

The ESG Effect: Unveiling Its Influence on Capital Structure in Finance

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Abstract. *The growing interest in ESG has increased the desire to understand how it influences financial decisions regarding capital structure. Using econometric techniques, the research analyzes how ESG factors influence financing structure, focusing on a sample of financial companies in Europe, North America and Asia. The results indicated that capital structure decisions are influenced by ESG, although there are differences across regions. In general, environmental and governance issues are positively correlated with leverage, emphasizing the idea of improved credit worthiness and better financing conditions. On the other hand, companies that are more socially focused rely more on equity due to the higher trust obtained from investors, lower risk perceptions and a strategic preference for conservatism. The findings highlight companies' trade-offs when it comes to sustainability goals and financing structure, with ESG playing a dual role in market positioning and financial resilience. The current study contributes to the existing literature on sustainable finance by providing evidence-based information that ESG influences the capital structure of financial firms. It is particularly useful for investors, policy makers and financial institutions that strive to maintain a balance between sustainability and efficient capital management.*

Keywords: ESG, investors, capital structure, equity, debt.

Introduction

Environmental, Social, and Governance (ESG) factors have gained prominence in the field of corporate finance, thereby influencing strategic decision-making across industries. The multistakeholder growing interest, from investors, supervisors and clients, for sustainable practices has increased the influence of ESG factors on financing structures and generated a new research topic. Classic capital structure theories, like the trade-off theory, Modigliani-Miller theorem and pecking order theory are primarily based on financial factors like profitability and cost. Given that the financial industry requires stability and constant risk assessment, integrating ESG into business decisions has become a central element of financial planning, impacting capital structure decisions, as ESG acts on two levels: it shapes investors' opinion and also influences access to various sources of funding. Previous studies show that high ESG performance is associated with credit worthiness,

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reduced financing costs and leads to attracting long-term investors. However, this topic on the impact of ESG on the financing structure is under-researched.

In this study, the relationship between ESG characteristics and capital structure decisions is examined in a sample of financial sector firms from different regions. By analyzing the effects of environmental (ENV), social (SOC), and governance (GOV) on leverage ratios, we aim to consider whether ESG engagement facilitates easier access to debt capital, enhances financial stability, or alters the reliance of firms on equity capital. We further control for heterogeneity in regions' ESG practices and regulatory environments to account for variations in firms' adjustments in capital structures.

The results confirm that ESG factors play an important part in capital structure decisions. This corroborates the expanding function of sustainability matters in corporate financial strategy.

Our findings contribute to the existing literature by providing empirical evidence on ESG integration costs of capital structure decisions. It is important that policymakers, investors, and financial institutions appreciate such dynamics in ensuring consistency between sustainability targets and best-practice financing decisions.

This paper is structured as follows: Section 2 provides a review of the relevant literature on the relationship between ESG factors and capital structure. Section 3 outlines the research methodology, including data sources, variables, and econometric approach. Section 4 presents the empirical results and their implications, while Section 5 concludes with a summary of key findings, study limitations, and suggestions for future research.

Literature review

The use of Environmental, Social along with Governance (ESG) factors in business choices has grown since the Covid-19 pandemic. Policymakers along with financial institutions see ESG performance as a key factor for financial strength, risk or fund distribution within companies. Most research looked at specific markets, but this review now studies the tie between ESG performance and capital structure in three major regions: China, Europe or the United States. Comparing rules market drivers or investor habits across these regions gives a wider view on ESG's role in funding decisions.

The link between ESG factors and a company's capital structure gets support from several financial theories that explain how companies choose where to spend money. Stakeholder theory says companies should consider the needs of many groups like investors, employees, customers plus the community (Freeman, 1984). Companies that add ESG factors improve relations with stakeholders. This builds investor trust and lowers capital costs. This view fits research that shows sustainability minded companies earn better financing terms.

