

Study on the proportion of managers' equity stakes and Enterprises' sustainable development achievements

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Abstract: As our nation's economic landscape flourishes swiftly, an increasing number of entities are showcasing their commitment to sustainable progression. This study focuses on the A-share publicly listed corporations trading on the Shanghai and Shenzhen bourses over the course of 2011 to 2022, and studies the relationship between managers' equity stakes and Enterprises' sustainable development achievements. Research has found that managers' equity stakes is significantly positively correlated with the sustainable development achievements of enterprises. The higher the proportion of managers' equity stakes, the higher the level of sustainable development achievements of the enterprise. The research conclusion of this article provides scientific verification and in-depth interpretation in order for companies to attain enduring progress, and provides theoretical basis for effectively exerting management incentives. It is of great significance for promoting corporate governance and social sustainable development.

1. Introduction

Under the situation of the rapid growth of the Chinese economy, sustainable development achievements of enterprises has become a hot topic of concern for people. National leaders proposed to actively cultivate strategic emerging industries and future industries, accelerate the formation of new quality productive forces, and enhance new driving forces for development [1]. In the context of rapid economic development, financial performance is no longer sufficient to fully reflect the development status of enterprises, and sustainable development achievements is gradually being valued. Sustainable development performance considers the both the economic development and environmental social responsibility pertaining to the company, comprehensively measuring the comprehensive corporate performance metrics in terms of economy, environment, and social responsibility, reflecting the sustainable development capability of the enterprise. At present, research on the influencing factors of attainments in sustainable progression of enterprises is divided into internal driving factors and external influencing factors. From an internal perspective, studies have found that executives' environmental awareness, green investment, and chain shareholders are internal driving factors for improving the sustainability achievements of businesses. From the perspective of the external environment, some scholars have used institutional theory to find that carbon emissions trading policies and green credit policies, as market-based environmental

regulatory policies, are external factors that enhance the level of a company's sustainable progression[2].

The management of a company, as the direct decision-makers of various internal activities, is bound to exert a considerable influence on the corporate expansion. The positive and negative actions of the management will also affect the purchasing, employment, and investment intentions of various stakeholders[3]. Management shareholding is an effective incentive tool that can stimulate the motivation of managers to create wealth for the company, form a stickiness between management and the enterprise, strengthen their sense of identification with the enterprise, and contribute to the development of the organization, thereby directly affecting the sustainable development performance of the enterprise. There is currently no literature exploring the factors that affect business sustainability achievements from the viewpoint of managers' equity stakes. Therefore, studying the relationship between managers' equity stakes and the sustainable development achievements of enterprises is very significant.

The uniqueness of this research is: firstly, it deeply analyzes the fundamental reasons why the management shareholding ratio affects the sustainable development achievements of enterprises, providing empirical evidence for the improvement of sustainable development performance of enterprises by the management shareholding ratio; Secondly, it enriches the research on the influencing factors of sustainable development performance of enterprises, providing empirical evidence for guiding relevant practices; The conclusion drawn in this article can provide reference for enterprises to formulate sustainable development strategies and management incentive policies, which plays a crucial role in advancing corporate governance and social sustainable development.

2. Theoretical analysis and research hypothesis

The sustainable development performance evaluation a vital system for management tool for measuring the sustainable development of enterprises, which takes into account the economic growth and ecological societal duties of enterprises. It comprehensively measures the comprehensive performance of enterprises in terms of economy, environment, and social responsibility, and can identify problems in the sustainable achievements of enterprises and find directions for performance improvement through this system[4]. Therefore, this article explores the fundamental reasons why the management shareholding ratio affects business sustainability achievements via various pathways such as green innovation and corporate social responsibility.

On the one hand, holding holding a portion of the company's stock by the management can have a certain incentive effect on the managers. By implementing equity incentive plans for the management, it can make them to place greater emphasis on the company's long-term development capabilities and increase innovation investment[5]. Green innovation can promote the economic performance of enterprises. Through green innovation, enterprises can form unique and difficult to imitate key resources, promote the formation of core competitiveness, and the green products produced by green innovation can also help attract more investors. Green innovation can improve the trust of stakeholders and achieve better social performance[6]. Previous studies have found that as the concentration of corporate equity increases, companies' investment in research and development projects will also continue to increase, and there is a positive correlation between the two. Therefore, companies with a higher proportion of management shareholding have stronger innovation capabilities, effectively improving the level of sustainable achievements of the enterprise.

