



The Divergence of ESG Ratings and Corporate Financing Constraints in China

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Abstract. This paper examines how divergence in environmental, social, and governance (ESG) ratings affects corporate financing constraints, employing a panel of A share listed firms in Shanghai, Shenzhen, and Beijing from 2015 to 2024. The analysis shows that greater divergence in ESG ratings significantly tightens firms' financing constraints. Heterogeneous effects emerge across ownership types and high technology status. Information transparency exerts a masking effect on the relationship between ESG rating divergence and financing constraints, indicating the coexistence of two competing channels, namely information friction and adaptation through alternative financing. Moreover, heightened economic policy uncertainty attenuates the positive relationship between ESG rating divergence and financing constraints, suggesting that under greater macroeconomic uncertainty lenders shift attention to aggregate conditions and become less sensitive to firm level ESG rating disagreement. These findings provide microeconomic evidence on the consequences of ESG rating divergence and clarify the structural boundaries and macro contextual dependence of its impact on corporate financing.

Keywords: ESG Rating Divergence, Financing Constraints, Information Transparency, Economic Uncertainty.

1 Introduction

The rapid dissemination of environmental, social, and governance (ESG) investment principles has elevated ESG ratings to a central benchmark for assessing firms' sustainability performance in capital markets. Nonetheless, substantial discrepancies in ESG evaluations of the same firm across different rating providers are common, and this divergence has attracted considerable attention in both scholarly and practitioner communities. Berg et al. (2022) document pervasive differences in ESG scores across six major international providers, attributing much of the variation to methodological and scope differences [1]. Christensen et al. (2021) further show that expanded ESG disclosure has not eliminated these discrepancies and in some cases has amplified them because rating agencies interpret identical information differently [2]. In the Chinese capital market, the promotion of the "dual carbon" agenda and the deepening of green finance policies have led to the coexistence of multiple domestic ESG rating systems,

such as *SynTao Green Finance*, *Huazheng*, and *Wind*, making rating divergence particularly salient [3]. The microeconomic consequences of this divergence for firms remain incompletely explored.

The extant literature offers substantial evidence on the economic effects of ESG ratings, but it exhibits three notable limitations. First, most studies emphasize the level effect of ESG performance, namely how ESG scores influence firms' financing costs and access, while paying insufficient attention to the divergence effect of ESG ratings [4]. Second, with respect to transmission mechanisms, prior work by Berg et al. and Christensen et al. primarily dissects the sources of divergence and proposes improved measurement approaches, yet empirical evidence on how divergence is embedded in firm decision processes and transmitted to corporate financing conditions through micro channels is limited [1-2]. Third, existing studies frequently treat ESG ratings as static informational attributes and thereby overlook how the macroeconomic policy environment conditions the effectiveness of their transmission.

Addressing these gaps, this paper uses a sample of Chinese A share listed firms in Shanghai, Shenzhen, and Beijing for the period 2015 to 2024 to systematically examine the effect of ESG rating divergence on corporate financing constraints and its contextual boundaries. The marginal contributions are threefold. First, the analysis broadens the perspective from ESG level effects to divergence effects by demonstrating that ESG rating divergence functions as an independent information risk that exacerbates firms' financing constraints in a bank dominated indirect financing market. Second, by unpacking the transmission structure of information transparency, the study reveals that firms' adaptive financing responses partially offset the exacerbating impact of information friction. This finding moves beyond the unidirectional mediation assumptions common in conventional tests and offers a more nuanced theoretical account of the mechanisms through which ESG rating divergence affects financing constraints. Third, the paper investigates how economic policy uncertainty moderates the relationship between ESG rating divergence and financing constraints, thereby extending research on divergence from static informational analysis to a dynamic framework of macro-micro interaction. This extension provides a theoretical rationale for the diminished decision utility of ESG information under heightened macro uncertainty and yields practical implications for the countercyclical coordination of green finance policies.

2 Theoretical Basis and Research Hypotheses

2.1 The Relationship between ESG Rating Divergence and Financing Constraints

From the standpoint of information asymmetry, greater divergence in ESG ratings amplifies informational gaps in credit markets [5]. The model of Stiglitz and Weiss (1981) indicates that when lenders cannot accurately distinguish borrower risk types, adverse selection arises and lenders respond through quantity rationing rather than price adjustments [6]. Divergent ESG assessments introduce additional informational noise beyond conventional financial signals. Conflicting evaluations from different agencies generate uncertainty about whether observed ESG risk reflects substantive firm weaknesses or

merely methodological heterogeneity. Such ambiguity is more disruptive to lender decision making than a single negative rating, which at least provides a directional signal.

