The Impact of Environmental, Social, Governance Performance on Enterprise Market Value: Evidence from Chinese A-share Listed Companies

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Abstract. This study selects A-share listed companies on the Shanghai and Shenzhen Main Boards in 2024 as the research sample, excluding financial, insurance, and special-type enterprises. Employing cross-sectional regression analysis with descriptive statistics, correlation analysis, and baseline regression analysis, it investigates the effect of Environmental, Social, Governance (ESG) performance on the market value of Chinese A-share listed companies. The findings reveal that neither the comprehensive ESG performance nor its environment, social, and governance sub-dimensions exerts a statistically significant influence on corporate market value. Further analysis indicates that traditional financial metrics remain the primary valuation anchors: enterprise size demonstrates a significant negative correlation with market value, suggesting systemic valuation discounts for large-scale enterprises; the debt-to-asset ratio significantly depresses market value, reflecting how high leverage-induced solvency risks undermine investor confidence; and profitability shows a significant positive correlation with market value, confirming earnings capacity as a crucial determinant of corporate valuation. The conclusions are aiming to provide references for investors, corporate managers, and policymakers while contributing to the theoretical application of ESG in China's capital markets.

Keywords: ESG, enterprise market value, Chinese A-share listed company.

1. Introduction

In today's globalized economy, Environmental, Social, Governance (ESG) emerges as a core structure for measuring a corporation's unfinancial performance, with its importance growing increasingly prominent. ESG is often considered a key metric for corporate sustainability and one of the important factors in corporate sustainable development. In 2006, Goldman Group first integrated environmental, social, and governance into a single framework, prompting major financial institutions to follow suit, leading to the gradual rise of ESG investing [1].

As public concern for sustainable development continues to grow, it has become incrementally more critical to incorporate non-financial factors (such as social and environmental concerns) into considerations of lasting financial value creation [2]. Globally, promoting green progression in enterprises has become a core issue in sustainable development [3]. It is not only crucial for the sustainability of the nation but also an intrinsic requirement for achieving harmony between humanity and nature. As the concept of ESG gains increasing recognition both domestically and internationally, more companies are choosing to proactively reveal their environmental, social, and governance reports [4]. In this context, ESG, as a philosophy pursuing the coordinated improvement of economic, environment, and social development, becomes a focal point of global capital markets, playing an essential function in guiding capital allocation and facilitating economic green transformation.

Scholars both domestically and internationally conducted extensive research on the association among ESG performance and enterprise market value, finding a positive association between ESG performance and financial performance [5]. Nevertheless, several related researches indicated that the correlation between the two is negatively correlated. ESG disclosure can send proactive signs to stakeholders, indicating a corporate commitment to sustainable development, thereby enhancing its

market value [6]. Additionally, ESG performance will boost the corporate market value by strengthening environmental regulatory constraints and supporting sustainable development [7]. Good ESG disclosure practices improve a company's information transparency, reducing the information gap between investors and the company [8]. This makes it easier for analysts to assess a company's condition, thereby lowering transaction costs and information costs during the process [9].

Therefore, this paper focuses on A-share listed companies in China and aims to explore the impact mechanism of ESG performance on enterprise market value. By constructing a systematic indicator system and using rigorous empirical research methods, this study hopes to reveal the intrinsic relationship between ESG performance and enterprise market value, providing valuable insights and decision-making references for investors, corporate management, and policymakers. Likewise, this paper helps to enrich the ESG theoretical system, promoting the healthy and sustainable development of China's capital market.

To explore the influence of ESG performance on enterprise market value, the below hypotheses are proposed:

H1: ESG performance is significantly positively correlated with enterprise market value.

2. Design for Research

2.1. Sample Selection and Data Sources

The article uses A-share listed companies on the Shanghai and Shenzhen main boards of China as study samples, with a time frame of 2024. To assure the data's stability and the validity of the research outcomes, the screened samples were based on the following criteria: Companies listed in the financial and insurance sectors were excluded. Samples classified as Special Treatment (ST), Separate Share Structure Special Treatment (SST), Delisting Risk Warning Special Treatment (*ST), Particular Transfer (PT); exclude the sample of listed companies with incorrect values, missing values, and outliers in the core variables. To reduce the impact of outliers on the modelled output, the top and bottom 1% of values were removed from the key continuous variables. The data sources for this article are as follows: The Cathay Pacific Database (CSMAR) and other financial data, as well as ESG data, are sourced from the Wind database.

