

THE INFLUENCE OF SUSTAINED ESG PERFORMANCE ON CORPORATE FINANCIAL PERFORMANCE

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ABSTRACT

The environmental, social, and governance (ESG) guidelines championed by sustainable development now stands as an indispensable pathway for enterprises aiming to unlock new economic growth potentials. However, the drive towards optimal ESG performance is often overshadowed by greenwashing or pseudo-ESG behaviours. The discrepancies in corporate ESG actions, both internally and across time, demonstrate that single-score metrics inadequately reflect the full dimensionality of a company's ESG commitments. This study adopts a dynamic lens to dissect the influence of temporal consistency in ESG performance on financial returns, probing the complex relationships among corporate ESG effectiveness, financial performance and enduring sustainability. Through analysis of data from 1,499 companies listed in China from 2010 to 2020, it is evident that sustained commitment to ESG responsibilities (temporal consistency) significantly enhances financial performance. The interplay between a company's ESG performance and its temporal consistency is a substitutive dynamic in impacting financial outcomes. Furthermore, when considering the environmental attributes of companies, the economic advantages garnered from ESG performance in highly polluting firms are notably less pronounced than in those that are less polluting. Our research scrutinises the multifaceted behavioural attributes behind ESG scores and emphasises the necessity of maintaining these behaviours consistently over time, establishing sustainability as a pivotal aspect of corporate ESG integrity.

Keywords: ESG performance, corporate financial performance, temporal consistency, sustained ESG, enterprise sustainability, polluting enterprise.

1 INTRODUCTION

Since the 1980s, the topic of harmonious coexistence between humans and nature has received widespread attention. It demands that enterprises, while pursuing economic interests, must also accommodate societal and environmental needs. Sustainable development has become an essential pathway in seeking new points of economic growth. With strong government support worldwide, the concept of environmental, social, and governance (ESG), which focuses on reducing corporate environmental pollution, fulfilling corporate social responsibilities, and enhancing corporate governance capabilities, has been widely understood and accepted [1].

In recent years, the global ESG asset scale has surged, rising from \$22.8 trillion in 2016 to \$37.8 trillion in 2021, with an average annual growth rate of 10.64%. It is estimated to reach \$53 trillion by 2025, accounting for one-third of the total global assets under management. Despite the vibrant growth of ESG on a global scale, there exists a certain degree of unsustainability in corporate ESG performance. For instance, some companies treat ESG as transient or knee-jerk passive responses, employing tactical ESG behaviours to attract media or public attention, such as 'greenwashing' and 'pseudo-ESG' behaviours, which view ESG responsibility merely as a self-serving tool [2]. This suggests that many enterprises confine ESG responsibilities to compliance activities under internal and external environmental constraints, failing to recognise the symbiotic relationship between environmental, social, governance responsibilities, and corporate economic profits. However, in the current era of increasingly fierce global differentiation competition, such an unsustainable corporate development strategy cannot be sustained.



On the basis of sustainable strategic management theory, scholars have conducted research on the temporal consistency of corporate ESG performance. Lee's study [3] suggests that fulfilling social responsibilities enables enterprises to acquire tangible and intangible resources. If enterprises consistently fulfil social responsibilities over the long term, they are more likely to acquire scarce resources that others find difficult to imitate. Baumgartner and Rauter [4] argue that integrating sustainability factors into the corporate strategic environment is essential for creating business value. Aligning sustainability strategy with societal demands can help enterprises better create social value. Tang et al. [5] found that the financial performance of firms is strengthened when they slowly and continuously assume social responsibility and focus on social responsibility projects with a high degree of relevance.

At present, the phenomenon of unsustainable corporate ESG behaviour shows that, only considering a single indicator cannot fully measure corporate ESG performance at the current stage. Societies call for more comprehensive models of integrated environmental, social and corporate governance evaluation of enterprises. Existing research primarily measures corporate ESG performance through absolute scores [6]. However, besides this, the stability of ESG performance over time is an unavoidable and crucial issue in corporate ESG strategy formulation [7]. Most scholars conducted research on mature economic markets in developed countries, lacking studies on transitional markets like China. Stronger evidence is needed to determine whether consistent ESG can enhance corporate financial performance.

