

Asymmetric Feedback from Financial Performance to Listed Firms' ESG Investment: Two-dimensional Decomposition of Management Practice and Controversy

Aiwei Yang*

University of International Business and Economics, Beijing 100029, China

*Corresponding email: 493093145@qq.com

Abstract

Prior research on environmental, social and governance (ESG) has predominantly treated sustainability performance as a determinant of financial outcomes, leaving the reverse question - whether improving profitability prompts managers to scale back ESG investment - largely unexamined. It uses 7,405 firm-year observations of Chinese A-share listed firms covering the period 2019-2023. It employs two-way fixed-effects models to examine the feedback effect of return on equity (ROE) on the composite ESG rating. More importantly, it investigates this effect on its two separate sub-components, namely management practice and controversy. It finds that a rise in ROE significantly depresses the management-practice score at the 5.000% level while leaving the controversy score unaffected, and the gap between the two coefficients is itself significant ($p < 0.05$). The negative feedback is concentrated in the environmental dimension. Decomposing ROE reveals that only its firm-specific component - not the industry-common component - drives the effect (significant at the 5.000% or 1.000% level), which points to managers' own profit volatility rather than sectoral conditions. The effect is amplified by intense analyst coverage and high carbon intensity. Taken together, financial performance crowds out proactive ESG management, and this crowding-out is confined to profitable intervals and driven by firm-specific earnings fluctuations.

Keywords

Financial performance, Environmental, social and governance, Management practice, Reverse causality, Asymmetry

Introduction

ESG concepts entered China's capital market only about a decade ago, yet they are now deeply embedded in the regulatory framework and investment decisions. Existing studies almost unanimously place ESG in the explanatory-variable position, asking how it affects financing costs, stock performance, and firm value [1,2]. The reverse question - whether managers reallocate ESG investment after a change in profitability - has rarely been systematically examined. This gap is especially worth filling in China, where ESG investment among A-share firms remains largely voluntary, and its scale fluctuates far more in response to internal resources than that of firms in mature markets. Against this institutional backdrop, exploring how profit shifts reshape ESG budget allocation can offer valuable context for understanding emerging-market corporate sustainability behaviours.

The Wind ESG rating system provides a workable

analytical tool to unpack this question for emerging-market corporate sustainability research. It divides the composite score into two parts: management practice and controversy. The first dimension reflects environmental, social, and governance mechanisms proactively built by firms. It represents discretionary spending over which corporate executives possess considerable decision-making power.

The second-dimension documents negative incidents including pollution, litigation, and regulatory violations. These adverse events mostly stem from exogenous shocks outside routine managerial planning. The two differ in their underlying logic and economic connotations and pooling them obscures the true structure of performance feedback between profitability and ESG resource adjustment.

Theoretical predictions also diverge. Organizational slack theory holds that improved profitability releases

spare resources that flow into social responsibility [3]. Agency-cost theory predicts the opposite - when managerial compensation is tightly linked to short-term accounting earnings, an earnings improvement may instead become an occasion to cut long-horizon ESG projects [4,5]. A-share markets feature pronounced short-term performance pressure, so the latter channel need not be weaker [6]. Loss-making firms have already pared ESG investment on the compliance floor, so the feedback should be weaker than for profitable firms.

Against this backdrop, it asks: Does financial performance affect ESG investment? If so, does the feedback operate on proactive practices or on controversy? And does it vary with profit or loss status and external monitoring intensity?

Using ROE as the core explanatory variable, it estimates two-way fixed-effects models for the composite ESG score, the two sub-scores, and the E/S/G dimensions, supplemented by piecewise regression, dynamic panels, and grouped robustness checks to mitigate endogeneity concerns and verify the stability of empirical findings. These elaborate empirical strategies allow us to capture potential nonlinear relationships and alleviate estimation bias caused by unobserved heterogeneity and serial correlation, thereby improving the credibility and accuracy of our regression results.

