Director Incentive, Environmental, Social, and Governance (ESG) and Corporate Performance

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Abstract. Based on the sample of the data of A-share listed companies in China from 2017 to 2021, this paper discusses the relationship among director incentive, ESG and corporate performance. By employing the panel data regression model and using the generalized least square method to estimate panel data, the research shows that director incentive is positively related to corporate performance. The results also show that the level of ESG can regulate the relationship between director incentive and corporate performance. Director incentive would be negatively related to corporate performance if the levels of ESG were higher, and director incentive would be positively related to corporate performance if the levels of ESG were lower. The effect of director incentive on corporate performance will change with the level of ESG.

Keywords: Director Incentive, Environmental, Social and Governance (ESG), Corporate Performance.

1 Introduction

In corporations, the board of directors' main responsibility is to protect and promote the interests of shareholders. The responsibilities of the board of directors also include approval, supervision, evaluation, incentive and other management measures, and reward and punish according to management performance. The agency theory believes that incentive can make the agent's efforts consistent with the client's wishes. Director incentive is an important mechanism, through which the owners and the board of directors can direct the management's attention to specific goals with financial and social impact. The financial rewards given to directors may indicate the company's commitment to social performance and may provide substantial help for the company to implement its financial strategy. Evidence shows that when incentive measures have universal incentive purposes, they are an effective means to motivate managers to work hard to complete assigned tasks according to the company's strategic objectives.

In companies where ownership and control are separated, agency costs between shareholders and managers may increase. Specifically, shareholders are interested in letting managers make decisions that maximize the value of the company, while managers are usually more concerned about their own wealth and well-being. In addition, information asymmetry makes it difficult for shareholders to monitor the behavior of

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managers and understand which investment opportunities can maximize their wealth. In order to alleviate the principal-agent problem and coordinate the interests of shareholders and managers, scholars and practitioners have considered some corporate governance mechanisms. Among them, management incentive has become a powerful tool to reduce agency costs and prevent managers from opportunistic behavior. Smith and Stulz (1985) point out that if the company failed to provide appropriate incentives for managers through remuneration contracts, managers may give up positive net present value projects to increase the company's risk [1]. Boone et al. (2011) show that CEO equity incentive is negatively correlated with equity risk premium, and they attribute the negative correlation to the incentive adjustment attribute of stock options [2].

2 Literature Review and Hypotheses

2.1 Director Incentive and Corporate Performance

Scholars studying corporate governance have been putting forward monitoring and designing incentive adjustment methods for executive compensation contracts of modern companies for a long time to solve the agency problem.

Adithipayangkul and Leung (2018) study the relationship between non-executive directors' incentives and corporate performance and find that corporate performance will be better if incentives are more powerful [3]. The study also finds that the compensation incentive under the supervision of large shareholders has a negative impact on performance, while the compensation incentive under the supervision of creditors has a positive impact on performance.

Bin et al. (2020) study the determinants of CEO compensation of listed companies in China from 2009 to 2015 and find a positive correlation between them and company performance [4]. Conyon and He (2011) investigate the relationship between executive compensation and financial performance of Chinese listed companies from 2001 to 2005. They find that in non-state-controlled listed companies, the positive correlation between executive compensation and corporate performance is stronger [5]. Gu et al. (2010) find that companies under weak government control have higher salary levels and higher salary performance sensitivity, while companies under high government control have lower salary levels and lower salary performance sensitivity. The study finds that pay incentive schemes act as a substitute governance mechanism when direct government control is reduced [6]. Jiang et al. (2020) study how government ownership affects management compensation and how such compensation affects company performance. The study finds that the management compensation of state-owned enterprises is lower than that of non-state-owned enterprises, which induces poor performance in state-owned enterprises [7].

Based on the above analysis, hypothesis 1 is proposed: The director incentive is positively related to the company performance. The higher the director's salary is, the better the company performance will be.

