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CONFIDENT MINDS, SUSTAINABLE FIRMS? UNPACKING THE IMPACT OF MANAGERIAL OVERCONFIDENCE ON ESG PERFORMANCE IN CHINA

Summary. This study examines the effect of managerial overconfidence on environmental, social, and governance (ESG) performance using panel data from Chinese A-share listed firms between 2013 and 2023. Drawing on behavioral corporate finance theory, the research tests whether overconfident executives enhance or harm sustainability outcomes. Using detailed ESG ratings, firm-level data, and robust panel regression models, the results show that managerial overconfidence has a significant positive effect on environmental, social, governance, and overall ESG performance. The strongest effect appears in the social dimension, suggesting that confident leaders are particularly active in driving social initiatives. Robustness checks using instrumental variable approaches confirm the validity of the findings. These results contribute to the literature by showing that overconfidence, often seen as a risk factor, can act as a catalyst for sustainability improvements when properly balanced. The study offers practical insights for boards, investors, and policymakers on how leadership traits shape corporate ESG outcomes and suggests future research should explore the interaction of internal and external drivers in different market contexts.

Key words: managerial overconfidence, ESG performance, corporate sustainability, corporate social responsibility, behavioral finance, China, environmental performance, social initiatives, corporate governance.

1. Introduction. Environmental, social, and governance (ESG) performance has emerged as a crucial standard for assessing a company's sustainability and long-term value creation (Pasko, Chen, et al., 2022; L. Zhang et al., 2024). Global investors, regulators, and the public now demand that firms embed ESG principles into their operations, strategies, and reporting (Habib & Hossain, 2013; C. Liu & Xin, 2024). Yet while much attention has been paid to external drivers – such as market pressures, regulatory frameworks, and stakeholder expectations – the influence of internal managerial traits on ESG performance has received comparatively little focus.

One key internal factor is managerial overconfidence, a behavioral trait marked by an inflated sense of one's abilities, judgment, and future success (Weinberg, 2009). Previous research suggests that overconfident managers are more likely to engage in bold strategies, pursue innovation, and take financial risks (Brown & Sarma, 2007; Huang et al., 2016). These tendencies can, on the one hand, push firms toward proactive ESG initiatives, such as investing in green technologies, expanding social programs, or reforming governance practices (MALMENDIER & TATE, 2008). On the other hand, overconfidence may also lead to underestimating ESG risks, neglecting stakeholder concerns, or prioritizing short-term wins over long-term sustainability (HIRSHLEIFER et al., 2012).

The dual nature of managerial overconfidence raises a critical research question: Does overconfidence strengthen or weaken a firm's ESG performance? The answer is not trivial, especially in emerging economies like China, where rapid economic growth, shifting regulations, and evolving investor landscapes create a complex backdrop. China's listed firms operate under hybrid governance models, balancing market mechanisms with strong state influence, making them a particularly interesting case for studying how behavioral factors play out in ESG outcomes.

This study explores the relationship between managerial overconfidence and ESG performance using a comprehensive dataset of A-share companies listed on the Shanghai and Shenzhen stock exchanges from 2013 to 2023. By combining detailed ESG ratings with firm-level financial and governance data, we investigate not only the overall ESG impact but also the specific effects on environmental, social, and governance dimensions. Our empirical approach applies panel regression models and robustness tests to ensure reliable, interpretable results.

The findings aim to advance both theory and practice. Theoretically, this research contributes to the behavioral corporate finance literature by connecting managerial psychology with sustainability outcomes. Practically, the results can inform investors, boards, and policymakers seeking to understand when overconfident leadership enhances ESG efforts – and when it may undermine them.

The remainder of this paper is structured as follows. Section 2 develops the research hypotheses. Section 3 describes the data sources, variable measurements, and empirical models. Section 4 presents the results of the analysis. Section 5 discusses the implications and interpretations of the findings. Finally, Section 6 concludes the study and suggests directions for future research.

2. Literature Review and Hypotheses Development. In recent years, ESG (environmental, social, and governance) performance has become a central theme in corporate research and practice. Scholars increasingly focus on internal drivers of ESG outcomes, with special attention to managerial traits (E. X. Liu & Song, 2025; Oh & Lim, 2022; Pasko et al., 2021, 2023, 2024; Pasko, Yang, et al., 2022; Tao, 2023; Wen et al., 2023). One such trait, managerial overconfidence, refers to the tendency of managers to overestimate their capabilities, judgments, or control over uncertain outcomes. This cognitive bias affects decision-making, risk-taking, and strategic initiatives in complex ways. Below, we examine how overconfidence may influence each ESG pillar, considering both supporting arguments and possible counterpoints.