Building upon the aforementioned background, this study takes corporate ESG performance as the research object and uses temporal consistency to describe corporate sustainability strategy. The focus is to study the relationship between the temporal consistency of ESG performance and the corporate financial performance. It provides reference suggestions for enterprises to formulate ESG strategic development goals, achieve long-term sustainable development, and reduce the regulatory pressure on corporate defaults from the government and relevant departments.

2 THEORETICAL ANALYSIS AND RESEARCH HYPOTHESES

2.1 Impact of ESG on financial performance

In academia, various studies have been conducted on the mechanisms of ESG impact. Many scholars advocate the ESG value-added theory, suggesting that corporate ESG performance has a positive effect on financial performance. ESG practices partly stem from spontaneous actions aimed at creating value and partly from self-interest driven by external pressures and management incentives. According to stakeholder theory, corporate engagement in ESG practices influences stakeholders' perceptions, leading them to believe that the company is committed to meeting societal and environmental needs [8]. In this context, the improvement in financial performance resulting from enhanced ESG performance is obtained through substantive actions and symbolic management paths [9]. Following institutional theory, ESG performance can be explained as embedded practices shaped by institutions, enabling companies to continuously rectify non-compliant behaviours through the economic and political institutional advantages of the external environment.

Corporate ESG performance can directly increase revenue by promoting core business income, increasing sources of investment, and obtaining government ESG subsidies. It can also save operating expenses by reducing business costs, lowering compliance costs, and obtaining government tax exemptions. The indirect enhancement of financial performance resulting from corporate ESG performance is primarily manifested in improving corporate

reputation, increasing brand value, maintaining stakeholder relationships, enhancing competitiveness, and promoting managerial enthusiasm. Through intangible value and non-monetary assets, corporate ESG performance can contribute to improving financial performance. Based on the analysis, we propose the first hypothesis:

- H1: Better ESG performance leads to enhanced corporate financial performance.

2.2 Impact of ESG temporal consistency on financial performance

This study defines the concept of temporal consistency of corporate ESG performance as the sustainability and stability of ESG performance over time, that is, the implementation of a more consistent ESG strategy in the time dimension. The smaller the volatility of corporate ESG performance, the better temporal consistency is considered. While corporate ESG performance is a crucial factor in evaluating a company, building long-term valuable stakeholder relationships depends not only on the level of ESG performance at a particular point in time but also on the degree of consistency of ESG performance over time. Rather than a mere snapshot of ESG actions at a specific time, enduring consistency in ESG practices reflects a company's true commitment to sustainability principles.

From the perspective of information transmission effects, consistent ESG performance conveys a positive signal to stakeholders, indicating a lower likelihood of opportunism behind the company's ESG behaviour, and reducing the cooperation risks faced by stakeholders [10]. Stable ESG practices help restrain short-sighted investments in the capital market and enhance analysts' accuracy in predicting future corporate behaviour [11]. This aligns with the sustainable development theory, which emphasises the importance of integrating long-term environmental, social, and ethical considerations into business strategies. Therefore, without consistent and stable performance, ephemerally assuming ESG responsibilities may lead stakeholders to question the company's true intentions [12]. Based on the above analysis, this study proposes the following two research hypotheses:

- H2: The better temporal consistency of corporate ESG performance, the higher the corporate financial performance.
- H3: Temporal consistency has a positive moderating effect on the relationship between ESG and financial performance.

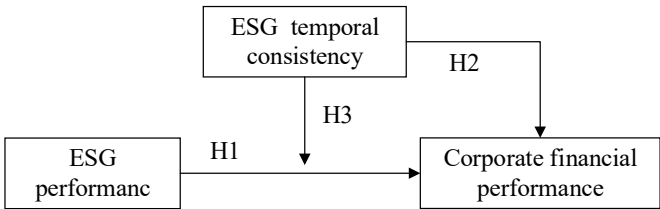


Figure 1: Research hypothesis framework.

3 SAMPLE SELECTION AND MODEL BUILDING

This study selected China's A-share listed companies from 2010 to 2020 as the research sample. The data sources are the CSMAR database and the Hexun Enterprise Social Responsibility Rating database. To ensure the reliability of the analysis results, the initial samples were screened and processed as follows: listed financial and insurance companies



were excluded, ST, ST*, and PT enterprises were eliminated, enterprises with many missing variables were eliminated, and trimming of continuous observation values in the sample variables based on the 1% using the Winsorization method. Ultimately, 10,493 valid sample observations from 1,499 companies were obtained to form a balanced panel dataset.

