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Research Article

Can Corporate ESG Performance Enhance Corporate Value? ——Based on the Mediating Effect of Internal Control

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ABSTRACT

As important entities in economic development, corporations must ensure their own operations and also take on relevant social responsibilities, with ESG performance becoming an external card for corporations to demonstrate social responsibility. This paper uses financial data from A-share listed companies from 2018 to 2022 to explore the impact of ESG performance on corporate value and its influencing path, further investigating the mediating role of internal control in this relationship. Specifically, it further analyzes whether environment (E), social responsibility (S), and corporate governance (G) can separately influence corporate value. The final study shows that good ESG performance can indeed enhance corporate value by improving corporate reputation, affecting capital costs, and improving internal governance and financial performance, with internal control playing a mediating role. Further analysis confirmed that environment (E) and social responsibility (S) can each individually have a significant impact on corporate value, while corporate governance (G) alone does not have a significant impact. Based on the above research conclusions, corresponding recommendations and strategies are proposed for the ESG development of listed companies, aiming to improve the operational quality and sustainable development capacity of companies in various industries in China and to promote the stable development of China's listed companies through ESG measures.Moreover, companies should integrate their ESG strategies with the United Nations Sustainable Development Goals (SDGs) to foster synergies among economic growth, environmental stewardship, and social well-being, thereby contributing to a sustainable global future.

Keywords: ESG performance; corporate value; internal control.

1.Introduction

Since the 20th National Congress of the Communist Party of China, sustainable economic development has become a new social focus. The country has increasingly emphasized ecological civilization construction and green development, focusing on environmental protection while vigorously developing the economy. It requires us to establish the concept that lucid waters and lush mountains are invaluable assets (Xi Jinping, 2022). China, as the world's second-largest economy, has faced significant environmental and social challenges due to rapid industrialization and urbanization. In response to these challenges, the Chinese government has introduced various policies to encourage enterprises to take on more social responsibilities and promote green and sustainable development (Wang & Chen, 2021).As one of the important responsibility entities in society, the responsibility of enterprises to promote sustainable development and ensure the green development of the entire capital market has gradually emerged (Liu & Zhang, 2021;Singh et al.,2024). With the continuous progress of the times, the actual responsibilities and obligations borne by enterprises have changed significantly compared with the past（Shao et al.,2024). More and more enterprises have found that only by actively fulfilling social responsibilities can they better achieve sustainable development and obtain long-term stable returns (Chen, 2019). Based on this, business entities in various industries in China have begun to pay attention to their sustainable development status (Wang, Li, & Huang, 2020). Unlike purely financial indicators, more and more investors are paying attention to green investment and corporate proactive social responsibility investment. The performance of enterprises in environment, social, and governance (ESG) has gradually become a core content for measuring their sustainable development level, giving rise to the ESG information disclosure system for enterprises (Zhao & Sun, 2018).

The concept of ESG was first proposed by the United Nations Global Compact. It is an investment philosophy and corporate evaluation standard that combines environment (E), social (S), and governance (G) (United Nations Global Compact, 2004). In 2018, the China Securities Regulatory Commission also required listed companies to disclose information related to environment, social responsibility, and corporate governance (ESG) (China Securities Regulatory Commission, 2018). Through ESG ratings, more information beyond corporate financial indicators can be disclosed to stakeholders, reflecting and evaluating the relevant development capabilities of enterprises from more angles and levels, thus safeguarding the rights and interests of stakeholders to a certain extent and helping investors make more reasonable investment decisions (Li & Luo, 2020). As the concept of sustainable development receives increasing attention from all social activity entities, whether business entities with certain social responsibilities can carry out ESG disclosure as required, the quality of the disclosed report content, and whether the report reflects the enterprise's sustainable development capability and its corresponding social responsibilities, are increasingly closely monitored by investors and have a significant impact on relevant regulatory authorities, internal employees of enterprises, shareholders, and other stakeholders (Gao, 2021).

Therefore, this paper takes A-share listed companies as research samples and uses empirical analysis methods to examine the relationship between ESG performance and corporate value. Based on the analysis of the quality of the disclosed ESG information of existing enterprises in China, it explores the impact and path of ESG disclosure on corporate value, and further investigates whether there are differences in the impact of the three aspects of environment (E), social (S), and governance (G) in information disclosure on corporate value (Ma, 2019). In addition, the internal control of enterprises is not only closely related to the effectiveness of their ESG implementation but can also indirectly affect corporate value. So, what role does it play and what effect does it have between ESG performance and corporate value? (Wang, 2022). Therefore, this paper incorporates internal control into the research framework to explore whether there is a correlation among the three (Zhang, 2023).

2. Theoretical Analysis and Research Hypothesis

2.1 Theoretical Analysis

Existing research on the relationship between corporate ESG performance and corporate value mainly presents two opposing viewpoints. More than 60% of scholars hold a supportive view, believing that through good ESG disclosure and external performance, companies can convey a signal of their stable and sustainable development to the outside world, establish a good corporate reputation and image, thereby enhancing corporate value and attracting more investors. This view is generally known as the value enhancing theory (Barth et al., 2009; Liu & Zhang, 2021; Wang, 2022; Zhang et al., 2019, San et al.,2022). The value enhancing theory posits that incorporating social responsibility activities into corporate strategies and practices can create competitive advantages and promote the creation of long-term shareholder value(Fei et al.,2024). These advantages include brand reputation, employee productivity, improved operational efficiency, and better relationships with regulatory agencies, society, and other stakeholders, leading to better investment projects and more funding sources (Eccles et al., 2014; Friede et al., 2015; Khan et al., 2016). Based on this theory, it can be expected that the social responsibility measures of listed companies will receive positive and significant evaluations from the stock market (Giese et al., 2019; Whelan et al., 2021). Barth et al. (2009) used Tobin's Q to measure corporate value and empirically tested the relationship with ESG, concluding that there is a positive correlation between ESG and corporate value. Zhang et al. (2019) used a fixed effects model to study A-share listed companies in China and found that the better the ESG performance, the higher the corporate value, with stronger effects observed in non-polluting and non-state-owned enterprises. Wang (2022) also argued that companies with better ESG performance are more likely to obtain lower financing costs, thereby enhancing book value. These scholars believe that good ESG performance can enhance corporate value.