In principle, if rating discrepancies were purely methodological, banks could discount or ignore them. In the Chinese context, however, three constraints render that response impractical. First, under the national “dual carbon” objectives and expanding green finance regulation, ESG considerations have been incorporated into bank supervision and disclosure requirements, limiting banks’ ability to disregard ESG risk. Second, ESG controversies entail substantial reputational spillovers; if a future environmental or governance scandal leads regulators or the public to trace lending decisions, banks that previously observed divergent ESG information but failed to act prudently may suffer reputational and regulatory costs. Third, divergence itself functions as a warning signal, indicating limited transparency or unidentified risk factors in a firm’s ESG profile. Consequently, even if banks regard some discrepancy as methodological noise, they cannot dismiss divergence entirely and must adopt a prudent stance. Given the dominance of bank intermediation in China and banks’ relatively constrained capacity to process nonfinancial information, the typical reaction to ESG rating divergence is defensive credit rationing rather than precise risk pricing. Banks are more likely to tighten credit allocations, reduce limits, or impose stricter contractual covenants to hedge against unidentifiable risks, thereby exacerbating firms’ external financing constraints. Empirical studies support this channel. For example, Avramov et al. (2022) show that ESG rating divergence attenuates the negative relation between ESG performance and stock returns and that institutional demand for stocks with high divergence declines [7]. The central mechanism is information uncertainty induced by rating divergence, which constrains capital supply. Based on this reasoning, the following Hypothesis 1 is proposed.

H1: Holding other factors constant, firms with greater ESG rating divergence face more severe financing constraints.

2.2 The Mediating Role of Information Transparency

Information transparency might be a central channel through which divergence in ESG ratings affects financing constraints. Theoretical models of disclosure, such as Kim and Verrecchia (1994), indicate that public information reduces the informational advantage of insiders and enhances market liquidity [8]. Empirical work by You et al. (2025) documents that higher disclosure quality is strongly associated with lower financing costs [9]. Divergence in ESG assessments, however, can influence information transparency in two opposing ways. On the one hand, public exposure of rating discrepancies may induce firms to improve the completeness and consistency of their disclosures to dispel market doubt. This forced improvement mechanism increases information transparency. On the other hand, heterogeneous interpretations of identical disclosures by different rating providers may amplify uncertainty about the firm’s information environment. This divergence amplification mechanism reduces transparency. The net effect of ESG rating divergence on transparency is therefore ambiguous *ex ante*.

Changes in information transparency transmit to financing constraints through two competing channels. The information friction channel posits that a decline in transparency exacerbates information asymmetry, hindering external financiers' ability to assess firm risk and thereby tightening financing constraints. The adaptive behavior channel posits that firms respond to a deteriorating public information environment by pursuing alternative financing strategies, for example deepening relationship-based lending, expanding nonbank financing sources, or enhancing voluntary disclosure. Although these responses are stimulated by reduced transparency, they act to mitigate rather than exacerbate financing constraints.

Given institutional features of China's credit market, the information friction channel is likely to predominate. First, bank dominated intermediation and underdeveloped nonbank financing limit firms' ability to substitute funding sources in the short run. Second, relationship-based credit depends on long term bank firm ties, which many firms lack, constraining this channel's scope [10]. Third, banks' sensitivity to ESG compliance and reputational risk under green finance policies increases the propensity for defensive credit rationing. Accordingly, the tightening effect driven by information friction is expected to outweigh the buffering effect of firm adaptation, producing a net exacerbation of financing constraints. Hence, the following Hypothesis 2 is proposed.

H2: ESG rating divergence indirectly exacerbates corporate financing constraints by reducing information transparency. Information transparency mediates the relationship between rating divergence and financing constraints.