Pecking order theory explains how ESG performance shapes capital structure and shows that firms favor internal funds over external ones (Myers & Majluf, 1984). Companies with strong ESG scores enjoy more transparency, lower information gaps, better equity access as well as less reliance on expensive debt. This funding order lets firms stay financially steady and avoid too much leverage.

Trade off theory says that companies manage the tax benefits of debt while facing financial trouble risks (Modigliani & Miller, 1958; Abdeljawad et al., 1973). Companies with strong ESG may seem less risky. This view cuts bankruptcy costs and lowers debt prices. These companies arrange their capital better by using their ESG reputation to get easier borrowing conditions.

Signaling theory shows ESG performance sending clear market messages (Spence, 1973). Firms that show strong ESG practices are seen as low risk and innovative. This view helps

companies secure equity financing and cut debt use. The effect of ESG on capital structure differs in China, Europe next to the United States because rules and investor tastes vary. In China, ESG integration has grown because the state leads sustainability initiatives and investors have become more aware (Zhao & Zhang, 2024). Studies show that firms with strong ESG ratings pay lower debt fees and get better loan terms. State owned enterprises usually get preferential financing no matter their ESG performance, which weakens the clear link between ESG and debt financing.

In Europe the link between ESG and debt financing is stronger because strict rules like the Sustainable Finance Disclosure Regulation (SFDR) exist (Gigante & Manglaviti, 2022). Research shows companies with high ESG scores pay less for debt, especially in green bonds. On the other hand, companies with low ESG scores pay more for debt because they face higher credit risks and extra regulatory checks. In the United States, ESG performance affects debt financing mainly via investor views rather than rules (Feng & Wu, 2023). Research shows companies with top ESG marks enjoy lower debt spreads and better credit ratings. Sectors differ; tech and consumer goods companies show a firmer link between ESG and debt than energy or heavy industries.

Beyond debt financing, ESG concerns have a strong effect on equity financing. In China, institutional investors from home and abroad show growing interest in ESG investments (Deng et al., 2023). Businesses with strong ESG records often achieve higher equity values with lower equity costs. Gaps in ESG reporting and disclosure continue to trouble investors who try to add ESG rules to their strategies. European companies with strong ESG benefit from greater access to equity funds, mainly via sustainable funds and ESG guides (Chouaibi et al., 2023). Research shows that European, ESG-led companies pay less for equity financing thanks to more investor interest in sustainable methods.

Another important aspect is that in the United States, ESG performance shows a positive link with equity financing, mainly in industries sensitive to environmental and social factors (Sendi et al., 2024). Research shows that firms with high ESG ratings gain easier access to capital markets, while investors pay more for their equity. Some institutional investors doubt ESG integration, which creates differences in ESG-equity financing relationships across sectors. ESG factors also shape firms' overall capital structures by affecting debt-to-equity ratios and financing plans. Studies show that Chinese firms with high ESG scores keep balanced capital structures by using both equity and debt to secure financial flexibility and meet regulatory rules (Zhao & Zhang, 2024).

In Europe, firms adjust their capital setups to fit ESG goals. They choose equity over debt to meet sustainability standards, match investor wishes (Adeneye et al., 2022). In contrast U.S. firms vary their capital setups. Some sectors choose debt to use cheap loans. Others choose equity to attract ESG-aware investors (Zahid et al., 2024). These findings show that policymakers, investors along with company leaders must add ESG concerns into their financial choices. Uniform ESG disclosure rules in China, Europe next to the United States could raise investor trust while cutting market inefficiencies. Governments may also use tax breaks or subsidies to help companies choose sustainable finance methods. Improved ESG understanding among investors may help them include ESG values in investment plans.

This review shows that ESG performance plays a growing role in shaping capital structures in China, Europe or the United States. Although differences remain among regions, ESG factors increasingly affect access to either debt or equity. As rules change further research will be needed to improve models and guide policies that support sustainable corporate finance practices worldwide.