Environmental Performance. Overconfident managers often favor bold initiatives and long-term innovation, believing they can drive transformational change (Jiang et al., 2025). This confidence can push companies to adopt ambitious environmental goals, invest in clean technologies, and implement energy-efficient practices (Shen et al., 2022). Their risk tolerance may lead them to embrace eco-innovation earlier than competitors, generating environmental advantages (Yang, 2024).

However, there are counterarguments. Overconfident managers might underestimate environmental risks or compliance challenges, leading to poorly designed projects or insufficient environmental safeguards (Chen et al., 2024; Lian et al., 2023). They may also misallocate resources by chasing high-profile green initiatives that look good on paper but fail to deliver measurable environmental benefits (HIRSHLEIFER et al., 2012). Thus, while overconfidence can be a driver of environmental improvement, it may also bring strategic blind spots (Deshmukh et al., 2013; Wallace & Baumeister, 2002).

Social Performance. In the social domain, overconfident leaders often view corporate social responsibility (CSR) as a tool to enhance reputation and secure stakeholder support (Wang et al., 2023). Confident in their ability to manage public image, they may actively engage in philanthropy, employee programs, and community initiatives (C. Liu & Xin, 2024). This can boost the firm's visibility and strengthen its social capital (Atif & Ali, 2021).

Yet, the downside is that overconfidence can lead to overcommitment (Wallace & Baumeister, 2002). Managers may promise more than they can deliver, stretching organizational resources or focusing on flashy CSR campaigns rather than sustained social impact (Hsu & Lee, 2024). Furthermore, they may downplay stakeholder feedback, assuming their actions are already sufficient (Brown & Sarma, 2007). While managerial overconfidence can energize social initiatives, it may also introduce reputational and operational risks (Du et al., 2025).

Corporate Governance. In terms of governance, overconfident managers may seek to reform internal processes or strengthen board oversight, believing they can improve organizational effectiveness (Du et al., 2025). Their ambition can drive modernization efforts, enhance transparency, and improve accountability structures (Brown & Sarma, 2007).

Conversely, overconfidence can undermine governance by reducing openness to advice or weakening board independence (Heaton, 2002). Managers who overtrust their own judgment might bypass formal controls or marginalize dissenting voices. In extreme cases, this can lead to governance failures. Therefore, while overconfidence can push governance innovation, it can also erode safeguards meant to balance executive power (Kwabi et al., 2024).

Overall ESG Performance. When viewed holistically, managerial overconfidence has the potential to elevate ESG performance by promoting bold strategies, innovation, and visible commitments (Jiang et al., 2025; Xuan, 2024). Confident leaders may act as catalysts for sustainability transformation across all dimensions (Chen et al., 2024). However, the integrated nature of ESG means that missteps in one area (due to overconfidence) can offset gains in others (Y. Zhang & Xiong, 2024). Poor environmental planning, unbalanced social investments, or governance overreach can weaken overall ESG outcomes (Tang et al., 2024). Therefore, understanding the balance between confidence and caution is essential.

Based on the reviewed literature and the mixed theoretical arguments for and against the positive effects of managerial overconfidence on ESG dimensions, we formulate the following hypotheses to guide the empirical analysis:

H1: Managerial overconfidence has a significant positive effect on environmental performance.

H2: Managerial overconfidence has a significant positive effect on social performance.

H3: Managerial overconfidence has a significant positive effect on corporate governance.

H4: Managerial overconfidence has a significant positive effect on overall ESG performance.

These hypotheses aim to clarify whether overconfidence ultimately acts as a constructive or disruptive force in shaping environmental, social, governance, and overall ESG performance.

3. Methods

3.1 Sample Selection and Data Sources. This study examines all A-share companies listed on the Shanghai and Shenzhen stock exchanges in China from 2013 to 2023 to explore how managerial overconfidence affects ESG performance. The sample is refined through several steps (table 1): (1) companies labeled as ST are excluded; (2) companies with missing financial data are removed; (3) firms with an asset-to-liability ratio above 1 are excluded; (4) companies from the financial industry are left out. All continuous variables are winsorized at the 1% and 99% levels. After applying these filters, the final dataset includes 33,030 observations. All management and financial data are sourced from the CSMAR database.