However, some scholars hold different views, mainly advocating the shareholder expense theory. The shareholder expense theory posits that investments in corporate social responsibility practices increase costs, putting the company at an economic disadvantage and leading to a decline in corporate market value (Sassen et al., 2016; Kuo et al., 2021). Specifically, this theory suggests that commitments to sustainable development may lead to over-investment and other activities that do not align with the best interests of shareholders, potentially destroying corporate value. Scholars Sassen et al. (2016) found through their examination of European companies that those with better ESG performance had weakened corporate value. Similarly, scholars Kuo et al. (2021) conducted a phased study and found that in the initial stages of ESG investment, the return on assets showed a downward trend, suggesting a negative correlation between the two.

Although the literature on corporate social responsibility and shareholder value creation presents mixed views, an increasing number of studies support the value enhancing theory. Overall, developed countries such as the United States have more extensive and diverse research findings on this issue (Friede et al., 2015). In contrast, China and other developing countries are still in the early stages of exploration, with more limited research perspectives (Wang et al., 2020; Gao, 2021).

2.2 Research Hypotheses

2.2.1 Analysis and Hypotheses on the Impact of ESG Performance on Corporate Value

The ESG reports or social responsibility reports published by companies contain information related to the environment, social responsibility, and governance. Considering their own development, this information is often positive and active. Therefore, companies can release signals of good operational status and sustainable development through external disclosure of ESG information, thereby alleviating investment concerns from external investors caused by information asymmetry. This can attract them to make investment decisions and even create a good corporate image to enhance their social status and increase user stickiness (Barth, Beaver, Hand, & Landsman, 2009). Additionally, by including information related to the environment, society, and corporate governance in ESG reports, companies can demonstrate to the outside world that the capital invested by stakeholders has brought added value, and this effect will continue in the future, attracting more investors to continue financing on a stable foundation (Eccles, Ioannou, & Serafeim, 2014). From these points, it can be seen that ESG disclosure can indeed impact corporate value. Thus, we propose the following hypothesis:

Hypothesis 1: ESG performance can impact corporate value.

According to stakeholder theory and sustainable development theory, for a company to achieve lasting and stable growth, it must consider the capital investment of stakeholders other than its own shareholders and pursue sustainable development without compromising resources for other entities and future generations (Friede, Busch, & Bassen, 2015). When a company can actively reflect positive information about itself in the environmental (E) dimension of ESG disclosure, it can establish an image of being environmentally friendly and actively promoting sustainable development to the outside world (Giese, Lee, Melas, Nagy, & Nishikawa, 2019). Especially after China actively promoted policies related to the "dual carbon" concept, there has been more focus on corporate carbon emission indices, firmly prohibiting corporate development at the expense of the environment (Xi, 2022). This indirectly reflects the high level of concern for environmental issues from all sectors of society, including the government (Khan, Serafeim, & Yoon, 2016). Therefore, whether a company engages in activities to protect the environment on which all humanity depends and whether it incorporates environmental protection concepts into its operational system will become important factors influencing the company's image and reputation (Wang, Li, & Huang, 2020). When a company has good environmental awareness and releases this signal to the outside world, it can gain support from the government and relevant regulatory authorities, attract public recognition of the company, and even trigger positive social discussions, which will invisibly increase the company's visibility and bring a good reputation (Whelan, Atz, Van Holt, & Clark, 2021；Al-Oraini et al.,2024). This, in turn, will enhance investor confidence and achieve an increase in corporate value. Thus, we propose the following hypothesis:

Hypothesis 2: The environmental (E) performance in ESG can impact corporate value.

