

ESG Performance and Corporate Financial Performance: Empirical Evidence from Chinese Listed Companies

Yiyang Lu

Suzhou Foreign Language School,
Suzhou, China

Corresponding Author: sz_
wayne775533@outlook.com

Abstract:

This study examines the relationship between ESG performance and financial outcomes among Chinese financial firms in the CSI 300 Index. Using ESG scores and financial data to analyze whether higher ESG ratings correlate with improved profitability (ROA) and market valuation (Tobin's Q). Results reveal a weak linear correlation (ROA: $r = 0.076$; Tobin's Q: $r = 0.121$), suggesting limited immediate financial impact. The most striking revelation is the apparent threshold effect in ESG performance. However, a threshold effect emerges: firms with ESG scores above the median (89.9) show 28% higher ROA ($p = 0.023$), indicating that substantial ESG commitments may enhance profitability. The extreme volatility in Tobin's Q values also hints that market perceptions of ESG value may be inconsistent or influenced by broader market sentiment. The findings suggest ESG benefits in China's financial sector are non-linear, concentrated among top performers, and overshadowed by traditional financial drivers. For practitioners, these results imply that financial institutions should prioritize substantial, strategic ESG integration rather than incremental improvements to realize meaningful financial benefits.

Keywords: ESG, financial performance, threshold effect, China, CSI 300.

1. Introduction

The ESG principle is a framework system including environmental (E), social (S), and governance (G) factors. ESG is usually a standard and strategy used by investors to evaluate corporate behavior and future financial performance [1]. This paradigm has

gained global traction as stakeholders increasingly prioritize non-financial value creation. Prior ESG-CFP studies predominantly focus on manufacturing/energy sectors, while financial firms' leverage-driven business models may reverse traditional ESG value pathways.

Against the backdrop of sustainable development,

ESG factors have emerged as a core dimension of corporate strategy. While extensive research has examined the economic impact of ESG, its relationship with corporate financial performance (CFP) remains contentious. Clarifying this linkage is critical for investor decision-making, policy implication, and corporate risk management, making it vital for both finance and corporate governance research. research has been so plentiful that several meta studies¹ have summarized the results of over 1,000 research reports and found that the correlation between ESG characteristics and financial performance was inconclusive: The existing literature found positive, negative, and nonexistent correlations between ESG and financial performance, although the majority of researchers found a positive correlation[2]. Some consider ESG performance exhibits a statistically significant positive correlation with CFP: Supported by at least 2200 empirical ESG–CFP studies exist, approximately 90% of studies find a nonnegative ESG–CFP relation, of which 47.9% in vote-count studies and 62.6% in meta-analyses yield positive findings with a central average correlation level in studies of around 0.15[3]. Besides that, it is also possible for the correlation to be vague: The impact of ESG on CFP is still changeable. They found that ESG has a convex relationship in one industry and a concave one in the other. Also, its impact on CFP varied with CFP measures with, always, a nonlinear relationship (either concave or convex)[4]. However, there is also recognition of the correlation to be negative in some industries: Thus, investment in ESG is perceived as a value creating by the financial markets at a lower level of investment, but it becomes a destroying activity as the level of ESG investment increases at the second stage, implying that the costs of being socially responsible are greater than the benefits the company can get. The threshold level of ESG score is 59.63, which is far greater than the current average of 41.54 in this sector, which means that firms are not currently benefiting from ESG investment[5].

This study examines whether better ESG performance leads to higher profitability for financial companies in China's CSI 300. This project focuses on banks, securities firms, and insurance companies from the CSI 300. Using ESG scores from Shanghai Huazheng Index Information Service and financial data from Sina Finance and Royal Flush, testing two main questions: (1) Do companies with higher ESG ratings have better financial results? (2) Does long-term ESG investment pay off? Financial institutions are particularly important for ESG research because their business decisions can significantly impact society. For example, banks that fund environmentally harmful projects may face future risks and negative externalities, while those supporting green initiatives could gain advantages as well as positive externalities and social fame. However, few studies have specifically analyzed this sector in Chi-

na.

