



The Impact of ESG Rating Discrepancies on Corporate Financial Flexibility

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Abstract. This paper examines the impact of ESG rating discrepancies on corporate financial flexibility and the underlying mechanisms. The results indicate that ESG rating discrepancies have a significant positive effect on financial flexibility. Mechanism analysis reveals that these discrepancies enhance financial flexibility by reducing financing constraints and attracting patient capital. Heterogeneity analysis suggests that this positive effect is more pronounced among heavily polluting enterprises. In light of these findings, the following policy recommendations are proposed: at the policy level, efforts should be accelerated to improve the ESG rating system, optimize green finance policies, and implement differentiated regulation. At the corporate level, firms should rationally address ESG rating divergences and actively engage with patient capital. High-pollution enterprises should increase environmental protection investments and green technology R&D, establish risk early-warning mechanisms, and leverage rating divergences to effectively enhance financial flexibility and risk-resilience.

Keywords: ESG rating divergence; financial flexibility; financing constraints; patient capital

1 Introduction

As China's "carbon neutrality" process accelerates, ESG information disclosure has become a key tool for measuring a company's sustainable development capabilities and guiding the allocation of green resources. In 2024, the Ministry of Finance and other nine departments jointly issued the "Corporate Sustainable Disclosure Guidelines - Basic Guidelines (Trial)", marking the transition of ESG from concept to practical implementation. However, at present, there are differences in indicators and weights among various rating agencies, and the ESG rating discrepancies have become increasingly prominent, creating an information fog. This makes it difficult for enterprises to accurately assess their ESG levels and also exacerbates the decision-making difficulties for investors, deviating from the original intention of ESG to facilitate sustainable development. Sun^[1] et al. pointed out that financial flexibility is an important reflection of a company's operation and financial risks. When a company is in a

trust crisis due to ESG issues, it can sensitively reflect its risk tolerance and buffering capacity.

Based on this, this paper focuses on the ESG rating discrepancies and deeply analyzes their mechanism of effect on financial flexibility, with the aim of providing a new theoretical perspective for standardizing ESG ratings and improving market governance, and promoting ESG practices to better serve sustainable development of the economy and society.

2 Literature Review

2.1 Factors Influencing Corporate Financial Flexibility

At the macro-environment level, studies have shown that the higher the macroeconomic uncertainty, the more likely enterprises are to maintain a high degree of financial flexibility to cope with potential financing constraints and insufficient investment, and to seize favorable investment opportunities^[2]. Additionally, monetary tightening^[3], monetary policy^[4], and environmental uncertainty^[5] all have varying degrees of impact on the financial flexibility of enterprises. At the meso-industry level, the higher the concentration of suppliers, the stronger the demand for enterprises to reserve financial flexibility: relying on a few key suppliers can reduce costs and improve efficiency^[6], but it also increases operational risks^[7]. Therefore, enterprises tend to enhance their financial flexibility by holding more cash or maintaining a lower debt ratio^[8]. At the micro-enterprise level, the impact of diversified operations on financial flexibility is competitive: on the one hand, it can diversify risks, broaden financing channels, and reduce financial flexibility^[9]; on the other hand, affected by agency problems, enterprises may retain more financial flexibility to satisfy private interests, weakening the positive effect^[10]. Moreover, enterprise digital transformation^[11] and management characteristics^[12] also significantly affect financial flexibility.

2.2 Economic Consequences of ESG Rating Discrepancies

Discrepancies in ESG ratings reflect market uncertainty regarding a company's sustainability performance. When different rating agencies employ varying assessment criteria, the ESG ratings they issue may fail to reliably and comprehensively reflect a company's sustainability performance, thereby generating negative effects for the company. On the one hand, rating discrepancies erode investor trust in the company, dampen investment enthusiasm^[13], and exacerbate the company's financing constraints^[14], leading to a significant increase in operational risks; or they amplify the market's perception of corporate risk, triggering risk-pricing mechanisms that pose challenges to the company's daily operations and long-term development^[15]. On the other hand, rating discrepancies damage a company's image and reputation, reduce the transparency of job-seeking information, indirectly increase search costs for job seekers, diminish the company's attractiveness to labor, and reduce labor hiring, thereby increasing the risk of talent loss^[16].