2.2 ESG and Corporate Performance

ESG refers to environmental, social and governance. From the above three dimensions, it evaluates the sustainability of enterprise operation and its impact on social values, and measures the sustainable development ability of an enterprise. Among them, the environmental dimension mainly includes climate change, natural resources, environmental pollution, ecological diversity, etc. The social dimension mainly includes product quality, employee rights and interests, consumer rights and interests, supply chain enterprise rights and interests, etc. The corporate governance dimension mainly includes internal control, information disclosure, shareholder rights and interests, board structure, etc.

Gunnar et al. (2015) count more than 2200 articles on the relationship between environmental, social and governance (ESG) standards and corporate financial performance. The results show that 63% showed positive relationship, 8% showed negative relationship, and 29% showed neutral relationship [8]. Fatemi et al. (2018) study the impact of environmental, social and governance activities and their disclosure on corporate value. The survey results show that ESG activities and risk exposure enhance the company's value, while the reduction of such activities reduces the company's value [9]. Wong et al. (2020) find that ESG investment reduced the company's cost of capital, which led to a significant increase in Tobin Q's company value [10].

Based on the above analysis, we propose hypothesis 2: ESG is positively related to company performance.

2.3 Director Incentive, ESG and Corporate Performance

There have been literature studies on the relationship between director incentive and corporate performance or ESG and corporate performance, but there are few studies on the relationship between director incentive, ESG and corporate performance.

According to the agency cost theory, companies that adopt enterprise ESG practices will bear additional costs, which may reduce their profitability. The purpose of over investment of enterprise management in enterprise ESG is to realize their personal interests, because it can improve their personal reputation. This indicates that the performance of ESG can also lead to changes in agency costs: corporate executives reduce agency costs to a certain extent by improving the level of ESG, and changes in agency costs are the main path through which director incentives affect company performance. Therefore, it can be inferred that ESG has a moderating effect on the relationship between director incentives and company performance.

Accordingly, the following assumption 3 is proposed: ESG can regulate the relationship between director incentive and enterprise performance, and the effect of director incentive on enterprise performance will change with the change of ESG level.

3 Research Methodology

3.1 Sample Selection and Data

This paper selects companies that were listed before 2000 and have not been delisted, so as to ensure that the company's behavior is relatively mature. At the same time, ST companies, financial companies and companies with incomplete financial data are excluded. After considering the above criteria, 262 listed companies were finally selected, and the financial data of five consecutive years from 2017 to 2021 were obtained, forming a balanced panel data for empirical research.

The financial data of the sample companies are from Wind and RESSET. Excel, SPSS20 and EVIEWS7.2 are used for data processing.

3.2 Variable Definition

Explained variable: Company Performance

Return on equity (ROE) is used as the proxy variable of company performance. Return on equity is the core indicator of DuPont's financial analysis system, which can reflect the company's performance.

Explanatory variable: Director Incentive

Adopting the total remuneration of the top three directors as the proxy variable of director incentive.

Regulating variable: ESG

ESG is adopted as the adjusting variable of director incentive and enterprise performance, expressed by the score of Sino-Securities index ESG rating. The ESG rating data of Sino-Securities index is 1-9. The higher the assigned value, the better the ESG performance.

Table 1. Description and interpretation of relevant variables.

Variable	Sign	Definition
Company performance	ROE	Net profit/equity
Director incentive	BW	LN (total remuneration of top three directors)
ESG	ESG	Sino-Securities index ESG rating score
Financial leverage	LEV	Total debt/total assets
Firm size	SIZE	LN (total assets)
Liquidity	LIQU	Current assets/current liability
Growth opportunity	GROW	Sales growth rate
Top one	TOP	Shareholding ratio of the largest shareholder
Years of establishment	AGE	LN (the company's establishment years)
Annual dummy variable	YEAR	Belonging to a certain year, equal to one; otherwise, 0

Control variable

Control variables include finance leverage, firm size, liquidity, growth opportunity, shareholding ratio of the largest shareholder, and other factors. A summary of variable definitions and interpretations is presented in Table 1.

