

The Nonlinear Governance Effect of ESG Rating Divergence: Evidence from Accounting Conservatism

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Abstract: Against the backdrop of the "dual carbon" strategy and the deepening integration of ESG investment, ESG rating divergence has become a notable phenomenon in capital markets. Using a sample of Chinese A-share listed companies from 2015 to 2024, this paper constructs a U-shaped moderation model to examine how ESG rating divergence nonlinearly moderates the relationship between ESG performance and accounting conservatism. The findings reveal that ESG performance significantly enhances accounting conservatism, supporting the "governance effect" hypothesis. More importantly, ESG rating divergence exhibits a significant U-shaped moderating effect on this relationship, with the inflection point located at a divergence value of 1.96, and approximately 75% of the sample falling within the low-divergence interval. The underlying mechanism is that in the low-divergence interval, the "information noise effect" dominates, weakening ESG's governance effectiveness; in the high-divergence interval, the "forced governance effect" dominates, strengthening ESG's governance role. Heterogeneity analysis shows that this U-shaped effect is more pronounced in non-state-owned enterprises. This study reveals the "double-edged sword" attribute of ESG rating divergence and its nonlinear governance logic, providing theoretical and empirical evidence for investors to rationally understand rating divergence and for regulators to improve the rating system.

1. Introduction

The 20th National Congress outlined a grand blueprint for "promoting green development and harmonious coexistence between humanity and nature." In this context, ESG concepts are rapidly penetrating China's capital market, with ESG investment transitioning from "compliance-oriented" to "value-creation-oriented." ESG ratings, as a core yardstick for measuring corporate sustainable development capabilities, are of paramount importance. However, a puzzling reality emerges: different rating agencies often provide vastly different, even contradictory, evaluations of the same company.

The prevalence of ESG rating divergence has sparked intense academic debate regarding its economic consequences. One camp views it as "information noise," arguing that ESG rating divergence reflects structural inconsistencies among rating agencies in indicator definitions,

measurement methods, and weight settings, thereby weakening the comparability and signal credibility of ESG information, increasing investors' information screening costs, and suppressing the decision-usefulness of ESG information in pricing and contracting (Christensen et al., 2022)^[1]. Another camp views it as "forced governance," suggesting that when divergence reaches a certain magnitude, heterogeneous evaluations more readily trigger media and public scrutiny, institutional investor due diligence, and external accountability pressure, forcing management to strengthen substantive ESG implementation and information disclosure transparency (Li & Yu, 2023)^[2].

These seemingly opposing views may not be mutually exclusive but rather coexist at different levels of divergence, exhibiting nonlinear dynamic characteristics. However, existing research largely assumes the impact of rating divergence is linear, with few studies exploring potential threshold effects and regime shifts-this constitutes the core research motivation of this paper.

This paper focuses on a specific governance consequence-accounting conservatism. As a critical accounting information quality characteristic, accounting conservatism requires firms to exercise caution in recognizing gains and promptly recognize losses. Existing research shows that good ESG performance can promote accounting conservatism by improving governance quality and alleviating agency problems (Quan & Yin, 2021)^[3]. However, when ESG ratings diverge, does this "ESG→Governance→Conservatism" transmission path become affected? Does divergence simply weaken this relationship, or does it produce diametrically opposite moderating effects depending on its magnitude? Answering these questions not only deepens our understanding of the economic consequences of ESG rating divergence but also provides insights into how firms can maximize ESG governance value in a divergent environment.

Based on the above theoretical gaps, this paper uses Chinese A-share listed companies from 2015 to 2024 as the sample to systematically examine the nonlinear moderating effect of ESG rating divergence on the "ESG performance→accounting conservatism" relationship. The marginal contributions are as follows:

First, we propose a "dual-mechanism" theoretical framework for the U-shaped moderation of ESG rating divergence. We demonstrate that the "information noise effect" and "forced governance effect" do not exist in isolation but rather alternate in dominance at different divergence levels, jointly shaping the U-shaped moderation pattern. This framework transcends traditional linear thinking and provides a more explanatory theoretical lens for understanding the "double-edged sword" attribute of rating divergence.

Second, we precisely identify the inflection point of the U-shaped moderation effect, revealing that approximately 75% of samples in China's A-share market are in the low-divergence interval where the information noise effect remains dominant. This quantitative finding not only characterizes the development stage of China's ESG rating market but also provides a clear decision-making reference for investors and regulators.

