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The Respective Relationship Between Environmental, Social, Governance and Financial Performance

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Abstract: Based on data from most A-listed Chinese corporations from the China Stock Market & Accounting Research (CSMAR) database in 2023, this study examines the respective influence of Environmental, Social, and Governance (ESG) performance on a corporation's financial performance. By utilizing Ordinary Least Squares (OLS) regression models, the study regards return on equity (ROE) as the dependent variable and E, S, and G scores as the independent variable. It delves into the individual contributions of each ESG category to provide investors with a more detailed framework for making investment decisions and offer corporate executors insights into policy implementation to improve profitability. Ultimately, aiming to support both investors and corporate leaders in their efforts to improve financial outcomes through targeted ESG initiatives, this research indicates that among three factors, the governance performance of a corporation can, to the most extent, enhance financial performance, and thereby encourages corporations to prioritize governance in their ESG strategies.

Keywords: financial performance, ESG, social, governance, environment.

1. Introduction

With the intense integration of environmental, social, and governance (hereafter ESG) into business practice, investors rely more on ESG measurement to make delicate financial decisions, such as in the choice of investment portfolio.

Despite the potential positive relationship between ESG performance and financial performance, a corporation may experience significant discrepancies among these three evaluation aspects. For example, a less customer-oriented company with a remarkable executive board will have a paucity of social responsibility but enjoy a reputation for good governance. Consequently, it is imprudent for decision-makers to evaluate the total ESG performance only and ignore the categorized score.

Even though a sizable amount of study has been done to examine how firms' performance is affected by their overall ESG scores, much less is known about the effect of each section. Thus, this research aims to focus on the relationship between the environment, social and governance performance and financial performance of an A-listed corporation in China to demonstrate the decisive factor. The research outcome can give investors a more practical index to make final decisions and benefit company managers by allowing them to implement better policies to expand profit.

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According to Investopedia, Environmental factors (hereafter E) gauge how a company safeguards the environment and whether it meets the Net Zero target. Social factors (hereafter S) examine how it manages relationships with employees, suppliers, customers, and communities, such as the proportion of female workers in a company. Governance factors (hereafter G) measure a company's leadership, executive pay, audits, internal controls and shareholder rights [1].

Data of Return on Equity (hereafter ROE), total asset, total revenue, market value and E, S, and G scores of most A-listed Chinese companies in 2023 from China Stock Market & Accounting Research (CSMAR) have been collected. Since specific fields, such as real estate, industries of smelting and pressing non-ferrous metals and banks, are too susceptible to specific categories, the researcher omits these field-related companies from the data. Using the OLS method, this analysis will construct a regression model containing ROE as the dependent variable and E, S, and G scores as the independent variable to explore the relation between ESG performance and financial returns.

The rest of this paper is structured as follows. The second part will review the previous literature, followed by the introduction of the method. Section four presents the analysis and discussion, while the last section provides the conclusion.

2. Literature Review

Previous research has shown that total ESG performance directly or indirectly impacts corporations' financial performance in different countries. A study in 2023 by Hamzeh Al Amosh and Saleh F. A. Khatib indicates that though the pandemic negatively affected financial performance significantly, the performance of ESG limits this effect [2]. In 2024, a study conducted by Zihao Lin shows that ESG performance will further improve the sustainable economic growth rate by stimulating patent applications, reducing agency costs, and mitigating corporate risk, which supports the ultimate financial performance [3]. Besides, Yingxue Gao and Yan Chen in 2024 illuminated that non-professional investors in China displayed a stronger inclination to invest in companies endorsed with ESG assurance compared to those lacking such endorsement [4]. Moreover, Carlos Francisco Alves and Lilian Lima Meneses, in 2024, carried out a study to prove that ESG score has a negative relationship with the cost of debt, implying a booming financial performance [5].

These valuable insights all justify the measurement of ESG as a practical index to help investors make decisions; however, there is a need for further research into the function of respective sections. The ESG evaluation system displays total and individual scores for three aspects, and most companies have garnered dramatically different scores in environmental, social, and governance categories. By meticulously examining how each aspect impacts financial performance, this research is critical to inform investors and executors about the more comprehensive method to make the final decision.

