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ESG Performance, Debt Maturity Structure and Corporate Resilience

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Abstract

This paper explores the relationship between corporate ESG performance and corporate resilience through an empirical analysis of data from China A-share listed companies from 2014 to 2023. The study finds that strong ESG performance significantly enhances corporate resilience and improves the ability to cope with risks. Further analysis indicates that the debt maturity structure plays a crucial moderating role, where an increase in the proportion of long-term debt strengthens the positive impact of ESG performance on corporate resilience, while short-term debt weakens this effect. Additionally, there is heterogeneity in the impact of ESG performance on corporate resilience across firms with different ownership structures and internal control levels. Based on these findings, the paper recommends that governments improve relevant policies and regulations, and that companies adopt forward-looking strategies and enhance organizational learning mechanisms to strengthen corporate resilience and achieve sustainable development.

Keywords

ESG Performance, Corporate Resilience, Organizational Resilience, Debt Maturity Structure.

1. Introduction

Enterprise resilience is the ability of an enterprise to adapt, recover, and even develop in the face of unexpected events such as natural disasters.[1]The global economic landscape is undergoing profound restructuring, with complex crises and challenges emerging in rapid succession. These include cyclical financial turmoil, widespread economic downturns, increasingly frequent and severe extreme weather events and geological disasters, as well as public health crises like the COVID-19 pandemic. The cumulative impact of these external pressures has created unprecedented operational complexities for businesses. In this challenging environment, building corporate resilience has become crucial. It serves as the key to helping companies navigate crises, transform challenges into opportunities, and even achieve growth against the odds.[2]Resilient enterprises are capable of adapting to and swiftly responding to market changes, overcoming severe challenges.[7]and typically maintain a more robust financial management system, thereby reducing financial uncertainty.[4] Furthermore, corporate resilience not only boosts investor confidence but also stimulates positive investor responses.[5] Reduce the vulnerability of enterprises in times of crisis.[6] Therefore, building and enhancing corporate resilience has become a core issue in strategic management. It not only helps enterprises address challenges brought by uncertainty but also creates competitive advantages, enabling stable operations and sustained growth in complex market environments.

As global climate change intensifies, resource depletion escalates, and environmental pollution worsens, sustainable development has become a global priority. In this context, the Environmental, Social, and Governance (ESG) framework has emerged as a key driver for corporate sustainability. ESG serves as a methodology for assessing a companys sustainability performance.[3]The ESG concept emphasizes that enterprises must balance environmental protection, social responsibility, and corporate governance while pursuing economic benefits to achieve long-term sustainable development. In 2018, the China Securities Regulatory

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Commission revised the "Corporate Governance Guidelines for Listed Companies," establishing the basic framework for ESG information disclosure. In 2022, the "China Corporate Social Responsibility Reporting Guidelines (CASS-ESG 5.0)" compiled by a research team from the Chinese Academy of Social Sciences was released, providing comprehensive and standardized guidance for domestic ESG information disclosure. ESG has a positive social impact, and good ESG performance helps alleviate corporate financing constraints.[8]increase market attention[9]improve enterprise performance and internal control quality[10]These measures enhance corporate value, strengthen risk resilience, elevate the financial systems overall risk resistance, and foster long-term value creation.[11]

Therefore, against the backdrop of rising global uncertainties, exploring the impact of ESG performance on corporate resilience holds significant practical implications for enterprises to withstand risks and face crises. In light of this, this paper, based on data from China A-share listed companies from 2014 to 2023, thoroughly investigates the influence of corporate ESG performance on resilience and analyzes the moderating effect of corporate debt maturity structure. Building upon existing research, this paper expands its scope by adopting the new perspective of debt maturity and decomposing debt maturity structure into long-term and short-term loans, respectively, to explore how these two indicators modulate the moderating effect of ESG performance on corporate resilience. This approach facilitates a more comprehensive and profound understanding of how ESG performance impacts corporate resilience.

