Research on the Impact of ESG Disclosure on Corporate Cost of Debt

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Abstract. Using a sample of A-share listed firms in China, this study examines the impact of ESG disclosure on the corporate cost of debt and explores the underlying mechanism. Baseline regression results show that ESG disclosure significantly reduces firms' cost of debt. This finding remains robust after a series of tests, including adding additional control variables, employing lagged independent variables, and using an instrumental-variable approach. Channel Analyses suggest that ESG disclosure lowers the cost of debt primarily by mitigating corporate financing constraints. Heterogeneity analyses further show that the negative association between ESG disclosure and the cost of debt is more pronounced among non-state-owned enterprises and firms with lower levels of excessive leverage. Overall, this study provides empirical evidence from the debt capital market on the economic consequences of ESG disclosure and offers meaningful implications for promoting high-quality corporate development.

Keywords: Cost of debt, ESG disclosure, Financing constraints.

1 Introduction

ESG disclosure has increasingly become an important channel through which firms communicate with the capital market. In this respect, according to the Development Statistical Report of Chinese Listed Companies 2024, as of April 30, 2025, a total of 2,462 A-share listed firms had independently prepared and released sustainability reports for 2024, representing a 5.72% increase from the previous year. Non-financial information, particularly about ESG performance, has gained much more attention from investors and creditors. ESG performance has also turned into an important dimension in estimating firms' long-term value and risk profiles. Under this circumstance, research on the economic consequence of ESG disclosure, particularly its impact on firms' financing behavior, is of great practical significance.

For companies, reducing financing costs is also one of the important purposes of disclosure. On the one hand, through traditional financial reports, signals about profitability, solvency, and other firm fundamentals can be conveyed to creditors. Based on these, creditors can reduce the cost of risk assessment and further enable the offering of superior credit conditions. Through increasingly important ESG principles, ESG re-

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porting has become a crucial method of non-financial disclosure. ESG disclosure reflects not only ESG performance but also its potential for sustainable development. Existing studies have documented that credit-market participants incorporate the quality of ESG disclosure into firms' creditworthiness assessments [1]. However, whether ESG disclosure could lower firms' debt financing costs similarly to financial information and which mechanisms it may act through is still an open empirical question.

This paper takes the sample of A-share listed firms from 2008 to 2023 and conducts an empirical analysis on the influential effects of ESG disclosure on the cost of debt. This study makes contributions in three aspects: (1) supplementing the empirical evidence of economic consequences brought by ESG disclosure; (2) unearthing the channel mechanisms in which ESG disclosure influences the cost of debt; (3) recognizing boundary conditions wherein ESG disclosure takes its effects. This study not only adds weight to the theoretical studies on ESG disclosures and corporate financing but also has practical implications for firms desiring to optimize their ESG disclosure strategy or for creditors trying to improve their risk assessment system.

2 Hypotheses

The reduction of debt cost is very important to the survival and development of firms. A firm's default risk and the extent of creditor protection in case of default are the most relevant factors that determine the cost of debt [2]. In a condition of information asymmetry, creditors may face adverse selection before lending and moral hazard after lending. When a firm's potential default risk increases, creditors ask for higher required returns, which increase the cost of debt.

Specifically, firms with high-quality ESG disclosure have better-matched default risk and creditor protection with creditors' risk preferences, and hence they enjoy better financing terms [3] and experience lessened financing constraints [4]. In reality, both financial regulation and market resources have swung in favor of firms that show better ESG performance, while ESG disclosure is used as one threshold to access these resources. In particular, financial tools like green credit and targeted subsidies grant the preferential selection to firms with standardized ESG disclosure. This makes it easier for such firms to meet policy thresholds in credit applications.