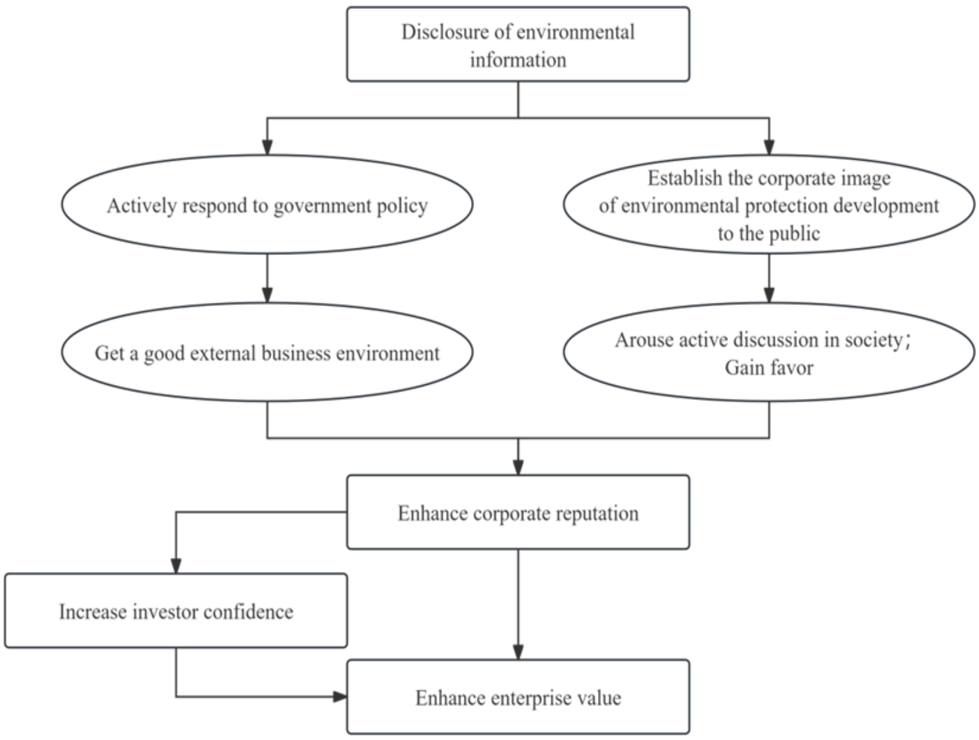

Figure 1**:** Path Diagram of the Impact of Disclosing Environmental Information on Corporate Value. （Source: This diagram is created by the author）

From the perspective of stakeholder theory and sustainable development theory, businesses are no longer traditional "economic agents" but "social-ecological-economic agents" that must shoulder social responsibilities. In this context, corporate production and operation rely not only on economic capital but also require the optimal allocation of human, social, and ecological capital (Freeman, 1984; Elkington, 1997). The close integration of various social sectors is essential for the sustainable development of enterprises, which must generate profits while also fulfilling their social responsibilities. This has led to the emergence of corporate social responsibility (CSR) theory.

The first scholar to propose this theory was Carroll, who incorporated economic, legal, ethical, and philanthropic responsibilities into the CSR pyramid model (Carroll, 1991). Correspondingly, scholars have classified enterprises that assume these responsibilities into different levels: basic, intermediate, and advanced CSR (Matten & Moon, 2008). The Shenzhen Stock Exchange has also set guidelines for the social responsibilities that listed companies in China must fulfill. This indicates that companies not only need to undertake social responsibilities but also have an obligation to disclose their performance in this regard to respond to stakeholder concerns (Zhang, 2020).

For the public, when companies disclose information about their social responsibilities, they can understand the social contributions made by these companies beyond profit-making. For instance, during the severe floods in Henan in 2022, the Chinese brand Erke, which was not favored by consumers, announced on public platforms that it had donated 50 million yuan to the Zhengzhou Charity for disaster relief. This news sparked widespread discussion and acclaim from all sectors of society, garnering massive public support and revitalizing the poorly managed Erke (Li, 2022). This demonstrates that actively disclosing social responsibility information not only helps companies build a positive corporate image and increase visibility but also achieves the best promotional effects and spontaneous public support, thus enhancing corporate value.

For shareholders and management, the separation of ownership and control often results in inconsistent objectives, leading to agency costs that affect corporate economic returns (Mohammad et al.,2024；Xu et al.,2023). By actively assuming social responsibilities and disclosing them, companies can increase the level of trust between shareholders and management. Shareholders can gain a clearer and more direct understanding of the management's work through the company's social responsibility performance, thereby reducing agency costs (Jensen & Meckling, 1976). Additionally, actively disclosing social responsibility information can signal to investors that the company has profitable capabilities, boosting investor confidence and attracting more investment support. Thus, we propose the following hypothesis:

Hypothesis 3: The social (S) performance in ESG can impact corporate value.

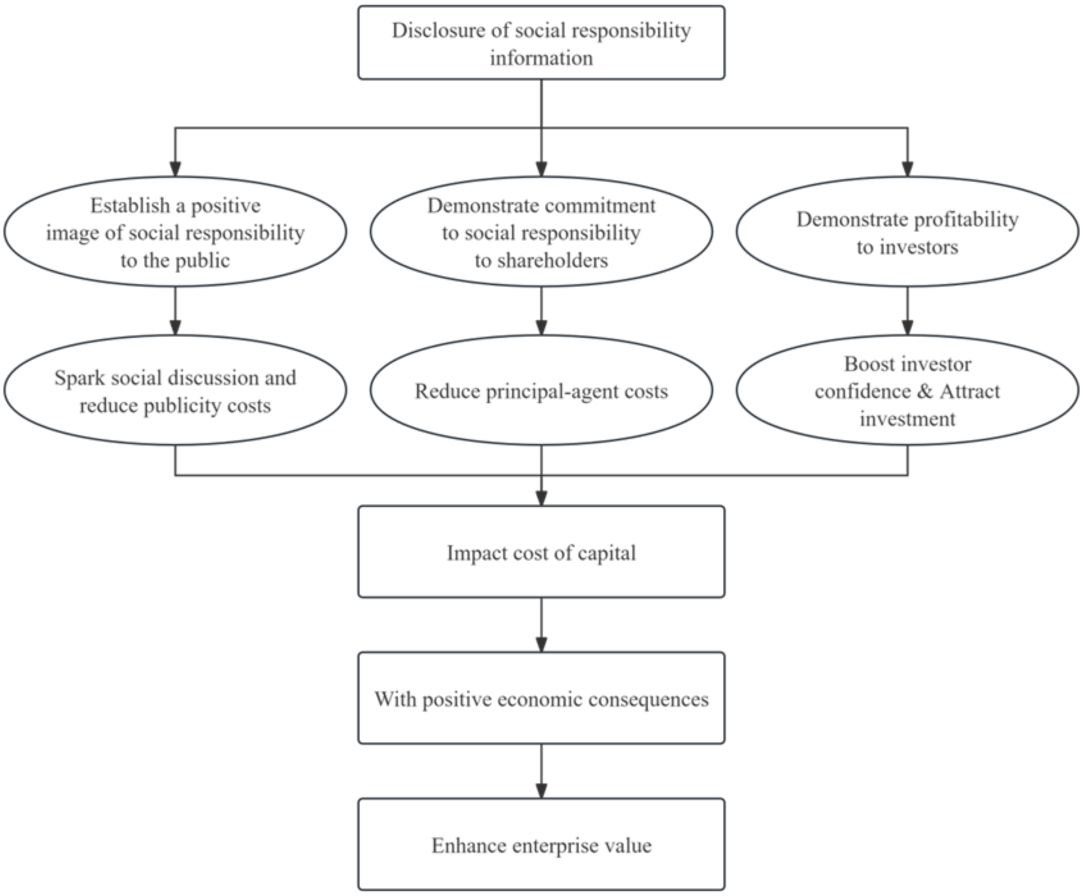

Figure 2 Path Diagram of the Impact of Social Responsibility Information on Corporate Value（Source: This diagram is created by the author）