2. Theoretical Analysis and Research Hypothesis

2.1 ESG Performance and Corporate Resilience

ESG is a comprehensive concept encompassing three key areas: environmental, social, and corporate governance. A companys strong ESG performance indicates proactive environmental actions, conscientious social responsibility fulfillment, and a robust corporate governance framework. Environmentally, ESG-focused companies prioritize environmental governance, better prepare for physical and climate risks, and demonstrate greater resilience. Socially, strong social responsibility earns widespread recognition. When companies actively engage in philanthropy, protect employee rights, and promote community development, they build a positive reputation in society.[13]This enhances the companys debt financing capacity and management confidence, thereby increasing its risk tolerance and potentially boosting its resilience.[14]From a governance perspective, sound corporate governance ensures that enterprises maintain scientific and stable decision-making under social pressures. A well-structured governance framework effectively balances the interests of all stakeholders and prevents short-sighted corporate decisions.[12]This enables enterprises to pursue economic benefits while balancing social and environmental interests. When facing social crises and challenges, sound corporate governance helps companies make swift and rational decisions, coordinate resources, and effectively respond to crises, thereby enhancing their resilience. Based on this, Hypothesis H1 is proposed.

H1: A companys strong ESG performance significantly enhances its resilience.

2.2 The Regulating Effect of Debt Maturity Structure

The debt maturity structure is the proportion of long-term loans in the total loan amount.[15]The debt maturity structure is a critical factor in corporate financial decision-making, directly affecting debt costs, repayment arrangements, agency costs, and managerial incentives. The economic consequences vary depending on the ratio of long-term to short-term debt: long-term debt typically carries lower interest rate fluctuation risks but may face higher refinancing risks; short-term debt requires more frequent refinancing but offers relatively

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flexible interest rates.[16]The debt maturity structure may positively mediate the relationship between ESG (Environmental, Social, and Governance) and corporate resilience. A debt structure dominated by long-term debt implies lower liquidity pressures, providing stable funding for ESG initiatives. Since ESG projects typically require long-term investments with extended return cycles, the maturity of long-term debt aligns with these investment characteristics. Moreover, a longer debt maturity structure reduces the need for frequent refinancing, creating a buffer during market turbulence. This enables companies to sustain ESG strategies, thereby enhancing their crisis resilience and ultimately strengthening corporate resilience.

Hypothesis H2: The debt maturity structure positively moderates the relationship between corporate ESG performance and corporate resilience.

3 Research Design

3.1 Sample Selection and Data Sources

This paper takes China A-share listed companies from 201 4 to 202 3 as the initial research sample and processes the data using Stata software. To ensure the reliability of the empirical test, the following data preprocessing is applied to the sample: (1) excluding companies that were specially treated or delisted during the sample period; (2) excluding data of listed companies in the financial sector; (3) excluding companies labeled as ST or *ST during 201 4-202 3; (4) to reduce the interference of outliers and anomalies on the results, all continuous variable data undergo tail-trimming by 1% quantiles before and after; (5) to study the moderating effect of debt maturity structure and prevent multicollinearity from affecting the results, the interaction terms of relevant variables are separately decentered. Ultimately, the paper obtains 19,836 observed samples. Among them, the Huazheng ESG rating data of each company in this paper comes from the Wind database, while the remaining data are sourced from the CSMAR database.

3.2 Variable Selection

3.2.1 Dependent Variable

Resilience. This paper adopts the methodology of Ortiz and Bansal to quantify organizational resilience through two dimensions: growth performance (Growth) and financial volatility (Vol).[4] Performance growth is measured by the cumulative sales revenue growth over three years, while financial volatility is calculated as the standard deviation of monthly stock returns within one year. Finally, the entropy method is applied to synthesize these two indicators into a corporate resilience index (Resilience), which comprehensively reflects each companys overall resilience performance during the year.

