

SHORT-TERM DEBT FINANCING AND ESG ORIENTATION: AN ANALYTIC HIERARCHY PROCESS PERSPECTIVE

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ABSTRACT

This study examines the impact of short-term debt financing on Environmental, Social, and Governance (ESG) performance, utilizing the Analytic Hierarchy Process (AHP) in the context of Vietnamese listed firms. Rather than establishing causal relationships, the study employs a priority-based evaluation framework to investigate the association between short-term debt and the relative importance of ESG dimensions and their underlying factors, as informed by expert judgments derived from the author's dissertation.

The AHP results reveal a distinct ESG pattern under short-term debt financing. Governance emerges as the most influential dimension, followed by environmental considerations, while social factors receive the lowest priority. At the factor level, transparency, accountability, and risk management dominate governance priorities, whereas environmental initiatives are primarily compliance-oriented and short-term in nature. Social factors are valued mainly when they directly support operational stability and labor continuity.

The findings suggest that short-term debt exerts a disciplining and risk-control-oriented influence on ESG performance, favoring governance and short-horizon ESG practices over long-term sustainability investments. This study contributes to the ESG–finance literature by highlighting how debt maturity shapes ESG performance patterns in emerging markets and by demonstrating the applicability of AHP for ESG assessment when quantitative data are limited.

Keyword: *Short-term debt, ESG performance, Analytic Hierarchy Process, Capital structure, Vietnam*

1. INTRODUCTION

Environmental, Social, and Governance (ESG) performance has become a critical dimension of corporate evaluation as firms face increasing scrutiny from investors, creditors, regulators, and other stakeholders. While a growing body of literature examines the relationship between ESG performance and firm value, less attention has been given to how different financing instruments influence ESG performance patterns, particularly from a decision-making and prioritization perspective.

Capital structure plays a central role in shaping managerial behavior and strategic orientation. Prior studies suggest that access to finance and financing conditions affect firms' incentives to invest in sustainability-related activities [1,2]. However, financing sources differ significantly in maturity structure, monitoring intensity, and repayment pressure, which may lead to heterogeneous ESG outcomes. Short-term debt is

a dominant financing source for firms in many emerging markets, including Vietnam. Characterized by frequent refinancing, strict repayment schedules, and close creditor monitoring, short-term debt imposes strong liquidity constraints on firms. These features may limit firms' ability to engage in long-term ESG investments, while simultaneously increasing the importance of governance quality, transparency, and risk management in maintaining creditor confidence.

Despite its prevalence, short-term debt is often treated as part of a homogeneous debt category in ESG-related studies, obscuring its unique implications for ESG performance. This gap is particularly relevant in Vietnam, where firms rely heavily on bank-based short-term financing and ESG disclosure practices remain uneven. To address this gap, this study assesses the influence of short-term debt on ESG performance using the Analytic Hierarchy Process (AHP). Rather than

estimating causal effects, the study evaluates how short-term debt shapes the relative importance of ESG dimensions and factors, providing a nuanced understanding of ESG performance under liquidity-constrained financing structures.

2. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 ESG and Corporate Financing Structure

Environmental, Social, and Governance (ESG) considerations have become an integral component of corporate decision-making as firms face increasing pressure from investors, creditors, regulators, and other stakeholders to operate sustainably. A growing body of literature suggests that ESG-related practices are closely associated with firms' access to finance, risk profiles, and long-term viability [2,3]. While early studies often treat financing structure as a control variable, more recent research emphasizes that different financing instruments create distinct incentives and constraints, leading firms to prioritize ESG dimensions differently. Equity investors, for example, tend to emphasize long-term value creation and environmental sustainability, whereas debt holders focus more strongly on downside risk protection and repayment capacity [1,4].

Despite this growing recognition, the literature still largely treats debt financing as a homogeneous category. This simplification overlooks important differences between short-term and long-term debt, particularly with respect to maturity, monitoring intensity, and liquidity pressure-factors that are likely to shape ESG orientation in different ways.

2.2 Short-Term Debt and ESG Orientation

Short-term debt is characterized by frequent refinancing, strict repayment schedules, and close creditor monitoring. In emerging markets, short-term bank loans often constitute a major source of corporate financing, intensifying firms' exposure to liquidity risk and short-horizon financial constraints. From a theoretical perspective, agency theory suggests that short-term debt serves as a disciplinary mechanism, reducing managerial opportunism through frequent monitoring and renewal requirements [5]. Under such conditions, firms are incentivized to prioritize practices that reduce information asymmetry and safeguard short-term solvency. In

the ESG context, this implies that short-term debt is more likely to shape ESG orientation that is, the relative importance assigned to ESG dimensions rather than uniformly improving ESG performance. ESG practices under short-term debt are therefore expected to reflect a risk-averse and control-oriented profile, emphasizing compliance and stability over long-term sustainability transformation.