2.3 The Moderating Role of Economic Policy Uncertainty

Economic policy uncertainty constitutes an important boundary condition for the transmission from ESG rating divergence to financing constraints. Economic policy uncertainty denotes the systemic risk agents face in anticipating whether, when, and how policymakers will alter prevailing economic rules [11]. Under elevated policy uncertainty, macro systemic risk can supplant firm level ESG information quality as the primary driver of credit decisions. In such periods lenders reallocate attention from differences in firm ESG characteristics to exposure to aggregate shocks, diminishing the relative importance of microlevel rating divergence. This signal dilution effect is supported by complementary theoretical perspectives. Bernanke's real options framework implies that greater uncertainty leads firms to delay investment and induces lenders to defer decisions, reducing sensitivity to firm specific signals [12]. Bloom's uncertainty shock literature suggests that heightened uncertainty focuses agents on macro systemic risks, thereby masking heterogeneous micro signals [13]. In China, where bank lending decisions display pronounced sensitivity to macro policy, the dilution of microlevel signals by policy uncertainty is likely to be particularly strong. Hence, a Hypothesis 3 can be proposed.

H3: Economic policy uncertainty negatively moderates the relationship between ESG rating divergence and financing constraints. Under high macroeconomic policy uncertainty, the marginal effect of ESG rating divergence on financing constraints weakens.

3 Data and Methodology

3.1 Sample Selection and Data Sources

The initial sample comprises Chinese A share listed firms in Shanghai, Shenzhen, and Beijing for the period 2015 to 2024. ESG ratings are drawn from two domestic providers, *SynTao Green Finance* and *Huazheng*. The economic policy uncertainty index is obtained from the South China Morning Post. Other firm level and financial variables are sourced from the *Choice* financial terminal and the *CSMAR* database. Sample cleaning proceeds as follows: (1) exclude firms in the financial sector; (2) exclude firms designated ST or *ST; (3) remove observations with missing values for key variables; (4) winsorize continuous variables at the 1st and 99th percentiles to mitigate the influence of extreme outliers.

3.2 Variable Definition and Measurement

3.2.1 Explained Variable – Financing constraint (SA). Financing constraints are measured by the SA index constructed following Hadlock and Pierce in the following equation (1) [14].

$$SA = -0.737 \times \ln(A) + 0.043 \times \ln(A)^2 - 0.040 \times AGE \quad (1)$$

Here, A represents the firm's total assets, and AGE denotes firm age. Since the SA index is negatively signed for conventional firms, its absolute value is used as the indicator of financing constraint. A larger absolute value indicates tighter financing constraints.

3.2.2 Explanatory Variable – ESG Rating Divergence (ESG_Diff). ESG_Diff captures the inconsistency of ESG evaluations for the same firm across different rating providers. Higher values indicate a more fragmented information environment regarding firm ESG risk and greater difficulty for external capital providers in forming stable expectations. Following the multi source comparison frameworks in Christensen et al. (2021) and Avramov et al. (2022), ESG_Diff is constructed from ratings provided by *SynTao Green Finance* and *Huazheng* [2, 7]. These two providers are widely used in Chinese databases such as *Wind* and *CSMAR* and exhibit substantive methodological differences. *SynTao Green Finance* places greater emphasis on qualitative indicators and industry specific assessment under a dual “core-industry” framework, whereas *Huazheng* emphasizes quantitative indicators and financial correlations within a standardized three pillar framework of “environment-social-governance” [15-16]. This methodological contrast renders their rating differences informative about information noise in China's ESG rating market rather than mere random fluctuations in underlying ESG performance.

First, the paper converts each provider's original rating to a numeric scale. *SynTao Green Finance* uses a ten-level letter scale (D, C-, C, C+, B-, B, B+, A-, A, A+), which is mapped to values 1 through 10 on an equidistant basis. *Huazheng* reports scores on

a 0 to 100 scale and the original score is used. Second, to ensure comparability across dimensions, annual raw scores from each provider are rescaled by min-max normalization to the interval [0, 1]. Third, for each firm and year compute the standard deviation of the two normalized ratings. The formular of *ESG_Diff* is shown in equation (2).

$$ESG_Diff_{i,t} = \sqrt{\frac{\sum_{j=1}^2 (R_{j,t,t}^{std} - R_{i,t,t}^{std})^2}{2}} \quad (2)$$

Herein, $R_{j,t,t}^{std}$ denotes the standardized rating score of firm i in year t by agency j , and $R_{i,t,t}^{std}$ represents the arithmetic mean of the standardized ratings across the two agencies. Although only two providers are used due to data availability, the substantive methodological differences between *SynTao Green Finance* and *Huazheng* are sufficient to capture the principal sources of divergence in the Chinese ESG rating market.