3.2 Variable Design and Measurement. The dependent variable is ESG, which is assigned values based on the Huazheng ESG ratings. It comprehensively measures a company's performance in the environmental, social, and governance aspects, and intuitively reflects the company's sustainable development and social responsibility fulfillment. In the ESG rating system, C, CC, CCC, B, BB, BBB, A, AA, and AAA are ranked from poor to excellent. For the convenience of quantitative comparison, they are assigned scores from 1 to 9 respectively. A C rating of 1 point indicates that the company has prominent problems in the environmental, social, and governance aspects, and its ESG performance is poor. A CC rating of 2 points and a CCC rating of 3 points show a gradual improvement, but the overall performance is still not ideal. A B rating of 4 points marks the company's initial ESG practices. A BB rating of 5 points and a BBB rating of 6 points indicate that the company's ESG performance is gradually improving, and the BBB rating represents a more stable performance. A rating of 7 points means the company has a good ESG performance, an AA rating of 8 points represents an excellent performance, and a AAA rating of 9 points demonstrates that the company has an outstanding ESG performance and is a model in all aspects.

In the academic literature, CEO overconfidence is commonly measured using several well-established proxies. One widely used approach relies on executive stock options, particularly whether CEOs retain deep-in-the-money options instead of exercising them, signaling an overly optimistic belief in future stock gains (Malmendier & Tate, 2008). Another common proxy involves earnings forecasts, where consistently over-optimistic managerial forecasts compared to actual outcomes reflect overconfidence. More recent methods apply linguistic analysis to corporate disclosures, using sentiment or tone in CEO letters to shareholders to capture optimistic biases.

In this study, we use CEO tenure as the proxy for managerial overconfidence, measured by whether senior executives' tenure exceeds the industry median (dummy variable: 1 if yes, 0 if no). Prior research supports this as a reliable and valid measure, reflecting the idea that long-serving CEOs, reinforced by repeated reappointment, may develop over-optimistic views of their judgment and control (Tang et al., 2015). This tenure-based measure offers a practical and interpretable proxy, especially in settings where direct market data on options or forecasts is limited. It allows the analysis to capture behavioral tendencies that shape corporate decisions and performance..

The control variables include firm size (SIZE), asset – liability ratio (LEV), revenue growth rate (GRO), the number of board members (BOA), and firm age (AGE). Larger firms usually have stronger financial strength, a wider business network, and greater risk – resistance capabilities. These resource advantages can significantly influence a company's ESG strategic layout and implementation path. A high asset – liability ratio implies that a company faces greater debt – servicing pressure and potential financial crises. This not only restricts the company's investment in ESG areas such as environmental governance and social responsibility but also prompts managers to adopt more conservative strategies in decision – making to ensure financial stability. Firms in a high – growth period often excel

Table 1

Data Screening and Sample Refinement

Step	Description	Resulting Sample Size
Initial sample	All A-share companies listed on the Shanghai and Shenzhen stock exchanges (2013–2023)	
Step 1: Exclude ST-labeled companies	Remove companies labeled as Special Treatment (ST) due to abnormal financial conditions	Reduced sample
Step 2: Exclude missing financial data	Remove companies lacking relevant financial data	Further reduced sample
Step 3: Exclude firms with high leverage	Remove companies with an asset-to-liability ratio greater than 1	Further reduced sample
Step 4: Exclude financial industry firms	Remove all companies classified under the financial sector	Final filtered sample
Winsorization	Apply winsorization to all continuous variables at the 1% and 99% levels	
Final sample	Total firm-year observations after all exclusions	33,030 observations
Data source	Management and financial data sourced from the CSMAR database	

in technological innovation and market expansion. Their managers' decisions may be more forward – looking and adventurous, and this growth trend will also affect the firm's willingness and intensity of investment in the ESG field. An appropriate number of board members helps to achieve diversified decision – making perspectives and full – fledged exchanges of opinions, thereby enhancing the scientific nature of governance. However, an excessive number of board members may lead to a lengthy decision – making process and low efficiency. This difference in governance effectiveness will be transmitted to the formulation and implementation of the company's ESG strategy, affecting the quality and speed of managers' decisions. A highly concentrated ownership structure may lead to the absolute control of corporate decisions by major shareholders. Their decision – making preferences and interest demands will profoundly influence the direction of the company's ESG strategy. Sufficient cash reserves not only guarantee the stability of a company's daily operations but also provide a solid financial foundation for the company to cope with unexpected risks and invest in ESG projects.

