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The Impact of ESG Scores on the Corporate Financial Performance of China's Listed New Energy Companies

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Abstract. When looking at the impact of ESG scores on energy companies' financial performance, we found that a company's ESG performance significantly affects its financial performance. A high ESG score often reflects stronger risk management, lower capital cost, and higher investor trust. This positive relationship is likely to reinforce profitability and competitiveness of energy companies in the market in the long run, with increasingly severe environmental regulations and greater awareness of social responsibility. Through an in-depth analysis of the above impacts. In other words, we are in a better position to understand how companies may improve their financial stability along with sustainability potential by optimizing their ESG performance.

Keywords: ESG, new energy companies, financial performance

1. Introduction

ESG has turned out to be an inevitable and pivotal trend that was shaped by the enduring internal dynamics in societal and capital market development. The ever-rising urgency in the art of ESG implementation has found resonance in recent global challenges that include pandemics, geopolitical conflicts, climate change, and resource shortages-all of which have collectively underlined the critical need for practices of sustainable development in a resilient system that will enjoy long-term, enduring stability.

Reflecting a strategic effort to align with ESG principles, this points to China's commitment to fostering high-quality, sustainable economic growth. It is reflected in various aspects of development strategy, underlining economic growth, and in addition, environmental stewardship and social responsibility. The inclusion of the A-share in the MSCI World Index marked an important milestone in integrating ESG criteria into investment practice. This means all its constituent companies will have to be rated regarding ESG performance, and their ratings are publicly available on the MSCI portal. This move further heightened the attention toward ESG among all listed entities and investors.

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Consequently, it led to further growth in A-share companies issuing ESG reports, jumping from 851 in 2023 to 1,439 [1]. In fact, this leap over 3% representation does show that there is indeed an increase in the desire for transparency and accountability. practices, giving investors better information to base responsible ESG investments on.

It is also in the watch of investors and stakeholders that energy companies are performing under the ESG scheme. There are significant ESG-related factors that influence the financial performance of each of these energy companies. Conventionally, these companies focused on efficiencies in production and market share but have often appeared to compromise on environmental and social reasons. However, with increasing environmental and social awareness. Social issues moved to the fore. Today, great ESG performance is already a critical driver in appealing to investors, governments and consumers.

More and more institutional investors are integrating ESG considerations into their investment processes, given the growing awareness that good ESG practices can create long-term value and enhanced returns for a company. Evidence exists that those companies with higher ESG scores also tend to enjoy face fewer litigation cases or regulatory fines, hence reducing systemic risk. Energy firms stand a better chance of attracting more investment opportunities with, simultaneously, reduced agency costs and improved brand image. An improved brand image could also provide a better economic performance and competitiveness in the market. As the energy sector continues to move forward with strong ESG practices at their core, ES factors will be key factors for corporations desirous of excelling in the new setup where sustainability and social responsibility will play a key role. Therefore, the concentration on ESG criteria offers significant benefits in line with financial success with wider societal and environmental considerations.

2. Literature review

The increasing focus on the impact of ESG factors on corporate financial performance (CFP) has led to extensive research by scholars. However, there exist conflicting conclusions on the ESG-CFP relationship. Numerous research indicate that ESG disclosure positively influences CFP, which aligns with stakeholder theory [2], positing that companies perform better financially when they consider the interests of all stakeholders. Velte [3] , for instance, found that firms with higher ESG scores achieve higher returns on assets due to greater value creation for stakeholders. Similarly, Chen and Xie observed that firms incorporating ESG considerations [4], that have longer track records and higher media visibility, tend to outperform their competitors due to improved transparency. Furthermore, Chen et al.demonstrated that ESG disclosure enhances resilience to risks [5], meaning companies with strong ESG commitments are more adept at navigating economic downturns, thus mitigating their exposure to systemic risks.

