JOURNAL OF ASIA SOCIAL SCIENCE PRACTICE
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RESEARCH ARTICLE

IS THE NEGATIVE CORRELATION BETWEEN MANUFACTURING FIRMS' PERFORMANCE AND ESG RATINGS AN ISOLATED CASE OR COMMON? — TAKING LISTED COMPANIES IN ANHUI PROVINCE AS AN EXAMPLE

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ARTICLE INFO

Submission Aug., 01, 2025
Acceptance Aug., 04, 2025

Keywords
Manufacturing enterprises;
ESG;
Kendall coefficient;
Normal distribution

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ABSTRACT

Under China's "dual-carbon" target, ESG ratings play an increasingly vital role in evaluating the sustainable development of manufacturing enterprises. This study investigates whether the negative correlation between ESG ratings and firm performance is a widespread phenomenon or a regional anomaly, using a sample of 127 listed manufacturing firms in Anhui Province. Employing Kendall's tau-b correlation and distributional analysis, we find that firm performance negatively correlates with ESG ratings and that this relationship follows a normal distribution. These results suggest that the mismatch between ESG scores and firm outcomes is systematic in nature. Policy recommendations are provided to improve ESG evaluation systems and promote sustainable industrial transformation.

1. INTRODUCTION

Manufacturing industry is an important part of the national economy, is the main body of the industrial value added, the contribution rate to the national economy is high, but also the main engine of domestic economic growth. 2025 February Ministry of Industry and Information Technology released 2024 China's manufacturing industry development report, disclosed that China has continued to maintain the status of the world's first manufacturing country for 14 years, the global share of the manufacturing value added is nearly 30%. But the manufacturing industry in the development of the problem can not be ignored, from the domestic point of view is mainly the environment, resource elements of greater pressure, long-term development of the accumulated contradictions concentrated. For example, water pollution, climate anomalies,

major environmental events occur from time to time. From the international point of view is mainly the global industrial pattern of major adjustments, the rise of international trade protectionism, the return of high-end manufacturing in developed countries and low- and middle-income countries to compete for low-end manufacturing transfer at the same time, China's manufacturing industry is facing the developed countries, "high-end reflux" and developing countries, "the middle and low-end shunt China's manufacturing industry is facing the serious challenge of two-way squeeze from developed countries' "high-end reflux" and developing countries' "low-end diversion". Therefore, the Central Economic Work Conference in December 2024 pointed out that: the implementation of manufacturing key industry chain high-quality development action, strengthen the quality support and standard leading. The Ministry of Industry and Information Technology, the National Development and Reform Commission and other eight departments responded to the spirit and instructions of the meeting and issued the Guiding Opinions on Accelerating the Transformation and Upgrading of Traditional Manufacturing Industries, which clarified a series of initiatives in the areas of innovation-driven, green and low-carbon development of the manufacturing industry.

ESG rating is an independent third-party rating agency that sets up a relatively standardized and unified ESG rating indicator system based on international common policies and standard documents, combined with its own ESG indicator methodology, and scores and rates the ESG performance of enterprises based on open-source information, assessing the performance of enterprises in the three areas of environment, social and governance. It is a standardized evaluation system that assesses the performance of enterprises in the three areas of Environment, Social and Governance. By practicing ESG principles, manufacturing companies can demonstrate their commitment to environmental protection, social responsibility and good governance, thereby enhancing their corporate image and brand value. Internally manufacturing companies can better attract and retain talent by providing a safe and healthy work environment, fair compensation and benefits, and career development opportunities, which also helps to increase employee satisfaction and loyalty. Externally manufacturing companies can reduce production costs and improve efficiency and product quality by reducing resource waste, improving energy efficiency and adopting environmentally friendly materials. In the context of global industrial upgrading and sustainable development, ESG ratings can encourage enterprises to carry out technological innovation and product upgrading to meet the growing demand for green and sustainable products, create cleaner production technologies and circular economy models, and promote industrial transformation and upgrading.

