

Research on the Impact of Corporate ESG Performance on Investment Returns from a Sustainable Development Perspective

Xinran Zhang

School of Economics and Management, Shihezi University, Shihezi, Xinjiang 832000, China

Abstract

In recent years, with the concept of sustainable development becoming increasingly popular and the guidance of government policies, Chinese enterprises have also paid more attention to their performance in environmental, social responsibility, and corporate governance (ESG). This paper studies the data of Chinese A-share listed companies from 2011 to 2022, spanning eleven years, and constructs a fixed-effects model to conclude that there is a negative correlation between corporate investment returns and ESG performance. Additionally, through heterogeneity analysis, it is found that such impact is related to the level of economic development in the region where the enterprise is located. This conclusion is of reference significance for enterprises to optimize their ESG investment and achieve high-quality economic development in China.

Keywords

ESG; Corporate Investment Returns; Agency Costs.

1. Introduction

In 1997, the 15th National Congress of the Communist Party of China first proposed the strategy of sustainable development, which requires development that meets the needs of the present without compromising the ability of future generations to meet their own needs. The concept of sustainable development originated in the West, and in 1987, the United Nations World Commission on Environment and Development (WCED) released the report "Our Common Future," which first promoted the concept of sustainable development worldwide. In China, this concept has also been emphasized many times in recent years. The 18th National Congress of the Communist Party of China proposed that we must establish the concept of ecological civilization and follow the path of sustainable development. The 19th National Congress also pointed out that China needs to strengthen the reform of the ecological civilization system, build a beautiful China, and the report of the 20th National Congress again mentioned the concept of adhering to the idea that "green mountains and clear waters are as valuable as mountains of gold and silver," pointing out the need to improve the ecological civilization construction system and promote the development of a green economy. In recent years, with the development of green finance and the introduction of the "double carbon" concept, investors and enterprises have also gradually taken the ESG concept as an important indicator for selecting investment portfolios.

Against this background, this paper aims to answer the question that has not yet reached a consensus in academia: "Can the increase in corporate ESG investment truly promote the transformation of corporate management philosophy, thereby increasing corporate investment returns?" By selecting the panel data of investment returns of Chinese A-share listed companies from 2011 to 2022 and combining it with the Huazheng ESG Index data, this paper uses a fixed-effects model to provide a relatively complete analysis and demonstration of the correlation between corporate ESG performance and investment returns, providing a reference for

enterprises to carry out ESG-related investments and for the government to formulate relevant policies.

The innovative points of this paper are mainly as follows: (1) Most mainstream studies focus on the impact of one aspect of corporate ESG, such as environmental, social responsibility, or corporate governance, on corporate financial performance, investment efficiency, financing efficiency, etc., while there is a lack of literature that treats them as a whole, that is, corporate ESG performance, and further studies its impact on the enterprise. This paper provides a beneficial supplement to this aspect. (2) There is a lack of description of the impact of regional economic development levels in current research on corporate ESG. This paper points out through empirical research that regional economic development levels also affect the extent of the impact of corporate ESG performance on enterprises. (3) This paper uses the most recent data to provide the latest data analysis for related research, providing more timely data references for future research.

2. Literature Review and Research Hypotheses

2.1. Literature Review

2.1.1. Development of Corporate ESG Performance

The core concept of ESG is based on three indicators: environmental, social responsibility, and corporate governance, integrating business principles with social principles, balancing public interests, employees, and other stakeholders of the enterprise, and placing them on an equal footing with shareholder interests (Parfitt, 2020). As the main body of economic development, the environmental and social responsibilities that enterprises should bear have increasingly become a theme of concern for all sectors. In 2018, the China Securities Regulatory Commission revised the "Corporate Governance Guidelines for Listed Companies," stipulating that listed companies should disclose environmental information (E), fulfill social responsibility (S), and corporate governance (G) information in accordance with laws, regulations, and the requirements of relevant departments, guiding enterprises to pay attention to their own ESG performance. At the same time, some scholars have conducted many studies on corporate ESG performance: for the enterprise itself, with the improvement of the market environment, good ESG performance helps to reduce corporate energy consumption, save corporate resources, and attract high-quality employees, ultimately helping the enterprise to effectively reduce financing costs and improve the ability for sustainable development (Qiu M., Yin H., 2019). The reduction in corporate costs through ESG improvements will undoubtedly bring growth in corporate profits, thereby enhancing corporate value (Zhang L., Zhao H. T., 2019); for external investors, considering ESG factors in the selection of investment portfolios can significantly improve their rate of return (Li J., et al., 2019). The ESG performance of enterprises is also negatively correlated with the risk of investing in the enterprise, that is, the better the ESG performance of the enterprise, the lower the risk borne by investors (Ma X. L., et al., 2019), and the more likely it is to bring excess returns to investors (Hu H., et al., 2021). The rational choice of investors also indirectly confirms this point. Under the same conditions, the better the overall ESG performance of the listed company, the more obvious the preference of institutional investors to hold the company's shares (Zhou F. Z., Pan W. Y., 2019).