3 Theoretical Analysis and Research Hypotheses

3.1 ESG Rating Discrepancies and Corporate Financial Flexibility

The essence of the ESG rating divergence lies in the market's uncertainty regarding the performance of enterprises' sustainable development. This will lead to fluctuations in capital market trust and affect enterprises' access to resources and risk management. Financial flexibility, as the core resource reserve for enterprises to cope with uncertainties, is adjusted as a strategic response to the external environment. The following will analyze the relationship between the two from three major theories.

Under the theory of information asymmetry, the ESG rating divergence will exacerbate the information gap between enterprises and investors, leading to financing uncertainty. To address this issue, enterprises will reserve financial flexibility by retaining cash and reducing debt to cope with the risks of financing interruption or soaring costs; the reputation mechanism theory indicates that the ESG rating divergence will damage the enterprise's reputation and trigger a trust crisis among stakeholders. To maintain reputation and restore trust, enterprises need to use financial flexibility as a buffer; the resource dependence theory holds that the ESG rating divergence will weaken the enterprise's ability to obtain external resources. In the context of the deepening ESG concept, the rating divergence makes resource suppliers question the enterprise's sustainable development capabilities, reduce resource support, and thus enterprises actively build financial flexibility to reduce external dependence and enhance their ability to resist risks. Based on the above theoretical analysis, ESG rating discrepancies compel companies to enhance their financial flexibility by exacerbating information asymmetry, triggering reputational risks, and weakening their ability to access resources. Therefore, we propose the first research hypothesis of this paper:

H1: ESG rating divergence has a significant positive effect on corporate financial flexibility.

3.2 The Mediating Effect of Financing Constraints

Traditional views hold that information asymmetry intensifies financing constraints. However, the "multiple interpretations" characteristic of ESG rating divergence attracts investors and creditors with varying risk preferences, thereby broadening corporate financing channels. Simultaneously, to mitigate the information asymmetry caused by rating divergence, firms proactively optimize their capital structures and improve the quality of their disclosures, which in turn alleviates financing constraints. When financing constraints are reduced, firms find it easier to secure external funding at lower costs. Consequently, they tend to retain more cash or highly liquid assets while intentionally maintaining unused debt capacity to prepare for potential future investment opportunities or risk shocks. This proactive cash reserve behavior directly enhances financial flexibility; On the other hand, as financing constraints ease, the availability and convenience of external financing improve. Companies no longer need to worry about short-term funding gaps and, driven by "precautionary motives," will increase their cash holdings—since the opportunity cost of holding cash is lower at this point

and it provides a financial buffer for long-term strategic planning, thereby boosting financial flexibility.

Based on the above theoretical analysis, the reduction in financing constraints resulting from ESG rating divergence not only increases firms' motivation for proactive cash reserves but also enhances their precautionary savings effect, thereby systematically improving their financial flexibility. Therefore, we propose the second research hypothesis of this paper:

H2: ESG rating divergence enhances corporate financial flexibility by reducing financing constraints.

3.3 The Mediating Effect of Patient Capital

From a strategic perspective, financial flexibility focuses on an enterprise's ability to reserve resources for long-term development, and its stability relies on long-term capital injection. Patient capital, as a typical form of long-term capital, originates from institutional investors and banks. With sustainable development capabilities as the core of investment, it has a high tolerance for short-term fluctuations and focuses on long-term value. It perfectly aligns with the "long-term reserve" needs of financial flexibility. Disagreements in ESG ratings lead to information asymmetry and restrictions on short-term financing, which will force enterprises to retain long-term capital and attract long-term investors. On one hand, the disagreement in ratings increases information processing costs, causing short-term investors to either wait or demand higher risk premiums, narrowing short-term financing channels. Patient capital can identify the true ESG potential of enterprises and become a stable source of funds; on the other hand, enterprises will optimize ESG disclosure and governance structures to repair their reputations, which aligns with the preferences of long-term investors and attracts patient capital inflows. Patient capital can stabilize long-term funds, release positive market signals, optimize resource allocation, and help enterprises enhance financial flexibility. In conclusion, ESG rating disagreements, through attracting patient capital injection, ultimately drive the improvement of enterprises' financial flexibility. Based on the above analysis, the third hypothesis of this paper is proposed:

H3: ESG rating divergence enhances corporate financial flexibility by attracting patient capital.