Third, we offer differentiated action guidelines for multiple market participants. Investors should view divergence dialectically; regulators should seek balance between standard unification and appropriate divergence; and firms should transform divergence into momentum for internal governance improvement.

2. Theoretical Analysis and Hypothesis Development

2.1. ESG Performance and Accounting Conservatism

Regarding the relationship between ESG performance and accounting conservatism, academia holds two competing views. The "governance effect view" argues that ESG practices help coordinate stakeholder demands, reduce agency conflicts, and improve corporate governance (Freeman, 1984)^[4]. Good governance mechanisms effectively constrain management's opportunistic

behavior, prompting more conservative accounting policies to maintain long-term reputation and stakeholder relationships. Meanwhile, ESG performance serves as a positive signal of governance quality (Spence, 1973)^[5], and to maintain signal credibility, management has incentives to sustain high levels of accounting conservatism.

Conversely, the "agency cost view" contends that ESG practices may become a tool for managerial rent-seeking. Management may overinvest in ESG projects for personal reputation or career development motives, using aggressive accounting policies to conceal investment inefficiency. Such "greenwashing" behavior (Delmas & Burbano, 2011)^[6] aims to project a favorable social image, diverting investor attention from financial problems and thereby reducing accounting conservatism (Liu et al., 2012)^[7].

Considering the increasingly stringent ESG regulation and gradually improving investor protection mechanisms in China's capital market, we argue that the governance effect of ESG practices is strengthening and becoming dominant. Accordingly, we propose:

Hypothesis 1 (H1): *Ceteris paribus*, ESG performance is significantly positively associated with accounting conservatism.

2.2. The U-shaped Moderating Effect of ESG Rating Divergence

How does ESG rating divergence moderate the above relationship? We propose a "dual-mechanism" theoretical framework, arguing that the "information noise effect" and "forced governance effect" alternately dominate at different divergence levels, forming a U-shaped moderation pattern.

Low-divergence interval: information noise effect dominates. When rating divergence is relatively low, the information noise effect prevails. First, even minor divergence sends a signal of "uncertainty in ESG evaluation" to the market, weakening the credibility of ESG information and reducing management's incentive to maintain high accounting conservatism to preserve signal value. Second, small divergence provides management with space for "rating shopping," allowing selective disclosure of favorable ratings and weakening external monitoring effectiveness (Zhu & Chen, 2013)^[8]. Third, under low divergence, the incremental value of ESG information is limited, and stakeholders lack sufficient motivation for monitoring (Li & Zhang, 2009)^[9], with weakened external constraints enabling management to adopt more aggressive accounting policies. Therefore, in this interval, increased rating divergence weakens the positive impact of ESG performance on accounting conservatism.

High-divergence interval: forced governance effect dominates. When rating divergence exceeds a certain threshold, the forced governance effect begins to exert influence and dominate. First, significant divergence is inherently newsworthy, readily attracting media attention and coverage (Li & Shen, 2010)^[10]. Media amplification places corporate ESG controversies in the spotlight, and enormous reputational risk compels management to improve financial information quality and adopt more conservative accounting policies. Second, divergence stimulates participation from multiple stakeholders. Institutional investors may initiate due diligence, regulators may intensify scrutiny, and environmental organizations may raise inquiries, with multi-party supervision forming a governance synergy (Mitchell et al., 1997)^[11]. Third, facing divergence, boards of directors, for risk management considerations, strengthen oversight of ESG affairs and may even establish specialized committees, thereby promoting internal governance improvement (Lv & Jiao, 2021)^[12]. Therefore, in this interval, increased rating divergence strengthens the positive impact of ESG performance on accounting conservatism.

Dynamic transition and U-shape formation. The two effects alternate in dominance as divergence changes. In the low-divergence region, the information noise effect dominates with negative

marginal effects; as divergence increases, the forced governance effect rises nonlinearly, and when its marginal effect surpasses the information noise effect, the total effect turns from negative to positive, forming a U-shaped curve. Accordingly, we propose:

Hypothesis 2 (H2): ESG rating divergence has a U-shaped moderating effect on the "ESG performance→accounting conservatism" relationship. Specifically, when divergence is low, increased divergence weakens ESG's positive impact; when divergence exceeds the inflection point, increased divergence strengthens ESG's positive impact.

3. Research Design

3.1. Sample Selection and Data Sources

This paper selects Chinese A-share listed companies from 2015 to 2024 as the initial research sample. The year 2015 is chosen as the starting point because China's ESG rating market began to mature systematically from that year, with multiple rating agencies launching standardized ESG rating products, significantly improving data availability and comparability.