Methodology

During the ex-post Covid-19 period, sustainability has become a key factor in financing decisions, as companies and investors adapt their strategies to integrate environmental, social and governance (ESG) criteria. The financing structure of firms plays an important role because, when it comes to making the transition to a more sustainable business, it can impact both access to finance and the related costs. However, at the regional level, the importance of sustainability from a capital structure perspective still seems to vary.

Therefore, the aim of this research is to observe and update how ESG issues influence the way that financial companies in Europe, North America and Asia choose to finance themselves. Thus, building on the already existing literature, we formulated three broad research hypotheses:

H1: There is a significant relationship between ESG performance and debt financing.

H2: There is a significant relationship between ESG performance and equity financing.

H3: There is a significant relationship between ESG performance and financing structure.

In order to perform the analysis, we used a panel regression model. The database utilized was built upon 221 European, North American and Asian firms and 6 years of examination (2018-2023) and the data was collected from Refinitiv database. The variables used in the analysis are presented in Table 1.

Table 1. Variables used

Variables	Labels	Measurement
<i><u>Dependent variables</u></i>		
Debt Ratio	DTR	Total debt/Total assets
Debt to Equity	DTE	Total debt/Total equity
Equity Ratio	EQR	Total equity/Total Assets
<i><u>Independent variables</u></i>		
Environment Score	ENV	ENV Index
Government Score	GOV	GOV Index
Social Score	SOC	SOC Index
Dummy for region	D_REGION	1 if the company is from specified region, 0 otherwise
Dummy variable for COVID	D_COVID	1 if the year is 2020, 0 otherwise
Dummy variable for industry	D_IND	1 if the company operates withing banking and financial services industry, 0 otherwise
<i><u>Control variables</u></i>		
Asset tangibility	AST	Fixed assets/Total assets
Cash holdings	CHO	Cash and cash equivalents
Firm efficiency	FEF	EBIT/Total assets
Firm size	FRS	Log (Total assets)

Source: Authors' research.

The descriptive statistics and correlation matrix for the variables used are given in Table 2, Table 3.1 and Table 3.2 below.

Table 2. Descriptive statistics of key variables

	DTE	DTR	EQR	ENV	GOV	SOC	AST	CHO	FEF	FRS
Mean	4.59	0.44	0.29	43.55	52.75	49.30	0.41	0.17	0.06	7.04
Median	1.89	0.41	0.22	38.64	55.08	48.63	0.31	0.08	0.03	7.01
Maximum	543.58	1.71	6.68	98.27	97.06	95.48	4.83	6.57	1.52	9.64
Minimum	(81.75)	0.00	(0.32)	0.26	0.93	2.04	0.00	0.00	(1.12)	5.08
Std. Dev.	23.70	0.30	0.30	25.17	22.59	19.52	0.35	0.35	0.10	0.80

Source: Authors` research.

Table 3.1 Correlation matrix

	DTE	DTR	EQR	ENV	GOV	SOC	AST	CHO	FEF
DTE	1.000								
DTR	0.236	1.000							
EQR	(0.129)	(0.341)	1.000						
ENV	0.043	(0.019)	(0.113)	1.000					
GOV	(0.028)	(0.011)	(0.063)	0.426	1.000				
SOC	(0.018)	(0.080)	(0.136)	0.695	0.405	1.000			
AST	0.024	0.043	0.310	0.031	(0.088)	(0.010)	1.000		
CHO	(0.054)	(0.211)	0.254	0.030	0.056	(0.076)	(0.128)	1.000	
FEF	(0.077)	(0.246)	0.150	0.028	0.029	0.062	(0.223)	0.158	1.000
FRS	0.273	0.227	(0.463)	0.436	0.188	0.336	0.063	(0.254)	(0.280)
D_ASIA	(0.034)	0.101	(0.056)	0.193	0.085	(0.018)	(0.008)	0.079	(0.060)
D_EUR	(0.067)	(0.257)	0.167	0.131	0.152	0.126	(0.076)	0.144	0.092
D_NA	0.090	0.141	(0.100)	(0.289)	(0.213)	(0.097)	0.075	(0.200)	(0.028)
D_COVID	(0.004)	(0.003)	(0.015)	(0.003)	(0.003)	(0.011)	(0.010)	(0.012)	0.016
D_IND	0.143	0.066	(0.015)	0.060	(0.098)	0.062	(0.069)	(0.054)	0.008

Source: Authors` research.