Our marginal contribution lies in reversing the mainstream “ESG → performance” research chain. Leveraging this two-dimensional score, it differentiates how performance feedback influences proactive inputs and negative events respectively. It further demonstrates that such feedback only exists within profitable intervals. It originates from firm-specific profitability instead of broad profit fluctuations across the market.

Data, variables, and model specifications

The sample comprises Chinese A-share listed firms for 2019-2023, covering a post-pandemic period with volatile corporate operational and sustainable investment conditions. ESG ratings, financial data, and firm-characteristic data come from the Wind database, and carbon-emission data are from the China Emission Accounts and Datasets (CEADS). The city sustainable-development index (CSDI) is from the China City Statistical Yearbook. Starting from 8,571 initial observations, it sequentially drops financial-industry firms, ST and *ST firms, and observations with missing

core variables to ensure data accuracy and research reliability, yielding 7,405 firm-year observations covering 1,481 firms. It examines six dependent variables: the composite ESG score, the management-practice score (ESG_practice), the controversy score (ESG_controversy), and the environmental (E), social (S), and governance (G) sub-dimensions

In the Wind system the composite score equals management practice plus controversy, and a higher controversy score means fewer negative events. To circumvent the “additivity trap” inherent in the additive structure, it additionally regresses the difference between the two components as a single dependent variable. The result is identical to the difference in coefficients from the separate regressions ($b = -0.00212$, $p = 0.017$).

The core explanatory variable is return on equity, ROE (net income/equity, %). Control variables include firm size (size), leverage (lev), managerial ownership (mgmt_share), analyst coverage (ln_analyst), research and development (R&D) investment (ln_rd), industry concentration (hhi), environmental-disclosure quality (env_disc), cash-flow-to-assets ratio (cfo_ta), revenue-growth rate (rev_growth), logged carbon intensity (ln_carbon), and the city sustainable-development index (csdi). The variables lev, mgmt_share, and rev_growth are converted from percentages to decimals. Continuous variables are winsorized at the 1st and 99th percentiles. The baseline model is a two-way fixed-effects panel regression:

$$ESG_{it} = \alpha + \beta \cdot ROE_{it} + \gamma \cdot X_{it} + \mu_i + \lambda_t + \varepsilon_{it} \quad (1)$$

The firm and year fixed effects absorb firm heterogeneity and annual macroeconomic shocks, respectively, and standard errors are clustered at the firm level. Both the F-test and the Hausman test ($\chi^2 = 98.80$, $p < 0.001$) support this specification.

Descriptive statistics and baseline results

Table 1 reports descriptive statistics for the main variables. The composite ESG score averages 6.239. The management-practice score and the controversy score are 3.350 and 2.890, respectively, and their sum deviates from the composite by less than 0.01 on average, confirming that the decomposition is internally consistent at the data level.

Among the sub-dimensions, the environmental score is the lowest (2.835), far below the social (4.394) and

governance (6.565) dimensions. ROE averages 6.647% with a standard deviation of 12.442%, and the maximum variance inflation factor (VIF) reaches 3.23, indicating no serious multicollinearity.

Table 1. Descriptive statistics.

Variable	Mean	Standard deviation	Min	Max
ESG	6.239	0.793	4.630	8.500
ESG_practice (management practice)	3.350	0.776	1.897	5.621
ESG_controversy (controversy)	2.890	0.139	2.214	3.000
E (environmental)	2.835	1.934	0.210	8.580
S (social)	4.394	1.737	0.890	8.919
G (governance)	6.565	0.893	4.180	9.000
ROE	6.647	12.442	-50.874	37.129
ROA (return on assets)	4.255	6.201	-36.350	33.254
Lev	0.440	0.184	0.077	0.881
Size	22.813	1.387	20.338	26.664
Mgmt_share	0.112	0.173	0.000	0.655
Ln_analyst	1.315	1.252	0.000	3.912
Ln_rd	18.708	1.527	14.799	22.895
Hhi	0.108	0.092	0.030	0.541
Env_disc	0.019	0.138	0.000	1.000
Cfo_ta	0.062	0.061	-0.098	0.246
Rev_growth	0.116	0.286	-0.479	1.487
Ln_carbon	8.398	0.948	5.997	10.247
CSDI	4.803	5.307	0.111	31.637
Soe	0.374	0.484	0.000	1.000

Note: Variable definitions are given, and ROE and ROA are in percent. Continuous variables are winsorized at the 1st and 99th percentiles.