3.2.3 Mediating Variable – Information Transparency (KV). Following Kim and Verrecchia (2001), *KV* is constructed as the slope coefficient from the regression of daily stock returns on changes in daily trading volume [17].

$$Ret_{i,d} = \alpha_i + \beta_i \cdot \ln\left(\frac{Vol_{i,d}}{Vol_{i,d-1}}\right) + \varepsilon_{i,d} \quad (3)$$

In equation (3), $Ret_{i,d}$ denotes the daily stock return of firm i on trading day d ; $Vol_{i,d}$ denotes the daily trading volume of firm i on trading day d ; $Vol_{i,d-1}$ denotes the daily trading volume of firm i on trading day $d - 1$; $\ln\left(\frac{Vol_{i,d}}{Vol_{i,d-1}}\right)$ represents the natural logarithm of the daily trading volume change ratio; and β_i is the *KV* index. A larger *KV* index indicates a stronger explanatory power of trading volume changes for stock returns, implying more active private information trading and a higher degree of information asymmetry.

3.2.4 Moderator Variable – Economic Policy Uncertainty (EPU). The China Economic Policy Uncertainty Index developed by Baker et al. (2016) is used to proxy economic policy uncertainty [18]. The index is based on the South China Morning Post and is computed by identifying monthly articles related to Chinese economic policy uncertainty and dividing the count of identified articles by the total number of articles published in that month. To match the annual frequency of firm financial data, the monthly EPU values from January to December are averaged to obtain an annual EPU index, which is then scaled by dividing by 100. Since EPU is a time series variable whose main effect is absorbed by year fixed effects, the empirical model includes only the interaction term between *EPU* and *ESG_Diff*.

3.2.5 Control Variables. Following related studies, the analysis includes the following firm level control variables, including return on net assets (*ROE*), year on year revenue growth (*GROWTH*), total share capital (*CAP*, natural logarithm of total share capital); audit quality (*BIG4*, an indicator variable equal to 1 if the firm is audited by one of the

Big Four accounting firms, and 0 otherwise), asset-liability ratio (*LEV*), stock price volatility (*VOL*); total number of employees (*EMP*, natural logarithm form), board size (*BOARD*), per capita compensation (*PAY*, natural logarithm for), and duality (*DUAL*, an indicator variable equal to 1 if the chairman and the general manager are the same person, and 0 otherwise).

3.3 Empirical Models

Based on the hypotheses developed above, the study estimates multiple regression models to assess the effect of ESG rating divergence on financing constraints. The baseline specification used to test H1 is shown in the following equation (4).

$$SA_{i,t} = \alpha_0 + \alpha_1 ESG_Diff_{i,t} + \alpha_2 Controls'_{i,t} + \lambda_i + \gamma_t + \varepsilon_{i,t} \quad (4)$$

Here, λ_i denotes firm fixed effects; γ_t denotes year fixed effects, and $\varepsilon_{i,t}$ is the idiosyncratic error term. Standard errors are clustered at the firm level.

The mediation analysis follows the three-step procedure of Baron and Kenny (1986), supplemented by the Sobel test [19]. The models are specified by equations (5)-(6).

$$KV_{i,t} = \beta_0 + \beta_1 ESG_Diff_{i,t} + \beta_2 Controls'_{i,t} + \lambda_i + \gamma_t + \varepsilon_{i,t} \quad (5)$$

$$SA_{i,t} = \delta_0 + \delta_1 ESG_Diff_{i,t} + \delta_2 KV_{i,t} + \delta_3 Controls'_{i,t} + \lambda_i + \gamma_t + \varepsilon_{i,t} \quad (6)$$

In equation (4), α_1 represents the total effect of *ESG_Diff* on *SA* (denoted as c). In equation (5), β_1 captures the effect of *ESG_Diff* on *KV* (a path); in equation (6), δ_2 denotes the effect of *KV* on *SA* (b path), and δ_1 represents the direct effect of *ESG_Diff* on *SA* (denoted as c'). The indirect effect is calculated as $\beta_1 \times \delta_2$. Statistical significance of the mediation is evaluated with the Sobel test.