3.3 Model Establishment

This study posits that the managerial overconfidence of listed companies has a significant positive impact on their ESG performance. To test this hypothesis, this study will conduct an estimation analysis using a panel regression model.

$$E_{Rit} = \alpha_0 + \alpha_1 OC_{it} + \alpha_2 \mathrm{SIZE}_{it} + \alpha_3 \mathrm{LEV}_{it} + \\ + \alpha_4 \mathrm{GRO}_{it} + \alpha_5 \mathrm{BOA}_{it} + \alpha_6 \mathrm{AGE}_{it} + \alpha_7 TOP1_{it} + \\ + \alpha_8 CASH_{it} + \sum year + \sum ind + \varepsilon_{it} \quad \text{(Eq1)}$$

$$S_{Rit} = \alpha_0 + \alpha_1 OC_{Rit} + \alpha_2 \mathrm{SIZE}_{it} + \alpha_3 \mathrm{LEV}_{it} + \\ + \alpha_4 \mathrm{GRO}_{it} + \alpha_5 \mathrm{BOA}_{it} + \alpha_6 \mathrm{AGE}_{it} + \alpha_7 TOP1_{it} + \\ + \alpha_8 CASH_{it} + \sum year + \sum ind + \varepsilon_{it} \quad \text{(Eq2)}$$

$$G_{Rit} = \alpha_0 + \alpha_1 OC_{it} + \alpha_2 \mathrm{SIZE}_{it} + \alpha_3 \mathrm{LEV}_{it} + \\ + \alpha_4 \mathrm{GRO}_{it} + \alpha_5 \mathrm{BOA}_{it} + \alpha_6 \mathrm{AGE}_{it} + \alpha_7 TOP1_{it} \\ + + \alpha_8 CASH_{it} + \sum year + \sum ind + \varepsilon_{it} \quad \text{(Eq3)}$$

$$ESG_{it} = \alpha_0 + \alpha_1 OC_{it} + \alpha_2 \mathrm{SIZE}_{it} + \alpha_3 \mathrm{LEV}_{it} + \\ + \alpha_4 \mathrm{GRO}_{it} + \alpha_5 \mathrm{BOA}_{it} + \alpha_6 \mathrm{AGE}_{it} + \alpha_7 TOP1_{it} + \\ + \alpha_8 CASH_{it} + \sum year + \sum ind + \varepsilon_{it} \quad \text{(Eq4)}$$

where i is the ith firm. t is the tth year. ESG_{it} is the ESG performance of the ith firm in year t. E_R_{it} denotes environment. S_R_{it} denotes social. G_R_{it} denotes corporate governance. α_0 is the constant term. α_i is the coefficient of independent variables, which can judge the positive and negative direction of the influence of the variable. ε_{it} represents the error term. Here, ind represents the industry fixed effect, and year represents the year fixed effect.

4. Results

4.1 Descriptive Statistics. This study provides a descriptive statistical analysis of all variables from 2013 to 2023 to outline the key characteristics of the dataset. It reports the minimum, maximum, mean, and standard deviation, offering a clear overview of the data distribution. To address the risk of outliers skewing the results and biasing parameter estimates, the study applies winsorization. By carefully setting thresholds, extreme values are adjusted to a reasonable range, reducing the impact of abnormal observations. This approach enhances the reliability and interpretability of the results.

Table 3 presents the descriptive statistics for all variables, covering 33,030 firm-year observations. The independent variable, managerial overconfidence (OC), has a mean of 0.494 and a standard deviation of 0.500, ranging from 0 to 1. This indicates significant variation

Table 2

Variable Definition

Variable	Abbreviation	Variable Definition
Dependent Variable		
ESG	ESG	Assignment based on Huazheng ESG ratings
Independent Variable		
Managerial Overconfidence	Tenure Higher than Industry Median	Dummy variable. When the tenure of senior executives is higher than the industry median and they are re – elected
Control Variables		
Firm Size	SIZE	Natural logarithm of the firm's total assets
Asset – Liability Ratio	LEV	Total liabilities divided by total assets
Revenue Growth Rate	GRO	(Current - period revenue - Previous - period revenue) / Previous – period revenue
Number of Board Members	BOA	Natural logarithm of the total number of board members
Firm Age	AGE	Natural logarithm of the value obtained by subtracting the firm's establishment year from the reporting period
Ownership Concentration	TOP1	The number of shares held by the largest shareholder divided by the total number of shares
Cash Ratio	CASH	The ratio of cash and cash equivalents to total assets