The sample is screened as follows: (1) financial industry firms are excluded due to significant differences in accounting rules and regulatory requirements; (2) ST, *ST, and firms in delisting adjustment periods are excluded due to abnormal financial conditions; (3) firm-year observations with missing key variables are excluded; (4) all continuous variables are winsorized at the 1st and 99th percentiles.

After screening, we obtain 33,954 firm-year observations covering 4,926 listed companies. ESG rating data are sourced from the Wind ESG rating database, which integrates ESG ratings from multiple mainstream agencies. Accounting conservatism and corporate financial/governance data are from the CSMAR database.

3.2. Variable Measurement

Dependent variable: Accounting conservatism (C-Score). Following Khan and Watts (2009)^[13], we employ the C-Score method based on the Basu (1997)^[14] model, incorporating firm size, market-to-book ratio, and leverage as firm characteristics to construct a firm-year measure of accounting conservatism. A higher C-Score indicates a higher level of accounting conservatism.

Independent variable: ESG performance (ESG). We use the average of ESG scores from multiple rating agencies to measure comprehensive ESG performance. For each firm-year, we calculate the arithmetic mean of ESG scores across six rating agencies, ranging from 0 to 10. ESG scores are centered in regression analysis to mitigate multicollinearity.

Moderating variable: ESG rating divergence (Div). We measure rating divergence as the standard deviation of ESG scores across different rating agencies for the same firm in the same year. Divergence is centered (Div_center), and its square term (Div_center_sq) is constructed to test the U-shaped moderation effect.

Control variables. Following existing literature, we control for firm size (Size), leverage (Lev), profitability (ROA), growth opportunities (TobinQ), ownership type (SOE), board size (BoardSize), independent director ratio (IndepRatio), largest shareholder ownership (Top1), analyst coverage (Analyst), audit quality (Big4), and firm age (FirmAge). Industry and year fixed effects are also included.

3.3. Empirical Models

To test H1, we construct the following baseline regression model:

$$C - Score_{i,t} = \alpha_0 + \beta_1 ESG_center_{i,t} + \sum \gamma_k Controls_{i,t,k} + \sum Industry + \sum Year + \varepsilon_{i,t} \quad (1)$$

To test H2, we introduce the moderating variable, its square term, and their interactions with ESG:

$$C - Score_{i,t} = \alpha_0 + \beta_1 ESG_center_{i,t} + \beta_2 Div_center_{i,t} + \beta_3 Div_center_sq_{i,t} + \beta_4 ESG_center_{i,t} \times Div_center_{i,t} + \beta_5 ESG_center_{i,t} \times Div_center_sq_{i,t} + \sum \gamma_k Controls_{i,t,k} + \sum Industry + \sum Year + \varepsilon_{i,t} \quad (2)$$

The coefficient β_5 is of primary interest. If β_5 is significantly positive, the U-shaped moderation effect is confirmed. The inflection point is calculated as $Div^* = -\beta_4/(2\beta_5)$.

4. Empirical Results

4.1. Descriptive Statistics

Table 1 reports descriptive statistics for the main variables. The mean of C-Score is 0.0553 with a standard deviation of 0.1139, indicating substantial variation in accounting conservatism across sample firms. ESG performance has a mean of 4.8920, suggesting moderate overall ESG performance with notable firm heterogeneity. ESG rating divergence has a mean of 1.5783 and ranges from 0.1400 to 3.5496, indicating considerable variation in divergence levels across firms.

Table 1: Descriptive Statistics

Variable	Obs.	Mean	Std. Dev.	Min	Max
C-Score	36,982	0.0553	0.1139	-0.2067	0.3972
ESG Performance	39,865	4.8920	1.2656	2.2067	8.4171
ESG Rating Divergence	39,865	1.5783	0.7201	0.1400	3.5496

4.2. Baseline Regression Results

Table 2 presents the baseline regression results. Model 1 tests the main effect of ESG performance on accounting conservatism. The coefficient on ESG_center is 0.0025, significantly positive at the 1% level ($t=9.11$), supporting H1. Economically, a one-point increase in ESG score raises C-Score by 0.0025, equivalent to approximately 4.5% of the mean C-Score, indicating meaningful economic significance.

Model 2 tests the linear moderation effect. The coefficient on ESG $\times$ Div is -0.0006, significantly negative at the 5% level, suggesting that rating divergence weakens ESG's positive impact. However, this linear specification may obscure nonlinear relationships.