The moderating effect of economic policy uncertainty is tested by augmenting the baseline model (4) with the interaction term between *EPU* and *ESG_Diff*.

$$SA_{i,t} = \theta_0 + \theta_1 ESG_Diff_{i,t} + \theta_2 (ESG_Diff_{i,t} \times EPU_{i,t}) + \theta_3 Controls'_{i,t-1} + \lambda_i + \gamma_t + \varepsilon_{i,t} \quad (7)$$

In equation (7), a significantly negative estimate of θ_2 supports Hypothesis 3.

4 Research Results and Analysis

4.1 Descriptive Analysis

Table 1 presents descriptive statistics for the principal variables. The dependent variable, the *SA* index, has a mean of 4.0534 and a standard deviation of 0.2756, implying that the sample firms on average face a measurable degree of financing constraint with limited cross-sectional dispersion. The core explanatory variable, ESG rating divergence (*ESG_Diff*), exhibits a mean of 0.5486 and a standard deviation of 0.4329, indicating substantial heterogeneity in the extent of rating divergence across firms. Information transparency (*KV*) has a mean of 11.9341 and a median of 5.3128, with the

median markedly below the mean, which indicates a pronounced right skew. The maximum *KV* value, 94.6460, is approximately 690 times the minimum value of 0.1373, signifying severe heterogeneity in firms’ information environments, i.e., a small number of firms display very high transparency while the majority remain at low levels. The China economic policy uncertainty index (*EPU*) has a mean of 2.8133 and a standard deviation of 0.5278. *EPU* exhibits considerable variation over the sample period, encompassing multiple episodes of intensive policy adjustment from 2015 to 2024, which supports empirical tests of macrolevel moderating effects. The distributions of the control variables lie within reasonable bounds.

Table 1. Descriptive statistical results.

Variable	Count	Mean	Standard deviation	Minimum	Median	Maximum
<i>SA</i>	17774	4.0534	0.2756	3.1782	4.0670	4.7358
<i>ESG_Diff</i>	17774	0.5486	0.4329	0.0244	0.5041	1.8467
<i>KV</i>	17774	11.9341	17.1123	0.1373	5.3128	94.6460
<i>EPU</i>	17774	2.8133	0.5278	0.9211	2.9060	3.9039
<i>ROE</i>	17774	4.9039	13.7336	-61.1243	6.2010	36.2655
<i>GROWTH</i>	17774	7.1882	26.9250	-55.1842	5.0051	120.8569
<i>CAP</i>	17774	2.8436	0.5501	1.8290	2.8272	4.2986
<i>BIG4</i>	17774	0.0877	0.2828	0	0	1
<i>LEV</i>	17774	42.1667	20.2579	5.4902	41.6191	88.9580
<i>VOL</i>	17774	46.0531	15.4950	18.0605	44.4033	97.4234
<i>EMP</i>	17774	3.4306	0.5919	2.1959	3.3704	5.0207
<i>BOARD</i>	17774	8.3592	1.6867	5	9	14
<i>PAY</i>	17774	1.2548	0.1815	0.8544	1.2338	1.7662
<i>DUAL</i>	17774	0.3040	0.4600	0	0	1

4.2 Correlation Analysis

Correlation analysis shows that the largest pairwise correlation in absolute value is 0.683 between *CAP* and *EMP*, and all other pairwise correlations are well below the conventional collinearity threshold of 0.8. These results suggest that multicollinearity is not a serious concern and that the variables can be retained in the regression models.

4.3 Panel Regression Analysis

4.3.1 Results of Hypothesis 1. Table 2 presents the baseline regression results and heterogeneity analyses along two dimensions. Column (1) shows that, after including all control variables and controlling for firm and year fixed effects, the coefficient on

ESG_Diff is 0.0030 and is significant at the 1% level. This finding indicates that divergence in ESG ratings significantly tightens corporate financing constraints, consistent with Hypothesis 1. The result is interpreted as reflecting the additional information noise introduced by rating divergence, which complicates lenders' assessment of whether observed ESG risk stems from substantive firm weaknesses or methodological heterogeneity. As a precautionary response, lenders adopt defensive credit strategies, which translate into greater external financing constraints for firms.

To explore structural heterogeneity in this effect, subsample regressions are conducted by ownership type and high technology status, reported in columns (2) through (5). In the non-state-owned subsample, the coefficient on *ESG_Diff* is 0.0024 and significant at the 5% level, whereas in the state-owned subsample, the coefficient is 0.0039 but not statistically significant. This divergence likely reflects the implicit government guarantees and long-standing banking relationships enjoyed by state-owned enterprises (SOEs), which reduce creditors' reliance on market-based ESG information. The identity signal associated with state ownership dampens creditors' sensitivity to rating differences, whereas non-SOEs, lacking such institutional endorsements, depend more on publicly available nonfinancial signals, making them more vulnerable to rating divergence.