2.2. Variable Description

As shown in Table 1, this paper selects ESG performance as the explanatory variable, the market value of the enterprise as the explained variable, and the enterprise scale, asset-liability ratio, profitability, growth potential, equity concentration, etc., as the control variables [10].

2.3. Research hypothesis and model construction

To investigate the direct effect of ESG performance on a corporation's market value, the following three modules are structured

Model (1):

$$\text{Tobin's } Q_i=\alpha_0+\alpha_1\times ESG_i+\varepsilon_i \tag{1}$$

Model (2):

$$\text{Tobin's } Q_i=\alpha_0+\alpha_1\times ESG_i+\sum \alpha_k \times Controls_i+\varepsilon_i \tag{2}$$

Model (3):

$$\text{Tobin's } Q_i=\alpha_0+\alpha_1\times ESG_i+\sum \alpha_k \times Controls_i+IND_i+\varepsilon_i \tag{3}$$

Among them, i represents an enterprise; $\text{Tobin's } Q_i$ is the explained variable, indicating the market value of the corporation; ESG_i is the key explanatory variable, representing the ESG performance of the enterprise; $Controls_i$ is the control variable, including enterprise size (Size),

asset-liability ratio (Lev), profitability (ROA), growth (Growth), equity concentration (TOP1), enterprise age (Age), and industry dummy variable (IND); IND_i is the industry fixed effect, controlling the individual characteristics of enterprises; ε_i is the random perturbation term, representing the random errors that the model has not observed.

Table 1. Variable definition table

Variable Type	Variable Symbol	Variable Name	Measuring Method
Explained Variable	Tobin's Q	Enterprise market value	Tobin's Q value = (Market value of tradable shares + Market value of non-tradable shares + Market value of net liabilities)/Replacement cost of total assets
Explanatory Variable	SG	ESG performance	Rating by a third-party agency (AAA=9, AA=8, A=7, BBB=6, BB=5, B=4, CCC=3, CC=2, C=1)
	E1	Environmental score	The same as above
	S2	Social score	The same as above
	G3	Governance score	The same as above
Control Variable	Size	Enterprise scale	ln (Total assets/10,000,000,000) Natural logarithm of total assets (unit: 10 billion RMB)
	Lev	Asset-liability ratio	Total liabilities/total assets
	ROA	Profitability	Net profit/Average total assets
	Growth	Growth potential	(Current year's operating income - last year's operating income)/Last year's operating income
	TOP1	Equity concentration	The shareholding ratio of the largest shareholder (%)
	Age	Years on the market	ln (Max(Current year - Year of listing + 1)) The max function ensures that the value within parentheses is greater than or equal to 1, avoiding calculation errors caused by negative numbers or 0.
	IND	Industry fixed effect	The virtual variables of secondary industries in the 2012 version of the China Securities Regulatory Commission

3. Empirical analysis

3.1. Descriptive statistical analysis

As presented in Table 2, the results indicate that: (1) The average value of corporate market value (Tobin's Q) is 1.535, with a median of 1.282, a maximum of 4.538, and a minimum of 0.496. The presence of significant outliers, a standard deviation of 0.866, and statistically significant deviations from normality in both skewness and kurtosis collectively suggest substantial heterogeneity in corporate market value across the sample. The mean ESG performance (ESG) score is 7.588, with a median of 7.76, indicating relatively high overall performance (corresponding to an 'A' rating). The standard deviation of 0.995 demonstrates that sample firms generally exhibit a high level of commitment to ESG governance, with only a minority reporting lower ESG scores. (3) In the sub dimensions of ESG, the governance dimension (G3) has the highest point with the mean of 7.232 and the smallest coefficient of variation, which is 0.169, indicating that the sample companies have the most balanced performance in corporate governance (G3); The environmental dimension (E1) has

the lowest point, with the mean of 6.228, and the highest coefficient of variation, at 0.371, reflecting significant differences in investment in environmental protection, green transformation, and other aspects among different enterprises.