Table 3.2 Correlation matrix

	FRS	D_ASIA	D_EUR	D_NA	D_COVID	D_IND
FRS	1.000					
D_ASIA	0.216	1.000				
D_EUR	(0.260)	(0.374)	1.000			
D_NA	0.040	(0.556)	(0.563)	1.000		
D_COVID	0.006	0.000	0.000	(0.000)	1.000	
D_IND	0.109	(0.049)	(0.004)	0.048	0.000	1.000

Source: Authors` research.

In order to analyze the impact of ESG scores on the financing structure, we created 3 regression equations:

$$DTR = \alpha + \beta_1 ENV_{it} + \beta_2 GOV_{it} + \beta_3 SOC_{it} + \beta_4 AST_{it} + \beta_5 CHO_{it} + \beta_6 FEF_{it} + \beta_7 FRS_{it} + \beta_8 D_REGION_{it} + \beta_9 D_COVID_{it} + \beta_{10} D_IND_{it} + \epsilon_{it} \quad (1)$$

$$DTE = \alpha + \beta_1 ENV_{it} + \beta_2 GOV_{it} + \beta_3 SOC_{it} + \beta_4 AST_{it} + \beta_5 CHO_{it} + \beta_6 FEF_{it} + \beta_7 FRS_{it} + \beta_8 D_REGION_{it} + \beta_9 D_COVID_{it} + \beta_{10} D_IND_{it} + \epsilon_{it} \quad (2)$$

$$EQR = \alpha + \beta_1 ENV_{it} + \beta_2 GOV_{it} + \beta_3 SOC_{it} + \beta_4 AST_{it} + \beta_5 CHO_{it} + \beta_6 FEF_{it} + \beta_7 FRS_{it} + \beta_8 D_REGION_{it} + \beta_9 D_COVID_{it} + \beta_{10} D_IND_{it} + \epsilon_{it} \quad (3)$$

The heteroscedasticity and autocorrelation tests indicated the presence of heteroscedasticity and dependence between cross-sections, but not by periods. Thus, we applied the generalized least

squares (GLS) method with cross-section weights to correct for these problems. This approach resulted in robust estimates, reducing variance and eliminating distortions that could have affected the conclusions of the study.

At the same time, the use of GLS was essential for improving the precision of the estimates and reducing the standard errors of the coefficients, thus ensuring that the results are more accurate and less susceptible to model specification problems.

To capture regional differences, we estimated the model separately for each region (Europe, North America and Asia). Thus, we run three separate regressions using the same set of explanatory variables for each subset of data. This approach allowed us to analyze the specificities of each region without introducing additional constraints on the overall model.

In addition, we included the dummy variable COVID-19, which takes the value 1 for the years affected by the pandemic and 0 for the rest of the period, to control for its effects on the dependent variable. This variable allows capturing the overall economic impact of the pandemic on the firms, providing a clearer perspective on the modeled relationships.

We also introduced industry dummy variables in order to capture the specific characteristics of each economic sector. These variables were included to allow for comparisons of performance across industries and to control for industry-specific effects on the dependent variable.

The heteroscedasticity and autocorrelation tests indicated the presence of heteroscedasticity and cross-section dependence, but not across periods. To solve these problems, we chose to use the generalized least squares (GLS) method with cross-section weights. This approach led to robust estimates, reduced standard errors of the coefficients, more accurate results and fewer model specification problems.

To check regional effects, we ran the model for each region (Europe, North America and Asia) separately. We thus run three separate regressions with the same group of explanatory variables for each subset of data. This procedure allowed us to examine the individuality of each region without subjecting the overall model to additional constraints.