2. RESEARCH BACKGROUND AND RESEARCH ASSUMPTIONS

2.1. Research Background

China's securities supervision authorities actively responded to the national "dual-carbon" goal and paid attention to the sustainable development of enterprises, formulated standards for corporate ESG disclosure and required the Shanghai and Shenzhen Stock Exchanges to formally implement the "Guidelines for Sustainability Reporting of Listed Companies" (hereinafter referred to as the "Guidelines") on May 1st. The Guidelines will guide and standardize listed companies to publish Sustainability Report of Listed Companies or Environmental, Social and Corporate Governance Report of Listed Companies (i.e. ESG Report). Listed companies in Anhui

Province have also actively responded to the call to disclose corporate ESG reports in compliance with the Guidelines. As of December 31, 2024, there were 425 listed companies in Anhui Province, including 176 in the A-share market, 230 in the New Third Board (NSSB) market, 16 in the Hong Kong stock market, and 3 in the U.S. The A-share market is one of the most important parts of China's securities market, which not only reflects the capital status of enterprises, but also the confidence and expectation of the whole society on the economy. Therefore, the sample enterprises in our study of ESG ratings of manufacturing enterprises in Anhui Province mainly focus on a total of 176 A-share listed companies in Anhui Province, ranking 7th in the country in terms of the number of listed enterprises, with a total market capitalization of 23,510,008,000,000 Yuan, mainly concentrated in the industries of special equipment, environmental protection, and automobile parts, and so on. According to the rules published by the China Association of Listed Companies "China Association of Listed Companies Industry Statistical Classification Guidelines" and the results of the listed company industry classification of the 176 A-share listed companies in Anhui Province for the sampling, selecting 127 manufacturing listed companies as a research sample.

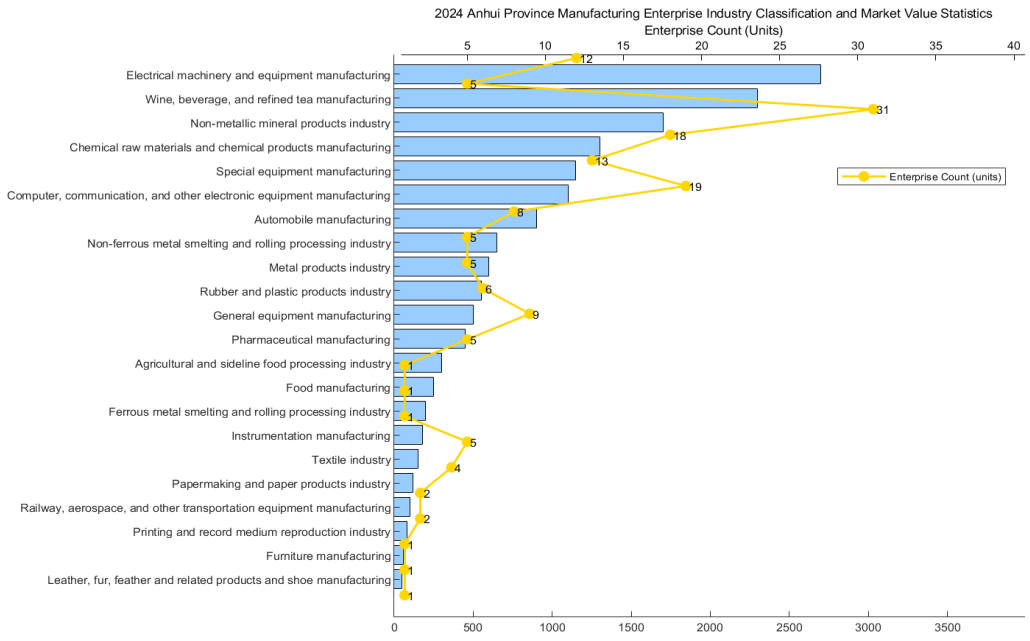

Figure 1: Statistics of manufacturing enterprises in Anhui Province by industry and market capitalization

The mainstream ESG rating system in China includes CSI ESG ratingss, and Syntao ESG Ratings. The CSI ESG ratings indicator system consists of 3 first-level indicators, 14 second-level indicators, 26 third-level indicators and more than 130 underlying data indicators, and the CSI rating started earlier, the indicator detection system is more sound, and it covers all A-share listed companies in scope, so this paper chooses to the performance of corporate ESG ratings is based on the results of CSI ESG ratingss, with nine grades from C, CC, CCC, B, BB, BBB, A, AA, AAA.

