.0537, indicating that the overall corporate governance level of the selected sample companies is low.

Table 3: Descriptive statistical analysis

| variant | average value | | | | standard deviation | minimum value | maximum value |
|---------|-------------------------|--------------------|----------------------|----------------------|--------------------|---------------|---------------|
| | full sample (n=6670) | growth (n=3623) | maturity (n=2338) | recession (n=709) | | | |
| ROA | 0.0537 | 0.0612 | 0.054 | 0.0146 | 0.0904 | -0.965 | 0.88 |
| MSR | 0.163 | 0.168 | 0.163 | 0.139 | 0.177 | 0 | 0.843 |
| LEV | 0.312 | 0.336 | 0.271 | 0.327 | 0.187 | 0.011 | 2.128 |
| SIZE | 21.32 | 21.39 | 21.22 | 21.29 | 0.868 | 18.68 | 26.45 |
| IDR | 0.382 | 0.381 | 0.382 | 0.388 | 0.0547 | 0.2 | 0.75 |
| H3 | 47.89 | 48.09 | 48.65 | 44.43 | 14.39 | 5.63 | 100 |

4.2. Correlation test

As can be seen in Table 4, ROA and MSR are significantly and positively correlated at 1% level, which basically verifies the hypothesis H1, indicating that executive shareholding will improve corporate governance efficiency. Meanwhile, gearing ratio, proportion of independent directors and enterprise size are significantly negatively correlated with corporate governance efficiency at 1% level. Shareholding concentration is significantly and positively related to corporate governance efficiency at 1% level.

Table 4: Correlation analysis of variables

| | ROA | MSR | LEV | SIZE | IDR | H3 |
|------|-----------|-----------|-----------|-----------|---------|----|
| ROA | 1 | | | | | |
| MSR | 0.136*** | 1 | | | | |
| LEV | -0.400*** | -0.136*** | 1 | | | |
| SIZE | -0.118*** | -0.233*** | 0.408*** | 1 | | |
| IDR | -0.053*** | 0.085*** | 0.026** | -0.036*** | 1 | |
| H3 | 0.295*** | 0.209*** | -0.181*** | 0.296*** | 0.028** | 1 |

4.3. Regression Analysis

Column (1) in Table 5 shows the regression results of the full-sample regression of executive stock ownership on corporate governance efficiency. In the full-sample regression, it can be seen that the regression coefficient of executive shareholding in the model is positive and significant at the 1% statistical level, which indicates that executive shareholding helps to improve corporate governance efficiency in general, and this regression result coincides with the conclusions of previous scholars' studies and verifies Hypothesis H1.

Column (2) in Table 5 shows the regression results of executive shareholding on corporate governance efficiency in the growth period. The regression results show that the regression coefficient of executive shareholding ratio (MSR) is 0.101 and passes the significance test at 1% significance level, while the regression coefficient of the quadratic term of executive shareholding is -0.145, which also passes the significance test at 1% significance level. The regression results indicate that there is an inverted "U" shaped relationship between executive shareholding and corporate governance efficiency for companies in the growth period, which verifies the hypothesis H2a, and the inflection point of executive shareholding can be calculated to be 34.83%, which means that, all other things being equal, when the proportion of executive shareholding is lower than 34.83%, the percentage of shares held by the executive shareholding is lower than 34.83%, and the percentage of shares held by the executive shareholding is lower than 34.83%. In other words, all other conditions being equal, when the proportion of executive shareholding is lower than 34.83%, the positive effect of convergence of interests generated by executive shareholding is greater than the negative effect of trenching, and the governance efficiency of the company increases with the increase in the proportion of executive shareholding, and when it reaches the peak, the negative effect of trenching is greater than the negative effect of trenching, which results in the reduction of the governance efficiency of the company again with the increase in the proportion of executive shareholding. This may be due to the fact that the company is in a period of economic growth during the growth period, and the various activities of the company also begin to develop rapidly, and the agency problem caused by the separation of powers gradually emerges. During the growth period more attention is paid to how to achieve rapid expansion of the company and the improvement of the organizational structure is neglected, which makes some executives seek personal self-interest and disturb the internal order of the company leading to the decline in the efficiency of

corporate governance.