3.1 Variable selection

3.1.1 Calculation of ESG variable

In the industry and academia, there is still no unified standard for accurately measuring corporate ESG performance. Considering the relatively mature rating systems for environmental and social performance of Chinese companies, we use the environmental and social responsibility score from the Hexun Enterprise Social Responsibility Report Rating to construct environmental performance variables (ENV) and social performance variables (SOC). There is limited data available for corporate governance ratings. We employ principal component analysis to construct corporate governance performance variables (GOV).

Nine variables are selected from four aspects: shareholder governance, management governance, board of directors and supervisory board governance, and other governance aspects. The specific variables are as follows: the proportion of shares held by the largest shareholder; the proportion of shares held by the second to tenth largest shareholders; ownership nature; whether the positions of general manager and chairman of the board are held by the same person; whether the company is listed on other markets; proportion of independent directors; proportion of executive shareholding; board size; supervisory board size. Principal component analysis is used to calculate the comprehensive score of the corporate governance index. We select the weighted average of the scores of the first five principal components (f_1 to f_5) to construct the comprehensive evaluation function of corporate governance. The calculation results are as follows:

$$\text{GOV} = \frac{0.2765 f_1 + 0.1643 f_2 + 0.1257 f_3 + 0.1208 f_4 + 0.0891 f_5}{0.7764}. \quad (1)$$

Combining the above indicators, we standardise the obtained environmental variable, social variables, and corporate governance variables. Take the equally weighted average as the proxy variable for corporate ESG performance.

3.1.2 Selection of consistency variable

This study draws on the moving standard deviation method proposed by Huang et al. [13]. The standard deviation of corporate ESG performance over the past 5 years is used as the indicator of corporate ESG performance temporal consistency. After regressing the ESG performance scores of each company for five consecutive years against time, the regression coefficient is obtained. This regression coefficient serves as an additional control variable considering the temporal consistency of corporate ESG performance, to control for the additional impact of the continuous changes in ESG performance over 5 years on corporate financial performance. The calculation method is as follows:

$$\text{Cons_T}_{i,t} = 1 / \sqrt{\frac{\sum_{t=1}^n (\text{ESG}_{i,t} - \overline{\text{ESG}}_i)^2}{n}}, \quad (2)$$



where Cons_T represents the temporal consistency of corporate ESG performance; ESG represents the annual ESG performance of the company; $\bar{ESG}$ denotes the arithmetic mean of the company's ESG performance over the past 5 years; i represents the individual company; t represents the T th year in the past 5 years; n represents the time window, set as 5 years ($n = 5$).

3.1.3 Selection of financial performance variables

This study draws on the research of Duque-Grisales and Aguilera-Caracuel [14] on ESG financial returns and uses the return on assets (ROA) to measure corporate financial performance. As a proxy variable for corporate book value, ROA can better reflect the impact of corporate ESG behaviour on the ability to generate profits.

3.1.4 Selection of control variables

In addition to the potential impact of corporate ESG performance on corporate financial performance, there are other variables such as corporate characteristics and financial features that may affect the empirical results of this study. Therefore, this study comprehensively considers six control variables including the total debt ratio, cash ratio, firm size, fixed asset ratio, intangible asset ratio, and growth [6] listed in Table 1.

Table 1: Main variable definition.

Variable	Symbol	Variable definition
Corporate financial performance	CFP	Net profit/average balance of total assets
ESG performance	ESG	$(ENV + SOC + GOV)/3$
ESG temporal consistency	Cons_T	Refer to eqn (2)
Total debt ratio	Lev	Total liabilities/total assets
Cash ratio	Cash	Net cash flows from operating activities/total assets
Firm size	Size	Natural logarithm of total assets
Fixed asset ratio	Fixed	Fixed asset/total assets
Intangible asset ratio	Intan	Intangible asset/total assets
Growth	Growth	Operating income growth rate
Regression coefficient	Coef	Regression coefficient of ESG versus time
Industry nature	Pollut	Heavily polluting industries are assigned of 1, otherwise it is 0.

3.2 Model establishment

The baseline regression model (eqn (3)) is established to test hypothesis 1:

$$CFP_{i,t} = \alpha_0 + \alpha_1 ESG_{i,t} + \sum \alpha_{i,t} Control_i + \sum Year + \sum Industry + \varepsilon_{i,t}, \quad (3)$$

where $Control_i$ represents the control variables and ε is the error term.