However, compared with the high performance and stock market performance, the 2024 CSI ESG ratings result of Anhui manufacturing enterprises is BBB poor, which is lagging behind both domestic and international counterparts. Why is this the case?

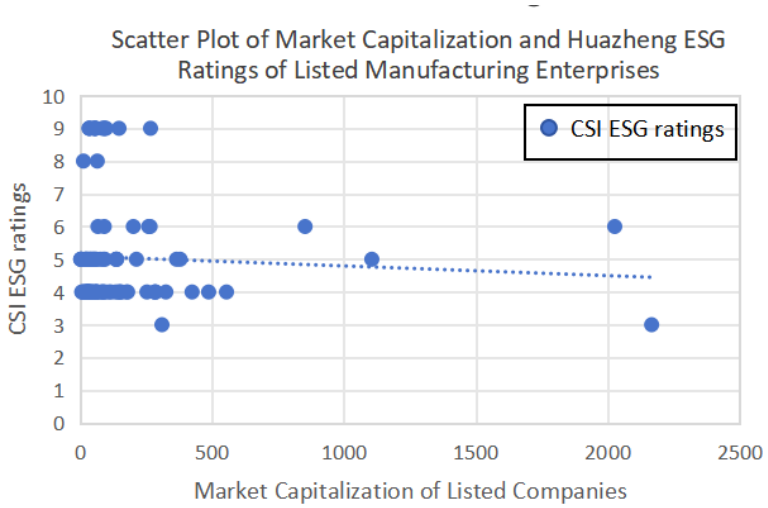

Figure 2: Scatterplot of market capitalization and CSI ESG ratingss of listed manufacturing companies in Anhui province

Through the above table we can find that the performance of some enterprises and ESG rating results tend to be concentrated, that is, the market value of enterprises and ESG ratings take into account the summary of performance results. Most of the listed companies in the manufacturing industry in Anhui Province are concentrated in the market capitalization of 50 billion, and their ESG ratings are also concentrated in the general grade (B, BB, BBB). Scholars at home and abroad have conducted a lot of research on whether there is a correspondence between corporate performance and ESG rating, and ESG report is a further requirement for enterprises to fulfill their social responsibility. In the future, we can further analyze whether corporate fulfillment of ESG responsibility affects corporate performance and explore the role played by different influencing factors in the relationship between ESG and corporate performance. However, domestic and international studies on the relationship between corporate performance and ESG ratings have mostly focused on the correlation between the two and the degree of influence. The differences in the nature of economic activities, production requirements, market environment and other aspects of different industries may lead to the existence of variability in ESG rating results and corporate performance, and whether this variability is a universal phenomenon, the current domestic and international research on this aspect is in a blank state. Therefore, this paper takes listed manufacturing enterprises in Anhui Province as the research object to explore the variability between ESG ratings and corporate performance of manufacturing enterprises and the difference probability distribution status. According to this research result, this paper utilizes SPSS software to correlate the performance of listed manufacturing companies in Anhui Province with the results of ESG ratings. Stakeholder theory (Freeman, 1984) emphasizes that companies must account for a broad range of interests beyond shareholders, including environmental and social responsibilities. However, meeting ESG obligations may lead to resource diversion that affects short-term performance. Legitimacy theory (Suchman, 1995) posits that firms seek alignment with social expectations, often via ESG adoption, which may come at a financial cost. These frameworks explain the observed ESG-performance tensions. Prior empirical studies have yielded mixed findings on the ESG-performance relationship, necessitating further regional analysis.