Column (3) in Table 5 shows the regression results of executive shareholding on corporate governance efficiency in the maturity period. The regression results show that the regression coefficient of executive shareholding ratio (MSR) of 0.03 passes the significance test at the 1% significance level. The increase in the proportion of executive shareholding of the enterprise can promote the efficiency of corporate governance, which verifies the hypothesis H2b. The probability of conflict between principals and agents due to decision-making of the enterprise in the maturity period will be reduced, the internal control system tends to be improved, and the ability to resist internal and external risks is strengthened. The enterprise management system is relatively perfect, and institutionalized management keeps the personal behavior of executives under control.

Column (4) in Table 5 shows the regression results of executive shareholding on corporate governance efficiency in the recession period. For the sample firms in the recession period, the regression coefficient of executive shareholding ratio (MSR) is 0.011 and insignificant, which verifies the hypothesis H2c, which suggests that the implementation of executive shareholding plans by the firms in the recession period may not have a better effect on improving the business performance. Compared with the growth and maturity period companies are more conservative and most of the companies have a fixation.

Table 5: Results of regression model analysis

| variant | full sample | growth | maturity | recession |
|------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | ROA | ROA | ROA | ROA |
| MSR | 0.033*** (5.80) | 0.101*** (5.17) | 0.030*** (2.95) | 0.011 (0.45) |
| MSR ² | - - | -0.145*** (-3.90) | - - | - - |
| LEV | -0.192*** (-33.62) | -0.170*** (-24.28) | -0.202*** (-19.57) | -0.264*** (-13.55) |
| H3 | 0.002*** (21.89) | 0.001*** (16.91) | 0.002*** (12.4) | 0.002*** (5.27) |
| SIZE | 0.014*** (10.68) | 0.010*** (6.82) | 0.012*** (5.36) | 0.020*** (3.89) |
| IDR | -0.083*** (-4.67) | -0.059*** (-2.82) | -0.072** (-2.27) | -0.077 (-1.12) |
| Constant | -0.227*** (-7.86) | -0.156*** (-4.66) | -0.209*** (-3.98) | -0.376*** (-3.13) |
| Observations | 6,772 | 3,623 | 2,338 | 709 |
| R-squared | 0.229 | 0.227 | 0.221 | 0.29 |

4.4. Robustness test

Table 6: Robustness test results

| variant | full sample | growth | maturity | recession |
|-------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| | ROA | ROA | ROA | ROA |
| CEOS | 0.025*** (3.73) | 0.080*** (3.89) | 0.023* (1.86) | -0.007 (-0.23) |
| CEOS ² | - - | -0.134*** (-2.97) | - - | - - |
| LEV | -0.193*** (-33.78) | -0.171*** (-24.26) | -0.203*** (-19.68) | -0.265*** (-13.61) |
| H3 | 0.002*** (21.88) | 0.001*** (16.56) | 0.002*** (12.4) | 0.002*** (5.43) |
| SIZE | 0.013*** (10.29) | 0.010*** (6.41) | 0.012*** (5.18) | 0.020*** (3.82) |
| IDR | -0.081*** (-4.54) | -0.061*** (-2.91) | -0.069** (-2.18) | -0.073 (-1.06) |
| Constant | -0.214*** (-7.45) | -0.136*** (-4.10) | -0.198*** (-3.80) | -0.369*** (-3.07) |
| Observations | 6,670 | 3,623 | 2,338 | 709 |
| R-squared | 0.226 | 0.223 | 0.219 | 0.29 |

In order to verify the above conclusions, this study conducts a robustness test of the original model by finding replacement variables. The CEO shareholding ratio of listed companies is used as a substitute variable for the original executive shareholding ratio, which is substituted into the model for testing. The new regression results, as shown in Table 6. The coefficients of the growth period CEO shareholding ratio and the squared term change slightly, but the direction of the impact is the same, and the critical value of the CEO shareholding ratio can be calculated to be 29.85%, which is not much different from the estimated results of the nonlinear regression, which indicates that the findings of the above study have strong robustness.

5. Conclusions and Implications

This paper explores the differences in the impact of executive shareholding on corporate governance efficiency at different life cycle stages by introducing the enterprise life cycle theory. Although executive shareholding plays a role in corporate governance efficiency, it is not appropriate to use executive shareholding to enhance corporate governance efficiency at all life cycle stages of an enterprise. The following conclusions are drawn: On the whole, executive shareholding can promote corporate governance efficiency, but the impact of executive shareholding on corporate governance efficiency shows differences in different life cycle stages. When the enterprise is in the growth stage, the relationship between executive shareholding and corporate governance efficiency is inverted "U" shape, which may be due to the fact that in the growth stage, the enterprise development momentum is strong, high potential, economic benefits and capital strength continue to improve, and at this time, the implementation of executive shareholding plan to motivate the executives can make the executives work in high mood, and at this time, there is a convergence of interests between principal and agent, and there is an effect of convergence of interests between principal and agent.