Information asymmetry theory states that information asymmetry between firms affects the debt cost significantly. Information asymmetry between creditors and firms is reduced through disclosure of high-quality information, which means a decrease in financing costs [5]. Theoretically, ESG disclosures fill in the shortcomings of traditional financial data and help creditors conduct a more complete evaluation of a firm’s sustainability prospects and credit risks. According to legitimacy theory, ESG disclosure is used to create a positive social image and reputation by a firm, which allows easy access to low-cost financing [6].

Accordingly, this paper proposes Hypothesis 1:

H1: ESG disclosure reduces firms’ cost of debt.

3 Methodology

3.1 Data

This study uses A-share listed firms from 2008 to 2023 as the research sample. Except for ESG disclosure data, which are obtained from the Bloomberg database, all other data are sourced from the CSMAR database. The data are processed as follows: firms under ST or ST status and those in the financial industry are excluded; observations with missing values in the main variables are removed. The final sample consists of 12,351 firm-year observations. To mitigate the influence of extreme values, all continuous variables are winsorized at the 1% and 99% levels.

3.2 Model

To test H1, this paper constructs the following model:

$$Cost_{i,t} = \alpha_0 + \alpha_1 ESGD_{i,t} + \alpha_2 Controls_{i,t} + Firm + Year + \varepsilon_{i,t} \quad (1)$$

$Cost_{i,t}$ is the dependent variable, measured following Liu & Lu (2024) [2] as the ratio of a firm's financial expenses to its total liabilities at year-end, capturing the cost of debt. $ESGD_{i,t}$ is the independent variable, measured by Bloomberg's ESG score to reflect ESG disclosure. $Controls_{i,t}$ denotes the control variables, including firm size (Size), board size (Board), revenue growth (Growth), the proportion of independent directors (IDR), equity balance degree (EBD), institutional shareholding ratio (ISR), total asset growth (TAG), and the current ratio (CR). $Firm$、$Year$ represent firm and year fixed effects. Standard errors are clustered at the firm level.

4 Empirical Results

4.1 Descriptive Statistics

Table 1. Descriptive Statistic (N=12351)

Variable	Mean	p50	SD	Min	Max
Cost	1.326	1.477	2.165	-7.386	5.884
ESGD	30.05	28.69	10.07	12.36	60.30
Size	23.30	23.20	1.313	20.55	27.00
Board	10.05	10	1.878	6	16
Growth	0.329	0.109	0.869	-0.662	5.789
IDR	37.55	36.36	5.537	30.77	57.14
EBD	0.635	0.454	0.565	0.0240	2.559
ISR	55.43	58.20	21.89	3.563	93.70
TAG	0.141	0.0950	0.222	-0.246	1.230
CR	1.709	1.373	1.300	0.243	8.652

As shown in Table 1, the dependent variable (Cost) has a standard deviation of 2.165 and ranges from –7.386 to 5.884, indicating significant variation in firms' cost of debt. It could be that some negative values are for firms having large amounts of cash or receiving interest subsidies. The mean of the independent variable is 30.05, fairly close to the median of 28.69, and thus the underlying distribution for ESGD appears to be reasonably symmetric. Values range from 12.36 to 60.30, indicating the sample includes firms with very limited and relatively high levels of ESG disclosure.

4.2 Baseline Regression

Table 2 presents the baseline regression results. From column (1), it can be observed that the coefficient is –0.015 and significant at 1%. When control variables are added in column (2), the coefficient remains negative and significant at –0.013. This infers that there is a significant negative relation between ESG disclosure and cost of debt. These results provide evidence that enhancing ESG disclosure can significantly reduce the cost of debt for firms, which constitutes the core hypothesis in this paper.

Table 2. Baseline Regression (N=12351)

	(1)	(2)
	Cost	Cost
ESGD	-0.015***	-0.013***
	(0.005)	(0.004)
_cons	1.786***	0.548
	(0.140)	(1.263)
Control	NO	YES
Firm	YES	YES
Year	YES	YES
r2	0.624	0.698
r2_a	0.577	0.660

* p < 0.1, ** p < 0.05, *** p < 0.01

A set of robustness checks are performed to ensure the robustness of the results. All of them basically support the core conclusion that: (1) Audit quality Big4 and profitability ROA are added as additional control variables to mitigate concerns regarding omitted variables. (2) The independent variable is lagged by one period (L.ESGD) to address potential reverse causality. (3) An instrumental variable approach is employed, using the industry-level average ESG disclosure of other listed firms as the instrumental variable (IV). The results are presented in Table 3.