To examine the impact of ESG temporal consistency on corporate financial performance, we extend eqn (3) to the following model (eqn (4)) to test hypothesis 2:

$$CFP_{i,t} = \alpha_0 + \alpha_1 ESG_{i,t} + \alpha_2 Cons_T_{i,t} + \sum \alpha_{i,t} Control_i + \sum Year + \sum Industry + \varepsilon_{i,t}. \quad (4)$$



Considering the potential interaction effects between ESG temporal consistency and corporate financial performance, we construct eqn (5):

$$\begin{aligned} CFP_{i,t} = & \alpha_0 + \alpha_1 ESG_{i,t} + \alpha_2 Cons_T_{i,t} + \alpha_3 ESG_{i,t} \times Cons_T_{i,t} \\ & + \sum \alpha_{i,t} Control_i + \sum Year + \sum Industry + \varepsilon_{i,t}. \end{aligned} \quad (5)$$

To further investigate the influence of factors such as corporate industry heterogeneity on the relationship between temporal consistency and structural consistency of corporate ESG performance and corporate financial performance, we set up grouped regression models based on whether the company belongs to a heavily polluting industry.

4 EMPIRICAL TESTING AND RESULT ANALYSIS

4.1 Descriptive statistical analysis

Descriptive statistical analysis is conducted on the primary variables included in the baseline model to elucidate the statistical characteristics of ESG performance, temporal consistency and related variables.

The statistical results from Table 2 indicate that the standard deviation of ESG is 0.526, suggesting that there is a certain degree of variability in the ESG performance among the samples. The maximum value of Cons_T is 0.869, indicating significant fluctuations in ESG performance. This confirms the high instability in corporate ESG implementation strategies.

Table 2: Descriptive statistical analysis of variables.

Variable	N	Mean	SD	Min.	Median	Max.
CFP	10,486	0.035	0.052	-0.191	0.031	0.184
ESG	10,486	-0.109	0.526	-1.302	-0.109	1.421
Cons T	10,486	0.268	0.220	0.009	0.196	0.869
Lev	10,486	0.447	0.194	0.068	0.448	0.859
Cash	10,486	0.050	0.064	-0.134	0.048	0.237
Size	10,486	22.700	1.285	20.310	22.540	26.500
Fixed	10,486	0.218	0.168	0.002	0.179	0.713
Intan	10,486	0.048	0.056	0.000	0.034	0.373
Growth	10,486	0.421	1.088	-0.659	0.142	7.721
Coef	10,486	-0.051	0.131	-0.463	-0.018	0.246

We employ the variance inflation factor (VIF) method to mitigate potential multicollinearity among variables. The results show that the VIF is far below the empirical threshold of 10, indicating no significant multicollinearity among the variables in the model.

4.2 Regression results analysis

4.2.1 Impact of ESG performance on financial performance

The relationship between corporate ESG performance and financial performance is examined through regression analysis, with results presented in Table 3. Column (1) represents the baseline regression model, where the regression coefficient of current corporate ESG performance on financial performance is significant at the 1% level. Studies by Ge et al. [6]



Table 3: Baseline and interaction effect regression results.

Variable	(1) CFP	(2) CFP _{t+1}	(3) CFP _{t+2}	(4) CFP	(5) CFP	(6) CFP _{t+1}
ESG	0.013*** (-14.67)	0.003*** (-2.64)	0.005*** (-4.45)	0.012*** (-13.45)	0.014*** (-13.84)	0.004*** (-3.79)
Cons T				0.033*** (-13.52)	0.028*** (-11.75)	0.025*** (-7.51)
ESG × Cons T					-0.027*** (-4.66)	-0.014* (-1.70)
Coef				0.019*** (-5.64)	0.019*** (-5.41)	-0.005 (-1.19)
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Constant	-0.131*** (-12.78)	-0.112*** (-8.55)	-0.067*** (-4.83)	-0.154*** (-14.61)	-0.152*** (-14.42)	-0.116*** (-8.64)
N	10,486	8,988	7,490	10,486	10,486	8,988
R ²	0.341	0.209	0.16	0.354	0.355	0.214
Industry & year	Yes	Yes	Yes	Yes	Yes	Yes