Compared to the previously mentioned environmental and social responsibilities, which primarily refer to a company's obligations to external stakeholders, corporate governance (G) mainly reflects a company's responsibilities towards its internal management. This indicator demonstrates the effectiveness of the management team and the credibility of the actual controllers. Corporate governance information requires companies to disclose aspects such as internal governance structure, transparency, independence, remuneration structure, anti-corruption measures, and shareholder rights (Shleifer & Vishny, 1997; Chen & Wang, 2020).

These internal governance details are relatively difficult for external parties to understand. Therefore, to disclose this information, companies must first analyze the risks and deficiencies in their own management and formulate strict regulations and countermeasures. By doing so, companies can improve their governance levels, and shareholders can evaluate the management's performance based on this information. When governance is deemed effective, shareholders might opt to reward the management with equity incentives. In turn, managers, motivated by these rewards, will continuously optimize governance processes, creating a virtuous cycle that aligns the objectives of both parties and reduces the negative impact of information asymmetry and agency costs, thereby maximizing corporate benefits (Jensen & Meckling, 1976; Zhou & Tang, 2021).

For external investors, companies with more transparent governance policies are preferable as they facilitate better external oversight of the invested companies, forming a system of checks and balances that aids in improving strategic decision-making capabilities (Gompers, Ishii, & Metrick, 2003; Wang & Qian, 2021). Additionally, companies with good corporate governance can signal their high governance standards to the outside world, attracting more attention and investment, thereby further enhancing financial performance. Thus, we propose the following hypothesis:

Hypothesis 4: The corporate governance (G) performance in ESG can impact corporate value.

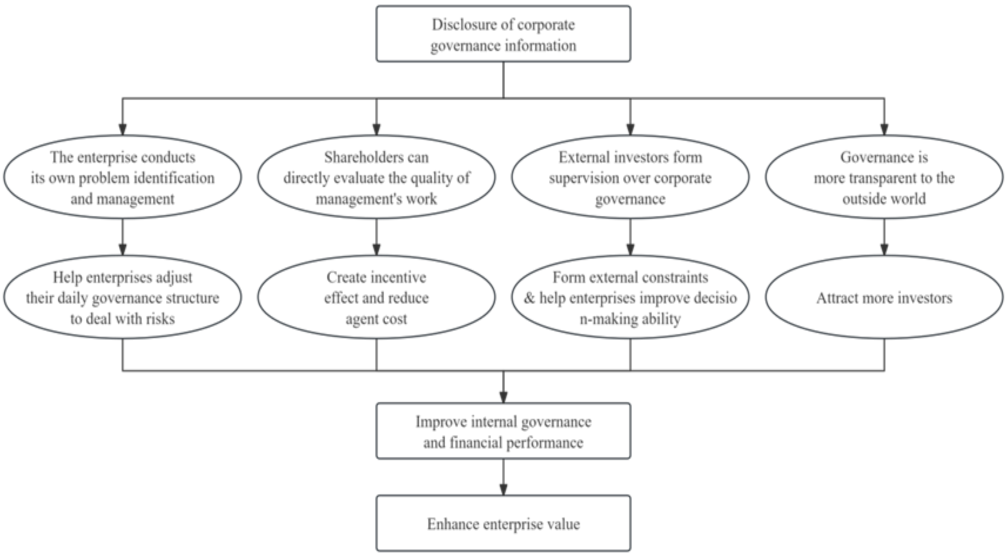

Figure 3 Path Diagram of the Impact of Corporate Governance Information on Corporate Value（Source: This diagram is created by the author）

2.2.2 Analysis and Hypotheses on the Relationship among ESG Performance, Internal Control, and Corporate Value

To achieve good external ESG performance, companies must first take corresponding measures internally in the areas of environment, society, and corporate governance to achieve and disclose the final outcomes. To reach this goal, management needs to implement various organizational, planning, procedural, and methodological controls internally, collectively known as the internal control system. Generally, good ESG performance and ratings reflect a company's sustainable development capabilities and lower risk, attracting investor trust. Therefore, to achieve this external effect and prevent the dissemination of negative information that could harm the company's reputation, management often proactively strengthens the internal control system, enhancing its effectiveness to promote positive behaviors and prevent negative ones (Liu & Zhang, 2021; Wang & Qian, 2021).

Many studies have found that effective internal control can embed the concept of social responsibility into the daily operations of a company (Chen & Wang, 2020). By adjusting the internal control system, companies can integrate the goals of environmental, social, and governance responsibilities into their daily operations. Internal control is thus a crucial means for enhancing the impact of ESG performance on corporate value. Internal control serves as the institutional foundation of corporate governance, influencing the allocation of ESG resources and the transformation of these resources into value, ultimately affecting the impact of ESG on corporate value creation (Zhou & Tang, 2021).

Therefore, this paper posits that internal control mediates the relationship between ESG performance and corporate value. Through the implementation of internal controls, ESG can enhance corporate value. Hence, we propose the following hypothesis:

Hypothesis 5: Internal control mediates the relationship between ESG performance and corporate value.