Meanwhile, other research has indicated a negative association between ESG and CFP. Neoclassical economist Friedman argues that corporate resources are limited [6], and investing in ESG initiatives may increase costs, reduce profits and weaken financial performance. Duque-Grisales and Aguilera-Caracuel found similar results in their study of 104 multinationals in Latin America [7], where high ESG scores were associated with resource diversion from core operations, leading to weaker CFP. This negative correlation persisted when examining individual ESG components. Ruan and Liu further noted that ESG activities in emerging market incur higher costs due to weaker institutional frameworks [8], requiring increased corporate governance investments to build trust with investors.

Other researchers suggest that the ESG-CFP relationship follow a non-linear U-shaped curve. Bruna et al. [9] found that while initial ESG investments negatively impact CFP, financial

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performance improves once a certain threshold is reached. Barnett and Salomon explain that this inflection point occurs when a company builds sufficient stakeholder influence [10], offsetting early ESG costs. Nollet et al. [11] support this view, finding that ESG investments yield positive returns over time in S&P 500 companies.

In the context of China's energy sector, Zhao et al.examined ESG disclosure's impact on listed power generation companies and discovered that ESG performance exhibits a favourable correlation with financial outcomes [12]. They attribute this to China's early recognition of ESG importance and its rigorous regulatory standards. Mengyuan et al. compared and analyzed ESG effects on traditional and renewable energy companies [13], noting that the latter tend to achieve better financial performance due to better ESG ratings. This finding implies differences in the extent of ESG-CFP relationship depending on company type. Similarly, Naseer et al. [14] studied samples of Chinese energy companies and concluded that comprehensive ESG disclosure practices reduced risk exposure and improved stock market returns.

Although existing studies present mixed findings regarding the ESG-CFP relationship, a meta-analysis of over 2,200 studies indicates that more than 90% show a positive correlation [15]. Based on this, the first hypothesis of this research is as follows:

Hypothesis 1. The overall ESG score of new energy companies in China will be positively correlated with corporate financial performance.

While the literature provides limited insight into the impact of individual ESG components on CFP within China's energy sector, analysis suggests that governance may have a particularly strong influence. In recent years, the Chinese government has intensified its regulation on ESG factors to speed up efforts to reach peak emissions by 2030 and attain carbon neutrality by 2060 [16]. Consequently, policies focusing on emissions reductions have been introduced, accompanied by more stringent objectives [17]. Good corporate governance can ensure strong compliance, helping companies prevent fines and therefore safeguard financial stability.

Therefore, the second hypothesis of this research is as follows:

Hypothesis 2. The governance dimension will have the greatest impact on the corporate financial performance of China’s new energy companies.

3. Research design

3.1. Data sources and processing

This research selects the annual data of 120 Chinese new energy enterprises listed on the A-share market from 2015 to 2023 as the Sample to research. In order to ensure authenticity and objectivity of data, the following processing was carried out: removing ST and *ST industries; not including enterprises which have severe missing values.

The data on new energy enterprises, company financial data, and ESG score data are all derived from the ifind database. Among them, we use the ESG index of Huazheng as the ESG rating standard. The ESG rating data of Huazheng stocks (including A-shares and Hong Kong stocks) are updated quarterly, with the rating dates being January 13, April 30, July 31, and October 31 of each year. We use the score on October 31 as the enterprise's ESG annual score. At the same time, we use Stata17.0 and Excel to process and verify the data.

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3.2. Variable definitions

Dependent Variables: corporate financial performance,our research consult the study of foreign scholars on ESG on corporate performance and selects the net return on total assets (ROA) as a metric for measuring corporate performance [18]. ROA has many advantages over other financial metrics: (1) Comprehensive Indicator: ROA reflects both profitability and asset utilization, offering a more holistic view of financial performance compared to profit or revenue alone. (2) Ease of Comparison: ROA allows comparison across companies and industries by eliminating size differences, making it useful for evaluating firms of various scales. (3) Long-term Performance: ROA assesses the effectiveness of a company's operations overtime, providing insight into its long-term financial health.