Table 2 reports the baseline regression results for our main research hypotheses. After controlling two-way fixed effects at both firm and year levels, the coefficient of ROE on the composite ESG score is -0.0017 ($p < 0.1$), on management practice -0.0019 ($p = 0.0297$): What gets compressed is precisely the discretionary part of ESG

investment subject to managerial budget adjustments.

By sub-dimension, the environmental coefficient is -0.0065 ($p = 0.0061$), while social and governance are negative but insignificant, consistent with the high input elasticity and large capital outlay characteristics of environmental projects.

Table 2. ROE and ESG dimensions.

Dependent variable	Coefficient	Standard error	p value
ESG	-0.0017	0.0009	0.0587*
ESG_practice	-0.0019	0.0009	0.0297**
ESG_controversy	0.0002	0.0002	0.2750
E	-0.0065	0.0024	0.0061***
S	-0.0011	0.0019	0.5646
G	-0.0016	0.0013	0.2244

Note: Clustered robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

Because the composite score approximates the sum of the two sub-scores, it regresses their difference under the

same specification to test the coefficient gap. The difference coefficient is -0.00212, with a clustered robust

standard error of 0.00088 ($t=-2.40$, $p=0.0166$), rejecting the null of equal coefficients and showing that performance feedback is a structural (systematic) feature - something masked at the composite level. Economically, a one-standard-deviation increase in ROE (12.44 percentage points) lowers the management-practice score by about 0.024, or 3.000% of its standard deviation.

Asymmetry in performance feedback

Performance-feedback is nonlinear: loss-making and profitable firms differ, yielding profit-state-dependent slopes. It conducts piecewise regression at the $ROE=0$ threshold. Profitable firms account for about 88.000% of the sample (6,489 observations) and loss-makers about

12.000% (913 observations), with a few observations having ROE exactly equal to zero.

In Table 3, panel A shows that within the profitable interval the ROE coefficient on management practice is -0.0048 ($p=0.0049$) and on the environmental dimension -0.0159 ($p=0.0003$). In the loss interval both coefficients are near zero and insignificant, with slope-equality p -values of 0.0305 and 0.0061, respectively.

Figure 1 shows the same pattern: When ROE is positive, the management-practice score declines visibly as profitability rises, whereas for negative ROE the scatter is nearly flat (shaded bands denote 95% confidence intervals).

Table 3. Asymmetry in performance feedback.

Panel	Dependent variable	Item	Coefficient	Standard error	p value
A (Piecewise)	ESG_practice	Loss-interval slope	0.0000	0.0011	0.9731
	ESG_practice	Profit-interval slope	-0.0048	0.0017	0.0049***
	ESG_practice	Slope-equality test	0.0049	/	0.0305**
	E	Loss-interval slope	-0.0005	0.0030	0.8658
	E	Profit-interval slope	-0.0159	0.0044	0.0003***
	E	Slope-equality test	0.0154	/	0.0061***
	Observations	Full / Loss / Profit	7,405 / 913 / 6,489	/	/
B (Interaction)	ESG_practice	ROE	-0.0051	0.0018	0.0040***
	ESG_practice	Loss	-0.0263	0.0346	0.4466
	ESG_practice	ROE $\times$ Loss	0.0044	0.0023	0.0546*
	E	ROE	-0.0161	0.0045	0.0004***
	E	Loss	-0.0277	0.0956	0.7722
	E	ROE $\times$ Loss	0.0149	0.0058	0.0104**

Note: Clustered robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$. In panel A, the “Observations” row reports the full sample, the loss interval ($ROE<0$), and the profit interval ($ROE>0$); the sample covers 1,481 firms.