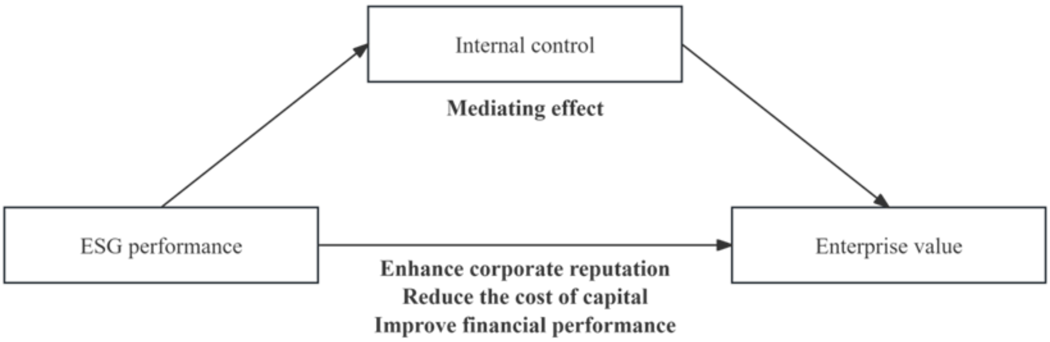

Figure 4 Relationship between Corporate ESG Performance and Corporate Value

（Source: This diagram is created by the author）

Research design

3.1Sample Selection and Data Sources

This study uses A-share listed companies in China as the research sample. Considering timeliness and the maturity of the ESG system, we selected corporate rating data from 2018 to 2022, sourced from the Wind database. Wind is a local institution in China and provides metrics and indicators with Chinese characteristics. Additionally, compared to other databases, Wind's data is more detailed and comprehensive. The intermediary variable, internal control, was chosen from the internal control index in the DIB database. The dependent variable and other control variables data were sourced from the CSMAR and Wind databases. Companies with special trading statuses such as ST, *ST, PT, companies with incomplete data, and financial and insurance companies due to their specific industry characteristics were excluded. All continuous variables were winsorized at 1% at both ends. The final sample consisted of 2,933 A-share listed companies, yielding a total of 14,920 data points. Data processing was conducted using STATA 15.

3.2 Variable Definition and Model Construction

3.2.1 Dependent Variable

Existing scholars have used various methods to measure corporate value, such as stock price (Miralles-Quirós et al., 2018), corporate performance (Wang et al., 2003), and ROA. To include future cash flow discounting and stakeholder interests in the measurement of corporate value, we ultimately use Tobin's Q to estimate corporate value (Wang et al., 2022; Fan, 2023; Lai, 2022). Tobin's Q is the ratio of market value of assets to replacement cost and has the function of predicting investment returns and risks. This indicator is not affected by changes in corporate accounting policies, making it more objective in comparing the value of different types of companies.

3.2.2 Independent Variable

For ESG performance, existing empirical research domestically and internationally often analyzes the scores given by external third-party independent rating agencies. These agencies possess primary data and construct and measure ESG rating systems more scientifically. The Wind database has been rating Chinese listed companies' ESG performance since 2018, incorporating international ESG evaluations and considering unique Chinese factors such as rural revitalization. Wind ratings include an overall rating from AAA to CCC, ESG scores out of 10, controversy event scores, and specific scores for each dimension, providing a wealth of data for in-depth research.

3.2.3 Mediating Variable

To measure internal control quality, this paper follows the methods of Li Zhibin (2014), Yuan Youfu (2023), and Zheng Chunmei (2021), using the internal control index scores published by the DIB database. A higher index indicates better internal control effectiveness. This study uses internal control as a mediating variable to verify whether it mediates the relationship between ESG performance and corporate value.

3.2.4 Control Variables

Corporate value may be influenced by many factors. Therefore, we selected relevant variables that could affect corporate value as control variables. Referring to the research of Li Jinglin (2022) and Xu Guanghua (2022), we included firm size (SIZE), leverage ratio (LEV), property nature (SOE), firm age (AGE), and ownership concentration (TOP1) as control variables in the empirical analysis. Additionally, industry and year dummy variables were controlled using a two-way fixed-effects model to minimize their impact on the regression results. The definitions are shown in the table below.

Table 1: Variable Definitions

Variable Type	Variable Name	Variable Symbol	Variable Description
Dependent Variable	Corporate Value	TBQ	Calculated using Tobin's Q formula
Independent Variable	ESG Score	ESG	ESG score of the firm as published in the Wind database
Mediating Variable	Internal Control	CI	Internal control index from the DIB database, divided by 100
Control Variable	Firm Size	SIZE	Natural logarithm of total assets for the year
	Leverage Ratio	LEV	Total liabilities divided by total assets
	Property Nature	SOE	Equal to 1 if the firm is a state-owned enterprise, otherwise 0

	Firm Age	AGE	Natural logarithm of the firm's age since establishment
	Ownership Concentration	TOP1	Shareholding ratio of the largest shareholder divided by total shares