Note: ***, ** and * indicate significance at the 1%, 5% and 10% levels; t-values are in parentheses.



indicates that economic changes triggered by ESG behaviour may have a certain degree of lag. Therefore, the current and lagged one-period and two-period corporate ESG performances are introduced into the model. The test results from columns (1) to (3) show that whether it is the current period, lagged one period, or lagged two periods, corporate ESG performance significantly and positively affects financial performance. This suggests that the impact of ESG on corporate financial performance is significantly effective in both the short and long term. However, over time, the regression coefficient decreases, indicating that the long-term effect is not as strong as the short-term effect on corporate financial performance. The analysis above indicates that corporate ESG performance can positively promote the improvement of corporate financial performance, thereby confirming the hypothesis 1.

4.2.2 Impact of ESG temporal consistency on financial performance

Regression analysis was conducted to examine the relationship between the ESG temporal consistency and corporate financial performance to validate research hypotheses 2 and 3. As shown in Table 3, column (1) serves as the baseline model. In column (4), the variable of ESG performance consistency (Cons_T) is added, and it is significantly positive at the 1% level, indicating that the ESG temporal consistency can directly and positively influence corporate financial performance. This result supports research hypothesis 2. Column (5) indicates a significant substitution relationship between the absolute score of ESG performance and its temporal consistency in influencing corporate financial performance, suggesting a significant moderating effect. Thus, hypothesis 3 is partially supported. Column (6) considers the lagged effect of temporal consistency to verify the robustness of the model.

These results suggest that when corporate ESG levels are low, firms can strengthen stakeholder expectations and promote active cooperation by adopting stable ESG implementation strategies, enhancing profitability. At this stage, the marginal cost of continuously fulfilling ESG responsibilities is relatively low, leading to a significant improvement in financial performance. However, as corporate ESG performance levels increase, the marginal effects of ESG practices gradually decrease. In this scenario, if firms continue to maintain good ESG performance, stakeholders' perception of the company's positive ESG behaviour gradually weakens from initially being 'icing on the cake' to gradually becoming 'expected' [15]. Despite continued investment in ESG activities, firms may find it challenging to stimulate stakeholders' perceptions and achieve corresponding financial returns [16].

Companies with exemplary ESG performance effectively attract investors through the dissemination of high-quality ESG reports. However, it is noteworthy that firms with substandard ESG performance may resort to a 'talk more, do less' greenwashing strategy, misleading the market and investors with false information. This greenwashing approach is inherently unsustainable for both the enterprises and the market. Upon exposure, such practices can significantly tarnish a company's reputation and image, subjecting them to administrative sanctions and impeding the progress of sustainable ESG practices.

From the viewpoint of external regulatory entities, the ability of external market participants, including analysts, consumers, and the government, to identify greenwashing behaviours can significantly mitigate ESG greenwashing. This, in turn, strengthens regulatory influence and bolsters the credibility of ESG reports. When considering internal corporate strategy formulation, a proactive approach of adopting sustainable ESG behaviours and implementing a long-term ESG strategy to gradually enhance performance stands out as a superior alternative. This approach not only sends positive signals to the market but also represents a more stable, sustainable, and low-risk strategy compared to greenwashing.



4.2.3 Interaction effect analysis

To provide a more intuitive representation of the specific manifestation of ESG consistency moderation effect, interaction effect analysis was conducted using the 'Process' plugin in SPSS.

Fig. 2 indicates that when the temporal consistency of ESG performance is low, the slope of the regression line representing the relationship between corporate ESG performance and financial performance tends to be steeper. Conversely, when the ESG temporal consistency is high, the regression line becomes flatter. There exists a certain substitution relationship between corporate ESG performance and the ESG temporal consistency in positively affecting corporate financial performance. Overall, companies with better ESG temporal consistency are able to maintain higher levels of financial performance.