On the other hand, companies with a higher proportion of management shareholding typically have higher levels of corporate social responsibilities. The core of corporate social responsibilities pertains to the ethical limitations that firms place on their economic actions amidst the backdrop of global economic integration. It encompasses not only the objectives and operational ethos of the

company but also a set of managerial and assessment protocols designed to regulate the enterprise's internal production and operational activities, encompassing even the suppliers.[7]. Former research indicates that when managers' equity stakes is greater than 50.24%, the convergence effect of interests is greater than the moat defense[8]. The interests of shareholders and management are disclosed to some degree. To elevate the worth and derive advantages for the organization, the administration tends to proactively reveal corporate social responsibility data, elevate the quality of corporate social responsibility information disclosure, and promote the sustainable development of the enterprise[9].

Based on the above analysis, this article proposes hypotheses.

H1: The proportion of management shareholding which is directly associated with sustainable progression performance of the enterprise.

3. Research design

3.1 Sample source

Referring to Guo Wei and Kang Wenyi (2024) [1], This article takes Regarding A-share listed companies in China's Shanghai and Shenzhen stock markets from 2011 to 2022 as research samples, and organizes them as follows: (1) excludes the samples of ST and * ST companies; (2) Excluding samples of financial industry companies; (3) Excluded samples with missing data. After the above processing and screening, 33659 annual sample observations of companies were obtained. In order to prevent the impact of outliers on the outcomes, ongoing variables are truncated at the 1% and 99% levels. The enterprise level data employed throughout this paper are exclusively derived from the CSMAR database.

3.2 Variable definition

(1)Independent Variable

Management shareholding ratio (MH). The management team includes directors, supervisors, and senior management, with senior management including the general manager, president, and other management personnel announced in the annual report, and the number of shares held under dual positions is not counted.

(2)Dependent Variable

Sustainable Development Performance (TDP). The assessment of financial success is conducted through the examination of the return on assets (ROA), while the evaluation of environmental and societal duties is quantified by the Huazheng ESG index, which are standardized separately. The specific formula is: $m^* = (m - \min) / (\max - \min)$, limiting the range of the two indicators to 0-1. Drawing on the approach of Jie Xuemei and Zhu Qiwei (2021)[10], the standardized financial performance and environmental social responsibility performance of enterprises are utilized to construct sustainable development performance. The specific formula is:

$$TDP = \left[(1 - |FINA - ENVI|) \times \sqrt{FINA \times ENVI} \right] / 1 \quad (1)$$

3.3 Model building

Drawing insights from the preceding theoretical examination, so as to test the impact of management shareholding ratio on sustainable development performance, this paper constructs the following regression model:

$$TDP = \alpha_0 + \alpha_1 Mshare + \alpha_2 Size + \alpha_3 LEV + \alpha_4 ROA1 + \alpha_5 Cashflow + \alpha_6 Top1 + \alpha_7 Liquid + \alpha_8 Intangible + \gamma + i + \varepsilon \quad (2)$$

Among them, TDP represents the variable of sustainable development, and MSHARE represents the proportion of managers' equity stakes. According to the assumption, it is positive, which means that when the managers' equity stakes increases, sustainable development performance increases. Drawing on existing literature, this article controls for the following variables: Size, LEV, ROA1, Cashflow, Top1, Liquid, Intangible. This article further controls for temporal (γ) and sector-specific effects (i), where ε is the error term. The particular indicator in question explanations are exhibited in Table 1.