Independent Variables: ESG performance, the Huazheng ESG rating system takes environment (E), social responsibility (S) and corporate governance (G) as the core, and constructs a three-level index system, which can accurately measure the ESG level of companies listed in China. Drawing on the practice of scholar Liu Yi et al [19], this study selects the Huazheng ESG rating to scale the ESG level of listed new energy companies.

Control Variables: enterprise nature: new energy,In regression analysis, having too many control variables can lead to multidisciplinary issues, which may affect the stability of the model. As a key structural variable, the nature of the enterprise can effectively capture behavioral differences between firms and eliminate its interference with the relationship between ESG scores and financial performance. This avoids the need to include too many additional variables and prevents data complexity.

3.3. Model design

To investigate the influence of ESG performance in the hypothetical H1 on business financial performance, we will analyze the data using a random-effects model (1) and a fixed-effect model (2) based on panel data, and then use the Hausman test (3) to see if there are considerable differences between the two models, and if the difference is significant,a fixed-effect model will be used. Otherwise, a random-effects model was chosen.

Formulas:

$$ROA_{it} = \alpha + \beta_1 ESG_{it} + \beta_2 FirmType_i + \mu_i + \varepsilon_{it} \tag{1}$$

$$ROA_{it} = \alpha + \beta_1 ESG_{it} + \beta_2 FirmType_i + \varepsilon_{it} \tag{2}$$

$$H = (_{R\hat{E}}\beta - _{F\hat{E}}\beta)\prime[Var(_{F\hat{E}}\beta) - Var(_{R\hat{E}}\beta)]^{-1}(_{R\hat{E}}\beta - _{F\hat{E}}\beta) \tag{3}$$

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Table 1. Variable definition table

Variable	Symbol	Definition
ROA	ROA_{it}	Return on assets, representing the financial performance of firm i at time t.
ESG Score	ESG_{it}	ESG score of firm i at time t.
Firm Type	$FirmType_i$	Control variable, indicating the ownership type of firm i.
Error Term	ε_{it}	To indicate the uncertainty in the model.
Random Effect	μ_i	Random effect of firm i, assumed to be irrelevant with the independent variables.
Hausman Test Statistic	H	The value of the test statistic, employed to determine the suitable model.
Random Effects Coefficients	$RE\hat{}\beta$	The coefficients estimated from the random effects model.
Fixed Effects Coefficients	$FE\hat{}\beta$	The coefficients estimated from the fixed effects model.
Variance of FE Estimators	Var(FE^β)	The variance-covariance matrix for the fixed effects model estimators.
Variance of RE Estimators	Var(RE^β)	The variance-covariance matrix of the random effects model estimators.
Chi-Squared Distribution	—	The Hausman test statistic has a chi-squared distribution.

4. Analysis and results

Table 2 below shows regression analysis that indicates that ESG scores have a positive and significant impact on Renewal energy firms' Return on Assets (ROA). The results further show that in the Random Effects (RE) model, the coefficient of ESG is 0.162 with t = 3.779, which is significant at 1% level. This result means that each unit increase in ESG score is accompanied by an average increase in ROA of 0.162 units. Similarly, the Fixed Effects (FE) model confirms this positive association, with a coefficient of 0.138 and a t-value of 3.038, also significant at the 1% level. The Hausman test yields a Chi-square statistic of 2.67 with a p-value of 0.102, suggesting that there is no significant difference between the RE and FE models, thereby supporting the use of the RE model due to its efficiency and robustness. The significant positive coefficients from both models suggest that integrating ESG practices can substantially enhance financial performance in the renewable energy sector.