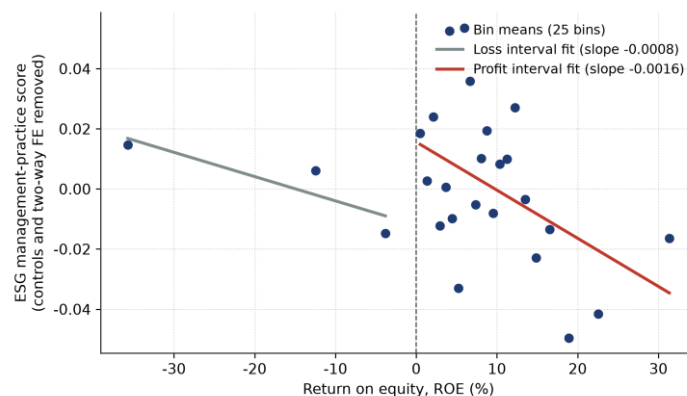


Figure 1. Threshold asymmetry in performance feedback.

Two mechanisms explain this asymmetry. In profitable states firms hold discretionary cash flow and, under short-term assessment pressure, managers tilt resources toward uses that quickly lift earnings.

In loss states proactive ESG investment has already been cut to the compliance floor, so a resource-constraint logic replaces short-termism. The environmental dimension shows the largest gap, consistent with abatement and pollution-control projects being the most deferrable. To verify this reading, it introduces a loss dummy (loss) and its interaction with ROE.

In Table 3, panel B shows that the loss main effect is insignificant, but $ROE \times loss$ is marginally significant and positive for management practice (0.0044, $p=0.055$) and for the environmental dimension (0.0149, $p=0.010$), while social and governance are insignificant. Loss status therefore weakens the suppressing effect of performance on ESG.

This corroborates the dual “resource-constraint-short-termism” mechanism: Loss-makers have little room to maneuver, and marginal slack may be channeled first into

environmental compliance. Profitable firms, by contrast, have surplus to reallocate. Social and governance dimensions are insensitive to short-term performance swings, perhaps because they are governed more by long-horizon institutional arrangements.

Micro-level origins of performance shocks

Does the feedback originate from industry conditions or from firms’ own operations? It splits ROE into two parts: The industry-common component ROE_mean (the same-industry same-year mean) captures the business cycle, while the firm-specific component ROE_ind (the deviation of ROE from the same-industry same-year mean) reflects idiosyncratic profit fluctuation. Both enter the model simultaneously.

Table 4 shows that the industry-common component is insignificant for all dimensions, whereas the firm-specific component is significant, with coefficients of -0.0018, -0.0020, and -0.0067 for the composite, management-practice, and environmental dimensions, respectively.

Table 4. Industry-common versus firm-specific components of ROE.

Dependent variable	Component	Coefficient	Standard error	p value
ESG	Industry-common	0.0049	0.0067	0.4645
ESG	Firm-specific	-0.0018	0.0009	0.0411**
ESG_practice	Industry-common	0.0040	0.0064	0.5305
ESG_practice	Firm-specific	-0.0020	0.0009	0.0208**
E	Industry-common	0.0013	0.0161	0.9357
E	Firm-specific	-0.0067	0.0024	0.0052***

Note: Clustered robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

This decomposition is pivotal for causal interpretation: Only the firm-specific component implies managers actively adjust ESG investment per internal conditions, consistent with agency-cost framework’s managerial self-interest hypothesis.

Heterogeneity and robustness checks

Cross-group heterogeneity

Table 5 reports grouped interaction tests. Within the

high-analyst-coverage group, the ROE interaction with the management-practice score equals -0.0037 ($p=0.045$). More analysts closely following a listed firm means greater external pressure on firm management to consistently meet prevailing short-term earnings expectations, thereby substantially widening the observed retrenchment of firms’ voluntary proactive ESG investment amid tight resource constraints.