This study employs descriptive analysis, correlation analysis, and group t-tests to examine the relationship between ESG performance and financial outcomes for financial institutions in the CSI 300 Index. The methodology first calculates Pearson correlation coefficients between ESG scores and ROA and Tobin's Q, establishing whether systematic relationships exist. Subsequently, financial firms are divided into high-ESG and low-ESG groups based on the median, with independent samples t-tests comparing their financial performance while controlling for fundamental differences in size and leverage. This examination of profitability specifically addresses both aspects of this research questions by using ROA as the primary metric for assessing 'better financial results' and Tobin's Q as the market-based indicator of long-term value creation from ESG investment. ROA captures the operational efficiency dimension of profitability that would reflect immediate financial improvements, while Tobin's Q represents how investors value the future payoff of current ESG investments. This dual approach allows us to evaluate both short-term financial outcomes and the market's perception of long-term ESG payoff simultaneously, providing a comprehensive view of how ESG factors influence financial performance across different time horizons in China's financial sector. As a comprehensive concept of sustainable development, ESG can be integrated into the internationalization strategy of manufacturing enterprises. By enhancing long-term profitability, promoting R&D innovation, strengthening international presence, unlocking growth potential, and expanding corporate scale, it further elevates enterprises' international competitiveness, improves their position in the global market, and creates new opportunities for their international development[6]. This approach would provide clear evidence about whether and how ESG factors influence profitability in China's financial sector, offering practical insights for both investors and bank managers evaluating sustainability initiatives.

2. Methodology

2.1 Sample Selection

The study utilizes data from multiple authoritative sources: (1) Shanghai Huazheng Index Information Service ESG ratings for corporate sustainability performance evaluation, (2) Hithink RoyalFlush Information Network for accounting-based financial indicators (ROA), and (3) Sina Finance for market-based metrics (Tobin's Q). The observation data is from immediate update on 2025.5. The initial sample comprises all financial constituent stocks of the CSI 300 Index, yet excluding: (a) firms undergoing special treatment (ST/*ST designation), (b) companies with missing ESG, and (c) financial institutions due to

their distinct capital structures. After filtrating, the final sample contains 49 listed companies, representing all the finance related corporations included in CSI 300.

The ESG rating methodology of Sino-Securities Index diversify institutions to rank AAA to CCC (AAA for the highest with ESG score ≥ 95 , lowest C for score ≤ 60). For the 49 firms selected, all of them got ESG score above rank B (lowest score 70.6 for CINDA SECURITIES

CO., LTD), and the highest rank is AAA score 100.0 (for Shanghai Pudong Development Bank).

The variables for researching the correlation between ESG performance and corporate finance performance and calculation method of each identical variable can be seen in Table 1.

2.2 Variables

Table 1. Variables

Variable types	Variable Names	Calculation Method
Explanatory Variables	ESG Scores	Sino-Securities Index Methodology (C-AAA)
Dependent Variables (CFP Proxies)	ROA (Return on Assets)	net income divided by total assets
	Tobin's Q	firm's market value (equity + debt) to the replacement cost of its total assets
Control Variables	Industry	Categorized by CSRC
	Size	natural logarithm of total assets

2.3 Descriptive analysis

Table 2. Data

ROA		Tobin's Q		ESG	
Average	2.69102	Average	4958.644	Average	89.6098
Standard Error	0.188443	Standard Error	2437.361	Standard Error	0.954428
Median	2.47	Median	1292.91	Median	89.9
Mode	2.27	Mode	#N/A	Mode	91.7
Standard Deviation	1.319104	Standard Deviation	17061.53	Standard Deviation	6.680996
Variance	1.740034	Variance	2.91E+08	Variance	44.6357
Kurtosis	1.814296	Kurtosis	44.44669	Kurtosis	1.105439
Skewness	1.236194	Skewness	6.547824	Skewness	-0.91251
Region	5.82	Region	119205.6	Region	29.4
Minimum	0.86	Minimum	94.37	Minimum	70.6
Maximum	6.68	Maximum	119300	Maximum	100
Sum	131.86	Sum	242973.6	Sum	4390.88
Sample Size	49	Sample Size	49	Sample Size	49

2.3.1 Correlation Analysis

In table 2, pearson's r of ROA and ESG score: 0.075574
Pearson's r of Tobin's Q and ESG score: 0.121439

The analysis reveals a very weak positive correlation between ESG scores and ROA (Pearson's $r = 0.076$), suggesting that improved ESG performance does not currently translate into significantly higher short-term profitability for these financial institutions. This limited relationship may reflect either the long-term nature of ESG investment

payoffs or the dominant influence of traditional financial drivers like interest rate policies and risk management practices. Similarly, the slightly stronger but still modest correlation between ESG scores and Tobin's Q ($r = 0.121$) indicates that better ESG performance is associated with marginally higher market valuations, though the effect remains economically small. These findings imply that while ESG factors may contribute to financial performance, their impact appears secondary to conventional financial metrics in the current market environment.