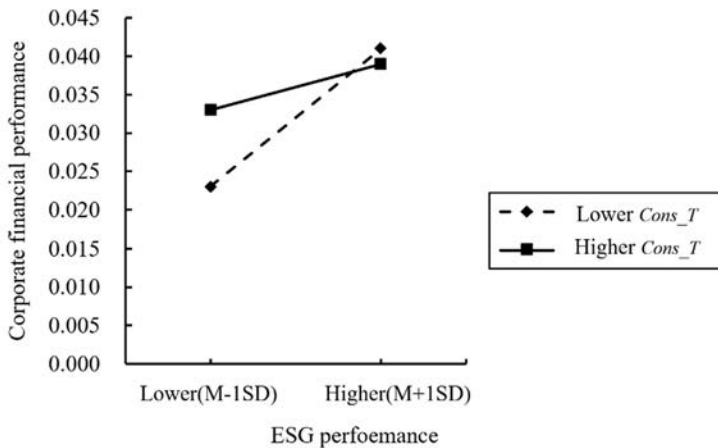


Figure 2: Two-way interaction between corporate ESG performance and Cons_T.

4.3 Robustness checks

To mitigate measurement bias and endogeneity issues caused by bidirectional causality, alternative variables, individual fixed effects models, and the system generalised method of moments (GMM) estimation were employed to further validate the hypotheses. Net asset return rate was selected as the alternative variable for corporate financial performance. The results of the alternative variable and individual fixed effects model (omitted here) indicate that, whether in the current period or lagged period, corporate ESG performance remains significantly positively correlated with the alternative variable representing corporate performance. Additionally, the direct and moderating effects of corporate ESG performance consistency on corporate financial performance remain significant.

Using the system generalised method of moments (GMM) estimation method, the research hypotheses were further verified. Based on eqn (3), the first-order lag of corporate financial performance was included to reduce the setup error of the baseline model. Considering the potential endogeneity issue between corporate financial performance and ESG performance, corporate financial performance was set as an endogenous variable. The regression test results are presented in Table 4, indicating that corporate ESG performance remains significantly positively correlated with corporate performance.

Table 4: Dynamic panel model check.

Variable	CFP
CFP_{t-1}	0.102*** (0.026)
ESG	0.021* (0.009)
Controls	Yes
N	8,988
AR(1)	0.000
AR(2)	0.284
Sargan	0.101

Note: AR(1), AR(2) and Sargan report *p*-values for the corresponding tests.

5 ANALYSIS OF INDUSTRY POLLUTION

5.1 Theoretical studies on industry nature

The heavy polluting industries have played a significant role in the economic development of various countries. However, their extensive mode of development characterised by high energy consumption and pollution not only causes severe damage to the ecological environment but also contradicts the requirements of sustainable development strategies. In recent years, environmental protection has been accorded paramount importance, with countries explicitly adhering to specific aspects such as green development leadership and promoting the green transformation of the economy and society. Against this backdrop, heavily polluting enterprises face unprecedented pressures for technological improvements, more stringent government regulations, and heightened public and media supervision.

Stakeholders have varying expectations for the ESG performance of enterprises with different levels of environmental sensitivity. Even without mandatory environmental protection measures from government, stakeholders and governments may form implicit environmental agreements, leading to differences in the impact of ESG performance on corporate performance for enterprises with different pollution attributes. ESG's impact on the operation of heavy polluting industry enterprises warrants in-depth investigation. There is an urgent need to establish mechanisms conducive to stimulating heavy polluting enterprises to fulfil ESG responsibilities, and to explore new avenues for proactive corporate transformation within the context of sustainable development. To explore this issue, enterprises are classified into high-polluting and low-polluting enterprises based on whether they belong to heavily polluting industries. Furthermore, the study examines whether there are significant differences in the effects of ESG and ESG consistency behaviour on financial performance between different pollution-intensive enterprises.

5.2 Discussion of regression results

The regression results are presented in Table 5. According to columns (1) and (2), the regression coefficients of ESG performance on financial performance are significantly positive for both high-polluting and low-polluting industries. This indicates that ESG performance plays a positive role in improving financial performance, regardless of whether the company operates in a heavily polluting industry. Specifically, the regression coefficient for low-polluting industries is greater than that for high-polluting industries, suggesting that the economic benefits of ESG performance for heavily polluting enterprises are weaker. Heavily polluting enterprises face higher cost pressures and industry-specific constraints in



environmental governance and green transformation. They need to invest more resources to comply with strict regulations. Environmental ESG investment is typically considered implicit and its value requires time for technological accumulation to become evident, thus its short-term effect on corporate financial performance may be relatively limited. And based on organisational legitimacy theory, improving environmental performance becomes a natural inherent obligation for heavily polluting enterprises, raising the perceptual threshold of stakeholders towards corporate ESG behaviour.

