



# The Enhancement Effect of Corporate ESG Performance on Corporate Performance: An Empirical Study Based on Listed Companies on China's A-Share Market

Yang Ge

Soochow University, Suzhou, Jiangsu, China

2691028554@qq.com

**Abstract.** The degree of openness of China's capital market has deepened continuously over the course of more than four decades of reform and opening up. The Chinese market environment has gradually converged with international markets, and numerous new concepts and ideas have been reshaping the domestic market landscape. This paper focuses on the emerging corporate evaluation approach known as Environmental, Social, and Governance (ESG) performance and investigates its impact on corporate performance. Principal Component Analysis (PCA) is utilized to develop a Corporate Governance Index, enabling a systematic quantification of corporate governance efficacy. The study explores the influence of ESG factors on corporate performance and their underlying mechanisms. Additionally, this paper utilizes a sample of non-financial companies listed on the Shanghai and Shenzhen A-share markets from 2010 to 2021 to empirically examine the impact of ESG performance on corporate performance. The research found that the ESG performance of Chinese enterprises will affect the improvement of corporate performance. The better the ESG performance, the higher the company's return on total assets and the higher the total factor productivity.

**Keywords:** ESG performance, Corporate performance, Information disclosure.

## 1 Introduction

ESG is an acronym of the words Environmental, Social and Governance [1]. Since the concept of sustainable development emerged in the 1940s, there has been a concerted effort to devise an appropriate evaluation system to guide enterprises in striking a balance between the pursuit of economic performance and the sustainable development of the social environment. Following a progressive exploration of paradigms including corporate sustainable development, corporate social responsibility, and social responsibility investment, the more integrative ESG framework, encapsulating considerations of environmental impact, social contributions, and corporate governance, has gained traction. In 2004, the United Nations launched the seminal report "Who Cares Wins—Connecting Financial Markets to a Changing World," thereby

instituting the ESG concept as a cornerstone in linking financial markets with the dynamics of global change. Since then, the ESG evaluation system has become widely used by businesses and financial institutions in developed countries as a method to assess corporate sustainable development performance [2].

The ESG strategy refers to an investment strategy comprehensively considered by economic entities from the three aspects of Environmental (E), Social Responsibility (S), and Governance (G). It is a broader form of responsible investment strategy [3]. As China's capital market continues to open up, the proportion of foreign participation and institutional investors' holdings in the A-share market has been increasing. Foreign and institutional investors have a higher level of recognition for ESG investment principles, which in turn encourages domestic investors and companies to pay more attention to ESG considerations [4].

Chen Ning and Sun Fei (2019) have pointed out that, as organizations like the United Nations began to establish ESG-related guidelines and frameworks, as well as principles for ESG performance rating and ESG information disclosure, internationally, these have gradually evolved from spontaneous public actions to more comprehensive information disclosure and performance evaluation systems within major developed country stock exchanges [5]. In contrast, in China, the development of the ESG investment system has been relatively lagging, with government guidance playing a predominant role. Therefore, China should expedite and enhance the overall ESG institutional framework and promote a shift from voluntary to mandatory ESG information disclosure for companies. Additionally, efforts should be made to strengthen the construction of ESG databases to ultimately reflect the effectiveness of the ESG system in the development of enterprises. Actively fulfilling social responsibility can help companies reduce their cost of equity capital. Wei Hui, Yao Yingying, and Ma Xiaoke (2020) took Shanghai and Shenzhen A-share non-financial listed companies from 2010 to 2016 as research samples and found in their research that the fulfillment of social responsibility can decrease the cost of equity capital through two intermediary paths of "information asymmetry" and "heterogeneous risk". Although "resource allocation efficiency" will have a masking effect on the cost of equity capital, its comprehensive positive effect is greater than the negative effect [6].