2.3.2 T-Test

Between high ESG group and low ESG group (medium 89.9, rank A): 0.022822

The t-test results reveal a statistically significant difference in ROA between financial institutions with high versus low ESG performance. With the median ESG score of 89.9 serving as the cutoff point (corresponding to an 'A' rating tier), the analysis demonstrates that firms in the high ESG group exhibit superior profitability compared to their low-ESG counterparts, as measured by return on assets.

This finding persists despite the earlier correlation analysis showing only weak linear relationships between ESG and financial metrics, suggesting that while incremental ESG improvements may have limited financial impact, achieving substantive ESG leadership (top-tier ratings) could provide a competitive advantage in operational performance. The results imply a potential threshold effect where ESG efforts need to reach a certain level of maturity or comprehensiveness before translating into measurable financial benefits, particularly in the financial services sector.

3. Results

The analysis reveals several important findings regarding the relationship between ESG performance and financial outcomes among China's CSI 300 financial institutions. These results provide insights that illustrates an unexpected relationship between ESG rating and firms' performance.

3.1 Descriptive Statistics

Traditional Chinese ethics offer a comprehensive guide to one's interactions with nature and society. Chinese philosophies such as Confucianism and Taoism attempt to find a balance between doing what is right and seeking profit. They hold that even when engaged in business, morality is important, and it can teach us how to gain wealth in a morally justifiable way [7]. The descriptive statistics paint a picture of China's elite financial sector, where ESG performance is notably strong compared to global benchmarks. The ESG scores demonstrate a right-skewed distribution (skewness = -0.91), with most firms gathered in the upper range (mean = 89.61, min = 70.6, max = 100), indicating superior ESG performance among these Chinese elite firms. The financial performance metrics reveal two distinct stories: ROA shows relatively stable dispersion (mean = 2.69%, SD = 1.32), while Tobin's Q exhibits extreme volatility (mean = 4958.64, SD = 17061.53). This opposition reflects both the operational consistency of China's financial institutions and the speculative nature of their market valuations during the study period.

3.2 Correlation Analysis

The correlation analysis yields surprising results that cautious interpretation is required for firms to alternate future development policies. While conventional wisdom suggests strong positive ESG-CFP relationships, the Pearson coefficients tell a different story. The ESG-ROA correlation ($r = 0.076$) and ESG-Tobin's Q correlation ($r = 0.121$) are both statistically insignificant ($p > 0.1$), challenging the existing research which shows positive correlation between firm performance and ESG score: Theoretical expectations for the ESGP-CFP relationship suggest a null to modestly positive link. A systematic review of 21 meta-analytical studies supports the theoretical expectations, on the whole finding a positive, statistically significant but economically modest relationship [8]. This finding aligns partially with Naimy et al.'s (2021) threshold theory, which refers to the concept that there is a specific point at which a stimulus becomes strong enough to elicit a response. In psychology, it suggests that there is a threshold level of stimulation required for a reaction to occur, akin to the "straw that broke the camel's back" analogy [9], suggesting financial institutions may face different ESG dynamics than industrial firms. The weak correlations imply that in China's financial sector, ESG factors may be overshadowed by more immediate concerns like interest rate policies, regulatory changes, and risk management practices. However, the slightly stronger market-based correlation hints that investors may be beginning to price ESG factors into valuations temporarily.

3.3 Group Comparison Results

The group comparison analysis reveals what the correlation analysis obscures - a threshold effect in ESG performance. When dividing the sample at the median ESG score of 89.9 (A-rating threshold), clear differences emerge. High-ESG firms demonstrate 28% higher average ROA (3.02% to 2.36%, $t = 2.28$, $p = 0.023$), an economically significant difference. The positive relation between ROA and ESG score does not only appears in financial sector, and even shows more obviously: De Lucia et al. (2020) investigate a sample of 1038 public companies of 22 European countries from 2018 to 2019 and they find a positive association between ESG variables and the financial performance (ROE and ROA) [10]. This finding supports the convex relationship hypothesis proposed in prior research, where ESG benefits only manifest after crossing critical thresholds. The magnitude of this difference suggests that for financial institutions, ESG excellence may contribute to operational efficiency. The results also imply that marginal ESG improvements below the threshold may yield limited financial benefits, explaining the weak correlation coefficients observed earlier.

4. Conclusion

This study set out to examine the relationship between ESG performance and financial outcomes among China's premier financial institutions, filling an important gap in the ESG study that has traditionally focused on all but vague sectors. The findings present a complex picture that both confirms and challenges existing paradigms in ESG research.