Table 2. Descriptive statistical analysis results

Variable Name	sample size	Maximum	minimum	mean	standard deviation	median	variance	Kurtosis	skewness	CV
Tobin's Q	188	4.538	0.496	1.535	0.866	1.282	0.75	1.537	1.36	0.564
ESG	188	9.105	5.085	7.588	0.997	7.76	0.995	-0.121	-0.769	0.131
E1	188	10	0.491	6.228	2.309	6.545	5.33	-0.325	-0.602	0.371
S2	188	8.954	1.932	6.4	1.652	6.59	2.73	0.292	-0.857	0.258
G3	188	9.588	4.605	7.232	1.225	7.33	1.501	-0.727	-0.206	0.169
Size	188	5.445	0.413	2.422	1.217	2.216	1.481	-0.33	0.501	0.502
Lev	188	0.853	0.084	0.493	0.187	0.494	0.035	-0.762	-0.189	0.379
ROA	188	0.215	-0.058	0.057	0.053	0.048	0.003	0.565	0.43	0.92
Growth	188	0.382	-0.076	0.063	0.084	0.057	0.007	0.591	0.614	1.328
TOP1	188	70.944	11.309	40.681	15.229	40.71	231.917	-0.957	0.028	0.374
Age	188	3.466	1.386	2.861	0.518	2.944	0.269	0.784	-1.158	0.181

3.2. Correlation analysis

Due to the key variables in this paper (such as Tobin's Q, skewness=1.36; Growth, Skewness=0.614) shows a significant skewed distribution with extreme values. Therefore, this paper adopts Spearman correlation analysis to explore the correlation between variables. As shown in Table 3, ESG performance exhibits no statistically significant correlation with corporate market value (Tobin's Q), providing preliminary evidence against Hypothesis 1 (H1). Further analysis of the individual ESG dimensions reveals that neither environmental performance (E1), social responsibility (S2), nor governance level (G3) demonstrates a significant correlation with market value. This indicates that none of the ESG sub-dimensions exerts a significant influence on corporate market value. Regarding control variables, enterprise size (Size) indicates a significantly negative correlation with Tobin's Q, suggesting that larger enterprises may face a market value discount. Similarly, leverage ratio (Lev) shows a negative correlation with Tobin's Q, reflecting that high debt levels may trigger investor concerns about corporate financial risks, thereby undermining confidence in market valuation processes. Profitability demonstrates a positive correlation with Tobin's Q, indicating that financial performance remains the core driver of corporate market value. Additionally, ownership concentration (TOP1) displays a weakly negative correlation with Tobin's Q, while neither growth potential (Growth) nor listing age (Age) shows statistically significant effects.

Notably, significant synergistic effects exist among ESG sub-dimensions: Pairwise correlation coefficients between E1, S2, and G3 range from 0.549 to 0.864 ($p<0.01$), representing that enterprises tend to adopt integrated implementation strategies in their sustainability practices. Additionally, ESG performance demonstrates a weakly positive correlation with firm size, implying that larger enterprises may place greater emphasis on ESG initiatives. However, this association does not translate into tangible corporate market value premiums.

However, the above correlation analysis only reflects bivariate relationships between variables and does not exclude interference from other factors. Therefore, the following section will use a baseline regression model that introduces control variables and industry fixed effects to further strip away confounding factors and verify whether these associations are true net effects.

Table 3. Correlation analysis results

	Tobin's Q	ESG	E1	S2	G3	Size	Lev	ROA	Growth	TOP1	Age
Tobin's Q	1.000**	-0.010	-0.064	0.018	-0.084	-0.647**	-0.362**	0.445**	0.108	-0.152*	-0.021
ESG	-0.010	1.000**	0.831**	0.864**	0.775**	0.158*	-0.009	0.091	-0.006	-0.050	-0.068
E1	-0.064	0.831**	1.000**	0.576**	0.549**	0.169*	0.027	0.031	0.031	-0.103	-0.003
S2	0.018	0.864**	0.576**	1.000**	0.565**	0.126	-0.013	0.108	-0.002	-0.019	-0.018
G3	-0.084	0.775**	0.549**	0.565**	1.000**	0.252**	0.075	0.041	-0.026	-0.005	-0.197**
Size	-0.647**	0.158*	0.169*	0.126	0.252**	1.000**	0.553**	-0.423**	0.015	0.233**	-0.100
Lev	-0.362**	-0.009	0.027	-0.013	0.075	0.553**	1.000**	-0.579**	0.061	0.050	-0.039
ROA	0.445**	0.091	0.031	0.108	0.041	-0.423**	-0.579**	1.000**	0.137	-0.034	0.029
Growth	0.108	-0.006	0.031	-0.002	-0.026	0.015	0.061	0.137	1.000**	-0.038	0.013
TOP1	-0.152*	-0.050	-0.103	-0.019	-0.005	0.233**	0.050	-0.034	-0.038	1.000**	-0.104
Age	-0.021	-0.068	-0.003	-0.018	-0.197**	-0.100	-0.039	0.029	0.013	-0.104	1.000**