Table 5: Test results of industry heterogeneity.

Variable	(1)	(2)	(3)	(4)
	High polluting	Low polluting	High polluting	Low polluting
ESG	0.010*** (-6.14)	0.014*** (-13.01)	0.012*** (-6.47)	0.015*** (-12.02)
Cons T			0.026*** (-5.86)	0.028*** (-9.98)
ESG × Cons T			-0.041*** (-4.05)	-0.024*** (-3.61)
Controls	Yes	Yes	Yes	Yes
N	3,181	7,253	3,181	7,253
R ²	0.435	0.303	0.45	0.317
Industry & year	Yes	Yes	Yes	Yes

Results from columns (3) and (4) show that for high-polluting industries, the absolute value of the regression coefficient between ESG performance and its temporal consistency is larger, indicating a stronger moderating effect of temporal consistency in high-polluting industries. This because heavily polluting enterprises' operations involve social sensitivity issues such as ecological destruction and health hazards, which are more likely to attract widespread public attention and supervision. Management efforts towards technological upgrades and industrial transformation information have higher transmission efficiency. Once heavily polluting enterprises demonstrate high-consistency ESG behaviour, they are more likely to trigger strong market reactions.

For this reason, heavy polluting enterprises need to establish a long-term ESG system, strengthen environmental monitoring and assessment, ensure that the companies consistently adopt sustainable development strategies in their operations and management, enhance information disclosure, invest in environmental awareness and technology research and development, participate in environmental and social welfare activities, focus on employee welfare, improve employee compensation and working conditions, support sustainable development, emphasise the balance between economy, society, and environment, and actively address global challenges such as climate change. These efforts are conducive to enhancing social acceptance, building a positive corporate image, and facilitating the realisation of more environmentally friendly and socially responsible business models.

6 CONCLUSIONS

This study examines Chinese A-share listed companies as its research sample, focusing on the dynamic research perspective of corporate ESG performance consistency. It explores how corporate ESG performance affects financial performance and how sustained ESG performance maximises the economic benefits of ESG practices. It provides ideas for enterprises to develop more sustainable ESG strategy and better assume environmental responsibility leading to the following research conclusions:

1. There is a positive correlation between corporate ESG performance and financial performance. However, regarding the long-term impact of corporate ESG performance



on financial performance, its lagging effect is not as strong as its current effect, indicating that corporate ESG performance cannot be a one-time effort; sustained financial benefits require continuous fulfilment of ESG responsibilities by companies.

2. The temporal consistency of corporate ESG performance has a positive effect on financial performance, indicating that continuous ESG responsibilities by companies can bring better financial returns.
3. There is a trade-off relationship between the absolute score of corporate ESG performance and the temporal consistency of corporate ESG performance in terms of their impact on financial performance. If a company maintains a high level of ESG performance for a long time, it may impose a significant financial burden on the company. At this point, companies should act prudently, observe market feedback promptly, and make strategic adjustments to adapt to market demands.
4. Regardless of whether they are heavily polluting companies, corporate ESG performance significantly and positively affects corporate performance. Compared to heavily polluting industries, the promotion effect of non-heavily polluting industries' ESG performance on corporate performance is more pronounced.

However, our study has several noteworthy limitations. First, as an emerging market, China faces a considerable disparity in ESG ratings compared to developed nations, particularly with regard to data availability. The current Chinese ESG rating data remains incomplete and lacks comprehensiveness. Despite employing a more refined approach to develop corporate governance indicators, the Hexun Corporate Social and Environmental Rating database we utilised may harbour potential biases that could potentially skew our findings. As more ESG rating data emerges in the future, this challenge may be mitigated.

Second, our study is confined to the Chinese context, rendering the results and conclusions primarily applicable at China. While these findings hold managerial and policy implications, their generalisability is limited. To enhance the universality of our conclusions, future research on ESG sustainability could be broadened to a global scale.

A valuable direction for future research would be to assess the quality of ESG scores from multiple dimensions, including importance, comprehensiveness, credibility, and timeliness. Additionally, exploring the underlying mechanisms of ESG strategy formulation and its impact on financial performance from perspectives such as corporate culture, management traits, government oversight, and media influence would provide further insights.

In conclusion, while our study underscores the significance of considering ESG performance sustainability in research, it also acknowledges its limitations, thus paving the way for future endeavours to build upon our findings.

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