2.2. Research Hypothesis

Whether there is a correspondence between corporate performance and ESG rating, domestic and foreign scholars have conducted a lot of research on this, in which the British scholar Gerard (2016) believes that ESG is developed on the basis of the theory of corporate social responsibility, and the ESG report is a further requirement for the fulfillment of corporate social responsibility in the future can be further analyzed to determine whether the fulfillment of corporate ESG responsibility will affect corporate performance, and to explore the role played by different influencing factors in the relationship between ESG and corporate performance .Halbritter G et al. (2015), based on the analysis of a sample of Spanish, French, and Japanese companies, concluded that ESG performance has a significant impact on financial performance .Velte P. (2020), through the analysis of three years of data on the managerial performance of executives of publicly traded companies, argued that Corporate Executives emphasize that ESG ratings have a significant effect on corporate performance and positively affect the return on total assets [3]. In later studies foreign scholars focus more on the impact on corporate performance from the perspective of the composition of ESG indicators respectively, for example, DIEM proposes that there is a positive relationship between environmental performance and financial performance. The research ideas of domestic scholars are generally consistent with foreign countries, and domestic scholars Wu Mengyun et al. (2018) found that the positive mechanism of the impact of corporate fulfillment of environmental responsibility on its value is based on the fact that the enterprise has conveyed the signal of a well-performing and responsible enterprise to the society . Ma Heng (2022) proposed that corporate environmental performance has a negative and significant relationship with corporate performance based on the heavily polluted listed companies in Shanghai and Shenzhen A-shares from 2008-2019, and Tang Jie (2024) proposed that the internal pay gap and external pay gap of the company's management have a positive moderating effect on corporate performance . In addition, some scholars have come to the conclusion that there are other relationships between the two. Ren Chongyang (2022) empirically found that the ESG performance of firms has a negative effect on financial performance by taking 365 firms in BRICS countries as the research subjects. Gao Haixia (2022) suggests that the fulfillment of ESG responsibilities and financial performance of industrial enterprises have a U-shaped nonlinear characteristic.

In summary, we believe that the current research findings show that there is a correlation between corporate performance and ESG rating, because researchers can not form a unified opinion on the relationship between the two conclusions, combined with the results presented in the scatterplot of listed companies in the manufacturing industry in Anhui Province and the ESG rating of the enterprise, this paper puts forward the following hypotheses:

Hypothesis 1: There is a statistically significant negative correlation between ESG ratings and financial performance (measured by ROE and ROA) among manufacturing firms.

According to the traditional economic theory that the purpose of the existence of enterprises is to obtain profits, and enterprises practicing ESG standards, the implementation of various types of environmental protection policies, improve employee welfare, fulfillment of social responsibility will greatly increase the cost of business operations, resulting in a decline in corporate profits. This affects the profit of the main stakeholders, so the stakeholders will not

really practice ESG standards, which leads to a negative correlation between corporate performance and ESG rating results. In addition, the resource advantages of stakeholders can be used to reduce the related costs of enterprises and improve their performance. However, the American scholar Porter proposes to suggest that environmental protection policies can enhance the productivity and competitiveness of enterprises by promoting technological innovation, thus contributing to corporate performance. From the perspective of long-term development of enterprises, Porter's hypothesis suggests that the implementation of environmental protection policies leads to the reform and innovation of enterprises' technology, which in the long run can improve the profitability of enterprises. Considering, however, the short-sighted behavior of the management, i.e., focusing on the short-term profitability of the enterprise and ignoring the long-term development of the enterprise. As a result, this paper proposes the following hypothesis:

Hypothesis 2: The negative correlation between the performance of manufacturing enterprises and the results of ESG ratings obeys a normal distribution.

3. RESEARCH DESIGN

3.1. Sample Selection and Variable Definition

This paper selects 127 manufacturing enterprises in Anhui Province listed on China's A-share market as of December 31, 2024 as the research sample, in order to ensure the authenticity and validity of the sample data, the sample data will be screened to exclude ST and *ST samples, while retaining the sample of the research sample in the presence of missing data samples. After finishing, the total number of samples of listed companies in manufacturing enterprises in Anhui Province is 125. In this paper, the enterprise performance is selected as the financial performance data realized by the enterprises in 2024, and the ESG rating comes from the domestic mainstream rating index CSI rating results. The above data are obtained from the database of GTJA Quantitative Investment Database (GJQID) and the official website of CSI ESG, and analyzed by the statistical data analysis software SPSS 29.0.