4 Research Design

4.1 Sample Selection and Data Sources

This study focuses on Chinese A-share listed companies from 2015 to 2023 and applies the following procedures: (1) Given the low correlation between listed companies in the financial sector and green innovation, observations from this sector are excluded; (2) Listed companies with ST, ST*, or PT status are excluded; (3) Samples with missing data were excluded; (4) Samples rated by only one agency were excluded; (5) All continuous variables were truncated at the 1% level.

The raw data used in this study comprises the following three components: First, green innovation data for listed companies is sourced from the China National Intellectual Property Administration; second, data on ESG rating discrepancies for listed companies integrates rating results from multiple authoritative ESG rating agencies, specifically including the Wind database, the Bloomberg database, the Guotai-An database(CSMAR), and the China Research Data Service Platform(CNRDS); third, other corporate data is sourced from the Guotai-An database(CSMAR).

4.2 Variable Definitions

Dependent Variable: Financial Flexibility(FF).

The core dependent variable is financial flexibility. Following the approach of Zeng Aimin et al.^[2], this study employs a dual-indicator method to calculate financial flexibility. Using a market capitalization-weighted average, financial flexibility is quantified as the sum of a firm's excess cash holdings and its residual borrowing capacity. The calculation formula is as follows:

Corporate Financial Flexibility = Cash Flexibility + Debt Flexibility

Cash Flexibility = Firm Cash Ratio – Industry Average Cash Ratio

Debt Flexibility = Max(0, Industry Average Debt Ratio – Company Debt Ratio)

Company Debt Ratio = Total Liabilities / Total Assets

Company Cash Ratio =(Cash and Cash Equivalents + Trading Financial Assets) / Total Assets

Explanatory Variable: ESG Rating Discrepancy(ESG_uncertainty).

This study selects six representative rating agencies—Huazheng, Wind, Shangdao Ronglv, Bloomberg, Runling Global, and CNRDS—to calculate ESG rating divergence. Following the methodology of Avramov et al. and , the specific calculation process is as follows: First, we screen for companies covered by at least two agencies on an annual basis, sort the ESG ratings provided by each agency, and obtain the percentile ranking of each company across agencies. Second, we calculate the standard deviation of the percentile rankings assigned to the same company by the two agencies to establish paired ESG rating discrepancies. Finally, the system exhaustively explores all 15 possible combinations across the six agencies, applies the standardized calculation process to each, and averages all paired ESG rating discrepancies to calculate the overall ESG rating discrepancy for each firm.

Mediating Variables.

To conduct an in-depth analysis of the impact mechanism of corporate financial flexibility, this study selects financing constraints(KZ)and patient capital(Debt) as mediating variables.

Financing constraints refer to the limitations a firm faces when obtaining external funds, such as bank loans or shareholder investments. This study employs the financing constraint index KZ to measure the constraints and limitations firms encounter during financing, denoted by KZ.

Patient capital is a new form of long-term capital focused on long-term value creation rather than short-term profit-seeking. It incentivizes companies to make substantial investments in areas critical to sustainable development, such as innovation and R&D and talent development, thereby helping to enhance corporate financial flexibility. Drawing on the research by Wu Minjia et al.^[17], this study measures patient capital from the perspective of relational debt (Debt) and considers other relational financing methods such as corporate bonds and financial leasing. It is represented by the ratio of long-term liabilities to total liabilities for listed companies.

Control Variables.

This study selects control variables such as firm size, debt-to-equity ratio, and return on equity (ROE); detailed definitions are provided in Table 1.