Model 3 is the core finding of this paper. The coefficient on ESG $\times$ Div² is 0.0009, significantly positive at the 1% level ($t=3.08$), confirming a U-shaped moderating effect and supporting H2. The combination of a negative first-order term (-0.0007) and positive second-order term (0.0009) is consistent with a U-shaped curve.

The inflection point is calculated as $Div^* = -(-0.0007)/(2 \times 0.0009) \approx 0.38$ in centered terms. Adding back the mean divergence of 1.5783 yields an inflection point of approximately 1.96 on the original scale. Approximately 75% of the sample (24,766 observations) falls in the low-divergence interval ($Div < 1.96$), while 25% (9,188 observations) falls in the high-divergence interval ($Div \geq 1.96$). This indicates that for most Chinese A-share companies, the information noise effect remains dominant, though forced governance has emerged for a quarter of firms.

Table 2: Baseline Regression Results

Variable	Model 1 (Main Effect)	Model 2 (Linear Moderation)	Model 3 (Nonlinear Moderation)
ESG_center	0.0025*** (9.11)	0.0026*** (9.05)	0.0021*** (6.69)
Div_center		-0.0002 (-0.64)	-0.0004 (-1.06)
Div_center_sq			-0.0002 (-0.60)
ESG×Div		-0.0006** (-2.21)	-0.0007** (-2.34)
ESG×Div ²			0.0009*** (3.08)
Controls	Yes	Yes	Yes
Industry/Year FE	Yes	Yes	Yes
Observations	33,954	33,954	33,954
R ² _Adj	0.7869	0.7870	0.7871

Robust t-statistics in parentheses, *** p<0.01, ** p<0.05, * p<0.1

4.3. Heterogeneity Analysis

We examine the boundary conditions of the U-shaped moderation effect from ownership type.

In state-owned enterprises (SOEs), the coefficient on ESG×Div² is 0.0003 but statistically insignificant. In non-SOEs, the coefficient is 0.0011, significant at the 1% level. This suggests that the U-shaped moderation effect primarily exists in non-SOEs. The explanation is that SOEs face less external market pressure due to advantages in financing channels and policy support, while non-SOEs rely more on market mechanisms, making them more sensitive to reputational risk and financing constraints arising from rating divergence.

5. Endogeneity and Robustness Checks

5.1. Endogeneity Test

To mitigate endogeneity concerns, we lag all explanatory variables by one period and re-estimate Model 3. The coefficient on lagged ESG×Div² is 0.0018, significant at the 1% level, larger than the baseline coefficient of 0.0009. This indicates that the U-shaped moderation effect remains robust after addressing potential reverse causality, and the larger coefficient suggests that ESG practices have a cumulative governance effect that strengthens over time.

5.2. Robustness Test: Subsample Regression

We split the sample at the inflection point (Div_center = 0.38). In the low-divergence group (24,766 observations, ~75%), the ESG coefficient is 0.0024 (p<0.01); in the high-divergence group (9,188 observations, ~25%), the ESG coefficient is 0.0023 (p<0.01). Both coefficients are significantly positive, confirming that ESG performance positively affects accounting conservatism in both intervals, with the U-shaped pattern arising from the differential moderating mechanisms.

6. Conclusions

Using a sample of Chinese A-share listed companies from 2015 to 2024 with 33,954 firm-year observations, this paper systematically examines the moderating effect of ESG rating divergence on the relationship between ESG performance and accounting conservatism. The main conclusions are as follows:

First, ESG performance significantly enhances accounting conservatism, supporting the governance effect view. In China's capital market, ESG practices function as a genuine governance mechanism that improves corporate governance quality and promotes conservative accounting policies, rather than merely serving as a managerial self-interest tool.

Second, ESG rating divergence exhibits a significant U-shaped moderating effect on the ESG-accounting conservatism relationship. When divergence is low, increased divergence weakens ESG's positive impact (information noise effect dominant); when divergence exceeds the inflection point, increased divergence strengthens ESG's positive impact (forced governance effect dominant). Approximately 75% of the sample falls in the low-divergence interval, indicating that the information noise effect remains mainstream in China's A-share market, though forced governance has emerged for a quarter of firms.

Third, the U-shaped moderation effect exhibits significant heterogeneity. It is more pronounced in non-SOEs, suggesting that the governance effect of ESG rating divergence operates primarily through market mechanisms.

Fourth, endogeneity and robustness checks generally support the core conclusions. The U-shaped effect remains significant and stronger after lagging explanatory variables.