Table 5. Heterogeneity in performance feedback (dependent variable: ESG_practice).

Group	ROE main effect	Interaction	Standard error	p value
State ownership	-0.0016	-0.0008	0.0017	0.6416
High carbon intensity	-0.0008	-0.0022	0.0013	0.0964*
High-CSDI city	-0.0018	0.0006	0.0017	0.7047
High analyst coverage	-0.0008	-0.0037	0.0019	0.045**

Note: Clustered robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

The high-carbon-intensity group's interaction coefficient is -0.0022 ($p=0.096$), marginally significant. High-carbon firms bear larger cash outlays for abatement, so when performance improves, they are quicker to interpret it as easing compliance pressure and slowing their investment [7].

The state-ownership and high-CSDI-city interactions are both insignificant: The former's ESG investment is driven more by policy targets, the latter by the external institutional environment. Figure 2 summarizes the marginal effects across settings, with analyst coverage showing the strongest amplification.

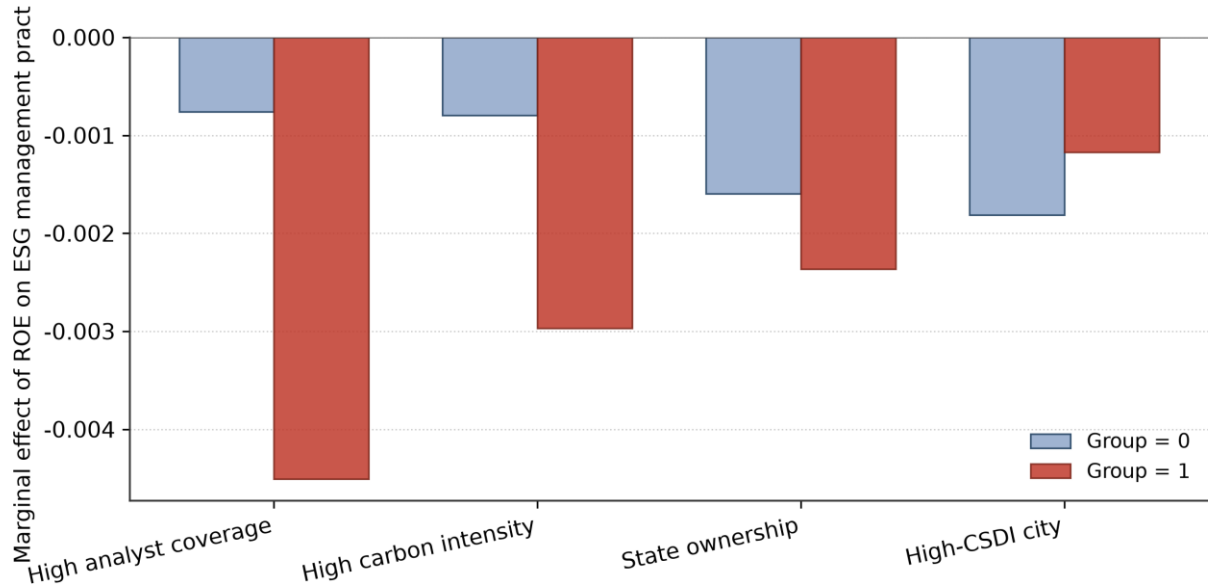


Figure 2. Heterogeneity in the strength of performance feedback.

Robustness checks

Table 6 Panel A reports the estimated dynamic causal effects. The contemporaneous ROE coefficient on management practice is significantly negative at the 5.000% level, turning insignificant at lag 1 and showing a positive but insignificant rebound at lag 2. The composite ESG score follows a similar dynamic (not tabulated for brevity). The controversy score turns

significantly positive at lag 1 (coefficient=0.0006, $p=0.0118$), plausibly reflecting the inherent time lag in controversy handling and corporate reputation repair.