Similarly, the effect differs by technology status. For high technology firms, the *ESG_Diff* coefficient is 0.0018 and not significant, while for non-high technology firms, it is 0.0043 and significant at the 5% level. High technology firms typically exhibit rapid growth, high research and development intensity, a large share of intangible assets, and greater uncertainty about future cash flows; their financing constraints are therefore driven more by technological and market uncertainties than by ESG rating divergence. Non-high technology firms are often more mature, asset heavy, and reliant on bank credit, so banks place greater weight on supplementary nonfinancial information, including ESG ratings. In addition, high technology firms may have broader access to nonbank financing such as equity and venture capital, reducing their dependence on bank credit and attenuating the marginal impact of ESG rating divergence. Together, these results indicate that the magnitude of the main effect varies with firms' institutional context and structural characteristics.

Table 2. Regression results for Hypothesis 1.

	Full sample	SOEs	Non-SOEs	High technology firms	Non-high technology firms
<i>ESG_Diff</i>	0.0030**	0.0039	0.0024**	0.0018	0.0043**
<i>Controls</i>	Yes	Yes	Yes	Yes	Yes
<i>Year FE</i>	Yes	Yes	Yes	Yes	Yes
<i>Firm FE</i>	Yes	Yes	Yes	Yes	Yes
<i>R-squared</i>	0.4371	0.4659	0.3959	0.3939	0.4930
<i>N</i>	17774	3872	13902	10406	7368

Note: The data in the table are regression coefficients of each variable, and ***, **, and * are significant at the significance level of 1%, 5% and 10% respectively.

4.3.2 Results of Hypothesis 2. Table 3 presents the mediation analysis results. In the first step, the total effect of *ESG_Diff* on *SA* is 0.0030 and is significant at the 1% level, confirming that ESG rating divergence exacerbates firms' financing constraints. In the second step, *ESG_Diff* has a positive and significant effect on the mediator *KV*, with a coefficient of 0.5247 ($p < 0.01$). This indicates that greater disagreement among rating providers increases the *KV* index, consistent with a deterioration in firms' information environments and reduced transparency. In the third step, when both *ESG_Diff* and *KV* are included, *KV* has a coefficient of -0.0020 on *SA*, significant at the 1% level, and the direct effect of *ESG_Diff* is 0.0031.

Notably, the direct and indirect effects exhibit opposite signs, producing a suppression effect rather than the unidirectional mediation commonly anticipated. This pattern supports the existence of two competing channels: an information friction channel in which ESG divergence prompts prudential bank behavior and tightens financing conditions, and an adaptive corporate response channel in which firms undertake measures that partially offset the tightening. The Sobel test yields an indirect effect of -0.0011 with a Z statistic of -2.72, significant at the 1% level, corroborating the presence of competing pathways. Since the direct effect (0.0031) exceeds the absolute magnitude of the indirect effect (0.0011), the information friction channel remains the dominant mechanism. Together, the three-step procedure and Sobel test provide empirical support for Hypothesis 2.

Table 3. Regression results for Hypothesis 2.

	(1) SA (Total effect)	(2) KV (a path)	(3) SA (b path + direct effect)
<i>ESG_Diff</i>	0.0033***	0.5247***	0.0031***
<i>KV</i>			-0.0020***
<i>Controls</i>	Yes	Yes	Yes
<i>Year FE</i>	Yes	Yes	Yes
<i>Firm FE</i>	Yes	Yes	Yes
<i>R-squared</i>	0.4371	0.2408	0.4386
<i>N</i>	17774	17774	17774
<i>Total effect (c)</i>	0.0030		
<i>Direct effect (c')</i>	0.0031		
<i>Indirect effect (a × b)</i>	-0.0011		
<i>Sobel Z</i>	-2.72 ($p=0.0066$)		

Note: The data in the table are regression coefficient of each variable, and ***, **, and * are significant at the significance level of 1%, 5% and 10% respectively.