Note: ***, **, * represent significance levels of 1%, 5%, and 10%, respectively

3.3. Baseline Regression Analysis

This paper systematically investigates the effect of corporate ESG performance on market value (Tobin's Q) through multivariate linear regression models. As shown in Table 4, the model specification adopts a progressive expansion strategy: model 1 includes only the core explanatory variables ESG and its sub-dimensions E1, S2, and G3; model 2 introduces control variables (firm size, profitability, leverage ratio, growth potential, ownership concentration, and listing age) based on model 1; and model 3, serving as the baseline regression, further incorporates industry fixed effects to control for industry heterogeneity. The full sample comprises 188 firm-year observations.

Table 4. Baseline regression results

	1 Tobin's Q	2 Tobin's Q	3 Tobin's Q
ESG	0.632 (1.452)	0.322 (0.929)	0.213 (0.538)
E1	-0.134 (-1.756)	-0.076 (-1.251)	-0.012 (-0.161)
S2	-0.201 (-1.348)	-0.094 (-0.791)	-0.086 (-0.659)
G3	-0.211 (-1.882)	-0.083 (-0.918)	-0.061 (-0.613)
Size	/	-0.387** (-7.436)	-0.385** (-5.642)
Lev	/	0.044 (0.129)	-0.573 (-1.464)
ROA	/	2.743* (2.418)	3.363** (2.930)
Growth	/	1.577** (2.620)	1.615** (2.700)
TOP1	/	-0.001 (-0.272)	-0.000 (-0.019)
Age	/	-0.234* (-2.405)	-0.133 (-1.294)
Industry	No	No	Yes
N	188	188	188
Adj.R^2	0.024	0.409	0.530

Note: ***, **, * represent significance levels of 1%, 5%, and 10%, respectively

Model 1 only includes core explanatory variables ESG, E1, S2, and G3, with an adjusted R^2 of 0.024, which indicates exceptionally weak explanatory power. The regression coefficients demonstrate statistical non-significance: ESG (β=0.632, t=1.452, p>0.10), environmental dimension E1 (β=-0.134, t=-1.756, p>0.05), social dimension S2 (β=-0.201, t=-1.348, p>0.10), and governance dimension G3 (β=-0.211, t=-1.882, p>0.05). None of the coefficients attain statistical significance at the 5% level, suggesting that absent control for confounding factors, neither composite ESG performance nor its various sub dimensions exhibit significant associations with corporate market value.

Following the introduction of control variables in Model 2, the adjusted R^2 surges to 0.409, signifying substantially enhanced explanatory power. The resulting coefficients demonstrate persistent statistical non-significance: ESG (β=0.322, t=0.929, p>0.10), environmental dimension E1 (β=-0.076, t=-1.251, p>0.10), social dimension S2 (β=-0.094, t=-0.791, p>0.10), and governance dimension G3 (β=-0.083, t=-0.918, p>0.10). All related variables are still not significant, which indicates that after introducing control variables, the effect of ESG comprehensive performance and its various dimensions on corporate market value has not yet been apparent.

Model 3 further incorporates industry fixed effects, and the adjusted R^2 reaches 0.530, indicating a better fitting effect. The coefficient of ESG is 0.213 (t=0.538, p>0.1), the coefficient of E1 is -0.012 (t=-0.161, p>0.1), the coefficient of S2 is -0086 (t=-0.659, p>0.10), and the coefficient of G3 is 0.061 (t=-0.613, p>0.05). All ESG-related variables persistently demonstrate statistical non-significance at conventional levels. Collectively, these baseline regression results indicate no statistically significant associations between corporate market value and either composite ESG performance or its constituent environmental, social, and governance dimensions. Consequently, hypothesis H1 finds no empirical support.