Table 3

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
ESG	33030	4.146	1.016	1.000	6.000
OC	33030	0.494	0.500	0.000	1.000
E_R	33030	2.014	1.166	1.000	6.000
S_R	33030	4.599	1.648	1.000	9.000
G_R	33030	5.256	1.320	1.000	8.000
AGE	33030	2.013	0.963	0.000	3.367
CASH	33030	0.205	0.142	0.018	0.683
GRO	33030	0.148	0.384	-0.554	2.311
LEV	33030	0.419	0.201	0.059	0.893
SIZE	33030	22.303	1.299	19.940	26.370
BOA	33030	2.109	0.196	1.609	2.639
TOP1	33030	33.466	14.723	8.260	73.560

in managerial overconfidence across firms, with a wide and dispersed distribution.

For the dependent variables, the mean ESG (Environmental, Social, and Governance) score is 4.146 with a standard deviation of 1.016, spanning from 1 to 6. This suggests a notable spread in overall ESG performance, with some firms excelling while others lag behind. Breaking it down, the environmental (E_R) dimension has a mean of 2.014 and a standard deviation of 1.166; the social (S_R) dimension shows a mean of 4.599 and a standard deviation of 1.648; the governance (G_R) dimension records a mean of 5.256 with a standard deviation of 1.320. These differences highlight the uneven progress firms have made across the three ESG pillars.

Among the control variables, firm size (SIZE) averages 22.303 with a standard deviation of 1.299, reflecting moderate variation. The asset-liability ratio (LEV) has a mean of 0.419 and a standard deviation of 0.201, suggesting balanced financial leverage across the sample. The revenue growth rate (GRO) averages 0.148, with a wide spread (standard deviation 0.384) and values ranging from −0.554 to 2.311, indicating substantial variability in firm growth. Other key controls include board size (BOA), with a mean of 2.109 and a standard deviation of 0.196; firm age (AGE), with a mean of 2.013 and a standard deviation of 0.963; ownership concentration (TOP1), averaging 33.466 with a standard deviation of 14.723; and the cash ratio (CASH), with a mean of 0.205 and a standard deviation of 0.142. Together, these variables reflect the diverse characteristics of the sample firms in governance, maturity, ownership, and liquidity, all of which may shape the relationships examined in the subsequent analysis.

4.2 Multicollinearity Test. Table 4 presents the results of the Variance Inflation Factor (VIF) test for multicollinearity. The VIF values for all variables are low: OC (1.02), SIZE (1.57), LEV (1.53), AGE (1.30), CASH (1.24), BOA (1.08), TOP1 (1.08), and GRO (1.01), with an average VIF of 1.23. A VIF below 10 is widely accepted as an indication that multicollinearity is not a concern. These results confirm that the independent variables are only weakly correlated. Therefore, multicollinearity does not significantly affect the parameter estimates or statistical inferences of the regression model. The model remains stable and reliable, providing an accurate reflection of the relationships among variables.

Table 4

VIF Test

Variable	VIF	1/VIF
OC	1.02	0.9841
SIZE	1.57	0.6355
LEV	1.53	0.6527
AGE	1.3	0.7680
CASH	1.24	0.8067
BOA	1.08	0.9219
TOP1	1.08	0.9258
GRO	1.01	0.9891
Mean VIF	1.23	

4.3 Regression Results. Table 5 reports the regression results for the four models, covering environmental (E_R), social (S_R), governance (G_R), and overall ESG performance. The coefficients of the key independent variable, managerial overconfidence (OC), are 0.0722, 0.2480, 0.1020, and 0.1491, respectively, all significant at the 1% level. These findings reveal a strong positive relationship between managerial overconfidence and firm performance across all ESG dimensions. In short, higher managerial overconfidence is associated with stronger ESG outcomes. Notably, the largest effect appears in the social (S_R) dimension, suggesting that overconfident managers may be especially active in driving social initiatives, such as community engagement and corporate social responsibility programs, which enhance the firm's social performance.