3.3 Model Construction

Regression model between director incentive and company performance:

$$ROE = \alpha_1 + \beta_1 \mathrm{BW} + \beta_2 Control + \varepsilon \quad (1)$$

Regression model of ESG and corporate performance:

$$ROE = \alpha_1 + \beta_1 ESG + \beta_2 Control + \varepsilon \quad (2)$$

Regression model of the interaction between director incentive, ESG and corporate performance:

$$ROE = \alpha_1 + \beta_1 BW + \beta_2 ESG + \beta_3 BW \times ESG + \beta_4 \mathrm{Control} + \varepsilon \quad (3)$$

4 Empirical Results

4.1 Descriptive Statistics

Table 2. Descriptive statistics of related variables

Variable	Mean	Median	Maximum	Minimum	Std. deviation
ROE	0.028	0.060	31.550	-22.733	1.212
BW	14.522	14.477	17.571	10.463	0.921
ESG	6.974	7	9	2	1.231
LEV	0.492	0.501	1.420	0.013	0.215
SIZE	23.033	22.932	28.015	19.413	1.357
LIQU	2.067	1.381	42.724	0.027	2.755
GROW	0.103	0.062	5.548	-0.948	0.465
TOP	0.339	0.324	0.891	0.050	0.151
AGE	3.206	3.218	4.007	2.639	0.166

From the descriptive statistics of variables in Table 2, we can see that the minimum value of Return on Equity (ROE) is -22.73, the maximum value is 31.55, and the standard deviation is 1.212, indicating that the profitability of the sample companies varies greatly. The average return on equity (ROE) is 0.028, indicating that the profitability of listed companies in China is poor as a whole.

The minimum value of the remuneration of the top three directors (BW) is 10.46, and the maximum value is 17.57, indicating that the remuneration gap between the sample companies is relatively large.

The minimum ESG level of the sample companies is 2, the maximum is 9, the average is 6.974, and the median is 7, indicating that listed companies have invested more in environmental, social and governance, and the overall performance of ESG is good.

Table 3. Pearson correlation coefficient matrix between related variables

	ROE	BW	ESG	LEV	SIZE	LIQU	GROW	TOP	AGE
ROE	1								
BW	0.01*	1							
ESG	0.09**	0.22**	1						
LEV	-0.03	0.13**	0.06**	1					
SIZE	0.04	0.41**	0.43***	0.43***	1				
LIQU	-0.01	-0.11**	-0.09**	-0.48**	-0.27**	1			
GROW	0.03	0.05***	0.04*	0.02	0.09***	0.01	1		
TOP	0.07*	-0.09**	0.16***	0.02	0.19***	-0.08**	-0.01	1	
AGE	0.02	0.08**	0.08***	0.03	0.06**	0.05**	-0.03	-0.09**	1

Note: *, * *, * * * means significant at the statistical level of 10%, 5% and 1%.

Table 3 provides the Pearson correlation coefficient matrix of the company's performance variables and other related variables. Pearson correlation coefficient matrix shows that: (1) There is a positive correlation between director incentive and company performance, indicating that the company's involvement in the board of directors' incentive has a positive impact on company performance; (2) ESG is positively correlated with corporate performance, indicating that the more enterprises invest in environmental, social and governance aspects, the greater the value of enterprises.

4.2 Multiple Regression Analysis

Table 4 shows the results of multiple regression. Model (1) is the regression result of director incentive and corporate performance. Director incentive and corporate performance are significant at the level of 1%, with a coefficient of 0.013, which proves that there is a positive correlation between director incentive and corporate performance. The higher the director's salary, the more conducive to improving corporate performance. The regression results verify hypothesis 1.

Model (2) is the regression result of ESG and company performance. ESG and company performance are significant at the level of 1%, with a coefficient of 0.017, which proves that enterprises invest more in ESG, can be recognized by stakeholders, and will improve the profitability of enterprises. The regression results validate hypothesis 2.