Table 1. Variable Definitions

Variable Type	Variable Name	Symbol	Definition
Dependent Variable	Financial Flexibility	FF	Cash Flexibility + Debt Flexibility
Explanatory variable	ESG Rating Discrepancy	ESG uncertainty	The specific calculation method can be found in the variable definition section, where the description of the variables is provided.
Intermediary variables	Financing Constraints	KZ	KZ Index
	Patient capital	Debt	Long-term debt / Total debt
	Company Size	Size	$\ln(\text{Total Book Assets at End of Period} + 1)$
	Debt-to-Equity Ratio	Lev	Total Liabilities at End of Period / Total Assets
	Return on Equity	ROE	Net Income / Average Shareholders' Equity
	Cash Flow Ratios	Cash Flow	Net Cash Flow from Operating Activities / Total Assets
	Net Profit Margin	Net Profit	Net Profit / Revenue
	Tobin's Q	Tobin's Q	$(\text{Market value of outstanding shares} + \text{Number of non-trading shares} \times \text{Book value per share} + \text{Book value of liabilities}) / \text{Total assets}$
	Current Ratio	Liquidity	Current Assets / Current Liabilities
	Number of Directors	Board	Natural logarithm of the number of board members
Control Variables	Big Four	Big 4	Set to 1 if the company is audited by one of the Big Four (PwC, Deloitte, KPMG, EY); otherwise, set to 0.

4.3 Model Specification

Model of the Impact of ESG Rating Discrepancies on Corporate Financial Flexibility.

$$FF_{i,t} = \alpha_0 + \alpha_1 \times ESG_uncertainty_{i,t} + \alpha_2 \times Controls_{i,t} + Year + Industry + \varepsilon_{i,t} \quad (1)$$

$FF_{i,t}$ represents firm i 's financial flexibility in year t ; $ESG_uncertainty_{i,t}$ represents the firm's ESG rating uncertainty in year t ; $Controls_{i,t}$ represents other control variables for firm i in year t ; $Year$ and $Industry$ denote the year fixed effect and industry fixed effect, respectively; $\varepsilon_{i,t}$ is the random error term. Based on the prediction of Hypothesis H1, the coefficient α_1 of the core explanatory variable $ESG_uncertainty_{i,t}$ will be significant and positive, meaning that corporate financial flexibility increases as ESG rating uncertainty increases.

Mediating Effects.

To verify the mediating roles of financing constraints and patient capital between ESG rating divergence and financial flexibility, this study draws on the "two-step" mechanism testing approach proposed by Jiang Ting^[18] and constructs the following mediation models (2) and (3):

$$KZ_{i,t} = b_0 + b_1 \times ESG_uncertainty_{i,t} + b_2 \times Controls_{i,t} + Year + Industry + \varepsilon_{i,t} \quad (2)$$

$$Debt_{i,t} = c_0 + c_1 \times ESG_uncertainty_{i,t} + c_2 \times Controls_{i,t} + Year + Industry + \varepsilon_{i,t} \quad (3)$$

$KZ_{i,t}$ represents firm i 's financing constraint in year t , $Debt_{i,t}$ represents firm i 's patient capital in year t , and the meanings of the remaining variables are as previously defined.

5 Empirical Results and Data Analysis

5.1 Descriptive Statistical Analysis

The descriptive statistics for the main variables are presented in Table 2. The mean of financial flexibility is 0.0940, with a standard deviation of 0.221, a minimum value of -0.250, and a maximum value of 0.788. This result indicates that there are significant individual differences in the level of financial flexibility among the sample firms: some firms exhibit negative financial flexibility, reflecting insufficient liquidity and weak risk-buffering capacity; The mean for ESG rating uncertainty is 0.185, with a standard deviation of 0.128, a minimum value of 0, and a maximum value of 0.537. The mean of 0.185 suggests that the degree of ESG rating uncertainty among the sample firms is generally at a moderate level; the minimum value of 0 indicates that the ESG ratings of some firms are fully recognized by different institutions, while the maximum value of 0.537 reflects that the ESG ratings of some firms are highly controversial. The distribution characteristics of other control variables are generally consistent with existing literature.