3.2.2 Interpretation of Variables

Corporate ESG performance (ESG). The quantitative indicators for corporate ESG performance are selected from the China Securities ESG Rating System, which is issued by China Securities, a domestic authoritative third-party institution, and is a commonly used indicator to measure the ESG performance of China enterprises. As a domestic authoritative local rating system, China Securities ESG features extensive data coverage and timely updates. The corporate ESG ratings in the China Securities database are divided into nine levels: AAA, AA, A, BBB, BB, B, CCC, CC, and C. For the convenience of empirical analysis, this paper refers to existing literature methods and assigns values from 1 to 9 to the ESG ratings in ascending order.[17]and use the average annual score as the companys ESG performance for that year.

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3.2.3 Regulating Variables

Debt Maturity Structure (DMS). This study measures DMS through the ratio of long-term loans to total loans, where a higher ratio indicates a greater proportion of long-term loans in total borrowing and a longer debt maturity structure. To better examine the moderating role of DMS in the relationship between corporate ESG performance and corporate resilience, two indicators are established: the long-term loan ratio (LD) and the short-term loan ratio (SD). The long-term loan ratio (LD) is calculated as long-term loans to total assets, while the short-term loan ratio (SD) is calculated as short-term loans to total assets.

3.2.4 Control Variables

This article references existing literature.[18][19] The following control variables were selected: company size (Size), debt-to-asset ratio (Lev), return on assets (ROA), years of listing (Age), equity concentration (Top1), board size (Board), proportion of independent directors (Indep), and whether audited by Big4.

model design

To investigate how corporate ESG performance affects organizational resilience, this study develops the following multiple regression model:

$$Resilience_{i,t} = \alpha_0 + \alpha_1 ESG_{i,t} + \sum Controls_{i,t} + \sum Year + \sum Ind + \varepsilon_{i,t} \quad (1)$$

among ， i represents individual enterprises,t represents the year,and the dependent variableResilience indicates corporate resilience,explanatory variableESG refers to the current ESG performance rating assigned to a company.Contr"OLS" refers to a series of control variables.Year andInd represents the year and industry dummy variables.where e is the random error term.

4 Empirical Results and Analysis

4.1 Descriptive Statistical Analysis

Table 1 presents descriptive statistics on ESG performance, corporate resilience, and related control variables for A-share listed companies from 2014 to 2023. After applying the sample screening and data cleaning methods, 19,836 observations were retained. The data shows that the resilience (Resilience) of the dependent variable reached a maximum of 0.875 and a minimum of 0.000.

The coefficient of 0.033 indicates significant variations in resilience among different enterprises in the sample. The ESG index, the explanatory variable, ranges from 2 to 6, reflecting substantial differences in Huazheng ESG ratings across enterprises. Table 1 also presents the results of control variables, with all statistical values remaining within reasonable ranges.

Table 1: Descriptive Statistics1

variable	N	Mean	SD	Min	Median	Max
Resilience	19836	0.472	0.251	0.033	0.469	0.875
ESG	19836	4.177	0.821	2.000	4.000	6.000
Size	19836	22.672	1.294	20.364	22.474	26.668
Lev	19836	0.457	0.177	0.106	0.453	0.854
ROA	19836	0.031	0.068	-1.199	0.032	0.759
Age	19836	2.399	0.614	0.000	2.485	3.526
Top 1	19836	0.331	0.147	0.083	0.307	0.744
Board	19836	2.127	0.197	1.609	2.197	2.708

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Indep	19836	0.377	0.057	0.167	0.364	0.800
Big4	19836	0.078	0.268	0.000	0.000	1.000

4.2 Benchmark Regression Analysis

The results of examining the relationship between corporate ESG performance and corporate resilience are presented in Table 2. Since the estimation results of regression coefficients and standard errors may be influenced by control variables, to ensure the robustness of the regression results, this paper adopts different regression methods in columns (1) and (2): In column (1), only industry and year fixed effects are controlled without adding control variables; in column (2), while controlling for industry and year fixed effects, a series of control variables are additionally included. The regression results show that the regression coefficients of corporate ESG performance are significantly positive in both models. Column (1) indicates that the regression coefficient of corporate ESG performance on corporate resilience is 0.0056, which passes the significance test at the 1% statistical level, demonstrating a significant positive impact of corporate ESG performance on corporate resilience. After adding control variables in column (2), the regression coefficient between corporate ESG performance and corporate resilience remains significantly positive at the 1% level, further validating the aforementioned regression results. These empirical findings confirm the validity of Hypothesis H1.