2.1.2. Research on Corporate Investment Returns

Investment, as one of the three basic activities of an enterprise, is crucial for the future development of the enterprise. Therefore, the study of corporate investment efficiency has also been a key issue that many scholars have long been concerned with (Yu K., et al., 2014). On a macro level, the returns on investment activities carried out by listed companies are related to national industrial policies and other factors. Industrial policies can increase the intensity of competition among enterprises and promote the growth of corporate benefits (Aghion, 2012).

The implementation of China's industrial policies can encourage the government to provide more credit resources and policy preferences to enterprises in industries that are encouraged and supported, greatly promoting the improvement of investment efficiency for enterprises in highly competitive industries (He X. Q., Yin C. P., et al., 2016). On a micro level, investment returns are significantly related to the internal recognition of the enterprise, whether it has a clear strategic goal, and the industry correlation between the investing and invested enterprises (Sykes, 1990; Gompers P., Lerner J., 2000). Investments with high internal recognition and industry correlation are more conducive to the synergistic effect between the enterprise and the invested enterprise, improving corporate investment returns (Zhai L., et al., 2010). Under the condition of government regulation of financing constraints, enterprises taking moderate risks can also bring greater investment returns and improve investment efficiency, promoting corporate development (Shen J., Zhang R. H., et al., 2018). As a necessary guarantee for risk-taking, the governance level of listed companies is also closely related to the rate of return on the investment portfolio selected by the enterprise (Qi Y., et al., 2020).

2.1.3. Literature Review

Regarding the correlation between corporate ESG performance and investment efficiency, many scholars' views have not yet reached a consensus. Some believe that good ESG performance can restrain the power of management, reduce the degree of information asymmetry, and improve the quality of information disclosure (Wang N., Li Y., 2022), and by restraining the power of management, reduce corporate agency costs, reduce inefficient investment behaviors such as overinvestment and underinvestment, and alleviate financing constraints (Gao J. Y., et al., 2021), ultimately improving corporate investment efficiency and increasing corporate investment returns. There are also some scholars who believe that the initiative for enterprises to improve ESG performance may lead to a decrease in corporate investment efficiency due to self-interested behavior of management (Bénabou and Tirole, 2010) or the occupation of corporate resources (Krüger, 2015). It can be seen that the academic community has not yet reached a complete consensus on the relationship between corporate ESG performance and investment efficiency. Although most recent literature believes that corporate ESG performance can reduce the degree of information asymmetry and increase the willingness of external investors to invest (Samet and Jarboui, 2017), and to a certain extent, promote corporate investment efficiency and increase investment returns, there are also some studies on the correlation between corporate ESG performance and investment efficiency. However, past research on investment returns or investment efficiency has mainly focused on financial indicators, and there are not many empirical analyses on the direct correlation between corporate ESG performance, a non-financial indicator, and investment returns. Whether there is a significant correlation between corporate ESG performance and investment returns still has room for research and verification.

2.2. Research Hypotheses

For enterprises, increasing ESG-related investments may be beneficial in alleviating corporate agency problems, reducing inefficient investments, and thereby increasing corporate investment returns. Moreover, due to the differences in regional economic development in China, such impacts may show different degrees and results in different regions.

Based on the above analysis and the topic of this paper, the following research hypotheses are proposed:

H1: Corporate ESG performance has a positive impact on corporate investment returns.

H2: The impact of corporate ESG performance on corporate investment returns varies in different regions.

H3: Corporate ESG performance has a significant positive impact on the investment returns of the previous period, indicating a lag effect.

3. Data Processing and Descriptive Statistics

3.1. Data Source and Processing

This paper selects the annual report data of Chinese A-share listed companies from 2011 to 2022, a total of eleven years. Among them, some characteristic data of the listed companies, such as financial and operational data, come from the CSMAR database, and other relevant corporate data come from the "China Statistical Yearbook." In terms of ESG performance, this paper uses the Huazheng ESG Index from the Wind database as the reference indicator. In the process of data processing, financial listed companies, ST companies, and companies in bankruptcy were excluded from the sample. Extreme values were deleted, and the data was subjected to a 1% head-tail trimming to reduce the impact of abnormal data on the regression results. Finally, 32,088 observations were obtained.