Data were collected from CSMAR and Wind databases for 127 manufacturing firms listed in Anhui Province (2017–2021). ESG ratings were obtained from SynTao Green Finance, and financial metrics (ROE, ROA) from annual reports.

In the selection of variables to measure the performance of the enterprise data mainly from the enterprise financial performance data, the academic community is more recognized is the market value of the enterprise, return on assets, return on net assets, and in the study taking into account the nature of the manufacturing enterprise production activities, we also put the enterprise size, operating income into the variables . ESG performance comes from the Huazhou ESG ratings, which is a set of measurements of the company's rating of ESG risks and opportunities associated with the finance. ESG performance is derived from the CSI ESG ratings, which is a rating methodology that measures a company's exposure to financial-related ESG risks and opportunities, with an indicator system that covers three major categories (Pillars), 10 themes, 33 ESG Key Issues, and hundreds of indicators. The ratings are based on a seven-point scale, ranging from AAA (the highest ESG rating) to CCC (the lowest ESG rating).

Table 1: Definitions and descriptions of variables

Variable Name		Variable Definition and Description
ROA	Return on Assets	Formula: (net profit/average total assets)×100% Measures the level of benefit from all assets of an enterprise, and comprehensively reflects the input-output status and profitability of an enterprise.
ROE	Return on Equity	Formula: (Net Income / Shareholders' Equity)× 100% Reflects the level of compensation received by the owner's equity of the enterprise, mainly focusing on measuring the profitability of shareholders.
EV	Enterprise market capitalization	Formula: Share price x total number of shares Market capitalization is regarded as the recognition of enterprise value by market investors, focusing on the relative quantitative comparison in the same industry.
SIZE	Enterprise Size	Formula: (Total assets at the end of the year - Total assets at the beginning of the year)/Total assets at the beginning of the year×100 Expansion of enterprise scale can bring economies of scale and improve the operational efficiency of enterprises.
TR	Business Income	Formula: Main business income + other business income Operating income is the main operating results of the enterprise, and is an important guarantee for the enterprise to make profits.
ESG	ESG Rating	CSI ESG ratings CSI ESG ratingss are based on a nine-point scale, ranging from leading (AAA, AA, A), average (B, BBB, BB) to lagging (C, CC, CCC).

3.2. Model Setting

Based on the above theoretical analysis and selection of data variables, in the actual analysis, we found that the scatterplot of company market value and ESG rating presents "bar shape", which intuitively shows the statistical relationship between the variables, but the relationship between the variables may be non-linear, coupled with the fact that in the case of measuring the sample size of listed companies in the manufacturing industry in Anhui Province, the sample size is relatively small. Therefore, in the selection of correlation coefficient model, we use the Kendall correlation coefficient sub-nonparametric test method to measure the linear relationship between ordinal variables. Since there are cases of identical rankings in corporate ESG evaluation, we choose the Kendall correlation coefficient Tau-b model:

$$\mathrm{Tau}-b(T_b)=\frac{n_c-n_d}{\sqrt{(n_0-n_1)(n_0-n_2)}}$$

Where, nc denotes the number of logs with consistent order, nd denotes the number of logs with inconsistent order, and N is the total number of observations. where n0 = n(n-1)/2, n1 is the adjustment term for repeated groupings associated with the first variable, and n2 is the

adjustment term for repeated groupings associated with the second variable. Note that neither N1 nor N2 is accounted for if it occurs in both variable X and variable Y ranked side-by-side.

If the firm performance variable has a strong positive correlation with the ESG rating variable, the consistent logit NC is larger and the non-consistent logit ND is smaller; conversely, the correlation is negative. If the firm performance variable has a weak correlation with the ESG rating variable, the consistent log NC and the non-consistent log ND should be approximately the same, about 1/2 of the sample size each.

With a small sample, the Kendall coefficient follows a Kendall distribution and the test statistic used is: $Z = \text{Kendall coefficient}\sqrt{\frac{9N(N-1)}{22N+5)}}$.