H1: Short-term debt is associated with a differentiated ESG orientation.

2.3 Governance Orientation under Short-Term Debt

Corporate governance plays a central role in debt financing decisions, particularly when debt maturity is short. Transparency, accountability, and effective risk management reduce information asymmetry and default risk, making them critical for maintaining access to short-term credit [1]. Empirical studies consistently show that creditors place greater weight on governance quality than on other ESG dimensions, as governance mechanisms directly affect firms' ability to meet contractual obligations [4,6]. Frequent monitoring by short-term lenders further amplifies the importance of disclosure quality and compliance systems.

Accordingly, governance factors are expected to dominate ESG orientation under short-term debt financing.

H2: Governance factors receive the highest priority under short-term debt financing.

2.4 Environmental Orientation under Short-Term Debt

Environmental initiatives differ substantially in terms of time horizon and capital intensity. While long-term environmental investments, such as renewable energy projects, require substantial upfront capital and extended payback periods, compliance-oriented environmental practices are often necessary to avoid regulatory sanctions and operational disruptions. Prior studies suggest that creditors primarily consider environmental performance when it poses an immediate financial or regulatory risk, rather than as a source of long-term competitive advantage [7,8]. Under short-term debt constraints, firms may therefore prioritize environmental practices that support regulatory compliance and risk mitigation, while

assigning lower priority to strategic environmental transformation.

H3: Environmental factors receive moderate priority under short-term debt financing, with an emphasis on compliance-oriented activities.

2.5 Social Orientation under Short-Term Debt

Social practices, such as employee welfare, training, and community engagement, are generally associated with indirect and long-term benefits. As a result, they are often perceived as less material to short-term financial performance and credit risk. Nevertheless, labor-related social factors can directly affect operational continuity, productivity, and cash flow stability. Empirical evidence suggests that creditors value social practices primarily when they reduce the likelihood of labor disruptions or operational shocks [2]. Given the short repayment horizon of short-term debt, social factors are therefore expected to receive the lowest priority among ESG dimensions, except where they directly support workforce stability.

H4: Social factors receive the lowest priority under short-term debt financing.

2.6 AHP as an Approach to Evaluating ESG Orientation

Most existing studies on ESG and financing employ regression-based methods to examine the causal relationships between ESG performance and financial outcomes. However, such approaches often require extensive quantitative data and may not fully capture the relative importance of ESG dimensions in decision-making contexts, particularly in emerging markets. The AHP, developed by Saaty [9], provides a robust multi-criteria decision-making framework that allows researchers to structure complex problems hierarchically and derive priority weights based on expert judgment. AHP has been widely applied in sustainability and ESG research to evaluate priorities when data availability is limited [10].

By applying AHP, this study focuses on ESG orientation rather than ESG outcomes, offering a more nuanced understanding of how short-term debt financing shapes sustainability priorities.

3. METHODOLOGY

This study applies the AHP to assess ESG performance under short-term debt financing.

ESG criteria are structured hierarchically into three dimensions, Environmental (E), Social (S), and Governance (G), with specific sub-factors identified in accordance with the Global Reporting Initiative (GRI) framework. Expert judgments were collected from finance professionals, ESG specialists, and corporate managers with experience in debt financing decisions. Pairwise comparisons were conducted, and only responses with acceptable consistency ratios ($CR \leq 0.10$) were retained. The AHP approach enables a systematic evaluation of ESG performance priorities, eliminating the need for extensive quantitative ESG datasets, and making it particularly suitable for emerging market contexts.

4. RESULTS

This section presents the AHP results on ESG orientation in relation to short-term debt financing. The analysis is conducted at both the context level (ESG dimensions) and the factor level.

4.1 ESG Context Orientation under Short-Term Debt Financing

The AHP results reveal a clear hierarchy of ESG dimensions under short-term debt financing. As shown in Table 1, the governance context (G) receives the highest contextual weight (0.5684), followed by the environmental context (E) (0.229) and the social context (S) (0.203).

ESG context	Context local weight	Rank
Governance (G)	0.5684	1st
Environmental (E)	0.229	2nd
Social (S)	0.203	3rd

Note: Context weights are derived from AHP expert evaluations ($CR \leq 0.10$).