3.2. Selection and Construction of Main Indicators

Table 1. Specific Definitions of Main Variables

Variable Type	Variable Name	Variable Symbol	Variable Definition
Explanatory Variable	Corporate ESG Performance	x	Huazheng ESG Index takes the annual average value +1, then take the logarithm
Dependent Variable	Corporate Investment Returns	y	Corporate investment returns +1, then take the logarithm
Control Variables	Corporate Size	size	Take the natural logarithm of business income
	Registered Province	reg	Total Debt / Total Assets
	Total Debt Ratio	tl	Total Liabilities / Total Assets
	Total Asset Net Profit Rate	roa	Net Profit after Tax / Average Total Assets * 100%
	Actual Controller as Chairman or General Manager	Ucpd_4	Whether the actual controller serves as the chairman or general manager
	Shareholder Association Degree	Y0501b	Whether there is an association among the top ten shareholders
	Capital Intensity	F041601B	Total Assets / Business Income

(1) Dependent Variable

The dependent variable in this paper is the corporate investment return rate, also known as the investment profit rate, which refers to the proportion of investment income to investment cost. The investment return rate can reflect the earning ability of corporate investments. When this rate is lower than the average, it indicates that the company's external investments are relatively unsuccessful, and the company should consider changing its investment projects or investment structure. When the rate is higher, it can indicate that the company has a higher investment efficiency and stronger ability to obtain investment returns.

(2) Explanatory Variable

The explanatory variable in this paper is corporate ESG performance. With the advancement of ecological civilization construction, the concepts of green finance and green investment have gradually emerged in China, and many domestic institutions have also introduced many ESG rating systems, such as the Huazheng ESG Index and the Shangdao Merger Green. The Huazheng ESG Index, as an earlier established ESG evaluation system in China that benchmarks foreign institutions, focuses on the actual situation of Chinese enterprises, sets 26 reference indicators,

and publishes evaluation results quarterly. It has the advantages of having more reference indicators and faster update frequency. Compared with other domestic ESG evaluation indexes, the evaluation results are more objective. Therefore, this paper selects the Huazheng ESG Index from the Wind database to measure the ESG performance of listed companies and assigns values to the results: the index has a total of 9 grades from C to AAA, and this paper assigns values from 1 to 9 respectively, and calculates the annual average value of corporate ESG ratings for subsequent data processing.

(3) Control Variables

Referencing the research of Lu Xin (2017) and Cao Yue (2020), this paper selects control variables from the aspects of corporate finance and corporate governance. On the corporate finance side, corporate size (size), registered province (reg), total debt ratio (tl), total asset net profit rate (roa), and capital intensity (F041601B) may all affect corporate investment returns. On the corporate governance side, whether the actual controller serves as the chairman or general manager (Ucpd_4) and the degree of shareholder association (Y0501b) may also affect corporate investment returns. The specific definitions of the variables are as follows:

3.3. Descriptive Statistics

Table 2. Descriptive Statistical Results of Main Variables

Variable	Sample Size	Mean	Standard Deviation	Minimum Value	Maximum Value
y	18,649	11.200	7.865	0.000	24.070
x	29,649	1.588	0.250	0.693	2.197
F041601B	31,073	9.193	448.100	0.072	59623.000
Ucpd_4	17,615	0.639	0.480	0.000	1.000
Y0501b	29,122	2.305	0.529	1.000	3.000
tl	31,085	0.473	1.144	-0.195	178.300
roa	31,085	0.026	0.766	-48.320	108.400
size	31,379	22.410	1.555	14.940	31.310

The descriptive statistics of the variables in this paper are shown in Table 2. The results show that the mean investment return of Chinese A-share listed companies is 11.20, with a maximum value of 24.07 and a minimum value of 0, and a standard deviation of 7.865, indicating that there is a relatively large gap in investment returns among companies. Focusing on corporate ESG performance, it is not difficult to find that the mean ESG performance is 1.588, with a minimum value of 0.693 and a maximum value of 2.197, and a standard deviation of 0.25, which shows that there may be significant differences in corporate ESG performance among companies due to different management philosophies. The values of other control variables are relatively stable.