Table 2: Benchmark Regression Results**2**

	(1) Resilience	(2) Resilience
ESG	0.00560***	0.00179***
	(17.22)	(5.20)
Size		0.00738***
		(24.39)
Lev		-0.0108***
		(-5.79)
ROA		-0.0106***
		(-2.62)
Age		0.000953**
		(1.99)
Top1		0.00746***
		(3.94)
Board		0.00202
		(1.21)
Indep		0.0103*
		(1.88)
Big4		0.00579***
		(5.56)
_cons	0.448***	0.289***
	(324.52)	(42.21)
trade	Yes	Yes
a particular year	Yes	Yes
N	1983 6	1983 6

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R2	0.979	0.981

Note: The symbols ***,**,* indicate significance at the 1%,5%, and 10% levels, respectively, with standard errors (SE) enclosed in parentheses.

4.3 Robustness Testing

The model may contain endogeneity issues stemming from bidirectional causality and sample selection bias. Regression results demonstrate that corporate ESG performance significantly enhances organizational resilience. Notably, resilient firms demonstrate stronger capacity to leverage resource advantages in ESG development, thereby improving their ESG ratings. Conversely, these resilient firms are more likely to proactively disclose ESG information and possess greater capability to elevate their ESG performance. To address this, we apply a one-period lagged approach to corporate resilience and employ instrumental variable methods to resolve endogeneity concerns.

4.3.1 Lagged First-Period Explanatory Variable

To address the potential inverse causality between corporate ESG performance and corporate resilience, this study employs a one-period lag in ESG scoring.[22]To mitigate potential endogeneity issues, regression analysis was conducted on the data. Table 3 presents the regression results of the first-period lagged ESG score versus corporate resilience. After controlling for variables, the first-period lagged ESG regression coefficient measures 0.00148, which remains statistically significant at the 1% level. The findings confirm that corporate ESG performance continues to enhance resilience, with the robustness of the baseline regression results.

Table 3: Delayed First-Period Explanatory Variable3

	(1) Resilience	(2) Resilience
L.ESG	0.00487***	0.00148***
	(14.82)	(4.32)
Size		0.00764***
		(23.38)
Lev		-0.0119***
		(-5.79)
ROA		-0.00901**
		(-2.07)
Age		0.000618
		(1.03)
Top1		0.00653***
		(3.09)
Board		0.00173
		(0.95)
Indep		0.0113*
		(1.88)
Big4		0.00603***
		(5.36)
_cons	0.481***	0.314***
	(345.14)	(41.90)

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trade	Yes	Yes
a particular year	Yes	Yes
N	16493	16493
R2	0.976	0.977

4.3.2 Instrumental Variable Method

To address the endogeneity issue, this study employs the mean ESG performance of other firms in the same region during the same year.[21]As an instrumental variable (IV) in the study, this paper first tests the selected IV to ensure it passes the weak instrumental variable test and the non-identifiability test. The two-stage least squares regression is then conducted, with results presented in Table 4. Columns (1) and (2) show the regression results of the first and second stages, respectively. In the first-stage regression, the IVs coefficient is positive and statistically significant, strongly indicating a robust correlation between the IV and corporate ESG performance. The second-stage regression also yields a significantly positive coefficient for ESG performance, demonstrating stability even after addressing endogeneity issues. These findings conclusively confirm the reliability of the positive correlation between corporate ESG performance and organizational resilience.