Table 5

Regression Results

VARIABLES	(1) E_R	(2) S_R	(3) G_R	(4) ESG
OC	0.0722***	0.2480***	0.1020***	0.1491***
	(5.9786)	(15.4540)	(7.7863)	(14.6431)
AGE	-0.0349***	-0.3039***	-0.1921***	-0.1927***
	(-5.1035)	(-31.8509)	(-25.8875)	(-32.8111)
CASH	-0.1160**	-0.1444**	1.1531***	0.4675***
	(-2.4596)	(-2.2299)	(21.5892)	(11.3394)
GRO	-0.1100***	0.0484**	-0.0783***	-0.0687***
	(-7.5130)	(2.0924)	(-4.0504)	(-4.6516)
LEV	-0.0333	-0.1836***	-2.1771***	-1.0840***
	(-0.8726)	(-3.5040)	(-47.5902)	(-31.7723)
SIZE	0.2895***	0.3352***	0.2980***	0.3266***
	(47.2662)	(43.0360)	(46.5069)	(66.5211)
Constant	-4.0171***	-4.0915***	0.6403***	-2.6975***
	(-29.9249)	(-22.9643)	(3.8928)	(-23.6994)
Year Effect	YES	YES	YES	YES
Ind Effect	YES	YES	YES	YES
Observations	33,030	33,030	33,030	33,030
R-squared	0.1199	0.2239	0.1975	0.1798
r2_a	0.1189	0.2231	0.1967	0.1789
F	113.1589***	234.2953***	211.2273***	202.7841***

*Notes: All variables are defined as in Table 1. The t- statistics are given in parentheses. *, ** and *** indicate significance at 0.1, 0.05 and 0.01, respectively.*

Looking at model fit, the R-squared values range from 0.1199 to 0.2239, with slightly lower adjusted R-squared values. This indicates that while the models explain a meaningful portion of the variation in ESG outcomes, some factors remain outside their scope. Importantly, all F-statistics are significant at the 1% level, confirming that the overall models are statistically robust and that the included variables jointly influence ESG performance.

Among the control variables, firm age (AGE) shows a consistently negative and significant effect, indicating that older firms tend to perform worse on ESG measures. The impacts of cash holdings (CASH), growth (GRO), and leverage (LEV) vary in both direction and significance across models, reflecting different dynamics within each ESG area. Firm size (SIZE), by contrast, has a consistently positive and highly significant effect, showing that larger firms tend to achieve better ESG results overall. These control variables provide essential context and should not be overlooked when interpreting the models.

4.4 Robustness Tests. Table 6 presents the robustness test results using the 2SLS method, where managerial overconfidence (OC) lagged by one period serves as the instrumental variable. The OC coefficients across the four models – environmental (E_R), social (S_R), governance (G_R), and overall ESG performance – are 0.074, 0.246, 0.109, and 0.148, respectively, all significant at the 1% level. These results align with the main regressions, reinforcing the strong positive link between managerial overconfidence and firm ESG performance. Notably, the social (S_R) dimension shows the largest effect, suggesting that overconfident managers are particularly effective in advancing social initiatives.

The R-squared values range from 0.121 to 0.223, with slightly lower adjusted R-squared values, indicating moderate explanatory power. All F-statistics are highly significant, confirming that the independent and control variables meaningfully shape ESG outcomes. The Cragg-Donald Wald F statistics, all at 32,000, demonstrate that the instrumental variables are strong and effectively address endogeneity concerns.

Among the control variables, firm age (AGE) remains negatively and significantly related to ESG performance, suggesting that older firms tend to underperform on ESG measures. Firm size (SIZE) consistently shows a positive and significant effect, highlighting the advantage larger firms have in ESG outcomes. Other controls – CASH, GRO, LEV, BOA, and TOP1 – show varying signs and significance across models, reflecting their diverse impacts on different ESG dimensions. Together, these controls provide essential context for understanding firm ESG performance and should be carefully considered in the analysis.

Discussion. This study investigated the relationship between managerial overconfidence and firm ESG performance across environmental, social, and governance dimensions using Chinese A-share listed firms from 2013 to 2023. The results robustly support all four hypotheses (see Table 7), confirming that managerial overconfidence has a significant positive effect on each ESG pillar as well as on overall ESG outcomes.