2.3.5 Model Construction

To verify the research hypotheses proposed earlier, this paper constructs multiple regression models for empirical analysis. All variables are data for the i-th company in period t. The dependent variable is corporate value, denoted by the symbol TBQ; the independent variable is ESG; the mediating variable is CI; β represents the regression coefficients; ε represents the error term; ind represents industry fixed effects; and year represents year fixed effects. To test the hypotheses, the following models are constructed for regression analysis:

$$\mathrm{TBQ}_{it} = \alpha_0 + \alpha_1 \mathrm{ESG}_{it} + \alpha_2 \mathrm{SIZE}_{it} + \alpha_3 \mathrm{LEV}_{it} + \alpha_4 \mathrm{SOE}_{it} + \alpha_5 \mathrm{AGE}_{it} + \alpha_6 \mathrm{TOP1}_{it} + \mathrm{ind}_i + \mathrm{year}_t + \varepsilon_{it} \quad (1)$$

$$\mathrm{CI}_{it} = \beta_0 + \beta_1 \mathrm{ESG}_{it} + \beta_2 \mathrm{SIZE}_{it} + \beta_3 \mathrm{LEV}_{it} + \beta_4 \mathrm{SOE}_{it} + \beta_5 \mathrm{AGE}_{it} + \beta_6 \mathrm{TOP1}_{it} + \mathrm{ind}_i + \mathrm{year}_t + \varepsilon_{it} \quad (2)$$

$$\mathrm{TBQ}_{it} = \theta_0 + \theta_1 \mathrm{ESG}_{it} + \theta_2 \mathrm{CI}_{it} + \theta_3 \mathrm{SIZE}_{it} + \theta_4 \mathrm{LEV}_{it} + \theta_5 \mathrm{SOE}_{it} + \theta_6 \mathrm{AGE}_{it} + \theta_7 \mathrm{TOP1}_{it} + \mathrm{ind}_i + \mathrm{year}_t + \varepsilon_{it} \quad (3)$$

4. Empirical Analysis

4.1 Descriptive Statistics

Table 2 summarizes the descriptive statistics of the main variables. After a series of screenings and exclusions, data from 2,933 A-share listed companies in China were obtained. Regarding corporate value, the mean is 1.897 and the median is 1.52, indicating that more than half of the companies are above average, which implies a generally good development level of A-share listed companies in China. However, the large disparity between the maximum and minimum values suggests that there are significant differences in development levels among companies.

In terms of ESG performance, the mean of 5.995 is higher than the median of 5.93, indicating that more than half of the companies perform well in ESG. However, the significant variation in scores, with the highest being 9.61 for Mindray Medical and the lowest being below 3, shows that there is still a large disparity in ESG levels. This indicates that the promotion of ESG concepts and policy regulations has not been fully popularized, and many companies still lack ESG awareness.

According to the internal control index data from the Bloomberg database, the mean internal control score is 644.6, which is lower than the median of 657.51, indicating that the overall level and quality of internal control among listed companies in China is relatively low, with room for development and improvement.

Table 2: Descriptive Statistics of Main Variables

	(1)	(2)	(3)	(4)	(5)	(6)
Variable	Observations	Mean	Std. Dev.	Min	Max	Median
SOE	14,920	0.343	0.475	0	1	
SIZE	14,920	22.47	1.310	19.66	26.06	22.28
LEV	14,920	0.428	0.190	0.0515	0.902	0.428
TBQ	14,920	1.897	1.202	0.648	8.053	1.52
TOP1(%)	14,920	32.83	14.54	8.770	74.45	30.39
AGE	14,920	3.057	0.267	1.390	4.030	3.09
ESG	14,920	5.995	0.798	2.190	9.610	5.93
CI	14,920	644.6	83.71	115.5	941.3	657.51
Number of id	2,933	2,933	2,933	2,933	2,933	2,933

In terms of firm size (SIZE) and firm age (AGE), the data shows that the overall size and establishment years of listed companies in China are relatively similar and evenly distributed. The leverage ratio reflects the asset-liability structure of companies. The data indicates that the asset-liability structure of the sample companies is not uniform, with significant differences. The mean shareholding ratio of the largest shareholder is 32.83%, with a median of 30.39%, indicating that the shareholding structure of the largest shareholder is relatively reasonable for most sample companies. The standard deviation of 14.54 indicates that the situation is relatively stable, although there are companies where the largest shareholder holds up to 74.45%, suggesting a high concentration of ownership in those companies.

4.2 Correlation and Multicollinearity Analysis

To analyze the impact relationship between the ESG performance of listed companies and corporate value, this study uses STATA15 software to conduct correlation analysis on relevant variables using Pearson correlation tests. The results are shown in Table 3. Without considering the influence of other variables, the correlation coefficient between the ESG performance of listed companies and corporate value (TBQ) is 0.091, showing a significant positive correlation at the 1% level. This indicates that each unit increase in the ESG score brings about a 0.091 unit increase in corporate value.

Additionally, it can be seen that internal control (CI) also has a significant positive correlation with corporate value at the 1% level, with a correlation coefficient of 0.04. This suggests that effective internal control can enhance corporate value, likely due to more effective or reasonable operation processes within the company, thereby improving work efficiency to some extent, supporting the hypotheses proposed earlier.

The leverage ratio (LEV) shows a significant negative correlation with corporate value, with a coefficient of 0.288, indicating a relatively large impact on corporate value. Moreover, firm size (SIZE), firm age (AGE), and ownership concentration (TOP1) all show significant negative correlations with corporate value. This could be because larger firm size or older establishment years introduce more uncontrollable or unmanageable factors within the company, such as management corruption, requiring more human and material costs to manage, which does not necessarily enhance corporate value. This further supports the importance of internal control.

In addition, when the largest shareholder's shareholding ratio is high, it may lead to monopolistic phenomena or decision-making issues, which are detrimental to corporate value, hence the significant negative correlation.

Furthermore, all correlation coefficients are below 0.8, indicating that there is no multicollinearity issue between the selected control variables and explanatory variables. This, to some extent, supports the research hypotheses proposed earlier and provides conditions for further analysis.