Table 4: Instrumental Variable Method4

	(1) ESG	(2) Resilience
IV	0.860***	
	(0.0138)	
ESG		0.00190**
		(0.000783)
Size	0.238***	0.00733***
	(0.00594)	(0.000358)
Lev	-0.778***	-0.0106***
	(0.0377)	(0.00197)
ROA	0.816***	-0.0108***
	(0.0825)	(0.00409)
Age	-0.0804***	0.000972**
	(0.00981)	(0.000487)
Top1	-0.000480	0.00746***
	(0.0388)	(0.00189)
Board	0.141***	0.00198
	(0.0340)	(0.00167)
Indep	1.121***	0.0101*
	(0.112)	(0.00559)
Big4	0.111***	0.00578***
	(0.0213)	(0.00105)
trade	Yes	Yes
a particular year	Yes	Yes
N	19,83 6	19,83 6
R2	0.340	0.981

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4.3.3 Replacing the Dependent Variable

To enhance the reliability and robustness of the conclusions and avoid biased results caused by potential measurement errors in explanatory and dependent variables, we replaced the dependent variable and abandoned the single-dimensional measurement of corporate resilience. The original corporate resilience index constructed using the entropy method was split into two dimensions: corporate growth (Growth) and financial volatility (Vol), which were then used as dependent variables in the regression analysis. Table 5 shows that ESG performance is significantly negatively correlated with the financial volatility dimension and positively correlated with the growth dimension, indicating that improving corporate ESG levels effectively reduces financial volatility risks and enhances corporate risk resilience.

Table 5: Replacement of Dependent Variable5

	(1) growth	(2) growth	(3) sd	(4) sd
ESG	36.34***	4.321*	-0.00719***	-0.00406***
	(14.62)	(1.66)	(-14.54)	(-7.70)
Size		62.42***		-0.00730***
		(25.24)		(-14.59)
Lev		-25.01		0.0251***
		(-1.64)		(8.15)
ROA		44.48		0.0193***
		(1.34)		(2.88)
Age		-27.73***		-0.00972***
		(-7.05)		(-12.22)
Top1		20.53		-0.0103***
		(1.32)		(-3.29)
Board		11.79		-0.00605**
		(0.86)		(-2.19)
Indep		301.3***		0.0116
		(6.69)		(1.27)
Big4		84.77***		0.000385
		(9.92)		(0.22)
_cons	-108.3***	-1465.1***	0.154***	0.329***
	(-10.20)	(-26.09)	(72.76)	(28.96)
trade	Yes	Yes	Yes	Yes
a particular year	Yes	Yes	Yes	Yes
N	1983 6	1983 6	1983 6	1983 6
R2	0.082	0.140	0.238	0.261

4.3.4 Reduction of Sample Size

To exclude the impact of the COVID-19 pandemic, this study removed data from 2020 onward. As shown in Table 6, the regression results indicate a coefficient of 0.00480 between ESG performance and corporate resilience. After controlling for variables, the coefficient drops to

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0.00158, yet remains significantly positive at the 1% level. This demonstrates the robustness of the core regression findings in this study.

Table 6: Reduction of Sample Size6

	(1) Resilience	(2) Resilience
ESG	0.00480***	0.00158***
	(13.32)	(4.25)
Size		0.00812***
		(19.98)
Lev		-0.00896***
		(-3.64)
ROA		0.0146***
		(2.66)
Age		0.000418
		(0.64)
Top1		0.00570**
		(2.31)
Board		0.00170
		(0.79)
Indep		0.00983
		(1.37)
Big4		0.00558***
		(4.04)
_cons	0.422***	0.245***
	(275.08)	(26.67)
trade	Yes	Yes
a particular year	Yes	Yes
N	10611	10611
R2	0.988	0.989

5 Further Analysis

5.1 Analysis of the Adjustment Effect of Debt Maturity Structure

The report of the 20th National Congress of the Communist Party of China emphasizes that economic development should prioritize the real economy. In advancing the high-quality growth of the real economy, corporate financing difficulties remain a critical issue. The debt maturity structure is an essential component of corporate capital architecture. This paper further examines how the debt maturity structure moderates the relationship between corporate ESG performance and corporate resilience. The following model is constructed for testing:

$$Resilience_{i,t} = \beta_0 + \beta_1 ESG_{i,t} + \beta_2 DMS_{i,t} + \beta_3 ESG_{i,t} * DMS_{i,t} + \sum Controls_{i,t} + \sum Year + \sum Ind + \varepsilon_{i,t} \quad (2)$$