Table 6

Robustness Tests

VARIABLES	(1) E_R	(2) S_R	(3) G_R	(4) ESG
OC	0.074***	0.246***	0.109***	0.148***
	(4.013)	(10.236)	(5.439)	(9.600)
AGE	-0.053***	-0.388***	-0.133***	-0.201***
	(-5.574)	(-30.279)	(-13.110)	(-25.210)
CASH	-0.025	-0.000	1.205***	0.568***
	(-0.466)	(-0.003)	(19.826)	(12.084)
GRO	-0.119***	0.051**	-0.059***	-0.062***
	(-7.319)	(2.004)	(-2.753)	(-3.753)
LEV	-0.019	-0.203***	-2.187***	-1.085***
	(-0.450)	(-3.604)	(-43.732)	(-29.085)
SIZE	0.303***	0.351***	0.291***	0.330***
	(43.584)	(40.701)	(40.770)	(60.513)
BOA	-0.025	0.178***	-0.262***	-0.051*
	(-0.695)	(3.794)	(-6.674)	(-1.668)
TOP1	-0.001	-0.004***	0.008***	0.002***
	(-1.510)	(-6.824)	(15.145)	(5.248)
Constant	-4.295***	-4.561***	0.780***	-2.839***
	(-28.094)	(-23.076)	(4.226)	(-21.894)
Year Effect	YES	YES	YES	YES
Ind Effect	YES	YES	YES	YES
Observations	27,808	27,808	27,808	27,808
R-squared	0.121	0.223	0.195	0.184
r2_a	0.120	0.222	0.194	0.183
F	95.815***	194.560***	169.013***	171.175***
Cragg-Donald Wald F statistic	3.2e+04	3.2e+04	3.2e+04	3.2e+04

*Notes: All variables are defined as in Table 1. The t- statistics are given in parentheses. *, ** and *** indicate significance at 0.1, 0.05 and 0.01, respectively.*

Table 7

Summary of Hypothesis Testing Results

Hypotheses	Description	Exp. Sign	Findings		**Conclusion**
H1	Managerial overconfidence has a significant positive effect on environment performance.	+	+		Supported
H2	Managerial overconfidence has a significant positive effect on society performance.	+	+		Supported
H3	Managerial overconfidence has a significant positive effect on corporate governance.	+	+		Supported
H4	Managerial overconfidence has a significant positive effect on ESG performance.	+	+		Supported

These findings align with prior research that highlights the constructive role of overconfident managers in driving bold initiatives and innovation (Wang et al., 2023; Du et al., 2024). Overconfident executives tend to pursue ambitious environmental goals and invest in clean technologies, which can explain the observed positive effects on environmental performance. This matches earlier conclusions that managerial traits can influence corporate sustainability strategies (Ye & Yuan, 2008).

In the social dimension, the particularly strong coefficient suggests that overconfident managers actively enhance their firms' social engagement, reinforcing prior observations that confidence can drive reputation-building through corporate social responsibility activities (Guo & Ye, 2024; Oh & Lim, 2022). However, the literature also warns of potential overcommitment risks when managers overestimate their capacity to deliver on social promises (Shen et al., 2022).

For governance, the results show that overconfident managers can strengthen governance practices, perhaps by pushing reforms or modernizing internal processes. This is consistent with earlier evidence showing that overconfidence is a double-edged sword – it can improve governance effectiveness but may also weaken board checks if left unchecked (Wen et al., 2023; Liu, 2023).

The overall positive relationship between managerial overconfidence and ESG performance contributes meaningfully to behavioral corporate finance research. It suggests that confidence, when balanced, can be an asset in advancing sustainability agendas. This extends the findings of Sun et al. (2024), who show that ESG commitments can shape broader corporate outcomes, and Jiang et al. (2025), who argue that ESG engagement influences employment and investment decisions.

Our study's robustness tests, using lagged overconfidence as an instrumental variable, address endogeneity concerns and strengthen the validity of these conclusions. Together, these results support the emerging consensus that managerial characteristics, alongside institutional and market factors, shape ESG outcomes (Tang et al., 2024; Jia et al., 2022).

Nonetheless, the relatively moderate R-squared values indicate that managerial overconfidence explains only part of the variance in ESG performance. Other factors – such as regulatory context, investor pressure, and organizational culture – likely play critical roles (Xuan, 2024; Tao, 2023). Future research should explore how these external and internal drivers interact, particularly under varying market conditions or across industries.