Table 1: Variable Definition Table

Variable type	Variable symbol	Variable definition
Explanatory variables	MSHARE	Proportion of management shareholding
response variable	TDP	Please refer to the previous text for specific definitions
control variable	Size	Enterprise scale
	LEV	Asset liability ratio
	ROA1	Net profit divided by average total assets
	Cashflow	Cash flow ratio
	Top1	Number of shares held by the largest shareholder/total number of shares
	Luquid	Current ratio
	Intangible	Proportion of intangible assets
	γ	Fixed year effect
	i	Industry fixed effects

4. Empirical analysis

4.1 Descriptive statistical analysis of main variables

Table 2: Descriptive Statistical Analysis of Main Variables

Variable	N	Mean	SD	Min	p50	Max
TDP	33659	0.592	0.097	0	0.610	0.873
Mshare	33659	13.77	19.50	0	0.946	70.38
Size	33659	22.23	1.285	19.59	22.04	26.45
Lev	33659	0.422	0.204	0.032	0.414	0.908
ROA1	33659	0.039	0.066	-0.373	0.038	0.247
Cashflow	33659	0.046	0.069	-0.199	0.045	0.267
Top1	33659	33.66	14.73	8.020	31.27	75.78
Liquid	33659	2.504	2.632	0.268	1.685	29.92
Intangible	33659	0.045	0.049	0	0.033	0.343

Table 2 presents the descriptive statistics for the principal factors. A review of the data reveals that the TDP mean is 0.592, the standard deviation is 0.097, the lowest figure is 0, the median is 0.610, and the maximum value is 0.873, suggesting variability exists in the sustainable development performance levels of different enterprises. The average for Mshare stands at 13.77, with a variance of 19.50, a baseline figure of 0, and a median value of 0.946., and the maximum value is 70.38, indicating that the overall shareholding ratio of the company's management is

relatively low.

4.2 Regression result analysis

The findings of the regression analysis are depicted in the table 3, which shows that the coefficient of Mshare is 0.0003, significant at the 1% level, indicating a significant positive correlation between management shareholding and sustainable development performance. The higher managers' equity stakes of the enterprise management, the higher the level of attainments in sustainable progression.

Table 3: Analysis of Benchmark Regression Results

VARIABLES	(1) TDP
Mshare	0.0003*** (10.63)
Size	0.0133*** (22.48)
Lev	-0.0587*** (-15.68)
ROA1	0.8336*** (114.72)
Cashflow	-0.1015*** (-15.73)
Top1	0.0003*** (7.36)
Liquid	-0.0005** (-2.23)
Intangible	0.0252** (2.17)
Constant	0.2636*** (16.81)
Observations	33,659
Number of id	4,622
Year FE	YES
Industry FE	YES
R^2	0.4364

5. Robustness check

5.1 Control variables

In addition to the influencing factors studied in this article, there are other variables that affect the regression results. In order to make the analysis results more accurate, this article further added the following control variables on the basis of the original: equity multiplier (EM1), average age of management (TMTAge), total asset turnover rate (ATO), and board size (Board).

5.2 Increase fixed effects

Mshare and TDP are still significantly positive at the 1% level.

5.3 Replacing the dependent variable

Table 4: Analysis of Robustness Test Results

	(1)Increase control variables	(2)Increase fixed effects	(3)Replace the explained variable
VARIABLES	TDP	TDP	TDP
Mshare	0.0004*** (11.24)	0.0003*** (10.09)	0.0005*** (12.26)
Size	0.0119*** (19.56)	0.0134*** (22.39)	0.0247*** (34.97)
Lev	-0.0189*** (-3.46)	-0.0579*** (-15.43)	-0.1439*** (-32.26)
ROA1	0.8443*** (112.16)	0.8322*** (114.43)	0.4875*** (55.70)
Cashflow	-0.0971*** (-15.03)	-0.1026*** (-15.87)	-0.1009*** (-13.12)
Top1	0.0003*** (7.60)	0.0003*** (7.22)	0.0004*** (7.46)
Liquid	-0.0000 (-0.17)	-0.0004** (-2.00)	-0.0015*** (-5.78)
Intangible	0.0202* (1.74)	0.0274** (2.34)	0.0206 (1.49)
EM1	-0.0057*** (-8.65)	/	/
TMTAge	0.0014*** (7.61)	/	/
ATO	-0.0122*** (-8.37)	/	/
Board	0.0001 (0.04)	/	/
Constant	0.2279*** (13.32)	0.2653*** (16.46)	0.0656*** (3.50)
Observations	33,656	33,659	33,627
Number of id	4,621	4,622	4,622
Year FE	YES	YES	YES
Industry FE	YES	YES	YES
R^2	0.4416	0.4411	0.3099

According to the regression results in column (3) of Table 4, the coefficient of Mshare is significantly positive at the 1% level, further verifying the A correlation that is favorable.