Figure 3 shows that the estimated shock is concentrated in the contemporaneous period, indicating rapid short-term resource reallocation rather than a genuine long-horizon strategic shift (shaded bands denote 95.000% confidence intervals).

Table 6. Dynamic effects and robustness checks.

Panel	Dependent variable / Setting	Item	Coefficient	Standard error	p value
A (Dynamic)	ESG_practice	Contemporaneous	-0.0019	0.0009	0.0297**
	ESG_practice	Lag 1	-0.0002	0.0009	0.8263
	ESG_practice	Lag 2	0.0019	0.0012	0.1325
	ESG_controversy	Contemporaneous	0.0002	0.0002	0.2750
	ESG_controversy	Lag 1	0.0006	0.0012	0.0118**
	ESG_controversy	Lag 2	0.0003	0.0003	0.3448
B (Robustness)	Replace ROE with ROA	ESG_practice	-0.0028	0.0018	0.1293
	5.000% winsorization	ESG_practice	-0.0032	0.0013	0.0127**
	Firm FE only	ESG_practice	-0.0019	0.0008	0.0135**
	Drop 2020	ESG_practice	-0.0020	0.0010	0.0504*
	Manufacturing only	ESG_practice	-0.0025	0.0009	0.0057***

Note: Clustered robust standard errors in parentheses. * $p<0.1$, ** $p<0.05$, *** $p<0.01$.

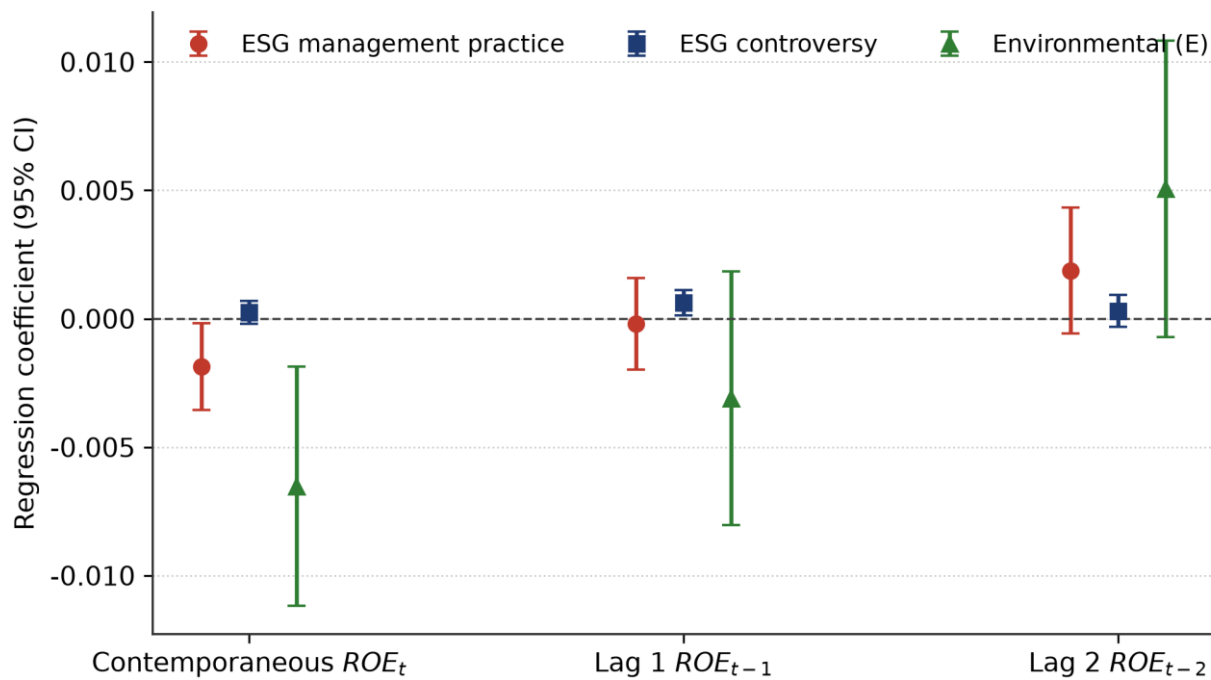


Figure 3. Temporal path of performance feedback.