Zhang Lin and Zhao Haitao (2019) selected the data of 417 A-share listed companies in China from 2015 to 2017 to analyze the impact of corporate environmental, social and corporate governance performance on corporate value by using the two-way fixed effect model, and eventually found that ESG performance has a significant positive impact on corporate value. This effect is more pronounced for non-state-owned enterprises, smaller companies, and firms in non-polluting industries [7]. On one hand, with the continuous efforts of international organizations led by the United Nations, the influence of ESG ratings has been growing globally. It has gradually evolved from voluntary actions of some companies to becoming part of regulatory frameworks. Additionally, in many developed countries, ESG performance has established comprehensive performance evaluation mechanisms and disclosure systems, providing valuable guidance to stakeholders [8]. On the other hand, companies can reduce their cost of equity capital by actively fulfilling their social responsibility through two intermediary pathways: "information asymmetry" and "heterogeneous

risk." Information disclosure can boost investor confidence by providing them with financial and operational insights based on accounting information disclosure [9]. Similarly, a company's ESG contributions and social responsibility initiatives are communicated to the market and investors through information disclosure. Therefore, information disclosure can reduce the uncertainty caused by information asymmetry and promote the ESG value effect [10]. Considering the above analysis, this paper proposes the following:

H1: Improving ESG performance has a positive impact on corporate performance improvement.

H1a: Information dissemination influences the ESG value effect, where higher-quality information disclosure by listed companies leads to a greater enhancement effect of ESG performance on corporate value.

## 2 Research Design

### 2.1 Data

This study utilizes annual data from companies listed on the Shanghai and Shenzhen A-share markets for the years 2010 to 2021. The primary data source is the East Money Choice Financial Data Terminal, and industry classification follows the latest standards set by the China Securities Regulatory Commission (CSRC). To ensure the reliability of the research results, the initial sample is subjected to the following screening criteria:

1. Exclusion of samples with missing variable data.
2. Exclusion of listed companies in the financial sector.
3. Avoidance of including companies in the sample that experienced abnormal trading statuses during the sample period, such as suspension (ST) or continuous suspension (\*ST).

These screening measures are implemented to ensure the quality and integrity of the sample dataset, thereby enhancing the credibility of the research findings.

### 2.2 Construction of regression model

#### 2.2.1 Dependent Variable: Corporate Performance

Corporate performance refers to the operational efficiency and achievements of a company over a certain period of operation. We evaluate and measure corporate performance through two primary approaches:

1. Return on Assets (*ROA*) represents the basic ability of an enterprise to use capital for profitable activities. This indicator is a relatively basic indicator, which can be derived from a variety of other indicators to measure the operating conditions of enterprises, such as net interest rate, gross profit rate and so on. Therefore, this paper uses *ROA* to gauge corporate performance, with a higher value indicating better performance.

2. Additionally, fixed effect regression (Formula (1)) can be used to estimate the total factor productivity of enterprises, output variable is represented by the logarithm

of main business income ( $\text{Ln}(Y)$ ), labor input is represented by the natural logarithm of the number of employees in the annual report of the enterprise ( $\text{Ln}(L)$ ), and the logarithm of the total assets of the company ( $\text{Ln}(K)$ ). The time fixed effect and individual fixed effect are introduced, and the residual term is returned as a proxy index of total factor productivity.

$$\text{Ln}Y_{i,t} = \alpha_0 + \beta_1 \text{Ln}L_{i,t-1} + \beta_2 \text{Ln}K_{i,t} + \varepsilon_{i,t} \quad (1)$$

These metrics allow us to assess and analyze corporate performance comprehensively in our study.

### 2.2.2 Independent Variables: Corporate ESG Evaluation Indicators

In this study, we measure the level of digital economic development using annual social responsibility data from Hexun.com for the years 2010 to 2021. Specifically, we use the Environmental Responsibility score from the reports to assess each company's environmental performance for each year. Additionally, we employ the Social Responsibility score from the reports to gauge each company's social performance for each year.

For assessing corporate governance performance, we select several variables, including the ownership percentage of the largest shareholder (*Top1*), the ownership percentage of shareholders ranked from second to tenth (*Top2\_10*), the ownership percentage of senior executives (*Mana*), and the ownership nature of the listed company (*State*, where state-owned listed companies are assigned a value of 1, otherwise 0). We then utilize Principal Component Analysis (PCA) to construct a Corporate Governance Index, as defined in Formula (2):

$$\text{Gov} = \text{PCA}(\text{Top1} + \text{Top2\_10} + \text{Mana} + \text{State}) \quad (2)$$

This approach allows us to comprehensively evaluate and measure corporate environmental, social, and governance (ESG) performance for our analysis.