Table 3: Correlation Analysis of Main Variables

TBQ	CI	ESG	TOP1	SIZE	AGE	SOE	LEV
1							
0.040***	1						
0.091***	0.189***	1					
-0.080***	0.153***	0.00900	1				
-0.315***	0.206***	0.115***	0.203***	1			
-0.061***	-0.014*	-0.020**	-0.024***	0.166***	1		
-0.176***	0.067***	-0.00800	0.246***	0.373***	0.250***	1	
-0.288***	-0.006	0.088***	-0.050***	0.490***	0.115***	0.235***	1

4.3 Regression Analysis

As shown in Table 4, the regression coefficient for ESG performance (ESG) and corporate value (TBQ) is 0.0262, with a T-value of 2.04, significant at the 5% level. This indicates that ESG performance can indeed enhance corporate value, demonstrating a significant positive correlation. Specifically, if a company's ESG score increases by 1 point, its corporate value increases by 0.0262. This supports Hypothesis 1.

Furthermore, the results for the control variables indicate that firm size (SIZE) and ownership concentration (TOP1) are significantly negatively correlated with corporate value at the 1% level. This might be because when a firm becomes too large, it becomes challenging to standardize its production and operational processes, potentially leading to more problematic areas and eventually negative outcomes.

To test whether internal control (CI) mediates the relationship between ESG performance and corporate value, a classic three-step method was used. By including the mediating variable internal control (CI) in the regression equations, as seen in columns 2 and 3 of Table 4, the internal control (CI) variable is significantly positive at the 1% level, with a coefficient of 0.0007. This verifies the mediating effect of internal control, indicating that ESG performance can enhance corporate value by improving the effectiveness of internal control, thus supporting Hypothesis 5.

Table 4: Regression Analysis Results

	(1)	(2)	(3)	(4)	(5)
Variable	TBQ	CI	TBQ	TBQ	ROA
ESG	0.0262** (2.04)	19.9662*** (12.23)	0.0144 (1.12)	/	0.0017*** (2.59)
CI	/	/	0.0007*** (9.08)	/	/
sd	/	/	/	0.1287*** (23.33)	/
SOE	-0.0549 (-1.05)	-3.9051 (-0.69)	-0.0581 (-1.11)	-0.0418 (-0.82)	0.0043 (1.55)
SIZE	-0.3922*** (-15.50)	18.9859*** (6.78)	-0.4024*** (-15.55)	-0.0091*** (-5.83)	0.0229*** (17.29)
LEV	0.1655* (1.88)	-34.8822*** (-3.66)	0.1896** (2.15)	2.0469*** (7.63)	0.0036*** (12.23)
TOP1	-0.0085*** (-5.33)	0.9063*** (5.13)	-0.0090*** (-5.69)	-0.0217*** (-3.89)	0.0003*** (4.10)
AGE	1.9562*** (7.13)	-82.2080*** (-2.77)	2.0218*** (7.38)	-0.4376*** (-17.67)	0.0012 (0.08)
Constant	4.7285*** (5.01)	343.9648*** (3.37)	4.2614*** (4.52)	5.1329*** (5.56)	-0.5143*** (-10.31)
Observations	14,565	14,565	14,565	14,565	14,565
Number of id	2,933	2,933	2,933	2,933	2,933
R-squared	0.150	0.027	0.154	0.188	0.054

**p < 0.05, **p < 0.01

4.4 Robustness Test

To further validate the reliability of this study, a robustness test was conducted using STATA 15 software. The method of variable substitution was adopted, replacing the explanatory variable ESG used in the previous analysis and performing regression verification again. The ESG scores (sd) provided by SynTao Green Finance were used to replace the original explanatory variable data, and the bidirectional fixed-effects model was used for regression analysis again. The results are shown in column 4 of Table 4. The results indicate that corporate value (TBQ) still has a significant positive correlation with the ESG scores (sd) provided by SynTao Green Finance, with a significance level of 1% and a coefficient of 0.1287.

Next, to further verify the robustness, the Tobin's Q value used to measure corporate value was replaced with the return on assets (ROA) value, and the robustness test was conducted again. The results are shown in column 5 of Table 4. The results still show a significant positive correlation, and overall, the robustness test results are basically consistent with the previous regression results. Therefore, it can be considered that the research conclusions are relatively robust, and the hypotheses can be verified.

4.5 Further Analysis

In the previous section, when proposing the hypothesis of the relationship between ESG performance and corporate value, separate correlation hypotheses were proposed to explore whether there are differences in the impact of the three dimensions of environment, society, and corporate governance on corporate value. In this section, the relationship between the three dimensions' scores provided by the Wind database and corporate value is analyzed to explore whether there are differences in the impact of these three dimensions. The results are shown in Table 5.

The data shows that the single environmental (E) performance also has a promoting effect on corporate value, with a significant positive correlation at the 1% level and a coefficient of 0.0388. The single social (S) factor performance also positively impacts corporate value improvement, with a coefficient of 0.0511 and significant at the 1% level. However, the relationship between the single corporate governance (G) factor performance and corporate value is not significant, although it still shows a positive correlation. The possible reason is that, compared with the environment and society dimensions, corporate governance is not as easily understood by the public and cannot quickly generate direct responses. The changes brought about by corporate governance are likely more subtle, requiring long-term and in-depth measures by corporate managers to fundamentally impact corporate value.

Furthermore, the comparison between the environmental and social factors shows that the coefficient of the social factor is relatively larger. This may be because consumers and stakeholders are more engaged in the social environment, and their access to and perception of social information can be more directly obtained and influenced through various social media. In contrast, unless they work in related industries, people do not have quick access to information about environmental factors. Therefore, the performance of social factors can bring the most direct and significant changes to corporate value.