4. Econometric Model and Estimation Method

4.1. Baseline Model

$$y_{it} = \alpha_k + \alpha_t + \beta_1 x_{it} + X_i + e_i \quad (1)$$

To explore the relationship between corporate environmental, social, and governance (ESG) performance and corporate investment returns, this study uses fixed-effects and random-effects models for analysis and determines the most suitable model through the Hausman test.

(1) Model Setting

To study the correlation between corporate ESG performance and corporate investment returns, this paper constructs the baseline econometric model shown above. In the model, y_{it} represents the investment return performance of the i th enterprise in the year t , α_k and α_t represent individual fixed effects and time fixed effects, respectively, x_{it} represents the ESG performance of the i th enterprise in the year t , mainly represented by the Huazheng ESG Index assignment and the mean value. X_i represents other control variables, including indicators such as corporate size, registration location, total debt ratio, total asset net profit rate, actual controller, shareholder association, and capital intensity, and e_i is the error term.

(2) Hausman Test

To determine whether the fixed-effects model or the random-effects model is more suitable for the panel data in this paper, a Hausman test was conducted on the panel data.

The null hypothesis of the Hausman test is that the random-effects model is appropriate, while the alternative hypothesis is that the fixed-effects model is more suitable. The test results show a chi2 value of 235.92, and the P-value is less than 0.01, rejecting the null hypothesis, indicating that the fixed-effects model is more suitable for the data in this study.

Based on the results of the Hausman test, we choose the fixed-effects model to analyze the relationship between corporate ESG performance and investment returns.

4.2. Potential Issues with the Model and Solutions

4.2.1. Multicollinearity Test

Table 3. Multicollinearity Test

Variable	VIF	1/VIF
size	1.150	0.872
tl	1.130	0.886
x	1.120	0.894
Ucpd_4	1.100	0.910
Y0501b	1.030	0.967
roa	1.010	0.994
F041601B	1.000	0.999
Mean VIF	1.080	

This paper uses the variance inflation factor (VIF) to test for multicollinearity. The results show that the mean VIF of all independent variables is 1.08, and all VIF values are less than 10, close to 1, indicating that there is no serious multicollinearity problem, and the test is passed.

4.2.2. Robustness Test

Referencing the research of Zhou Jingkui (2019), this paper adopts the method of replacing the explanatory variable to conduct a robustness test on the panel data. In the basic regression process, this paper assigns values from 1 to 9 to the Huazheng ESG Index C-AAA according to the year, and takes the average value of the assignment results as the explanatory variable in this paper. In the robustness test, the author replaces the explanatory variable from the annual average value of the Huazheng ESG Index to the annual median value, and re-validates using the fixed-effects model. The results are as follows:

In Table 4, the variable S represents the corporate ESG performance represented by the annual median value of the corporate Huazheng ESG Index. The model results show that the correlation coefficient between corporate investment returns and corporate ESG performance is -2.90, which is significantly negative at the 1% level, indicating that corporate investment returns are negatively correlated with ESG performance, verifying the robustness of the basic regression results.

Table 4. Robustness Test

	y
M	-2.901***
	(-9.99)
tl	1.453***
	(7.02)
roa	0.164***
	(3.78)
size	4.880***
	(61.43)
Ucpd_4	-1.943***
	(-9.94)
Y0501b	0.0534
	(0.41)
F041601B	-0.00000670
	(-0.09)
_cons	-92.92***
	(-49.99)
Num	9125

* p < 0.05, ** p < 0.01, *** p < 0.001.

4.2.3. Endogeneity Test

Table 5. Endogeneity Test

	y
lx	-5.768***
	(-11.37)
tl	0.415*
	(1.99)
roa	0.0979*
	(2.21)
size	4.322***
	(59.29)
Ucpd_4	-1.332***
	(-7.43)
Y0501b	-0.0698
	(-0.52)
F041601B	-0.00000241
	(-0.03)
_cons	-76.17***
	(-44.43)
Num	8300

* p < 0.05, ** p < 0.01, *** p < 0.001.

(1) Omitted Variable Endogeneity

For the endogeneity problem of omitted variables, the panel data fixed-effects model used in this paper can inherently solve the endogeneity problem of omitted variables. By controlling for corporate financial variables, including corporate size (size), registered province (reg), total debt ratio (tl), total asset net profit rate (roa), capital intensity (F041601B), and corporate

governance variables, including whether the actual controller serves as the chairman or general manager (Ucpd_4), and the degree of shareholder association (Y0501b), as shown in the table below, the test results are still significant at the 1% level.