Importantly, Table 7 provides a clear summary of the hypothesis testing results and reinforces the empirical support for the theoretical framework developed in this study.

These findings offer several practical implications. For boards and investors, recognizing the role of managerial traits can improve executive selection and evaluation processes. Policymakers may also consider designing governance frameworks that harness the positive effects of overconfidence while minimizing its risks.

In sum, this study adds to the growing body of work that bridges behavioral insights and sustainability performance, emphasizing the need for a nuanced understanding of how leadership shapes ESG outcomes in complex, evolving markets.

Conclusion. This study explored the impact of managerial overconfidence on ESG performance using data from Chinese A-share listed firms between 2013 and 2023. The findings confirm that managerial overconfidence has a robust, positive effect on environmental, social, governance, and overall ESG outcomes. These results highlight that confident leaders can drive firms to adopt bolder sustainability strategies, innovate in ESG practices, and engage more actively with stakeholders, extending prior work on behavioral drivers of corporate performance (Du et al., 2024; Wang et al., 2023).

Importantly, the study contributes to the growing literature connecting managerial psychology with sustainability outcomes (Ye & Yuan, 2008; Oh & Lim, 2022). It shows that overconfidence, often viewed as a risk factor, can in fact act as a catalyst for ESG improvement when appropriately balanced. This aligns with evidence suggesting that firms with overconfident leaders may achieve stronger social initiatives, more ambitious environmental projects, and more proactive governance reforms (Guo & Ye, 2024; Liu, 2023; Wen et al., 2023).

The robustness tests, including the use of instrumental variables, address endogeneity concerns and reinforce the reliability of these conclusions. However, the moderate explanatory power of the models suggests that overconfidence explains only part of the ESG performance variance. Future research should investigate how other internal factors, such as board dynamics or organizational culture, interact with external drivers like regulatory frameworks or market pressures to shape ESG outcomes (Tang et al., 2024; Xuan, 2024; Tao, 2023).

Practically, the findings offer important insights for boards, investors, and policymakers. Recognizing the behavioral traits of leadership can improve executive recruitment, governance design, and sustainability strategies. Efforts to harness the positive effects of overconfidence while mitigating its risks could significantly enhance firm-level ESG outcomes.

In closing, this study advances the understanding of how managerial overconfidence influences corporate sustainability efforts. It underscores the importance of integrating behavioral insights into ESG research and practice, offering a richer, more nuanced view of the forces shaping firm performance in today's complex and evolving markets.

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УПЕВНЕНІ У СОБІ КЕРІВНИКИ – СТІЙКІ КОМПАНІЇ? АНАЛІЗ ВПЛИВУ УПРАВЛІНСЬКОЇ САМОВПЕВНЕНОСТІ НА ESG-РЕЗУЛЬТАТИ В КИТАЇ

Анотація. У статті досліджено вплив управлінської самовпевненості на екологічні, соціальні та управлінські (ESG) результати, використовуючи панельні дані китайських компаній, що котируються на біржах A-share, за період 2013–2023 років. Спираючись на теорію поведінкових корпоративних фінансів, дослідження перевіряє, чи сприяють упевнені керівники підвищенню стійкості компаній, чи, навпаки, завдають їй шкоди. Використання детальних ESG-рейтингів, даних на рівні компаній та надійних моделей панельної регресії показує, що управлінська самовпевненість має суттєво позитивний вплив на екологічні, соціальні, управлінські й загальні ESG-показники. Найбільший ефект спостерігається у соціальному вимірі, що свідчить про особливу активність упевнених керівників у просуванні соціальних ініціатив. Перевірки на надійність із використанням методів інструментальних змінних підтверджують валідність результатів. Отримані висновки збагачують наукову літературу, демонструючи, що самовпевненість, яку часто сприймають як ризиковий чинник, за належного балансу може виступати каталізатором для поліпшення стійкості компаній. Дослідження також пропонує практичні рекомендації для рад директорів, інвесторів і політиків щодо того, як риси лідерів формують ESG-результати компаній, та окреслює напрями для майбутніх досліджень взаємодії внутрішніх і зовнішніх чинників у різних ринкових умовах.

Ключові слова: управлінська самовпевненість, ESG-результати, корпоративна стійкість, корпоративна соціальна відповідальність, поведінкові фінанси, Китай, екологічні показники, соціальні ініціативи, корпоративне управління.