We also included the dummy variable COVID-19, equal to 1 during pandemic-impacted years and 0 elsewhere, to adjust for its effect on the dependent variable. The variable allows us to pick up the collective economic impact of the pandemic on the firms and paints a better description of the relations captured.

We also added industry dummy variable to capture the differences between companies in the banking sector and those in other financial industry sectors, such as insurance, capital markets, and real estate investment trusts (REITs).

Results and discussions

The findings of the econometric analysis exhibit the existence of a significant impact of Environmental, Social, and Governance (ESG) factors on the debt-to-equity (DTE) ratio with notable differences across different regions (Table 4).

Table 4. ESG influence on Debt to Equity ratio

Debt to Equity ratio (DTE)						
Variables	Europe		North America		Asia	
	Coefficients	Prob.	Coefficients	Prob.	Coefficients	Prob.
ENV	(0.02030)	***	(0.00264)		0.00852	**
GOV	(0.00248)		0.00099		(0.00614)	**
SOC	(0.06023)	***	(0.04930)	***	(0.08771)	***
AST	1.05608	***	0.69446	***	(0.10757)	
CHO	0.80465	***	1.00589	***	2.17682	***
FEF	(1.04854)		(1.30038)		(1.25536)	
FRS	5.97308	***	4.99855	***	6.28963	***
D_REGION	1.57154	***	1.47680	***	(3.56755)	***
D_COVID	(0.20359)		(0.21471)		(0.27510)	
D_IND	3.78814	***	2.67711	***	3.68932	***
Intercept	(35.53421)	***	(30.65261)	***	(35.91743)	***
<i>R</i> ²	0.69902		0.59270		0.65815	
<i>Adjusted R</i> ²	0.69666		0.58952		0.65548	
<i>S.E. of Regression</i>	17.49034		16.88218		17.79605	
<i>F-statistic</i>	297.03956	***	186.12075	***	246.24406	***

Note: The stars applied to the coefficient value indicate the significance threshold of the probability,
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Authors' own computation.

In the case of the European region, environmental performance (ENV) exerts a negative effect on DTE, implying that companies with greater dedication to sustainability will tend to use debt instruments less and favor equity instruments. This highlights an alternative source of financing for ESG compliant financial companies, e.g., sustainability investment funds, hence making their dependency on debt instruments less. The social dimension (SOC) is negatively correlated and has a statistically significant association with the DTE ratio, revealing that a robust sense of social responsibility generates a smaller proportion of debt as compared to equity and, as a result, a reduction in the dependence on the financial sector. This can be due to the beliefs of investors, who associate a company's high social responsibility with better financial stability and stronger operational efficiency. Also, such companies can gain easier access to equity funding because of their good reputation, and investors who value sustainability and ethical business practices are attracted to them.

In the North American context, ENV is found to be statistically insignificant, implying that environmentally friendly policies do not play a significant role in the financial decisions of corporations. In contrast, SOC still depicts a negative relationship with DTE, identical to the European scenario, and thereby validates the hypothesis that firms with strong commitment towards social responsibility are perceived as less risky entities and hence have easier access to investors.

In the Asian setting, the results indicate that ENV positively and significantly affects DTE, which implies that firms with high scores in this ESG pillar will use higher levels of debt financing. This finding can be attributed to the unique characteristics of Asian financial markets, in which banks are at the forefront of corporate finance, and high ESG scores can be a key determinant for accessing credit. This result could be due to the fact that regional banks are more concerned with

sustainability and offer preferential terms to highly environmentally performing firms. On the other hand, GOV and SOC are negative, indicating that firms with good corporate governance and high social engagement prefer equity financing. This result may be attributed to a risk-reducing strategy, as good governance allows firms to have more equity capital and use less debt.

The regional contrasts brought out in this discussion underline the significance of regulatory frameworks and specific financial architectures in mediating how ESG considerations shape capital structure decision-making. While in Europe and North America, ESG priorities strongly tilt towards equity finance, in the Asian environment, where there are more bank-oriented financial systems and where relationship banking is significant, they would appear to facilitate also the access to bank loans.