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The regression analysis using the aforementioned model to examine the relationship between debt maturity structure and ESG performance/enterprise resilience is presented in Table 7. Column (1) shows that the regression coefficient of the debt maturity structure-ESG interaction term is 0.00255, with a statistically significant positive effect at the 1% level. This indicates that debt maturity structure exerts a positive moderating effect, enhancing the positive impact of ESG performance on enterprise resilience, which is consistent with the earlier hypothesis.

Table 7: Analysis of Adjustment Effects7

	(1) Resilience	(2) Resilience	(3) Resilience
ESG	0.00165***	0.00161***	0.00168***
	(5.19)	(5.06)	(5.27)
ESG* DMS	0.00255***		
	(2.93)		
DMS	-0.00178**		
	(-2.00)		
ESG* LD		0.00313	
		(0.91)	
LD		-0.0163***	
		(-3.88)	
ESG* SD			-0.0107***
			(-3.41)
SD			-0.00403
			(-1.13)
Size	0.00745***	0.00757***	0.00734***
	(24.30)	(24.79)	(24.04)
Lev	-0.0108***	-0.00863***	-0.0102***
	(-5.82)	(-4.43)	(-4.78)
ROA	-0.0100**	-0.0107***	-0.0111***
	(-2.48)	(-2.64)	(-2.75)
Age	0.000997**	0.000872*	0.000956**
	(2.08)	(1.82)	(1.99)
Top1	0.00751***	0.00725***	0.00743***
	(3.97)	(3.83)	(3.92)
Board	0.00205	0.00209	0.00201
	(1.23)	(1.26)	(1.21)
Indep	0.0105*	0.0104*	0.0106*
	(1.92)	(1.90)	(1.93)
Big4	0.00563***	0.00562***	0.00565***
	(5.40)	(5.39)	(5.42)
_cons	0.288***	0.285***	0.290***
	(41.59)	(41.14)	(41.82)
trade	fixed	fixed	fixed
a particular year	fixed	fixed	fixed
N	1983 6	1983 6	1983 6

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R2	0.981	0.981	0.981

5.2 Heterogeneity Analysis

Next, given that enterprises with different property rights characteristics exhibit varying motivations, requirements, and approaches to ESG practices—factors that significantly impact corporate resilience—it is essential to examine whether the relationship between ESG performance and resilience shows heterogeneity between state-owned and non-state-owned enterprises. The regression results indicate that the ESG coefficient for non-state-owned enterprises is 0.00218, statistically significant at the 1% level. This suggests that improved ESG performance has a more pronounced effect on resilience enhancement in non-state-owned enterprises, likely due to their exposure to fiercer market competition and greater survival pressures. In such contexts, proactive ESG performance can help build a positive social image, strengthen trust among stakeholders including consumers, investors, and employees, thereby boosting market competitiveness and risk resilience. In contrast, state-owned enterprises often receive more support and guarantees in terms of policy and resources. This enables some state-owned enterprises to maintain relatively high resilience even when their ESG performance is relatively weak.

Internal control serves as a vital mechanism in corporate governance, playing an irreplaceable role in ensuring stable operations, mitigating risks, and enhancing efficiency. This study employs the Dibao Database Internal Control Index (IC) to measure internal governance performance. Regression analysis reveals that ESG performance significantly enhances organizational resilience, regardless of whether a companys internal control index is high or low. This effect is particularly pronounced in firms with high internal control indices. The underlying mechanism may involve how a robust internal control environment ensures precise implementation of ESG investments through improved organizational management, thereby avoiding resource wastage and boosting the efficiency of converting sustainable investments into tangible risk mitigation capabilities—such as reducing compliance costs through green technologies.