6.1. Theoretical Contributions

First, this paper proposes and validates a dual-mechanism theoretical framework for the U-shaped moderation of ESG rating divergence. By integrating the information noise effect and forced governance effect into a unified analytical framework, we demonstrate how the relative dominance of these two effects shifts at different divergence levels, explaining the formation mechanism of the U-shaped pattern.

Second, this paper enriches the literature on situational factors in the ESG-accounting conservatism relationship. Existing research largely focuses on the direct impact of ESG on conservatism, with limited attention to boundary conditions. This paper reveals the nonlinear moderating role of rating divergence, expanding the research boundaries of this field.

Third, this paper deepens understanding of the development stage of China's ESG rating market. The finding that approximately 75% of samples are in the low-divergence interval indicates that China's ESG rating market remains in an early development stage, where rating divergence primarily manifests as information noise rather than pluralistic monitoring.

6.2. Practical Implications

For investors, ESG rating divergence should be viewed dialectically rather than simply as a negative signal. For firms in the low-divergence interval, investors should cautiously evaluate the credibility of ESG information; for firms in the high-divergence interval, rating divergence may have positive governance implications, and investors may benefit from governance improvements.

For regulators, a balance should be sought between standardizing ESG rating systems and preserving appropriate divergence. While promoting standardization to reduce unnecessary information noise, regulators should recognize that moderate divergence may have governance value. The focus should be on guiding rating divergence from "disorderly noise" toward "pluralistic

monitoring."

For firms, ESG rating divergence should be addressed rationally. In response to low-level divergence, firms should enhance the standardization and transparency of ESG information disclosure; in response to high-level divergence, firms should treat it as external motivation for governance improvement, actively responding to market concerns and strengthening ESG governance structures.

6.3. Limitations and Future Research

First, this paper uses the standard deviation of ESG scores across rating agencies as the measure of rating divergence, without distinguishing between different types of divergence (environmental, social, governance dimensions). Future research could disaggregate divergence by dimension.

Second, while this paper theoretically argues for the dual mechanisms of information noise and forced governance, direct mechanism tests are constrained by data availability. Future research could use media coverage and analyst attention data to directly test these mechanisms.

Third, heterogeneity analysis is limited to ownership type. Future research could examine additional boundary conditions such as corporate governance quality, information environment, and regional marketization.

References

- [1] Christensen, D. M., Serafeim, G., & Sikochi, A. (2022). Why is corporate virtue in the eye of the beholder? The case of ESG ratings. *The Accounting Review*, 97(1), 147-175.
- [2] Li, X., & Yu, H. (2023). The governance effect of ESG rating divergence: Evidence from corporate violations. *Economic Research Journal*, 58(8), 123-139.
- [3] Quan, X., & Yin, H. (2021). ESG performance and corporate accounting conservatism: "Governance effect" or "disclosure effect". *Accounting Research*, (5), 24-39.
- [4] Freeman, R. E. (1984). *Strategic management: A stakeholder approach*. Boston: Pitman.
- [5] Spence, M. (1973). Job market signaling. *The Quarterly Journal of Economics*, 87(3), 355-374.
- [6] Delmas, M. A., & Burbano, V. A. (2011). The drivers of greenwashing. *California Management Review*, 54(1), 64-87.
- [7] Liu, J., Wu, Y., & He, J. (2012). Corporate social responsibility disclosure and earnings management: Evidence from Chinese listed companies. *Accounting Research*, (10), 56-63.
- [8] Zhu, S., & Chen, G. (2013). Corporate social responsibility and bond credit ratings: Evidence from Chinese listed companies. *Accounting Research*, (10), 59-66.
- [9] Li, W., & Zhang, Y. (2009). Stakeholder governance and corporate performance: An empirical study based on Chinese listed companies. *Management World*, (1), 128-139.
- [10] Li, P., & Shen, Y. (2010). The corporate governance role of media: Chinese empirical evidence. *Economic Research Journal*, 45(4), 14-27.
- [11] Mitchell, R. K., Agle, B. R., & Wood, D. J. (1997). Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *Academy of Management Review*, 22(4), 853-886.
- [12] Lv, J., & Jiao, S. (2021). Determinants and governance effects of ESG committee establishment. *Auditing Research*, (6), 103-112.
- [13] Khan, M., & Watts, R. L. (2009). Estimation and empirical properties of a firm-year measure of accounting conservatism. *Journal of Accounting and Economics*, 48(2-3), 132-150.
- [14] Basu, S. (1997). The conservatism principle and the asymmetric timeliness of earnings. *Journal of Accounting and Economics*, 24(1), 3-37.