Table 3. Robustness Tests

	(1) Alleviate Omitted Variables	(2) lagged independent variable	(3) Instrumental variable approach	(4)
	Cost	Cost	ESGD	Cost
ESGD	-0.011***			-0.0834***
	(0.004)			(-3.52)
L.ESGD		-0.013***		
		(0.005)		
IV			0.293***	
			(12.56)	
ROA	-2.817***			
	(0.492)			
big4	-0.127			
	(0.153)			
_cons	0.701	2.697*		
	(1.245)	(1.533)		
Control	YES	YES		YES
Firm	YES	YES		YES
Year	YES	YES		YES
N	12351	10283	12313	12313
r2	0.700	0.710		0.149
r2_a	0.662	0.668		0.0456

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

4.3 Channel Analysis

High-quality ESG disclosure enhances a firm's transparency and reputational capital in capital markets [7] , thereby strengthening the trust of investors and creditors. This trust mechanism is reflected not only in the firm's increased likelihood of obtaining specialized financing support such as green credit, but also in its stronger bargaining power when negotiating with financial institutions. Yang and Ye (2023) find that strong ESG disclosure can alleviate financing constraints, and that this effect exhibits a long-term dynamic pattern [8] . When a firm's financing constraints are eased as a result of improved ESG performance, its cost of debt is likely to decline accordingly. Therefore, this paper posits that ESG disclosure may indirectly affect the cost of debt by alleviating external financing constraints.

This study employs the KZ index to measure financing constraints. As shown in column (2) of Table 4, ESG disclosure has a significantly negative effect on financing constraints (–0.014, $p < 0.01$), indicating that improvements in ESG disclosure can effectively ease firms' financing constraints. In column (3), the KZ index exhibits a significantly positive association with the cost of debt (0.127, $p < 0.01$), suggesting that financing constraints increase firms' cost of debt. The coefficient of ESG disclosure remains significantly negative (–0.011, $p < 0.01$). Overall, these findings suggest that

financing constraints are an important channel through which ESG disclosure decreases the cost of debt. By alleviating the external financing constraints of firms, ESG disclosure contributes to reducing their cost of debt.

Table 4. Channel Analysis

	(2) KZ	(3) Cost
ESGD	-0.014***	-0.011***
	(0.003)	(0.004)
KZ		0.127***
		(0.016)
_cons	1.097	0.409
	(1.288)	(1.241)
Control	YES	YES
Firm	YES	YES
Year	YES	YES
r2	0.726	0.702
r2_a	0.692	0.664

* p < 0.1, ** p < 0.05, *** p < 0.01

4.4 Heterogeneity Analysis

The effect of ESG disclosure on the cost of debt may vary under different contexts. In light of this, this paper further investigates the underlying mechanisms by considering heterogeneity in ownership structure and financial risk.

(1) Ownership structure: From Table 5, the coefficient of non-SOEs is significant at −0.026 ($p < 0.01$), while that of SOEs is insignificant at −0.003 ($p > 0.1$). The difference between the two groups is significant at −0.023 ($p < 0.01$). This may be because implicit government guarantees reduce the perceived risk of creditors for SOEs and, therefore weaken the role of ESG disclosure. Non-SOEs rely more on market-based financing. Thus, the signaling effect of ESG disclosure is more salient, which reduces the cost of debt.