Table 5. ESG influence on Debt ratio

Variables	Debt ratio (DTR)					
	Europe		North America		Asia	
	Coefficients	Prob.	Coefficients	Prob.	Coefficients	Prob.
ENV	0.00034	*	0.00035		(0.00039)	*
GOV	0.00038	**	0.00053	***	0.00035	**
SOC	(0.00112)	***	(0.00230)	***	(0.00123)	***
AST	(0.08075)	***	(0.05517)	***	(0.05366)	***
CHO	(0.19147)	***	(0.19697)	***	(0.22509)	***
FEF	(0.61317)	***	(0.62384)	***	(0.47424)	***
FRS	0.04438	***	0.08269	***	0.07647	***
D_REGION	(0.17174)	***	0.07312	***	0.06803	***
D_COVID	(0.00688)		(0.00233)		(0.00801)	
D_IND	0.04217	***	0.02603	***	0.03259	***
Intercept	0.27613	***	(0.01536)		0.00798	
<i>R</i> ²	0.57951		0.47431		0.43521	
<i>Adjusted R</i> ²	0.57623		0.47020		0.43080	
<i>S.E. of Regression</i>	0.27127		0.27886		0.27947	
<i>F-statistic</i>	176.27183	***	115.40003	***	98.55762	***

Note: The stars applied to the coefficient value indicate the significance threshold of the probability,
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Authors' own computation.

The analysis related to debt ratio, presented in Table 5, reveals that in Europe there is a positive and statistically significant association with the ENV factor, indicating that firms which demonstrate improved environmental sustainability performance have a higher debt ratio, when related to the assets level. This demonstrates that more sustainable companies receive better lending conditions and, as a result of the reduced risk perception by lenders, they get reduced interest rates or better access to credit facilities. The positive and significant relationship with the GOV dimension highlights that corporate governance arrangements are likely to generate increasing debt levels. This result confirms the theory that good governance reduces moral hazard and enhances transparency, hence generating favorable conditions for companies to increase debt.

In North America, GOV also exhibits positive and significant correlations, thereby supporting the conclusions valid for Europe. Here, firms that adopt ESG-friendly business

philosophies with sound GOV principles are considered to have a lower risk profile, thereby making them eligible for credit on easy terms.

The social aspect of ESG (SOC) negatively affects the Debt Ratio, as it appears that socially responsible companies have a smaller proportion of debt to assets. This relationship can be explained by two primary mechanisms. Firstly, these companies are likely to attract more equity capital due to an improved reputation and increasing trust from moral investors, as a consequence of which they utilize less debt financing. On the other hand, firms with sound social policies will invest in intangible assets, such as human capital, social responsibility programs or community relations, which are not used as collateral for loans and therefore limit access to credit. Such strategic emphasis leads to the overall asset base rising in a way that is not favorable to debt financing, which is why the debt-to-asset ratio declines.

In Asia, the negative correlation between the ENV factor and DTR represents the unique characteristics inherent in the financial markets of the continent. In the backdrop of a regime where bank financing prevails, firms with better ESG scores are better positioned to access credit, as banking institutions regard them as safer and more responsible to lend to.

These findings overall indicate that across all of the regions which have been analysed, a high ESG rating is able to raise the access which firms enjoy to debt financing, either by lowering borrowing costs or raising availability of credit. ESG is therefore a critical factor in firm financing choices, influencing to a significant extent their total debt ratio.