(2) Bidirectional Causality Endogeneity

For the test of endogeneity due to bidirectional causality, this paper uses the instrumental variable method, referring to the method of Sun Churen (2015), using the lag of the core explanatory variable as the variable, because the lag satisfies the requirements of variable relevance and exclusivity, which helps to avoid endogeneity problems. The core explanatory variable in the baseline model is corporate ESG performance (x), so the lag of the core variable for one period (l.x) is selected for the test. The specific test results are as follows. By comparing with the results of the fixed-effects model, it can be known that after using the lag for one period as the variable, the correlation coefficient has changed, but it is still significantly negative at the 1% level. Through the endogeneity test, it can be judged that the baseline model setting is basically robust.

5. Empirical Analysis Results

5.1. Baseline Analysis

The fixed-effects model takes into account the enterprise-specific effects that do not change over time and can control for unobservable individual heterogeneity, thereby more accurately estimating the impact of ESG performance on corporate investment returns. The basic form of the fixed-effects model used in this paper is as follows:

$$y_{it} = \alpha_k + \alpha_i + \beta \cdot x_{it} + \mu_i + X_i + e_i \tag{2}$$

The results of the fixed-effects regression on the panel data are shown in Table 6:

Table 6. Fixed-Effects Regression Results

	y
x	-3.473*** (-10.97)
tl	1.418*** (6.86)
roa	0.161*** (3.71)
size	4.880*** (61.53)
Ucpd_4	-1.908*** (-9.77)
Y0501b	0.0536 (0.41)
F041601B	-0.00000916 (-0.12)
_cons	-92.03*** (-49.30)
Num	9125

* p < 0.05, ** p < 0.01, *** p < 0.001.

The model results show that the correlation coefficient between corporate investment returns and ESG performance is -3.47, and it is significantly negative at the 1% level. That is to say, based on this model, we can preliminarily judge that there is a negative correlation between corporate ESG performance and investment returns, meaning that the better the ESG performance of the enterprise, the lower the investment returns may be.

According to agency theory, corporate ESG-related investments may occupy resources that should have been used for business investments, thereby increasing inefficient investments. Due to the self-interested behavior of management, the company may exhibit overinvestment or underinvestment, affecting corporate investment efficiency. Bénabou and others (2015) also reached a similar conclusion, suggesting that corporate ESG investments occupy corporate resources, increasing the opportunity cost for the enterprise, thereby reducing corporate investment efficiency.

According to the signaling theory, corporate ESG-related investments will also convey a positive signal to investors, reflecting the company's good social responsibility. The capital market may favor companies that make such investments, which may also lead management to invest in projects with a negative net present value to gain better corporate reputation or higher stock prices, resulting in a decrease in overall corporate investment efficiency.

5.2. Heterogeneity Test

Corporate investment returns are the overall performance of a company's investments, and in addition to the variables already listed in the paper, there are some uncontrollable internal and external factors that may also affect corporate investment returns. From an external perspective, given the objective reality of uneven development between the eastern and western regions of China, differences in macroeconomic environments such as the level of economic development across regions may also affect corporate investment returns. From an internal perspective, the size of the company itself may also be a factor explaining the differences in investment returns among companies. To exclude the impact of this type of unobservable heterogeneity on the data in this paper, the data is divided into two groups, and the impact of regional economic levels and corporate size on the empirical results is tested separately.

(1) Regional Heterogeneity

The listed companies in the data are divided into eastern, central, and western regions and subjected to group regression. The results are shown in Table 7.

It can be seen that for companies in the eastern and central regions, corporate ESG performance is still significantly negatively correlated with investment returns at the 1% level. However, for companies in the western region, the result is not significant with a p-value of 0.757. This may be because the western region's economy is relatively underdeveloped, the degree of marketization is low, traditional industrial enterprises and state-owned enterprises account for a large proportion, and there is a lack of innovative awareness among management, leading to less emphasis on corporate ESG performance. As a result, the completeness of ESG data in this region is poorer compared to companies in the eastern and central regions, making it difficult to establish a significant correlation with corporate investment returns.

(2) Corporate Size Heterogeneity

To test for corporate size heterogeneity, companies are divided into large and small groups, and regression is performed separately. The results are shown in Table 7. The results show that the size of the company only changes the numerical value of the correlation coefficient, but corporate investment returns are still significantly negatively correlated with corporate ESG performance at the 1% level, which has been verified. This indicates that the size of the company has no significant impact on the significance of the results.