(2) Financial risk: The sample is divided into two groups based on the median level of excessive leverage (actual minus target leverage). Table 5 reveals that, for firms with moderate leverage, the coefficient is significant at –0.017 ($p < 0.01$), although for highly leveraged firms it weakens to –0.009 ($p < 0.1$), where the inter-group difference is also significant at –0.008 ($p < 0.1$). This indicates that high financial risk may partially offset the positive signals conveyed by ESG disclosure, weakening its financing benefits.

Table 5. Heterogeneity Analysis

	SOE		Excessive Debt Degree	
	(1) N	(2) Y	(3) Weak	(4) Strong
	Cost	Cost	Cost	Cost
ESGD	-0.026***	-0.003	-0.017***	-0.009*
	(0.007)	(0.005)	(0.006)	(0.005)
_cons	1.824	-0.063	-1.229	3.146**
	(1.781)	(1.956)	(2.353)	(1.509)
Control	YES	YES	YES	YES
Firm	YES	YES	YES	YES
Year	YES	YES	YES	YES
N	5629	6722	6169	6182
r2	0.686	0.737	0.713	0.749
r2_a	0.632	0.707	0.646	0.694
P-value	-0.023***		-0.008*	

* p < 0.1, ** p < 0.05, *** p < 0.01

5 Conclusion

Using A-share listed firms from 2008 to 2023 as the sample, this study examines the impact of ESG disclosure on firms' cost of debt. The results show that ESG disclosure reduces the cost of debt significantly, and this finding remains robust across multiple tests. Channel analysis indicates that ESG disclosure lowers the cost of debt by easing external financing constraints. The heterogeneity analysis shows that the negative effect of ESG disclosure on the cost of debt is more pronounced for non-state-owned firms and for firms with relatively moderate excess leverage.

Theoretically, the study contributes by (1) enriching the literature on the economic consequences of ESG disclosure with empirical evidence on the value of ESG information in emerging markets; (2) extending the research on the determinants of the cost of debt by including non-financial information pricing implications within the analytical framework; and (3) deepening the understanding of the boundary conditions under which ESG creates value, highlighting the roles of ownership structure and financial risk.

This study puts forward several policy proposals: to include ESG management within strategic planning and reinforce disclosure mechanisms; differentiated ESG disclosure guidelines should be developed by regulators in coordination with classification-based supervision, tailored to ownership structures and financial conditions; and financial institutions should incorporate ESG factors into credit ratings, designing relevant financial products linked to ESG performance, thus guiding capital to sustainable development.

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References

1. Malik, N., Kashiramka, S.: "impact of ESG disclosure on firm performance and cost of debt: empirical evidence from India". Journal of Cleaner Production. 448 (2024).
2. Liu, B., Lu, J.: Does the quantity of ESG information disclosure reduce the cost of corporate debt financing? Studies of International Finance, 87-96 (2024).
3. Wang, W.; Sun, Z.; Dong, Y.; Zhang, L.: Cost of debt financing, stock returns, and corporate strategic ESG disclosure: evidence from China. Business Ethics the Environment & Responsibility. (2024).
4. Ma, M., Zhang, C.; Zhang, R.: The dynamic effects of evolution of ESG disclosure regimes on corporate financing constraints. International Review of Financial Analysis. 107 (2025).
5. Raimo, N., Caragnano, A.; Zito, M.; Vitolla, F.; Mariani, M.: Extending the benefits of ESG disclosure: the effect on the cost of debt financing. Corporate Social Responsibility and Environmental Management. 28 (2021).
6. You, X.; Chen, C.; Peng, K.; Li, Y.: ESG disclosure quality and cost of debt. Emerging Markets Review. 64 (2025).
7. Linlin, L., Yiming, L.: ESG disclosure and information transparency——empirical evidence based on the a-share listed companies on Shenzhen stock exchange. Modernization of Management 45, 156-162 (2025).
8. Wansu, Y., Mingdan, Y.: Does ESG disclosure alleviate corporate financing constraints?—— the moderating effect of digital financial inclusion. Communication of Finance and Accounting, 42-47 (2023).