Table 2. Regression table

	(1)RE	(2)FE
	ROA	ROA
ESG	0.162***	0.138***
	(3.779)	(3.038)
_cons	-5.637* (-1.772)	-4.186 (-1.253)
NR2	810	810 0.01

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Table 3. Hausman (1978) specification test

	Coef.
Chi-square test value P-value	2.67 .102

This relationship can be theoretically supported by stakeholder theory, which posits that companies catering to the interests of a diverse array of stakeholders—including employees, customers, suppliers, and the community—are likely to perform better financially. ESG practices are seen as mechanisms to align company operations with stakeholder expectations, leading to enhanced reputation capital, better risk management, and ultimately improved financial outcomes. Furthermore, the resource-based view (RBV) suggests that ESG initiatives can be viewed as valuable, rare, and inimitable resources that contribute to a sustainable competitive advantage, further supporting the observed positive relationship between ESG scores and ROA.

To gain a deeper understanding of the factors contributing to the favorable influence of ESG on financial performance, the analysis breaks down ESG into its three dimensions: Environmental (E), Social (S), and Governance (G). Table 4details the results of this dimension-specific analysis. The Environmental dimension (E) does not show a significant impact on ROA, with a coefficient of 0.008 and a t-value of 0.259. This suggests that while environmental initiatives are important for compliance and long-term sustainability, they may not directly translate into immediate financial performance improvements in the short term or renewable energy firms.

The Social dimension S has much less effect with the coefficient of 0. 042, but it has a positive value, and the t-value is 1.680 significance level of 10%. This means that social concerns like community, employee and customer relations can improve organizational financial performance. The social initiatives' positive effects are also consistent with social capital theory, according to which firms should engage and sustain relationships with stakeholders to create networks, trust, and support for a firm's improved operational efficiency and higher financial performance. We establish Governance (G) as the most impact dimension with a coefficient of 0.122 and a highly significant t-statistic of 3.822. This result underlines the fact that detailed and effective governance structures are fundamental to achieving excellent financial performance. Practices that include proper boardmanship, transparency and ethical management provides the right check on the agency costs and ensures that the interest of the management is in harmony with the interests of shareholders. According to the agency theory, strong governance brings efficiencies of information and eliminates conflict of interest and thus leads to improved decision and firm performance. Second, governance acts as a flag to the investors and other players in the market to show an organization's serious stand in practicing good and efficient governance hence mobilizing capital for investment at a cheaper rate.

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Table 4. Regression table

	(1)	(2)	(3)
	ROA	ROA	ROA
E	0.008		
	(0.259)		
S		0.042*	
		(1.680)	
G			0.122***
			(3.822)
_cons	5.820***	3.044	-3.360
	(3.147)	(1.542)	(-1.320)
N	810	810	810

It is therefore encouraging to note that renewable energy companies should consider improvement in governance as a way of boosting their gains. As revealed in the cross-sectional regression analysis, the influence of governance on ROA underlines the importance of implementing proper corporate governance systems that include independent boards, transparency, and strict internal controls. While social initiatives also contribute positively, albeit to a lesser extent, environmental efforts may require more strategic integration with the overall business objectives to yield direct financial benefits.

Overall, this analysis supports the notion that ESG integration, particularly with a strong focus on governance, can lead to better financial outcomes. Future research could further explore the dynamic effects of ESG practices over time and across different sectors, potentially using longitudinal data and advanced econometric techniques to address endogeneity concerns and strengthen the causal inference of these relationships.

5. Implications and recommendations

The empirical results provide valuable insights into the strategic importance of ESG factors in enhancing the financial performance of renewable energy companies. The strong influence of governance indicates that companies should prioritize robust governance structures, including board independence, clear accountability, and ethical practices. These governance elements not only support compliance but also attract investment by reducing operational risks and enhancing corporate reputation.