The statistic Z approximately obeys a normal distribution.

3.3. Empirical Results and Analysis

3.3.1. Descriptive Statistics and Correlation Analysis

Through SPSS descriptive statistics of 125 listed companies in the manufacturing industry in Anhui Province, it can be seen that there is also a significant difference between the maximum and minimum values of the mean value of enterprise performance indicators, and the standard deviation values of enterprise market capitalization (EV), enterprise size (SIZE) and operating income (TR) are large, indicating that the standard gap between listed companies in the manufacturing industry in Anhui Province has increased. The mean value of CSI ESG ratings is 4.98, and the standard deviation is 1.602, indicating that the ESG performance of most enterprises is average and the gap is not big.

Table 2: Descriptive statistics of indicators

	N	**Min**	**Maximum value**	**Mean Value**	**Standard deviation**	**F**	**Significance**
EV	123	0	2165.44	144.0677	309.88974	12.473	<.001
ROE	125	-9.64	36.8	8.8738	7.68748	1.174	0.326
SIZE	125	1.97	2305.15	92.4906	236.01112	9.358	<.001
TR	125	1.64	1679.53	77.7803	219.35883	1.03	<.001
ROA	125	-66.7	51.57	11.9888	12.56955	6.719	0.404
CSI Rating	123	3	9	4.98	1.602		
Number of active cases (in columns)	121						

From the correlation test results in Table 2, ESG performance and corporate performance (ROE, ROA) in the significance P-value of 0.326 and 0.404, respectively, indicating that there is a significant correlation between ESG ratings and the two. Whereas, firm size (SIZE), firm market capitalization (EV), and operating income (TR) have smaller significant P-values, indicating that

there is no significant relationship with firm ESG rating performance.

Table 3: Kendall tau_b correlation analysis results

Correlation		CSI Rating	ROA
Kendall tau_b	Correlation Coefficient	1	-0.05
	Significance (two-tailed)	.	0.477
	N	123	123
	Correlation coefficient	-0.05	1
	Significance (two-tailed)	0.477	.
	N	123	125

The correlation coefficient between return on equity (ROE) and corporate ESG rating results analyzed by Kendall's coefficient is -0.05, the correlation test is passed and there is a negative correlation. It shows that ESG performance and corporate performance improvement are not synchronized relationship, corporate performance is more than the number of non-consistent pairs with ESG ratings is greater than the number of consistent pairs, corporate ESG rating results and corporate performance (ROE) into a negative correlation, hypothesis one is verified. On this result, this paper further verifies the partial correlation analysis between the selected indicators ROE and ROA, and obtains the partial correlation coefficient of 0.845, which indicates that the consistency between the variables is high, indicating that there is a linear and consistent relationship between ROE and ROA, and also indicates that the results of the analysis of Kendall coefficient of either the ROE or the ROA indicators and the ESG ratings of the Huazhou are basically consistent.

Table 4: ROA and ROE bias correlation analysis

Control Variables			ROE	ROA
CSI rating	ROE	Correlation	1	0.845
		Significance (two-tailed)	.	< .001
		Degrees of freedom	0	120
	ROA	Correlation	0.845	1
		Significance (two-tailed)	<.001	.
		Degrees of freedom	120	0

CSI ESG ratings is mainly composed of 3 dimensions, in the composition of the weighted environmental responsibility has the largest weight of 0.4202, followed by social responsibility 0.3416, governance responsibility 0.2382. Because the samples selected in this paper are listed companies in the manufacturing industry in Anhui Province, compared with other types of industries, they carry more social expectations and public concern in the environmental aspect.