6. Conclusions

This article involving A-share publicly traded entities within China's Shanghai and Shenzhen equities exchanges from 2011 to 2022 as the research object, and studies the relationship between managers' equity stakes and corporate sustainable development performance. Research has found that there exists a notable positive connection between executive equity and the sustainable development accomplishments of enterprises. Meaning that the higher the proportion of management shareholding, the higher the level of the sustainable progress metrics of the corporation. In addition, this article uses robustness testing methods such as adding control variables, adding fixed effects, and replacing the dependent variable to further verify a favorable correlation has been identified;

Drawing from the insights garnered within this study, the subsequent recommendations are put forth: (1) Management should be appropriately given a certain amount of equity according to industry characteristics, scale, and other factors. This way, the interests and goals of managers will be aligned in alignment with the company's enduring expansion objectives. (2) A comprehensive mechanism should be established for management shareholding, specifying ways to obtain and recover equity to incentivize employees to consider the advancement of the enterprise and avoid the impact of position power on the enterprise. Enterprises can choose stock incentives at their discretion to avoid issues such as adverse selection and moral hazard. Concurrently enterprises should remain focused on risk prevention and control, and do a good job in risk avoidance. (3) Enterprise management should utilize their professional experience, actively participate in corporate governance, provide suggestions and advice to the enterprise, and help improve sustainable development performance through reasonable and legal means, thereby achieving sustainable development for the whole society.

References

- [1] Guo Wei, Kang Wenyi. *ESG Performance, Digital Finance, and Corporate Green Technology Innovation* [J]. *Finance and Accounting Monthly*, 2024, 45 (17): 49-54.
- [2] Zhang Jinsong, Zhang Yunshu. *Has digital transformation improved the sustainable development performance of enterprises?* [J]. *Friends of Accounting*, 2024, (13): 55-62.
- [3] Xiang Luyang, Zhang Yingwei. *The Impact of Management Shareholding and Marketization on the Quality of Corporate Social Responsibility Information Disclosure* [J]. *Journal of Fujian Business University*, 2020, (02): 40-46.
- [4] Tang Canji. *Research on Performance Evaluation of Corporate Sustainable Development Based on ESG Concept* [D]. *Shaoxing University of Arts and Sciences*, 2021.
- [5] Ji Weili, Fan Weichao. *Is a higher management shareholding ratio more conducive to innovation—Research based on different ownership and industry backgrounds* [J]. *Friends of Accounting*, 2021, (14): 46-53.
- [6] Tian Chuchu. *Environmental Taxation, Green Innovation, and Corporate Sustainable Development Performance* [D]. *Central South University of Economics and Law*, 2022.
- [7] Guo Wenting, Liu Yanping, Hua Guang. *On Corporate Social Responsibility, Corporate Performance, and Sustainable Development of Enterprises* [J]. *Southern Journal*, 2011, (01): 16-19.
- [8] Mei Shiqiang, Wei Haoqiang. *Executive Shareholding: Convergence Effect or Trench Defense Effect: Empirical Analysis Based on ChiNext Listed Companies*. *Research Management*, 2014, 35 (07): 116-123.
- [9] Xiang Luyang, Zhang Yingwei. *The Impact of Management Shareholding and Marketization on the Quality of Corporate Social Responsibility Information Disclosure* [J]. *Journal of Fujian Business University*, 2020, (02): 40-46.
- [10] Jie Xuemei, Zhu Qiwei. *How can green innovation practices in enterprises solve the problem of "harmonious coexistence"?* [J] *Managing the World*, 2021, 37 (01): 128-149+9.