Table 6. ESG influence on Equity ratio

Variables	Equity ratio (EQR)					
	Europe		North America		Asia	
	Coefficients	Prob.	Coefficients	Prob.	Coefficients	Prob.
ENV	0.00046	***	0.00031	***	0.00051	***
GOV	0.00032	***	0.00019	**	0.00019	**
SOC	(0.00023)	*	(0.00009)		(0.00013)	
AST	0.27254	***	0.27248	***	0.27574	***
CHO	0.09991	***	0.10857	***	0.10632	***
FEF	0.51796	***	0.53355	***	0.53158	***
FRS	(0.13842)	***	(0.14686)	***	(0.15155)	***
D_REGION	0.02311	***	(0.03533)	***	0.01967	***
D_COVID	(0.00251)		(0.00309)		(0.00342)	
D_IND	0.03646	***	0.03715	***	0.03845	***
Intercept	1.05862	***	1.14078	***	1.14669	***
R^2	0.78375		0.78694		0.77981	
Adjusted R^2	0.78206		0.78528		0.77809	
S.E. of Regression	0.22411		0.22139		0.22250	
F-statistic	463.55118	***	472.41351	***	452.97202	***

Note: The stars applied to the coefficient value indicate the significance threshold of the probability,
*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

Source: Authors' own computation.

In terms of Equity Ratio (EQR), the results presented in Table 6 highlight that, for all regions, there is a positive relation between ENV and GOV factors and the employment of equity. These results show that firms with a higher degree of environmental and governmental responsibility prefer to finance their assets more from equity than from debt. This can be explained

by the fact that such companies attract institutional investors, as they do not need debt financing. At the same time, the positive correlation between the governance factor and EQR emphasizes the idea that firms with good corporate governance prefer equity as a source of financing. This finding aligns with the theoretical proposition that sound governance minimizes agency cost and maximizes transparency, hence making the firm more appealing to potential investors.

The social component of ESG (SOC) has a negative impact on the Equity Ratio (EQR) in every region, suggesting that socially responsible companies have a lesser percentage of equity as a share of total assets. This is due to the fact that social campaign expenses are incremental, which decreases the retained earnings and hence the ability to establish equity. Meanwhile, social investments are not always profitable in the longer term, which might discourage profit-seeking investors, all leading to a higher cost of equity. Furthermore, these companies will go into debt more often, either to maintain shareholder returns or due to lower debt financing costs resulting from ESG compliance.

Conclusion

This study aims to increase the knowledge related to the impact of ESG factors on the capital structure of the financial sector, noting that such influence is uneven across regions. In the markets of Europe and North America, where financial markets are more advanced and investors are more sensitive to ESG factors, higher ESG engagement leads the firm to rely more on equity financing. This would mean that companies with good ESG credentials tend to attract long-term investors who pay more attention to sustainability and are more likely to provide capital on less sensitive terms than debt.

The results illustrate that corporate governance practices are not only affected by investor activism and the evolution of the current context of the market, both of which lead to ESG capturing the loan prices. Companies combining ESG principles in their strategy policies are improving their capital structure optimization as well as their financial reputation. The strong positive correlation between governance, environmental performance and leverage indicates that firms with robust ESG practices would also enjoy better financing terms and companies demonstrating better ESG practices would be perceived as more creditworthy which results in a more efficient level of debt. This is aligned with the increasing understanding of ESG factors as proxies for long-term financial health and effective risk management.

In socially conscious corporations, the interest in equity financing appears to be a strategic choice aimed at mitigating financial risk and ensuring long-term financial prudence. As ESG-related expenses are subject to potential volatility, this finding draws attention to the fundamental trade-offs between capital allocation strategies and sustainability goals. This highlights that while social performance augment a company's image, it might come also with the benefit of a reduced dependence on debt.

Also, this study highlights the extent to which context matters in the relation between ESG and capital structure such as market maturity, regulatory environments and cultural context and attitudes to sustainability. Such divergence poses a challenge to policymakers, investors and financial institutions in designing structures that integrates ESG in financial decision processes. Thus, this study extends the understanding of the meaning and effects of ESG on capital structure, offering valuable information to stakeholders interested in framing finance within the principles of sustainability and social responsibility.

These results suggest a growing shift towards more contextualization of ESG with the business of finance, in which ESG becomes an increasingly important contributor to relative market

effectiveness and financial ecology, which foster the development of an alternative financial system grounded on sustainability.

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