From the outcomes of model 2 and model 3, The analysis of control variables reveals a significant negative correlation between enterprise size and Tobin's Q., Return on Assets (ROA) is significantly positively correlated with Tobin's Q, age is only significantly negatively correlated with Tobin's Q in model 2, and has no significant correlation with Tobin's Q in model 3, which are all consistent with the conclusion of correlation analysis. However, in the baseline regression analysis, the data showed that Lev and Tobin's Q were not significantly correlated, which was inconsistent with the conclusion in the correlation analysis. This can be attributed to its high collinearity with size (the correlation coefficient between the two is as high as 0.553) – large-scale enterprises tend to have a higher leverage ratio, and the enterprise size itself has significantly a negative impact on the market value. After the control of variables such as enterprise size, the independent effect of asset liability ratio disappears, indicating that it is not the core factor affecting market value. Furthermore, the regression analysis uncovers a significantly positive correlation between Growth and Tobin's Q – an association masked in bivariate analysis due to uncontrolled confounders like firm size and leverage. Controlling for these variables in baseline regression reveals the market's pricing effect on revenue growth potential. Lastly, Top 1 shows no significant impact in regressions, diverging from its weak negative correlation in preliminary analysis. This further confirms its insignificant influence on corporate market value.

4. Conclusion

This study employs A-share listed businesses on the main boards in China's Shanghai and Shenzhen in 2024 as examples to evaluate the effects of ESG performance on corporate market value and its underlying mechanisms, finally reaching the following conclusions: (1) Hypothesis H1 is not supported, meaning that ESG performance and its sub-dimensions (environmental E1, social S2, and governance G3) are not significantly associated with enterprise market value. (2) Size is significantly negatively correlated with enterprise market value, indicating that large-scale firms face systemic valuation discounts. (3) Debt-to-equity ratio has no significant impact on enterprise market value, confirming that its collinearity with enterprise size masks its independent effect. (4) Profitability and

growth potency are both sin a significant positivistic correlation with corporate market value, making them important factors influencing enterprise market value.

ESG performance and its sub-dimensions not affect corporate market value, which will be closely associated with the characteristics of the sample data used in this study. Since only data from a single year (2024) was used, the sample size was small and the period was short, resulting in difficulty in precisely reflecting the long-term effect of ESG performance on enterprise market value. Additionally, the findings of this paper suggest Chinese ESG ecosystem remains underdeveloped: heterogeneous rating standards, variations in corporate disclosure quality, and investor cognitive biases collectively hinder the effective conversion of non-financial performance into market value. Future research will address data access limitations and construct multi-period panel data models to further validate and analyze these findings.

Authors Contribution

All the authors contributed equally and their names were listed in alphabetical order.

References

[1] Wu L P, Yi X C, Hu K. The effect of ESG performance on corporate green innovation. Business Process Management Journal, 2024, 31 (8): 24-48.

[2] Schoenmaker D, Schramade W. Investing for long-term value creation. Journal of Sustainable Finance & Investment, 2019, 9 (4): 356-377.

[3] Qiang Q L, Wang T, Wang Y L. ESG performance, green innovation, and enterprise market value. Journal of Central South University of Forestry & Technology (Social Sciences), 2024, 18 (1): 30-44.

[4] Tao Y L. An empirical study on the impact of ESG ratings on corporate financial performance: evidence from A-share listed companies. China Market, 2023, 22 (34): 13-20.

[5] Sun X Y. The impact of ESG performance on company A's market value: an analysis based on stock price volatility and Tobin's Q ratio. China Management Informationization, 2024, 27 (2): 72-74.

[6] He W B. ESG performance and corporate value: evidence from A-share listed companies. Business News, 2024, 12 (22): 85-88.

[7] Wang J X. ESG performance and company upgrade. Financial Research, 2023, 10 (11): 132-152.

[8] Wang B, Yang M J. A study on the mechanism of ESG performance on corporate value: empirical evidence from A-share listed companies in China. Soft Science, 2022, 36 (6): 78-84.

[9] Lu N, Wu J H, Liu Z M. How does green finance reform affect enterprise green technology innovation? Evidence from China. Sustainability, 2022, 14 (12): 9865.

[10] Kang Y H, He X Y, Zhang L. Corporate ESG performance and debt financing costs. Collected Essays on Finance and Economics, 2023, (1): 48-58.