4.3.3 Results of Hypothesis 3. Table 4 reports the moderation results for economic policy uncertainty. The interaction coefficient between *ESG_Diff* and *EPU* is -0.0092 and is significant at the 1% level, indicating that higher economic policy uncertainty attenuates the positive effect of ESG rating divergence on financing constraints. This

finding suggests that in periods of pronounced macro policy volatility, macro systemic risk crowds out firm level signal noise from ESG divergence and shifts lenders' attention from cross firm ESG differentials to aggregate policy exposure, thereby reducing the marginal influence of rating divergence on credit decisions. These results provide empirical support for Hypothesis 3.

Table 4. Regression results for Hypothesis 3.

	Full sample
<i>ESG_Diff</i>	0.0030***
<i>ESG_Diff</i> × <i>EPU</i>	-0.0092***
<i>Controls</i>	Yes
<i>Year FE</i>	Yes
<i>Firm FE</i>	Yes
<i>N</i>	17774
<i>R-squared</i>	0.4451

Note: The data in the table are regression coefficient of each variable, and ***, **, and * are significant at the significance level of 1%, 5% and 10% respectively.

4.4 Robustness Test

To ensure the robustness of the baseline findings, several sample adjustments are conducted. First, a lagged effect test is performed by using *ESG_Diff* lagged by one period as the core explanatory variable. The coefficient on the lagged term is 0.0020 and is marginally significant at the 10% level, indicating that changes in ESG rating divergence precede changes in financing constraints and thus conform to the temporal ordering required for causal inference.

Second, given the substantial exogenous shock to global financial markets from the Coronavirus Disease 2019 pandemic in 2020, observations for 2020 are excluded [20]. The coefficient on *ESG_Diff* in the restricted sample is 0.0039 and remains significant at the 1% level, indicating that the main result is not driven by the exceptional financing conditions during the pandemic. Collectively, these tests support the robustness of the model results.

5 Conclusion and Policy Implications

This study employs an unbalanced panel of Chinese A share listed firms from 2015 to 2024 and a two-way fixed effects framework to investigate the effect of ESG rating divergence on corporate financing constraints and its transmission mechanisms. The empirical results indicate that greater ESG rating divergence significantly tightens firms' financing constraints, an effect that is concentrated among non-SOEs and non-high technology firms. Information transparency exhibits a masking (suppression) ef-

fect in the relationship between ESG rating divergence and financing constraints. Moreover, economic policy uncertainty materially attenuates the positive relationship between ESG rating divergence and financing constraints.

Policy implications follow from these findings. First, promote coordination of ESG rating standards prudently. Although divergence in ESG ratings increases information noise and tightens financing constraints, the observed masking effect suggests that firms undertake adaptive responses when the public information environment deteriorates. Therefore, excessive standardization could suppress market-based risk hedging mechanisms. Regulators should establish minimum disclosure requirements for core indicators, such as greenhouse gas emissions and board independence, while allowing rating providers discretion in weighting and industry specific measures to preserve informative heterogeneity in the rating market. Second, implement targeted support that accounts for structural heterogeneity in financing constraints. Because the adverse effect of ESG rating divergence is more pronounced for non-state-owned and non-high technology firms, policy attention should be tilted toward these groups. For non-SOEs, countercyclical government guarantee or subsidy schemes can provide supplementary credit support when rating divergence widens, mitigating the disadvantage associated with the absence of implicit state backing. For non-high technology firms, simplified ESG disclosure guidelines and financial assistance to offset initial reporting costs can reduce compliance burdens that would otherwise exacerbate already tight credit conditions. Third, recalibrate information transparency policies to consider firms' behavioral responses. The masking role of transparency suggests that disclosure policy should not pursue maximal transparency as a singular objective, but should account for how increased transparency influences corporate financing and adjustment behavior. To that end, regulatory incentives could ease refinancing review procedures for firms that voluntarily disclose high-quality ESG reports, while avoiding mandatory disclosure regimes that might induce substitution toward informal or costly financing channels and thereby distort firms' financing structures. Fourth, coordinate micro information governance with macro stability measures under elevated economic policy uncertainty. Authorities should consider establishing an early warning mechanism linking the economic policy uncertainty index to financial regulatory responses. When uncertainty surpasses a policy threshold, monetary and macroprudential tools, such as reductions in reserve requirement ratios and targeted liquidity operations, can help stabilize expectations. Concurrently, targeted refinancing facilities or credit support for green lending and high ESG quality firms should be maintained to prevent microlevel information governance from losing effectiveness in high uncertainty environments.

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