Table 2. Descriptive Statistics of Key Variables

Variable	Sample Size	Mean	Standard Deviation	Minimum	Maximum
FF	24,235	0.0940	0.221	-0.250	0.788
ESG_uncertainty	24,235	0.185	0.128	0	0.537
Size	24,235	22.43	1.348	20.01	26.37
Lev	24,235	0.420	0.202	0.0558	0.905
ROE	24,235	0.0473	0.153	-0.732	0.359
Cash Flow	24,235	0.0508	0.0671	-0.154	0.246
Net Profit	24,235	0.0466	0.216	-1.104	0.489
TobinQ	24,235	1.930	1.254	0.827	8.723
Liquid	24,235	2.521	2.460	0.333	16.30
Board	24,235	2.217	0.176	1.792	2.708
Big 4	24,235	0.0653	0.247	0	1

5.2 Key Empirical Findings and Analysis

Table 3. Benchmark Regression Results

	(1) FF	(2) FF	(3) KZ	(4) Debt
ESG_uncertainty	0.0391***	0.0168*** (2.6970)	-0.238*** (0.0602)	0.0186** (0.00889)
Size		-0.0090*** (-10.4543)	-0.0453*** (0.00773)	0.0252*** (0.00112)
Lev		-0.5069*** (-78.5381)	5.803*** (0.0592)	0.183*** (0.00876)
ROE		-0.0286*** (-3.2516)	-2.387*** (0.0842)	-0.0997*** (0.0121)
Cash Flow		0.3494*** (26.3049)	-18.49*** (0.127)	0.0682*** (0.0187)
Net Profit		0.0369*** (6.0864)	-0.280*** (0.0585)	0.0998*** (0.00855)
TobinQ		0.0011 (1.5881)	0.432*** (0.00661)	-0.00889*** (0.00103)
Liquid		0.0404*** (89.7904)	-0.182*** (0.00446)	0.00628*** (0.000694)
Board		0.0068 (1.4230)	-0.0533 (0.0458)	0.00913 (0.00669)
Big 4		0.0139*** (3.5549)	-0.0946*** (0.0333)	-0.000758 (0.00466)
_cons	0.0867*** (35.0913)	0.3676*** (18.4379)	0.387** (0.177)	-0.505*** (0.0260)
N	24235	24,235	23,508	20,089
adj.R2	0.031	0.691	0.774	0.119

Note: ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively; the same applies below.

ESG rating divergence has a significant positive effect on corporate financial flexibility. Columns(1) and(2) of Table 3 present the regression results for ESG rating divergence and corporate financial flexibility, respectively, under scenarios with and without control variables. Both coefficients are significantly positive, demonstrating that ESG rating divergence significantly enhances corporate financial flexibility and confirming H1.

ESG rating divergence enhances corporate financial flexibility by reducing financing constraints. Column(3) of Table 3 shows that the coefficient for ESG rating divergence is -0.238 and is significant at the 1% level, indicating that the greater the ESG rating divergence, the smaller the financing constraints faced by the firm, and thus the higher the firm's financial flexibility , thereby validating H2.

ESG rating divergence enhances a firm's financial flexibility by attracting patient capital.Column(4) of Table 3 shows that the coefficient for ESG rating divergence is 0.0186 and is significant at the 5% level, indicating that the greater the ESG rating divergence, the stronger a firm's ability to attract patient capital, and the higher the proportion of patient capital in the firm's total capital , thereby promoting the firm's financial flexibility , which confirms H3.

5.3 Robustness Tests

Changing the Dependent Variable.

To verify the robustness of the regression results, we examine whether the results would undergo fundamental changes due to alterations in variable measurement methods. In this study, we modified the calculation method for financial flexibility to a total market capitalization-weighted average(FF'), replacing the original free-float market capitalization-weighted average. We then performed a regression using this new measure of financial flexibility in Equation(1). The results are shown in Table 4, Column(1).The coefficient for ESG rating divergence is 0.0146 and is significant at the 5% level. This indicates that ESG rating divergence plays a significant role in promoting corporate financial flexibility, consistent with the main regression. This proves that Hypothesis H1 still holds, demonstrating that the results of the main regression in this study possess a certain degree of robustness.

Changing the Explanatory Variables.