Panel B of Table 6 reports robustness checks. Replacing ROE with ROA leaves the sign unchanged but lowers significance, winsorizing at 5.000%, controlling only for firm fixed effects, dropping 2020, and restricting manufacturing all preserve the core conclusion, with the manufacturing coefficient of -0.0025 ($p=0.0057$) actually stronger.

Agency-cost channel heterogeneity

To characterize heterogeneity in the agency-cost channel, it re-estimates the baseline by splitting on free cash flow and managerial ownership (the database lacks management-expense ratios and perquisite-consumption

detail, so it uses these two as proxies).

Table 7 shows the negative feedback concentrates in the high-free-cash-flow group: The ROE on management practice is -0.0048 ($p=0.008$) and on the environmental dimension -0.0133 ($p=0.011$), while the low group is insignificant throughout the full sample; the inter-group difference in management practice is significant at the 10% level (interaction $p=0.057$). Managerial-ownership groups show no statistically significant difference. This indicates that cash slack amplifies the ESG retrenchment after an earnings improvement, consistent with the well-known short-termism logic.

Table 7. Agency-cost channel heterogeneity.

Dimension	Group	ROE $\rightarrow$ ESG management-practice	ROE $\rightarrow$ Environmental (E)
Free cash flow	Low	-0.0005 (0.708)	-0.0052 (0.138)
Free cash flow	High	-0.0048*** (0.008)	-0.0133** (0.011)
Managerial ownership	Low	-0.0019 (0.155)	-0.0065* (0.074)
Managerial ownership	High	-0.0016 (0.191)	-0.0066* (0.052)
Interaction test (p)	Free cash flow	0.057*	0.205
Interaction test (p)	Managerial ownership	0.463	0.953

Note: Values in parentheses are p-values (unlike Tables 2-6, which report standard errors in parentheses); standard errors are clustered at the firm level. * $p<0.1$, ** $p<0.05$, *** $p<0.01$. Low/high groups are split by the annual median; the “Interaction test” row reports the p-value of the group dummy $\times$ ROE interaction.

Discussion

Our results contrast with two strands of literature. The first is the resource-based view. That perspective expects improved profitability to supply the material basis for social-responsibility investment, yet it observes the opposite - the management-practice score falls as ROE rises. In markets where short-term performance assessment dominates, agency motives override the long-horizon value-creation logic, and how resources are allocated between long- and short-term goals depends on the incentive structure. Existing studies provide corroborating evidence: Wasiuzzaman et al., Zhang et al., and Bonsall et al each show that operating-level factors - financial characteristics, supply-chain structure, external governance - enter ESG investment decisions, complementing our evidence that analyst attention amplifies the feedback [8-10].

The second point relates to the well-established “ESG → performance” research direction. If ESG investment exerts a drag on ROE, our results show that improved ROE in turn reduces ESG investment. These two effects jointly create a negative bidirectional loop.

Under external pressure, firms increase ESG investment and consequently experience lower profits. Once profits bounce back, managers prioritize cutting ESG spending. At the practical level, two points merit attention. Most current ratings and regulations look only at the composite score and do not separate proactive practice from controversy, yet it shows that what gets compressed is precisely the proactive practice - the same composite can mask entirely different investment trajectories. The environmental decline deserves particular vigilance; for high-carbon, high-analyst-attention firms, dynamic monitoring is more informative than static scoring.