Table 8. Heterogeneity Test**8**

	state-owned enterprises	non state-owned enterprise	high internal control index	Low internal control index
	Resilience	Resilience	Resilience	Resilience
ESG	0.000379	0.00218***	0.00184***	0.00137***
	(0.65)	(5.97)	(3.58)	(3.67)
Size	0.00930***	0.00555***	0.00919***	0.00458***
	(17.56)	(14.93)	(19.92)	(11.92)
Lev	-0.0204***	-0.00485**	-0.0148***	-0.00578***
	(-5.71)	(-2.29)	(-4.81)	(-2.69)
ROA	-0.00370	-0.00768*	-0.0251***	0.00670
	(-0.34)	(-1.91)	(-3.20)	(1.53)
Age	-0.000795	0.00168***	0.000362	0.00141**
	(-0.78)	(2.84)	(0.50)	(2.32)
Top1	-0.00174	0.00604***	0.00667**	0.00575**
	(-0.50)	(2.65)	(2.30)	(2.44)
Board	0.00143	-0.00107	0.00152	0.00221
	(0.50)	(-0.52)	(0.60)	(1.07)

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Indep	0.0180**	-0.00602	0.0169**	-0.00268
	(2.01)	(-0.85)	(2.01)	(-0.39)
Big4	0.00627***	0.000467	0.00615***	0.0000881
	(4.00)	(0.32)	(4.20)	(0.06)
_cons	0.258***	0.339***	0.250***	0.355***
	(21.67)	(37.48)	(23.89)	(40.68)
trade	Yes	Yes	Yes	Yes
a particular year	Yes	Yes	Yes	Yes
N	7633	12199	10056	9777
R2	0.978	0.983	0.976	0.986

6 Conclusion and Recommendations

In todays increasingly complex and volatile environment, enterprises face compounded systemic risks from multiple fronts, including geopolitical conflicts, global supply chain restructuring, extreme weather events, disruptive technological innovations, and social trust crises. The role of corporate ESG performance in enhancing organizational resilience has become a critical issue. Maximizing the resilience-enhancing effects of ESG performance not only impacts individual enterprises survival and development quality but also serves as a vital strategy for maintaining Chinas industrial economic resilience and mitigating systemic risks both domestically and internationally. This study aims to explore the impact mechanisms of ESG performance on corporate resilience, with particular attention to the moderating role of debt maturity structure in this relationship. The findings reveal that corporate ESG performance significantly enhances organizational resilience. Furthermore, debt maturity structure positively moderates the driving effect of ESG performance on resilience. Notably, the proportion of long-term debt positively moderates the relationship between ESG performance and resilience, while short-term debt proportion exerts a negative moderating effect. Finally, when conducting heterogeneity analysis on corporate ownership structure and internal control levels, the study demonstrates that ESG performances positive impact on resilience is further moderated by these factors.The results are better in state-owned enterprises and enterprises with high internal control index.

The government should expedite the formulation and refinement of ESG-related laws, regulations, and policy documents to provide clear legal foundations and policy support for enterprises to implement ESG principles. For instance, mandatory requirements for corporate environmental information disclosure should be established, along with green finance policies to guide financial resources toward green industries and sustainable development sectors, thereby creating a favorable policy environment for enterprises to develop ESG-related businesses. (2) While focusing on financial performance, it is crucial for enterprises to enhance organizational resilience to cope with crises and risks. The current economic uncertainties have accelerated the pace of corporate rise and fall, necessitating foresight and early deployment of risk prevention systems to solidify organizational resilience. Specifically, enterprises should strengthen systematic risk resistance capabilities from a strategic perspective: First, integrate ESG principles into daily operations, expand diversified information channels to sensitively detect risk signals, and establish dynamic risk early-warning mechanisms to enable agile strategic adjustments. Second, improve organizational learning mechanisms to promote adaptive growth during challenging times. This systematic resilience-building will help enterprises navigate economic fluctuations and establish sustainable competitive barriers.

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