The most striking revelation is the apparent threshold effect in ESG performance. While the financial sector shows weak overall correlations between ESG scores and financial metrics, achieving top-tier ESG status (A-rating or above) appears associated with substantially better operational performance. This suggests that for financial institutions, ESG investments may need to reach critical level before generating measurable returns, contrasting with the more linear relationships found in industrial sectors. The 28% ROA advantage for high-ESG firms indicates that comprehensive ESG integration can enhance profitability, likely through multiple pathways including regulatory advantage in China's evolving green finance landscape, premium pricing power for sustainable financial products, and reduced reputational risk in a sector particularly vulnerable to public trust crises.

The weak but positive market valuation correlation (ESG and Tobin's Q) suggests investors are beginning to recognize ESG value in financial firms, though this recognition remains tentative. This is matched with emerging market characteristics where traditional financial metrics still dominate valuation models, but ESG factors are gradually gaining relevance. The extreme volatility in Tobin's Q values also hints that market perceptions of ESG value may be inconsistent or influenced by broader market sentiment. From a practical standpoint, these findings carry significant implications for both corporate strategists and investment professionals. Financial institutions should view ESG not as a compliance exercise but as a strategic differentiator, with particular emphasis on crossing critical rating thresholds that generate financial benefits. The results suggest that skimpy ESG efforts may yield limited returns, while comprehensive programs can enhance both profitability and competitive positioning. For investors, the threshold effect implies that simple ESG screening may be less effective than identifying firms that have achieved genuine ESG leadership within their sector.

Several limitations qualify these conclusions. The exclusive focus on CSI 300 constituents means findings may not generalize to smaller financial institutions. The study period's particular market conditions - including China's post-pandemic recovery and evolving ESG regulatory framework - may limit temporal generalizability. Additionally, the financial sector's unique characteristics (high leverage, regulatory intensity) suggest these findings may not translate directly to other industries.

Future studies could examine whether the threshold effect persists across market cycles. Comparative studies across jurisdictions could reveal how regulatory environments influence ESG-CFP relationships in finance. Most importantly, qualitative research is needed to uncover the specific mechanisms through which top-tier ESG performance enhances financial outcomes in this sector - whether through operational efficiencies, talent attraction, regulatory benefits, or other pathways.

Ultimately, this study contributes to the evolving understanding of ESG value creation by demonstrating that the financial sector follows different dynamics than industrial firms, with benefits concentrated among true ESG leaders in finance sector in China.

References

- [1] Li, T. T., Wang, K., Sueyoshi, T., & Wang, D. D. (2021). ESG: Research progress and future prospects. *Sustainability*, 13(21), 11663.
- [2] Giese, G., Lee, L. E., Melas, D., Nagy, Z., & Nishikawa, L. (2019). Foundations of ESG investing: How ESG affects equity valuation, risk, and performance. *The Journal of Portfolio Management*, 45(5), 69-83.
- [3] Friede, G., Busch, T., & Bassen, A. (2015). ESG and financial performance: aggregated evidence from more than 2000 empirical studies. *Journal of Sustainable Finance & Investment*, 5(4), 210-233.
- [4] Naimy, V., El Khoury, R., & Iskandar, S. (2021). ESG Versus Corporate Financial Performance: Evidence from East Asian Firms in the Industrials Sector. *Studies of Applied Economics*, 39(3).
- [5] Qin, B.T., Yuan, R.X. and Li, X.Q. (2024) Research on the Impact of ESG Performance on the International Competitiveness of Chinese Manufacturing Enterprises. *Journal of Operations Research and Fuzziness*, 14, 29-40.
- [6] Gregory, R. P. (2021). Why ROE, ROA, and Tobin's Q in regressions aren't good measures of corporate financial performance for ESG criteria. SSRN.
- [7] Hongtao Shen, Honghui Lin, Wenqi Han, Huiying Wu, ESG in China: A review of practice and research, and future research avenues, *China Journal of Accounting Research*, Volume 16, Issue 4, 2023, 100325, ISSN 1755-3091.
- [8] Huang, D.Z.X. (2021), Environmental, social and governance (ESG) activity and firm performance: a review and consolidation. *Account Finance*, 61: 335-360.
- [9] Figueiro, M., Law, C. (2024). Threshold Theory in Psychology: Exploring Mental Tipping Points, <https://neurolaunch.com/threshold-theory-psychology>
- [10] Aydoğmuş, M., Gülay, G., & Ergun, K. (2022). Impact of ESG performance on firm value and profitability. *Borsa Istanbul Review*, 22(S2), S119-S127.