To rule out an alternative explanation through the agency-cost channel, it adds managerial ownership and free cash flow as two agency proxies to the baseline. The negative ROE coefficients on management practice and the environment show no marked attenuation (remaining in the -0.0005 to -0.0048 and -0.0052 to -0.0133 ranges and mostly significant), indicating that the performance feedback is not fully mediated by an observable agency-cost channel. This is consistent with Malik and Shim: their paper shows that corporate social-responsibility performance is incorporated into top executives' compensation, whereas ours captures the consequence at

the allocation end - the incremental resources released by an earnings improvement are channeled first to uses that quickly realize performance, crowding out discretionary ESG investment [11]. Together they sketch the chain “incentive contracts shape motives - motives distort resource allocation.”

Conclusion

Using data on A-share listed firms from 2019-2023, it examines the effect of financial performance on ESG investment from the reverse-causality angle and reaches four conclusions: A rise in ROE significantly suppresses the management-practice score at the 5.000% level while leaving the controversy score unaffected. The negative feedback concentrates on the environmental dimension. The effect appears only within profitable intervals (threshold asymmetry), and its driver is firm-specific profit fluctuation, amplified by high analyst coverage and high carbon intensity.

This suggests that financial performance crowds out proactive ESG management, and the effect varies with firms' profit/loss status; a one-directional causal design would miss important information. For regulators, rating systems should score proactive practice and controversy separately; for investors, the trend in the management-practice score reflects true investment better than the composite.

This study has three limitations. The sample is confined to A-share listed firms, and whether the findings generalize to unlisted firms remains to be tested. The identification of reverse causality is still constrained by the availability of exogenous shocks, and an ideal instrument for firm-specific earnings fluctuations remains to be found. Mediating mechanisms such as managerial incentives and ownership structure are not yet incorporated and are left for future work.

Funding

This work was not supported by any funds.

Acknowledgments

The author would like to show sincere thanks to those technicians who have contributed to this research.

Conflicts of Interest

The author declares no conflicts of interest.

References

- [1] Ismail, G. (2024) Awe of the blue minds: location,

- corporate social responsibility, and firm value. *Financial Review*, 59(3), 625-656.
- [2] Tsai, H. J., Wu, Y. (2022) Changes in corporate social responsibility and stock performance. *Journal of Business Ethics*, 178(3), 735-755.
- [3] Harjoto, M. A., Hoepner, A.G., Li, Q. (2022) A stakeholder resource-based view of corporate social irresponsibility: evidence from China. *Journal of Business Research*, 144, 830-843.
- [4] Hwang, C. Y., Titman, S., Wang, Y. (2022) Investor tastes, corporate behavior, and stock returns: an analysis of corporate social responsibility. *Management Science*, 68(10), 7131-7152.
- [5] Hussaini, M., Rigoni, U., Perego, P. (2023) The strategic choice of payment method in takeovers: the role of environmental, social and governance performance. *Business Strategy and the Environment*, 32(1), 200-219.
- [6] Serafeim, G., Yoon, A. (2023) Stock price reactions to ESG news: the role of ESG ratings and disagreement. *Review of Accounting Studies*, 28(3), 1500-1530.
- [7] Yan, S., Almandoz, J., Ferraro, F. (2021) The impact of logic (in)compatibility: green investing, state policy, and corporate environmental performance. *Administrative Science Quarterly*, 66(4), 903-944.
- [8] Wasiuzzaman, S., Uyar, A., Kuzey, C., Karaman, A. S. (2022) Corporate social responsibility: Is it a matter of slack financial resources or strategy or both? *Managerial and Decision Economics*, 43(6), 2444-2466.
- [9] Zhang, A., Tay, H. L., Alvi, M. F., Wang, J. X., Gong, Y. (2023) Carbon neutrality drivers and implications for firm performance and supply chain management. *Business Strategy and the Environment*, 32(4), 1966-1980.
- [10] Bonsall IV, S. B., Mammadov, B., Zykaj, B. B. (2025) Institutional investors with disciplinary history and CSR behavior of investee firms. *Journal of Business Ethics*, 200(4), 813-840.
- [11] Malik, M., Shim, E. D. (2022) Empirical examination of the direct and moderating role of corporate social responsibility in top executive compensation. *Pacific Accounting Review*, 34(5), 708-727.