Table 5: Further Analysis Regression Results

Variable	（1）	（2）	（3）
E	0.0388*** -12.87	/	/
S	/	0.0511*** -8.53	/
G	/	/	0.0111 -1.3
SOE	-0.0493 (-0.95)	-0.0525 (-1.01)	-0.0569 (-1.09)

Variable	（1）	（2）	（3）
SIZE	-0.3832*** (-15.28)	-0.3985*** (-15.82)	-0.3900*** (-15.44)
LEV	-0.0218*** (-3.86)	-0.0217*** (-3.83)	-0.0207*** (-3.62)
TOP1	-0.0086*** (-5.42)	-0.0084*** (-5.30)	-0.0084*** (-5.29)
AGE	2.0172*** -7.27	1.9655*** -7.06	2.0308*** -7.27
Constant	4.3339*** -4.57	4.8001*** -5.04	4.5406*** -4.76
Observations	14,565	14,565	14,565
Number of id	2,933	2,933	2,933
R-squared	0.162	0.155	0.15

*** p<0.01, ** p<0.05, * p<0.1

5. Research Conclusions

This paper investigates the impact relationship between corporate ESG performance and corporate value, using A-share listed companies in China as the sample. Data from the five-year period between 2018 and 2022 were used, and fixed-effects models were employed for correlation and mediation effect analysis. The following conclusions were drawn:

Positive Impact of ESG on Corporate Value: Positive ESG performance can significantly enhance corporate value, mainly through improving corporate reputation, reducing financing costs, and enhancing internal governance. This means that better ESG performance generally leads to higher corporate value. As ESG performance reflects a company's environmental, social, and governance levels, it sends signals to external stakeholders who can assess the company's sustainable development capabilities. These factors influence the behavior of consumers and investors, thereby affecting corporate value.

Significant Impact of Environmental and Social Dimensions: The environmental (E) and social (S) dimensions of ESG performance have a more significant impact on corporate value, while the governance (G) dimension shows a positive but not significant relationship with corporate value. This is likely because the effects of corporate actions on the environment and society are more visible to the public, leading to more direct impacts on corporate value. Conversely, governance-related actions are mainly targeted at internal employees and partners, which are less perceptible to the public and therefore do not significantly impact corporate value.

Mediating Role of Internal Control: Internal control serves as a mediating variable between ESG performance and corporate value. When the quality of internal control activities is high, it enhances the effectiveness of ESG actions. Good internal control can also reduce operational costs and improve efficiency, thereby increasing corporate value. Therefore, high-quality internal control is crucial for the stable development of a company.

In conclusion, this study finds that positive ESG performance can enhance corporate value, with internal control playing a crucial mediating role. Effective internal control not only facilitates the implementation of ESG activities but also contributes to reducing costs and improving operational efficiency, which ultimately enhances corporate value. Environmental and social performances have a more direct and significant impact on corporate value, while the impact of corporate governance is less perceptible to the public but still positive. These findings highlight the importance of comprehensive ESG practices and robust internal control systems for the sustainable development of companies.

6. Research Recommendations

6.1 Actively Disclose and Improve ESG Information

The disclosure of ESG information can enhance corporate value, so companies should continuously optimize their presentation of ESG information. In the environmental aspect, companies should vigorously promote and invest in the use and development of green equipment, reduce pollutant emissions, and improve the efficiency of material usage in daily operations. In the social aspect, companies should actively take on their responsibilities in society, including participating in public welfare activities, charitable rescues, and rural revitalization to aid in stable social development. In terms of governance, companies should actively manage relationships with employees and collaborators, improve relevant regulations and clauses, and refine corporate governance strategies.

Based on this, companies should ensure proper ESG information disclosure. The disclosure channels should meet standards and be easily accessible. Companies should establish a dedicated social responsibility or ESG disclosure page on their corporate websites, making it easy for visitors to find the information. Ideally, historical ESG reports should also be displayed to allow viewers to reference the company's performance over the years.

Moreover, ESG reports should be both professional and readable. Professionally, a dedicated department should organize and summarize the company's annual ESG performance, staying updated on national regulations and requirements for ESG disclosure to ensure compliance and completeness of the reports. Readability-wise, the reports should be understandable not only to professional rating agencies and external regulators but also to consumers and the general public, using clear language and supplemented with images to enrich the content.

6.2 Enhance Attention to Corporate ESG Information

External investors and stakeholders should also pay attention to corporate ESG information to encourage continuous self-improvement among companies and foster positive competition within the industry. This practice can help investors identify potential risks, make more cost-effective investment decisions, and create additional oversight beyond financial performance. When investors focus on ESG performance, it indirectly pressures companies to improve their ESG practices, fostering industry-wide positive competition and driving industrial upgrades and reforms.

Moreover, investors should scrutinize the standards and authenticity of ESG reports to prevent companies from falsifying reports to attract investment, thus improving the quality of disclosures. Enhanced external supervision can reduce identification costs and investment risks for investors, while promoting better ESG practices among companies.

6.3 Establish Unified ESG Rating Standards

China's current ESG rating system is still in the developmental stage. Different rating agencies have varying methods and criteria for ESG ratings, lacking a standardized and comprehensive framework. Therefore, there is a need for unified and authoritative ESG rating standards for external stakeholders to reference.

From the government regulatory perspective, it is essential to develop ESG evaluation standards tailored to the national context, creating uniform and comparable rating results. Additionally, the standards for corporate disclosure should be unified. Although China and the international community increasingly emphasize corporate ESG reports, many companies still do not fully adhere to ESG guidelines or produce complete reports. The government should legally strengthen the ESG disclosure system and its contents, regulating not only the act of ESG disclosure but also the quality, form, and timeliness of the disclosed information to prevent companies from exploiting loopholes.

In conclusion, both companies and external investors, as well as government regulators, should emphasize corporate ESG performance. This fundamental focus can foster a sustainable development mindset, creating positive social effects and promoting progress and development in sustainability across various sectors.

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