### 2.2.3 Regression Model

Based on the research hypotheses outlined above, a multiple regression model is constructed to examine the impact of ESG performance on the improvement of enterprise performance. The regression formula is as follows:

$$\text{ROA}_{i,t} / \text{TFP}_{i,t} = \beta_0 + \beta_1 \text{ESG}_{i,t-1} + \gamma \times \text{ControlVariables}_{i,t-1} + \varepsilon_{i,t} \quad (3)$$

In Formula (3),  $\text{ROA}_{i,t}$  represents corporate performance,  $\text{ESG}_{i,t-1}$  denotes ESG performance, and  $\text{ControlVariables}_{i,t-1}$  encompass various control variables such as Leverage (*LEV*), Net Cash Flow (*CF*), Company Growth (*GROWTH*), among others. This regression formula can help us to assess whether ESG performance has a significant impact on firm performance while controlling the influence of other relevant variables.

### 2.2.4 Control Variable

In addition to the explained variable "Return on Assets (*ROA*)" and the explanatory variable "ESG," this study controls for several other factors that may influence corporate performance improvement. These factors encompass variables such as company size (*A*), leverage (*LEV*), cash flow (*CF*), management ownership (*MANAGER*), fixed asset ratio (*FA*), book-to-market ratio (*BM*), and company growth (*GROWTH*), among others. Please refer to Table 1 for detailed information on these control variables.

**Table 1.** Specific Description of Control Variables

Variable Name	Symbol of Variable	Definition
The Size of enterprise	<i>A</i>	Ln (Total Assets)
Financial leverage	<i>LEV</i>	Asset-liability ratio
Cash Flow from Operations	<i>CF</i>	The ratio of cash flow from operating activities to total assets last year
The ratio of fixed assets	<i>FA</i>	The fixed assets to total assets at the beginning of the year
Time since listing	<i>AGE</i>	The corresponding date-date of listing of the Company
Enterprise Growth	<i>Growth</i>	Year-on-year growth in operating revenue
Time Dummy	<i>Year</i>	Annual dummy variable, assigned a value of 1 if it corresponds to the given year, otherwise 0.
Entity Dummy	<i>Entity</i>	Individual dummy variable, assign a value of 1 if it pertains to the company, and 0 otherwise.

## 3 Empirical Results

### 3.1 Descriptive statistics

To provide a statistical summary of the basic descriptive characteristics of each variable, descriptive statistical analysis was conducted. Table 2 presents the descriptive statistics for the main variables. Based on these results:

1. The performance metric Return on Assets (*ROA*), indicative of corporate profitability, exhibits a mean value of 3.93 with a standard deviation of 8.07. Concurrently, Total Factor Productivity (*TFP*) demonstrates an average of -0.0292, accompanied by a standard deviation of 0.3443. This suggests that there is significant variation in performance among the sample companies, and it may be influenced by various other factors.

2. The measurement indicator of corporate ESG performance, *ESG*, has an average of 1.25 and a standard deviation of 4.94, which demonstrates relatively high variability in ESG performance among the sample companies.

3. The distribution of other variables falls within reasonable ranges.

These descriptive statistics provide an initial understanding of the variability and characteristics of the variables in the dataset.

**Table 2.** Descriptive Statistics Analysis

Variables	count	mean	std	min	50%	max
<i>ROA</i>	17921	3.9285	8.0722	-185.9121	3.9739	87.9588
<i>TFP</i>	17921	-0.0292	0.3443	-6.6256	-0.0465	2.7748
<i>ESG</i>	17921	1.2462	4.9368	-10.6957	-0.1381	22.6288
<i>LEV</i>	17921	41.5782	21.2530	0.7080	40.7718	855.6570
<i>CF</i>	17921	0.0451	0.0739	-1.9377	0.0443	0.6612
<i>FA</i>	17921	0.2079	0.1560	0.0002	0.1758	0.9709
<i>Growth</i>	17921	21.2287	135.6415	-130.9156	12.0052	8748.3663
<i>AGE</i>	17921	17.9395	5.6424	0.0000	18.0000	64.0000
<i>A</i>	17921	22.2969	1.2728	17.8061	22.1091	28.4159

### 3.2 Correlation analysis

Table 3 demonstrates the correlation coefficients between corporate ESG performance corporate performance (*ROA*), and all control variables:

**Table 3.** Relative Coefficient I

	<i>ROA</i>	<i>A</i>	<i>ESG</i>	<i>LEV</i>	<i>CF</i>	<i>FA</i>	<i>Growth</i>	<i>AGE</i>
<i>ROA</i>	1.0000							
<i>A</i>	-0.0106	1.0000						
<i>ESG</i>	0.2055	-0.0536	1.0000					
<i>LEV</i>	-0.2958	0.2043	-0.2404	1.0000				
<i>CF</i>	0.3514	0.0089	0.0359	-0.1640	1.0000			
<i>FA</i>	-0.0301	0.0162	-0.1345	0.0663	0.2138	1.0000		
<i>Growth</i>	0.0726	-0.0022	0.0195	0.0267	-0.0104	-0.0461	1.0000	
<i>AGE</i>	-0.0908	0.0577	-0.2473	0.1509	0.0282	-0.0199	-0.0133	1.0000