Table 7. Heterogeneity Test

	(1)	(2)	(3)	(4)	(5)
	y	y	y	y	y
	East Region	Middle Region	West Region	Large Scale	Small Scale
x	-3.679***	-4.098***	-0.293	-4.209***	-1.753***
	(-9.84)	(-5.31)	(-0.31)	(-9.85)	(-3.76)
tl	1.440***	-0.401	1.144*	1.536***	-4.129***
	-5.5	(-0.56)	-2.03	-6.4	(-4.53)
roa	0.188***	-0.489	-1.404	0.201***	-4.260**
	-4.23	(-0.92)	(-1.09)	-4.2	(-2.98)
size	5.274***	4.322***	3.937***	5.807***	4.632***
	-55.51	-21.25	-15.06	-35.64	-27.69
Ucpd_4	-1.694***	-2.129***	-1.861**	-2.272***	-1.253***
	(-7.50)	(-4.53)	(-2.64)	(-8.49)	(-4.28)
Y0501b	0.172	-0.206	-0.545	-0.253	0.197
	-1.13	(-0.66)	(-1.23)	(-1.48)	-1
F041601B	-0.0000251	-0.0294**	-0.0173	-0.000515	-0.00000476
	(-0.33)	(-2.82)	(-1.23)	(-0.16)	(-0.06)
_cons	-100.6***	-77.73***	-74.92***	-108.6***	-88.21***
	(-45.07)	(-16.68)	(-12.04)	(-29.98)	(-22.98)
Num	6798	1407	918	5488	3637

* p < 0.05, ** p < 0.01, *** p < 0.001.

6. Conclusion and Policy Suggestions

6.1. Research Conclusion

With the continuous emphasis on corporate social responsibility by the state and the practice of green finance in China, corporate ESG-related investments have increasingly become an unavoidable topic. Whether industrial enterprises should undergo green transformation, and what proportion of investment should be allocated to such projects, are issues that Chinese enterprises should consider. After model verification, corporate ESG performance is negatively correlated with corporate investment returns. This may be because China's economy is still in the development stage, and a large amount of investment in ESG-related projects by enterprises occupies the cash flow that could have been used for business investment, increasing agency costs and leading to a loss of investment efficiency. This also reminds us that the green transformation of enterprises should be gradual. If enterprises rush to transform to cater to the capital market, it may ultimately lead to a further deepening of the information asymmetry between enterprises and investors, resulting in losses for both parties.

6.2. Policy Suggestions

In response to the above conclusions, the following policy suggestions are proposed.

(1) The ESG disclosure mechanism and guidelines for enterprises should be further improved. The policies of Chinese regulatory authorities on ESG-related disclosures by enterprises are still in the exploratory and preliminary practice stage. The government can consider drawing on the more mature practical experience of foreign countries in this regard to improve relevant regulations, effectively reduce the information asymmetry between investors and investees,

facilitate investors to make more comprehensive assessments of the ESG performance and funding situation of the invested enterprises, and reduce capital market-related risks.

(2) Relevant departments should strengthen the supervision of corporate ESG-related investments, monitor the aggressive investment behavior of enterprises, promote rational investment by enterprises, and prevent enterprises from investing a large amount of cash in such projects out of self-interest to cater to the capital market and increase the stock price. However, this may actually lead to a decrease in corporate investment efficiency and damage the interests of shareholders and investors. It is essential to effectively build a financial defense line, guard the "pocket money" of residents, and truly achieve the dual goals of "carbon peak and carbon neutrality" and economic growth.

(3) It is necessary to strengthen the collaboration between the eastern and western regions at the national strategic level to promote coordinated development between the eastern and western regions. The issue of uneven development between the eastern and western regions of China has already become a problem at the national strategic level. This study also reflects that the overall business philosophy of enterprises in the western region is relatively traditional, and the emphasis on environmental, social responsibility, and corporate governance is relatively low. By leveraging policy efforts, promoting traditional industrial enterprises in the western region to pay attention to their own ESG performance can help improve the imbalance in development between the eastern and western regions. This will contribute to the continuous construction of a harmonious living environment, promote the realization of a green China, and truly enhance the happiness of people's lives, achieving sustainable development.

Acknowledgments

Author Biography: Zhang Xinran (born in 2003), female, Han ethnicity, from Leshan, Sichuan, currently an undergraduate student at Shihezi University, majoring in Accounting.

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