3. Methodology

3.1. Sample

The data collected in this paper is from China Stock Market & Accounting Research (CSMAR). It is a comprehensive database which offers extensive coverage of financial data, including stock market data, financial statements, corporate governance, macroeconomic data, and more. It is widely used in academic research, financial analysis, and economic studies [6]. Thus, the data could be guaranteed to be authoritative. The researcher selected six variables in 2023 of 4660 Chinese A-listed corporations: return on equity(ROE), respective and total ESG scores, market value, total revenue and total assets.

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3.2. Method

In order to comprehensively understand the impact of different categories, Ordinary Least Squares (OLS) are used in this research. OLS is a method for estimating the parameters in a linear regression model, aiming to target the best-fitting line [7].

The researcher employs the OLS model for several reasons. Firstly, the OLS model enables the estimate of the respective quantitative effect of ESG scores by providing the linear relationship between dependent and independent variables. Secondly, the OLS model has the smallest variance among all linear unbiased estimators, implying the best efficiency.

3.3. Equation Specification

$$ROE = a_0 + a_1 \times E + a_2 \times S + a_3 \times G + a_4 \times Market\ Value + a_5 \times Total\ Revenue + a_6 \times Total\ Asset + \varepsilon \quad (1)$$

In the Equation (1), a_0 is the intercept and a_1 to a_6 are the estimated coefficients of independent and control variables. ROE refers to the return on equity, which is used to measure a company's profitability in relation to the equity held by its shareholders [8]. It is a crucial indicator of how effectively a company uses its equity base to generate profits. Consequently, it is chosen to serve as the dependent variable. As independent variables, E, S, and G represent environmental, social, and governance scores. In order to further ensure the preciseness of the study, the researcher selected market value, total revenue and total assets of a corporation as control variables to omit the impact of firm size on financial performance [9]. Finally, ε means residuals.

4. Analysis

Table 1: Regression Model Result

ROE-return on equity		
	(1)	(2)
E score	-0.003 (0.002)	-0.003 (0.002)
S score	0.005 (0.003)	0.005 (0.003)
G score	0.020*** (0.003)	0.020*** (0.003)
Market value		0.00001 (0.00004)
Total asset		0.257* (0.0145)
Total revenue		-0.823*** (0.133)
Constant	-1.819*** (0.291)	-1.791*** (0.297)
Observations	4,659	4,659
R^2	0.013	0.013
Adjusted R^2	0.013	0.012

Two linear regression models have been run and the result is presented in Table 1. In the baseline regression model, the research merely examines the relationship between the respective E, S, and G scores and return on equity. The researcher introduces three control variables into the second regression model, allowing to account for various financial performance determinants. When market value, total assets and revenue are controlled, firm size can be overlooked.

The estimated coefficient of the three control variables is approximately zero, suggesting no meaningful relationship between them and ROE. This implies that bigger firm size plays no role in obtaining higher ROE; thus, the size factor can be omitted. The estimated coefficient of the E score is negative, indicating a potential negative relationship between the E score and ROE. Meanwhile, the estimated coefficient of the S score is positive, suggesting a positive relationship between the S score and ROE. However, they are both not statistically significant at any conventional level. Hence, no direct impact of sole E and S scores on improving financial performance could be concluded. Last but not least, the coefficient of the G score is positive and highly statistically significant. This displays a robust positive relationship between the G score and ROE, meaning that higher governance scores are associated with higher returns on equity.

The results from the regression models suggest that among the three ESG components, governance performance plays a pivotal role in enhancing financial performance. Therefore, for corporations seeking to improve their financial performance, emphasizing governance practices is paramount. Simultaneously, consumers should take more factors related to G score into considerations about investment.

5. Conclusion

To sum up, ESG scores are gradually involved in individuals' financial decision-making, while few previous papers have exposed the impact of three sections. Consequently, completing a related study and giving decision-makers a more practical index is vital. The researcher used OLS to compile data from CSMAR and ran two regression models to omit the influence of firm size. The study's results reveal that governance performance significantly enhances ROE, while environmental and social scores do not show a meaningful direct impact, underscoring the importance of governance in driving financial performance. Thus, the researcher suggests that investors should prioritize governance factors in their decisions and that companies should strengthen their governance practices. However, due to limited sources and time, the study uses data only from 2023 for Chinese A-listed corporations, which might not capture long-term trends and reduce the applicability of the outcomes in other regions.

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