Table 4 demonstrates the correlation coefficients between corporate ESG performance, corporate performance e(*TFP*)and all control variables:

**Table 4.** Relative Coefficient II

	<i>TFP</i>	<i>ESG</i>	<i>A</i>	<i>Growth</i>	<i>CF</i>	<i>LEV</i>	<i>FA</i>	<i>AGE</i>
<i>TFP</i>	1.0000							
<i>ESG</i>	0.0402	1.0000						
<i>A</i>	0.0905	-0.2338	1.0000					
<i>Growth</i>	0.0464	0.0194	0.0103	1.0000				
<i>CF</i>	0.2973	0.0356	0.0397	-0.0106	1.0000			
<i>LEV</i>	-0.0176	-0.2406	0.5168	0.0267	-0.1644	1.0000		
<i>FA</i>	0.0342	-0.1348	0.0744	-0.0463	0.2136	0.0664	1.0000	
<i>AGE</i>	-0.0089	-0.2475	0.2237	-0.0134	0.0283	0.1514	-0.0199	1.0000

The findings from the correlation analysis reveal several relationships between variables in the context of ESG performance and corporate performance. Firstly, the positive correlation that exists between corporate performance (Both *ROA* and *TFP*) and ESG performance. Secondly, the values of the correlation coefficients among the variables are all below the threshold of 0.7, indicative of a lack of substantial multicollinearity. Consequently, this finding justifies the retention of the entire set of variables within the analytical framework.

### 3.3 Panel data regression analysis

**Table 5.** Summary of Regression Results for Hypothesis Testing

	<i>ROA(a)</i>	<i>ROA(b)</i>	<i>TFP(a)</i>	<i>TFP(b)</i>
<i>ESG</i>	0.1073***	0.0857***	0.0038**	0.0031***
<i>A</i>		2.3516***		0.012***
<i>LEV</i>		-0.0347***		-0.0004***
<i>CF</i>		13.316***		1.0566***
<i>Growth</i>		0.0021***		0.0002***
<i>AGE</i>		-0.4366***		0.0544
<i>FA</i>		2.4669***		-0.0432*
<i>Entity Effects</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Time Effects</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Adj R</i>	0.0014	0.0333	0.0015	0.0917
<i>N</i>	17921	17921	17921	17921

Note: The data in the table are the regression coefficients of each variable, \*\*\*, \*\*, \* indicate that they are significant at 1%, 5%, 10% level of significance, respectively.

According to the panel regression results (Table 5) of the samples: (1) The regression coefficient of the explanatory variable ESG performance (*ESG*) is positive and significant at the significance level of 1%. This indicates that enterprise ESG performance will improve enterprise performance, that is, in order to enhance its own profitability, asset operation level, enterprise value, and enhance its future development prospects

and establish a good corporate image, enterprises will strengthen their own performance in the three aspects of environment, social environment and corporate governance. (2) After the addition of control variables, ESG performance (ESG) remains positive in the ROA(b) and TFP(b) panel regression and is still significant at the significance level of 1%, which proves that hypothesis H1 is valid, that is, improving ESG performance has a positive effect on enterprise performance.

## 4 Extended research

### 4.1 Heterogeneity analysis I: The influence of property rights of the company

Based on the results of the panel regression analysis above, the paper concludes that the overall corporate ESG performance of Shanghai-Shenzhen A-share listed companies in the whole industry (except the financial sector) contributes to the improvement of corporate performance. At the same time, considering that the property right nature of enterprises is an important factor affecting the ESG performance of enterprises, enterprises with different property rights have different effects in fulfilling social responsibilities. Therefore, in this study, the sample firms are categorized based on their ownership structure into state-owned enterprises (SOEs) and non-state-owned enterprises (non-SOEs). The analysis then delves into the differential effects of environmental, social, and governance (ESG) performance on the valuation of firms contingent upon their ownership type. Regression analysis (Table 6) shows that for different types of enterprises, the regression results of ESG performance show a significant positive correlation with enterprise performance, indicating that the improvement of ESG performance has a significant role in promoting the improvement of enterprise performance in both state-owned enterprises and non-state-owned enterprises.