Table 4. Multiple regression results of director incentive, ESG and company performance

Variable	(1)	(2)	(3)
Intercept	-0.584*** (-11.72)	-0.384** (-11.12)	-0.979*** (-8.10)
BW	0.013*** (7.57)		0.048*** (5.39)
ESG		0.017*** (12.08)	0.083*** (4.31)
BW*ESG			-0.004*** (-3.68)
LEV	-0.137*** (-6.75)	-0.095*** (-5.87)	-0.088*** (-6.67)
SIZE	0.024*** (11.26)	0.016*** (14.99)	0.011*** (14.66)
LIQU	0.001*** (3.01)	0.001*** (2.94)	0.001*** (3.16)
TOP	0.033*** (3.16)	0.032** (3.61)	0.033*** (3.66)
GROW	0.213*** (17.49)	0.143*** (15.22)	0.154*** (17.91)
AGE	-0.042*** (-4.16)	-0.022** (-2.99)	-0.019** (-2.03)
YEAR	YES	YES	YES
R^2	0.281	0.203	0.237
Adjusted R^2	0.275	0.196	0.229
F-statistic	46.148	30.041	30.996
Prob.(F-statistic)	0.000	0.000	0.000

Note: *, * *, * * * means significant at the statistical level of 10%, 5% and 1%; The t value corresponding to the variable is in parentheses.

Model (3) analyzes the impact of the interaction between director incentive and ESG on corporate performance (return on equity). The results show that director incentive and ESG are significantly positively correlated with corporate performance at the level of 1%, while the cross term of director incentive and ESG is negatively related to corporate performance at a significant level of 1%, which proves that ESG has a negative regulatory effect on director incentive and corporate performance. The regression results show that when the ESG level is high, the director incentive is negatively correlated with the company performance (-0.004, $p<0.01$); When the level of ESG is low, director incentive is positively correlated with corporate performance (0.048, $p<0.01$). The regression results verify hypothesis 3.

5 Conclusion

Based on the sample of 262 listed companies listed in Shanghai Stock Exchange during the period of 2017 and 2021, this paper studies the relationship among director incentive, ESG and corporate performance. The research conclusions are as follows.

There is a significant positive correlation between director incentive and corporate performance. In the process of development, listed companies should adopt appropriate incentive methods and mechanisms for the board of directors and senior executives, which will reduce agency costs and improve corporate performance.

ESG is positively related to company performance. Listed companies should not only carry out production and operation activities, but also actively implement environmental protection policies, fulfill social responsibilities, and do a good job in corporate governance, so that enterprises can be recognized by the society, thus improving their profitability. Companies with behave well of ESG usually have high financial performance, good credit quality and strong anti-risk ability.

ESG can adjust the relationship between director incentive and company performance. When the enterprise's ESG level is high, increasing the incentive ratio will have a negative impact on the company performance; When the enterprise's ESG level is low, increasing the incentive ratio of directors will help improve the company performance. The effect of director incentive on company performance will change with the level of ESG.

References

1. Smith, C., Stulz, R. (1985) The determinants of firms' hedging policies. Journal of Financial Quantitative Analysis 20(4), 391–405.
2. Boone, A., Field, L., Karpof, J., Raheja, C. (2007) The determinants of corporate board size and composition: an empirical analysis. Journal of Finance Economic 85(1), 66–101.
3. Adithipyangkul, P., Leung,T(2018) Incentive pay for non-executive directors: The direct and interaction effects on firm performance. Asia Pacific Journal of Management 2(35), 943–964.
4. Bin, L., Chen, J., Ngo, A. (2020) Revisiting executive pay, firm performance, and corporate governance in China. Economic Management Finance Market 15(1), 9–32.
5. Conyon, M., He, L. (2011) Executive compensation and corporate governance in China. Journal Corporate Finance 17(4), 1158–1175.
6. Gu, Z., Wang, K., Xiao, X. (2010) Government control and executive compensation: evidence from China. Working Paper.
7. Jiang W, Ke B, Ru H, Xu Y. (2020) Government control, top management team's pay dispersion and firm performance. Working paper.
8. Gunnar, F., Ttimo, B., Alexander, B. (2015) ESG and financial performance: aggregated evidence from more than 2000 empirical studies. Journal of Sustainable Finance and Investment 5(4), 210–233.
9. Fatemi, A., Glaum, M., Kaiser, S. (2018) ESG performance and firm value: the moderating role of disclosure. Globe Finance Journal 38, 45–64.
10. Wong, W., Batten, J., Mohamed-Arshad, S.., Nordin, S., Adzis, A. (2020) Does ESG certifcation add firm value? Finance Research Letters 101593.

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