Because the sample of this paper is listed companies in manufacturing industry in Anhui Province, compared with other types of industries, it carries more social expectations and public attention in environmental aspects. However, the above results, combined with the generally low rating of listed manufacturing companies in Anhui Province, indicate that manufacturing enterprises in Anhui Province do not fulfill their responsibilities in terms of the environment in place, ignoring the long-term development of enterprises and focusing only on short-term asset growth. In the specific evaluation index system, the weight of environmental protection output and green environmental protection input is the largest, which is 0.1805 and 0.1633 respectively, indicating that the CSI ESG ratings is more concerned about environmental protection benefits in the evaluation of manufacturing enterprises. Secondly, the weight of corporate social responsibility is .1505, and it has become a consensus that enterprises participate in undertaking social responsibility. This is also an important embodiment of enterprises practicing the value concept of socialist harmonious development. In the governance responsibility weight is .2382, which coincides with the reality of innovation as the first driving force to lead the high-quality development of enterprises under the new development concept.

3.3.2. Probability Distribution Results

Through the frequency statistics concluded that the ESG rating of manufacturing enterprises in Anhui Province and corporate performance indicators through the 95% confidence interval, indicating that there is a correlation between the two, statistics on the performance distribution of listed companies in the manufacturing industry in Anhui Province, concluded that from the point of view of the main performance indicators of enterprises, the distribution of the CSI ESG ratingss are in the performance of the general range that is (B, BB, BBB), which concludes that the ESG of Anhui Province manufacturing enterprises The probability of negative correlation between ratings and corporate performance correlation is universal and not an individual case, and research hypothesis two is verified.

Table 5: Characteristics of the posterior distribution of the mean difference of the relevant samples

	N	Posterior N			95% confidence interval	
			Mean	Variance	Lower limit	Upper Limit
CSI Ratings - ROA	123	-3.9232	-3.9232	0.546	-5.374	-2.4723
CSI Ratings - EV	121	-132.024	-132.024	767.883	-186.4317	-77.6163
CSI Ratings - TR	123	-71.5245	-71.5245	409.73	-111.2664	-31.7825
CSI Ratings - ROE	123	-7.0589	-7.0589	1.382	-9.3673	-4.7504
CSI Ratings - SIZE	123	-85.7175	-85.7175	473.429	-128.4371	-42.9978

A priori variance: Diffuse. a priori mean: Diffuse.

In order to avoid bias and inconsistency in the regression results, a random disturbance term variance test is conducted, and the random disturbance term obeys normal distribution.