Moreover, the positive impact of the social dimension suggests that initiatives focused on social responsibility, such as employee engagement, diversity and inclusion, and community outreach, are beneficial. Although the Environmental dimension did not show a significant direct effect, companies should still pursue environmental initiatives as part of their broader sustainability strategy, considering potential long-term benefits and alignment with regulatory trends. Future research could explore the differential impact of ESG dimensions across various sectors and geographies and investigate the long-term dynamic impacts of ESG improvements on financial performance. Additionally, addressing potential endogeneity issues, such as reverse causality between ESG performance and financial outcomes, through advanced econometric techniques like instrumental variable methods, would further strengthen the robustness of these findings.

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In conclusion, the study highlights that while ESG positively impacts financial performance, governance plays a pivotal role, followed by social initiatives. Renewable energy companies can enhance their financial standing and competitive edge by strategically focusing on these ESG aspects.

6. Conclusion

This paper examines the ROA of 120 new energy companies in China from 2015 to 2023, in light of the academic debate surrounding ESG and CFP. It derives two principal conclusions through benchmark regression, fixed-effect model, random-effect model, and Hausman test and the benchmark regression analysis with them:(1)There is a positive correlation between ESG scores and the financial performance of companies.(2)The governance dimension has a greater impact on the financial performance of new energy enterprises than the environmental and social dimensions.

ESG scores plays a crucial role in a company's financial performance. In the new energy industry, ESG factors are particularly important for corporate success. The positive correlation between ESG scores and corporate financial performance is particularly pronounced in the Chinese market. Companies with high ESG scores generally perform better about financial performance, including higher profit margins, stronger asset turnover, and more consistent stock price performance. This shows that ESG factors are not only related to corporate social responsibility and sustainable development, but also directly related to the economic benefits and long-term competitiveness of enterprises. Through good ESG practices, companies can build long-term social trust and reputation, which in turn translates into competitive advantage.

An optimized corporate governance structure can ensure that the decision-making efficiency, resource allocation, risk management and strategy execution of the enterprise are in the best state, which directly drives the improvement of the company's financial performance. In contrast, while the environmental dimension and the social dimension are equally important, their impact on a firm's financial performance can be more indirect and long-term. Therefore, in specific situations and in the short term, the governance dimension may have a greater impact on the financial performance of new energy enterprises than the environmental and social dimensions.

Although the research on ESG score and ROA has certain practical significance and application value, there are still some shortcomings. The evaluation criteria and methods of ESG scores have not yet been unified, and different institutions and evaluation systems may adopt different indicators and weights, which limits the comparability of results. Future research should further improve the evaluation criteria and methods to improve the comparability and reliability of data. At the same time, ROA can only reflect the profitability of an enterprise in a certain period but cannot fully reflect the long-term operating conditions and value of the enterprise, and the calculation of ROA does not consider the risk factors of the enterprise, cannot fully reflect the risk-adjusted income of the enterprise, and often ignores the effect of non-financial factors on the operating performance of the enterprise. Future research should control for multiple variables and exclude the influence of unconsidered factors as much as possible through multiple sets of empirical analysis.

In summary, ESG scores plays a crucial role in the financial performance of companies, especially in China's new energy industry. Companies should incorporate ESG factors into their long-term strategic plans to achieve economic, social, and environmental sustainability.