We selected six representative rating agencies—Huazheng, Wind, Shangdao Ronglv, Bloomberg, Runling Global, and CNRDS—and directly calculated the standard deviation of the rankings provided by all agencies that rated the firm in the given year. This was used as the ESG rating divergence(ESG_rank) to replace the original explanatory variable in Equation(1) for regression analysis. The results are shown in Column(2) of Table 4.The coefficient for ESG rating divergence is 0.0182 and is significant at the 1% level, indicating that ESG rating divergence plays a significant role in promoting corporate financial flexibility. This is consistent with the main regression, proving that Hypothesis H1 still holds, and indicating that the main regression results of this paper possess a certain degree of robustness.

One-period lag of the dependent variable.

To rule out the possibility of reverse causality—where a firm's financial flexibility influences ESG rating divergence—this study applies a one-period lag to the dependent variable to obtain L.FF, and uses this as the dependent variable to replace the original one in Equation(1) for regression analysis. As shown in column(3) of Table 4, the coefficient for ESG rating divergence is 0.0164 and is significant at the 5% level. This indicates that ESG rating divergence significantly promotes corporate financial flexibility, consistent with the main regression results, proving that Hypothesis H1 still holds, and demonstrating that the main regression results of this study possess a certain degree of robustness.

Table 4. Robustness tests and heterogeneity tests

	(1) FF'	(2) FF	(3) L.FF	(4) FF1	(5) FF2
ESG_uncertainty	0.0146** (2.3444)		0.0164** (2.0394)	-0.00719 (0.00588)	0.0206** (0.00972)
ESG_rank	(2.3444)	0.0182*** (4.7328)	(2.0394)		
Control variables	Yes	Yes	Yes	Yes	Yes
_cons	0.3296*** (16.5291)	0.3788*** (19.0392)	0.4361*** (18.4240)	0.173*** (0.0608)	-0.227** (0.103)
Industry fixed effects	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes
N	24235	24,235	19,179	17,316	6,616
adj.R2	0.681	0.691	0.589	0.907	0.895

Heterogeneity Analysis.

To examine whether the impact of ESG rating divergence on financial flexibility varies across industries with different pollution levels, this study divides the entire sample into two groups—non-heavy-polluting enterprises and heavy-polluting enterprises—based on whether the enterprises belong to heavy-polluting industries, and conducts separate regression tests. The results are shown in columns 4 and 5 of Table 4, respectively. The coefficient for non-heavy-polluting enterprises is -0.00719, which did not pass the significance test. The coefficient for heavily polluting firms is 0.0206, which is significantly positive at the 5% level, indicating that the positive effect of ESG rating divergence on enhancing corporate financial flexibility is significant only among heavily polluting firms.

6 Research Conclusions and Policy Recommendations

6.1 Research Conclusions

This study examines Chinese A-share listed companies from 2015 to 2023 to investigate the impact and mechanisms of ESG rating divergence on corporate financial

flexibility. The findings reveal: First, ESG rating divergence promotes the enhancement of corporate financial flexibility, and this conclusion remains valid after undergoing various robustness tests. Second, ESG rating divergence enhances corporate financial flexibility by reducing financing constraints. Third, ESG rating divergence enhances corporate financial flexibility by attracting patient capital. Fourth, the positive effect of ESG rating divergence on corporate financial flexibility is more pronounced among firms in heavily polluting industries.

6.2 Policy Recommendations

At the policy level, efforts should be made to accelerate the improvement of the ESG rating system, promoting the alignment of domestic standards with international standards while also being in line with China's national conditions, and enhancing the scientificity and applicability of the ratings. At the same time, green financial policies should be optimized, expanding green loans and bond support, establishing an ESG financing guarantee mechanism to alleviate enterprises' financing constraints, and implementing differentiated supervision, strengthening information disclosure and rewards and punishments for heavily polluting industries, and creating a favorable institutional environment. At the enterprise level, rational responses should be made to ESG rating differences, actively improving the quality of information disclosure, optimizing the financing structure, actively connecting with patient capital, and strengthening cooperation with long-term institutional investors. Heavily polluting enterprises should increase environmental protection investment and green technology research and development, establish a risk warning mechanism, and use rating differences to enhance financial flexibility and risk-resistance capabilities.

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