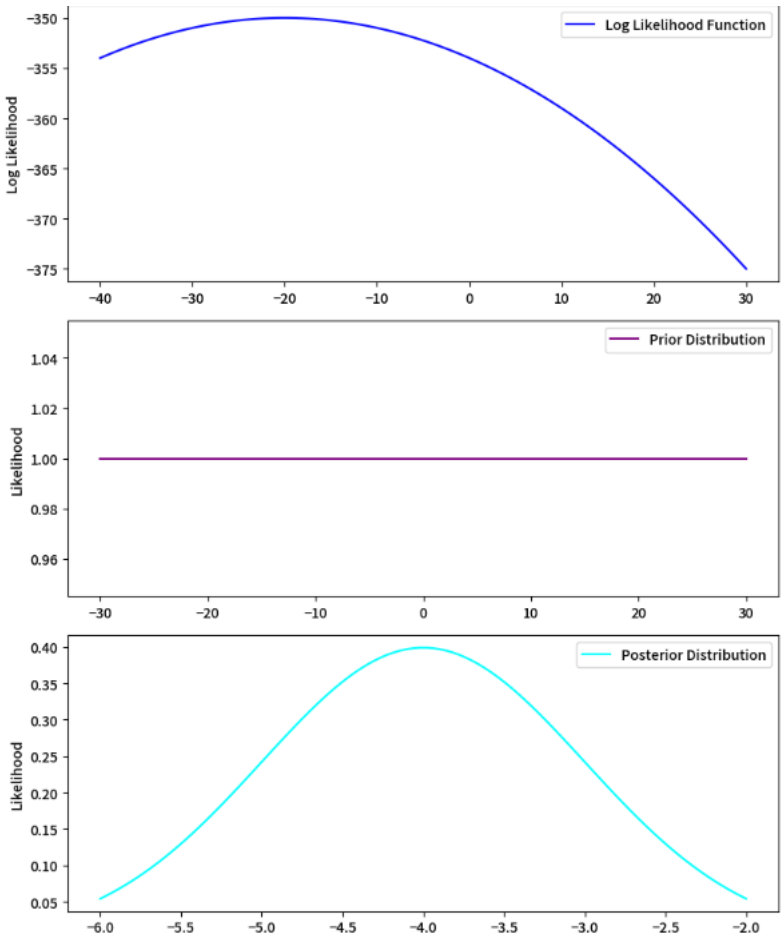

Figure 3: CSI Ratings-ROA Statistical Descriptive Chart

3.4. Extended Discussion

Based on the perspective of listed companies in the manufacturing industry in Anhui Province, the results in Table 3 all indicate that there is a significant negative correlation between corporate ESG ratings and corporate performance, and Hypothesis 1 is verified. And the probability statistics results of negative correlation also obey the normal distribution, which also indicates that the ESG ratings of Chinese manufacturing firms are low. According to Li Jinglin (2021), firms with lower levels of performance have a greater contribution of ESG performance to firm performance. We also conducted a sensitivity analysis of corporate performance variables and ESG performance, and the results show that among corporate performance indicators, only ROA is more sensitive to ESG performance. The results show that among the corporate performance indicators, only ROA is more sensitive to ESG performance, suggesting that corporate governance is more concerned about return on assets. The concept of ESG corporate sustainability still needs time to take root in China. As a manufacturing country, China's manufacturing industry is the foundation of the real economy, and it is the essential requirement for enterprises to practice ESG in the context of the new normal to keep pace with the times. [10] Both listed and unlisted companies are important subjects of economic and social development, and should follow the concept of sustainable development in ESG responsibility performance, thus contributing to the high-quality development of China's economy and society.

4. CONCLUSION

This study reveals a consistent negative relationship between ESG ratings and firm performance in Anhui's manufacturing sector. Findings suggest the need for ESG frameworks that reflect sectoral realities and regional economic contexts. Policymakers should enhance ESG disclosure guidelines and provide incentives for long-term sustainable investment. Future research should explore causal mechanisms and compare regional differences across provinces.

By analyzing the 2024 ESG rating results and corporate performance of A-share listed manufacturing companies in Anhui Province, it is found that on the whole, listed companies in the software and service industry have a better G (corporate governance) performance, especially in business ethics, party organization construction, anti-bribery and anti-corruption, and executive competence, but there is still a lot of room for improvement in the areas of ESG strategy, risk management and control, and cyber-technology security. It shows that there is still an angle gap between the performance of manufacturing enterprises and the ESG rating results, and in the future, the company needs to invest more resources to strengthen the construction and promote the development of the company's ESG governance. The data show that in 2024, the average annual growth rate of the value added of Anhui province's regulated industry was 9.9%, ranking third in the country, and it has become a major manufacturing province. The rapid development of the manufacturing industry at the same time the sustainable development of listed companies in the manufacturing industry should also keep pace with the times, with the majority of investors as well as stakeholders is of great significance. From the investor's point of view, the ESG performance of enterprises can be observed to assess their investment behavior and the contribution of enterprises (investment objects) in promoting sustainable economic development and fulfilling social responsibility, which is conducive to the cultivation of the concept of sustainable development, focusing on the corporate information and reputation issues, realizing the change of production mode, and accelerating the transformation and upgrading of enterprises . From a regulatory perspective, Chinese government departments, financial regulators and stock exchanges are currently leading the ESG-related system, with the core of guiding companies to practice ESG concepts and promoting active ESG disclosure . In addition, special policy documents have been issued to strengthen ESG requirements for listed companies, establish a basic framework for ESG disclosure, and regard the publication of ESG reports as a bonus point in the evaluation of listed companies.The importance and internationalization of ESG-related institutional construction is increasing, and the clarification of ESG evaluation system not only promotes the development of the capital market, but also encourages enterprises to fulfill their social responsibility and promote the high-quality development of enterprises. It also aims to encourage enterprises to fulfill their social responsibility and promote the high-quality development of enterprises.

CONFLICT STATEMENT

The authors declare no conflict of interest.

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