The research in this paper may provide some reference for companies to implement executive stock ownership plan. Differentiated management for the enterprise life cycle, for enterprises in the growth stage in order to ensure that the executive stock ownership plan to play an effective role for a long time, GEM companies need to continue to optimize the overall corporate governance structure to avoid negative incentive effects, to expand the market at the same time, but also pay attention to the internal governance of the enterprise, improve the performance assessment indicators. For enterprises in the mature stage, a corporate culture should be established to support the successful implementation of the executive shareholding program, giving executives a sense of responsibility and enthusiasm for hard work; for enterprises in the decline stage, due to the weakening of profitability and the loss of development potential, it is unwise to implement the executive shareholding program at this stage.

References

- [1] Jensen M C, Meckling W H. *Theory of the Firm: Managerial Behavior, Agency Costs, and Ownership Structure* [J]. Springer Netherlands, 1976(4): 305-360.
- [2] Liu Kaihao, Zhu Hong. *Loan Renewal Restrictions and Outward Foreign Direct Investment of Enterprises--Based on the Perspective of Enterprise Life Cycle* [J]. *Journal of Shanxi University (Philosophy and Social Science Edition)*, 2023, 46(03): 148-160.
- [3] Zhou Yunbo, Zhang Jingwen. *Can Managerial Equity Incentives Enhance Firm Value? --Evidence from Chinese A-share Listed Companies* [J]. *Consumer Economics*, 2020, 36(01): 26-34.
- [4] LIU Baohua, WANG Lei. *Performance-based Equity Incentives, Exercise Limitations and Corporate Innovation* [J]. *Nankai Management Review*, 2018, 21(01): 17-27+38.
- [5] WEI Wenjun, SHI Huaqian. *Executive shareholding, investment behavior and financial performance* [J]. *Finance and Accounting Newsletter*, 2017, No. 760(32): 23-26.
- [6] Ni Yan, Hu Yan. *The Impact of Equity Incentive Strength on Corporate Performance--Taking A-share Listed Companies as an Example* [J]. *Jiangnan Forum*, 2021, No. 514(04): 17-27.
- [7] Lei Hui, Long Hui. *Governance Efficiency of Listed Companies in China-Based on DEA Method* [J]. *System Engineering*, 2016, 34(11): 17-23.
- [8] Lv Xinjun. *Equity Structure, Executive Incentives and Governance Efficiency of Listed Companies - A Study Based on the Heterogeneous Stochastic Boundary Model* [J]. *Management Review*, 2015, 27(06): 128-139.
- [9] LI Lianwei, Lv Bangle, GUO Yuanyuan. *Equity Incentives and Governance Efficiency of Listed Companies - Based on Human Capital Perspective* [J/OL]. *System Engineering: 1-15* [2023-05-15].
- [10] Stulz R. M. *Managerial control of voting rights: Financing policies and the market for corporate*

control [J]. *Journal of Financial Economics*, 1988(20): 25~54.

[11] DONG Zhu, MA Pengfei. Executive shareholding: "trench defense" or "convergence of interests"-based on the determining role of internal control [J]. *Journal of Xi'an Jiaotong University (Social Science Edition)*, 2019, 39(03): 23-31.

[12] Li S. R, Zhang R. J. Equity Incentives Affect Risk Taking: Agency Cost or Risk Aversion? [J]. *Accounting Research*, 2014(01): 57-63+95.

[13] Fama E F, Jensen M C. 1983. Separation of ownership and control [J]. *Journal of law and Economics*, 1983(26): 301-325.

[14] Huang Wenqing. Foreign Shareholder Heterogeneity, Firm Nature and Corporate Governance Efficiency - An Empirical Test Based on Chinese Listed Companies [J]. *Finance and Economics Theory and Practice*, 2017, 38(01): 74-79.

[15] Dickinson V. Cash Flow Patterns as a Proxy for Firm Life Cycle [J]. *The Accounting Review*, 2011, 86(6): 1969-1994.

[16] Xie Peihong, Wang Chunxia. Management Power, Firm Life Cycle and Investment Efficiency: An Empirical Study Based on Listed Companies in China's Manufacturing Industry [J]. *Nankai Management Review*, 2017, 20(01): 57-66.