**Table 6.** Summary of Regression Results for State-owned and Non-state-owned Enterprises

	<i>TFP</i>	
	SOEs	non-SOEs
<i>ESG</i>	0.0036***	0.0031***
<i>A</i>	0.0282***	0.001
<i>LEV</i>	0.0004***	0.0001***
<i>CF</i>	1.0235***	1.0567***
<i>Growth</i>	-0.0015***	-0.0002
<i>FA</i>	0.0753*	-0.1257***
<i>AGE</i>	0.2405**	-0.0045
<i>Entity Effects</i>	<i>Yes</i>	<i>Yes</i>
<i>Time Effects</i>	<i>Yes</i>	<i>Yes</i>
<i>Adj R</i>	0.1085	0.0901
<i>N</i>	7000	14122



#### 4.2 Heterogeneity analysis II: The influence of information transfer on ESG value effect

Regarding the hypothesis H1a, which suggests that higher-quality information disclosure by listed companies leads to a greater enhancement effect of ESG performance on corporate value, further in-depth research should be conducted. In terms of variable measurement, information disclosure quality (*Disclose*) is constructed based on the information disclosure evaluation results of listed companies published by the Shanghai and Shenzhen Stock exchanges. The evaluation outcomes for the information disclosure practices of publicly traded corporations are categorized into four tiers, descending from superior to inferior. Correspondingly, these tiers are quantified using a numerical scale, with values assigned as follows: 4 for the highest grade, 3 for above average, 2 for average, and 1 for the lowest grade. The regression results using the three-step method are shown in Table 7. Enterprise information disclosure plays an intermediary effect on the relationship between ESG performance and enterprise performance. Assuming H1a is supported, it indicates that ESG performance indirectly affects enterprise performance through enterprise information disclosure.

**Table 7.** The mediating effect test results

	(1)	(2)	(3)
	<i>TFP</i>	<i>TFP</i>	<i>Disclose</i>
<i>Disclose</i>		0.0182***	
<i>ESG</i>	0.0029***		0.0116***
<i>A</i>	0.0096**	0.008*	0.1027***
<i>LEV</i>	0.0001***	0.0001***	9.98E-05***
<i>CF</i>	1.0793***	1.0762***	0.1976***
<i>Growth</i>	-0.0004**	-0.0003**	-0.005***
<i>FA</i>	-0.05	-0.0501*	-0.0934
<i>AGE</i>	0.0368*	0.0363	0.0194
<i>Entity Effects</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Time Effects</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
<i>Adj R</i>	0.0943	0.0950	0.0218
<i>N</i>	18554	18554	18554

## 5 Conclusions

This paper selects non-financial companies listed on Shanghai and Shenzhen A-shares in China from 2011 to 2020 as samples to systematically test the impact of ESG performance on corporate performance. It is found that the ESG performance of Chinese enterprises will affect the improvement of corporate performance. Specifically: The better ESG performance, the higher the company's profit margin on total assets. The contributions of this research are multifaceted. Primarily, it adopts the ESG perfor-

mance framework as a novel metric for assessing corporate performance, with a focus on production efficiency and profitability. This study's exploration of the influence that this increasingly recognized standard has on corporate performance carries substantial practical relevance and offers strategic guidance for business operations. Moreover, the research provides empirical data from China, delving into the profound effects of ESG performance on enhancing firm performance, thereby augmenting the existing body of literature on the subject. The international academic discourse suggests that in jurisdictions lacking robust market-supporting institutions, ESG performance exerts a significant influence on business functions (Ghoul, 2017). However, these investigations predominantly center on countries where market regulatory mechanisms are deficient. As China transitions from a planned economic system to a socialist market economy, the government frequently employs economic and financial policies as instruments of market regulation, taking on a pivotal role in economic management. This positions China distinctly from nations devoid of supportive market institutions.

Accordingly, this study offers recommendations for the advancement of China's ESG performance assessment and refinement of its ESG market rating system, structured to align with the country's unique market dynamics and regulatory environment:

(1) The state and government should improve relevant systems, such as mandatory disclosure of ESG scores by A-share listed companies. Concurrently, for businesses that demonstrate a proactive commitment to environmental sustainability, social responsibility, and sound corporate governance, local authorities may consider implementing preferential policies such as a reduction in value-added taxes or the provision of governmental subsidies. Furthermore, anticipating the increasing trend of enterprises disclosing their ESG (Environmental, Social, and Governance) performance, it is imperative for government bodies to enhance the mechanisms for information dissemination. This will ensure the development of a robust ESG evaluation framework that is well-supported by both technological infrastructure and advanced methodologies.