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References

[1] McKinsey. (2023). 2023 ESG Report: Sustainable & inclusive growth
[2] Freeman, R. E. (1984). Strategic Management: AStakeholder Approach. Pitman.
[3] Velte, P. (2017). Does ESG performance have an impact on financial performance? Evidence from Germany. Journal of Global Responsibility, 80(2), 169-178.https: //doi.org/10.1108/JGR-11-2016-0029
[4] Chen, Z., & Xie, G. (2022). ESG disclosure and financial performance: Moderating role of ESG investors. International Review ofFinancial Analysis, 83(2), 1-16. https: //doi.org/10.1016/j.irfa.2022.102291
[5] Chen, S., Song, Y., & Gao, P. (2023). Environmental, social and governance (ESG) performance and financial outcomes: Analyzing the impact of ESG on financial performance. Journal of Environmental Management, 345(4), 1-15. https: //doi.org/10.1016/j.jenvman.2023.118829
[6] Friedman, M. (2007). The Social Responsibility of Business Is to Increase Its Profits. In W. C. Zimmerli., K. Richter & M. Holzinger (Eds.), Corporate Ethics and Corporate Governance (pp. 173-178). Springer.
[7] Duque-Grisales, E., & Aguilera-Caracuel. J. (2021). Environmental, Social and Governance (ESG) Scores and Financial Performance of Multilatinas: Moderating Effects of Geographic International Diversification and Financial Slack. Journal of Business Ethics, 168(4), 315-334. https: //doi.org/10.1007/s10551-019-04177-w
[8] Ruan, L., & Liu, H. (2021). Environmental, Social, Governance Activities and Firm Performance: Evidence from China. Sustainability, 13(2), 1-16. https: //doi.org/10.3390/su13020767
[9] Bruna, M. G., Loprevite, S., Raucci, D., Ricca, B., & Rupo, D. (2022). Investigating the marginal impact of ESG results on corporate financial performance. Finance Research Letters, 47(4), 1-12.https: //doi.org/10.1016/j.frl.2022.102828
[10] Barnett, M. L., & Salomon, R. M. 2012. Does it pay to be really good? Addressing the shape of the relationship between social and financial performance. Strateg. Manag. J. 33, 1304-1320.https: //doi.org/10.1002/smj.1980
[11] Nollet, J., Filis, G., Mitrokostas, E. (2016). Corporate social responsibility and financial performance: Anon-linear and disaggregated approach. Economic Modelling, 52(2), 400-407.https: //doi.org/10.1016/j.econmod.2015.09.019
[12] Zhao, C., Guo, Y., Yuan, J., Wu, M., Li, D., Zhou, Y., & Kang, J. (2018). ESG and Corporate Financial Performance: Empirical Evidence from China's Listed Power Generation Companies. Sustainability, 10(8), 1-18. https: //doi.org/10.3390/su10082607
[13] Mengyuan, L., Murayama, T., Nishikizawa, S., & Suwanteep, K. (2024). Study on the impact of ESG performance on the Financial Performance of the Chinese Energy Industry. Advances in Ecological and Environmental Research, 9(3), 1-23.
[14] Naseer, M, M. Guo, Y., Zhu, X. (2024). ESG trade-off with risk and return in Chinese energy companies. International Journal of Energy Sector Management, 18(5), 1109-1126. https: //doi.org/10.1108/IJESM-07-2023-0027
[15] Gunnar, F., Timo, B., & Alexander, B. (2015). ESGand financial performance: aggregated evidence from more than 2000 empirical studies. Journal of Sustainable Finance & Investment, 5(4), 210-233.https: //doi.org/10.1080/20430795.2015.1118917
[16] Liu, Z., Liu, Y., Xu, H., Liao, S., Zhu, K., & Jiang, X. (2022). Dynamic economic dispatch of power system based on DDPG algorithm. Energy Reports, 8(5), 1122-1129. https: //doi.org/10.1016/j.egyr.2022.02.231
[17] Liu, Z., Deng, Z., He, G., Wang, H., Zhang, X., Lin, J., Qi, Y., & Liang, X. (2021). Challenges and opportunities for carbon neutrality in China. Nature Reviews Earth & Environment, 3, 141-155.https: //doi.org/10.1038/s43017-021-00244-x
[18] Fischer TM, SawczynA A. The relationship between corporate social performance and corporate financial performance and the role of innovation: evidence from German listed firms [J]. Journal of Management Control, 2013, 24(1): 27-52.
[19] Liu, Y., Pan, H., Li, Y., & He, Z. (2023). ESG Performance, Technological Innovation and Value Creation of Manufacturing Companies. Scientific Decision-Making, 9, 23-36.https: //www.zhangqiaokeyan.com/academic-journal-cn_scientific-decision- making_thesis/02012102149804.html