(2) At the enterprise level, the concept of ESG should be established and emphasized in the daily operation and management process. From the perspective of an enterprise itself, ESG performance is indispensable for its long-term development [11]. In conjunction with their pursuit of maximizing shareholder equity, enterprises also bear the responsibility to preserve and enhance societal interests. Adopting a proactive stance in fulfilling social responsibilities is a critical mandate for corporations. Corporate governance pertains predominantly to the routine operations of businesses, focusing on enhancing operational efficiency and value creation, which is the fundamental purpose of sound governance practices. The ESG performance of enterprises has a profound impact on a multitude of internal and external factors. Concurrently, it is imperative that firms effectively utilize information disclosure mechanisms to facilitate the dissemination of their ESG contributions. By providing comprehensive and transparent disclosures, companies can optimize the impact of their ESG initiatives. This approach not only informs stakeholders but also reinforces the corporate commitment to sustainable and responsible business practices.

(3)The majority of corporate investors should not only pay attention to its financial performance when choosing investment objects. As the concept of sustainable development continues to gain popularity, non-financial performance indicators, such as environmental stewardship, social responsibility, and corporate governance, have emerged as critical considerations for external investors. These indicators not only reflect the operational capabilities of a corporation but also signify its underlying business philosophy and corporate image. More importantly, these dimensions can enable investors to understand the risk management ability and sustainable competitiveness of the enterprise and obtain sustainable long-term returns.

## Reference

1. AMANDA M. Rose, A Response to Calls for SEC-Mandated ESG Disclosure, 98 Washington University Law Review 1821,1822 (2021).
2. Wang, H.J. (2021). A literature review on the impact of ESG ratings on corporate performance. *Modern Enterprise*, (09).
3. El Ghoul, S., Guedhami, O., & Kim, Y. (2017). Country-level institutions, firm value, and the role of corporate social responsibility initiatives. *Journal of International Business Studies*, 48(3), 360-385.
4. Ren, Z.X., Gu, S.C., Yang, Y.Z., & Li, J.W. (2021). An empirical study on the relationship between ESG performance and corporate financial performance. *Management and Administration*, (11).
5. Chen, N., & Sun, F. (2019). A comparative study of ESG systems development at home and abroad and suggestions for constructing an ESG system in China. *Research on Development*, (03), 59-64.
6. Wei, H., Yao, Y.Y., & Ma, X.K. (2020). Can fulfilling social responsibility reduce the cost of equity capital for enterprises? *Finance and Economics*, (06), 29-36.
7. Zhang, L. & Zhao, H.T. (2019). Does corporate environmental, social, and governance (ESG) performance affect firm value? - Based on an empirical study of A-share listed companies. *Wuhan Finance*, (10), 36-43.
8. Xu, Y.N. (2022). ESG performance and listed corporate performance. *Foreign Investment in China*, (11), 90-92.
9. Lou, Z.C. (2021). A literature review on related research of the ESG system. *Time Economics and Trade*, (11), 65-70.
10. Xu, G.H., Zhuo, Y.Y., Zhang, Y.M., & Zhang, J.Y. (2022). Does ESG information disclosure increase firm value? *Finance and Accounting Newsletter*, (04).
11. Liu, Z.W., & Duan, S.S. (2013). The U-shaped relationship between corporate environmental performance and financial performance: Based on an empirical study of Chinese listed manufacturing companies. *East China Economic Management*, (11), 111-115.

**Open Access** This chapter is licensed under the terms of the Creative Commons Attribution-NonCommercial 4.0 International License (<http://creativecommons.org/licenses/by-nc/4.0/>), which permits any noncommercial use, sharing, adaptation, distribution and reproduction in any medium or format, as long as you give appropriate credit to the original author(s) and the source, provide a link to the Creative Commons license and indicate if changes were made.

The images or other third party material in this chapter are included in the chapter's Creative Commons license, unless indicated otherwise in a credit line to the material. If material is not included in the chapter's Creative Commons license and your intended use is not permitted by statutory regulation or exceeds the permitted use, you will need to obtain permission directly from the copyright holder.