Table 1. ESG context weights under short-term debt financing

Source: Author's work.

These results indicate that short-term debt financing is associated with a governance-dominated ESG orientation, reflecting lenders'

emphasis on transparency, accountability, and risk control mechanisms.

4.2 Governance Orientation under Short-Term Debt Financing

At the factor level, governance considerations dominate ESG orientation under short-term debt financing. According to Table 2, transparency and accountability (G1) is the most influential governance factor, with a global weight of 0.264, ranking first among all ESG factors.

Governance factor	Local weight	Global weight	Rank
G1 – Transparency & accountability	0.465	0.264	1
G2 – Board effectiveness	0.176	0.100	3
G3 – Risk management & compliance	0.36	0.205	2

Table 2. Governance factor weights under short-term debt financing

Source: Author’s work.

These findings highlight the central role of governance mechanisms in short-term debt financing decisions.

4.3 Environmental Orientation under Short-Term Debt Financing

The environmental context ranks second under short-term debt financing, indicating a moderate level of importance. As shown in Table 3, renewable energy investment (E5) is the most influential environmental factor.

Environmental factor	Local weight	Global weight	Rank
E5 – Renewable energy investment	0.291	0.067	5
E1 – Greenhouse gas emissions reduction	0.238	0.055	7
E4 – Waste reduction and recycling	0.232	0.053	8
E3 – Water resource management	0.135	0.031	10
E2 – Energy efficiency	0.104	0.024	11

Table 3. Environmental factor weights under short-term debt financing

Source: Author’s work.

The results suggest that environmental considerations under short-term debt are evaluated mainly from a compliance and risk-mitigation perspective.

4.4 Social Orientation under Short-Term Debt Financing

The social context receives the lowest contextual weight under short-term debt financing. However, certain labor-related social factors remain influential, as presented in Table 4.

Social factor	Local weight	Global weight	Rank
S1 – Working conditions and employee benefits	0.38	0.077	4
S4 – Employee training and development	0.294	0.06	6
S3 – Community development and welfare	0.222	0.045	9
S2 – Gender equality and diversity	0.105	0.021	12

Table 4. Social factor weights under short-term debt financing

Source: Author’s work.

These results indicate that social practices are valued primarily when they directly support labor stability and operational continuity.

5. DISCUSSION

This study evaluates ESG orientation under short-term debt financing using the AHP. By integrating the results at both the contextual and factor levels, this section discusses how short-term debt influences ESG priorities and contrasts this orientation with theoretical expectations and prior findings.

5.1 Overall ESG Orientation under Short-Term Debt

The results presented in Table 1 reveal a clear hierarchy of ESG dimensions in relation to short-

term debt financing. Governance emerges as the dominant ESG context with a contextual weight of 0.5684, followed by environmental (0.229) and social (0.203) dimensions. This finding confirms that short-term debt financing is associated with a governance-centered ESG orientation. This result is consistent with agency-based explanations of debt financing, where creditors prioritize mechanisms that reduce information asymmetry and safeguard repayment capacity. Unlike equity financing, which emphasizes long-term value creation, short-term debt places a greater emphasis on control, monitoring, and risk mitigation, as reflected in the dominance of governance considerations.

5.2 Governance Orientation and Creditor Discipline

As shown in Table 2, governance factors account for the largest share of ESG influence under short-term debt financing. Transparency and accountability (G1) ranks first overall with a global weight of 0.264, followed by risk management and compliance (G3) with a global weight of 0.205. Board effectiveness (G2), while still relevant, receives comparatively lower priority. These results highlight the disciplining role of short-term debt, where frequent refinancing and covenant enforcement intensify creditor monitoring. Strong disclosure practices and effective compliance systems reduce default risk and enhance lenders' confidence, making governance quality a central determinant of ESG performance under short-term *debt*.

5.3 Environmental Orientation: Compliance over Strategy

The environmental context ranks second overall in terms of short-term debt financing (Table 1), indicating that environmental considerations are not ignored but are subordinated to governance concerns. As detailed in Table 3, renewable energy investment (E5) is the most influential environmental factor, followed by reductions in greenhouse gas emissions (E1). However, the relatively low global weights assigned to environmental factors compared to governance factors suggest that environmental initiatives under short-term debt are evaluated primarily from a regulatory compliance and risk-avoidance perspective, rather than as long-term strategic investments. Operational environmental practices, such as energy efficiency and water management,

receive limited emphasis, reinforcing the view that short-term debt constrains firms' ability to engage in long-horizon sustainability projects.

5.4 Social Orientation: Focus on Operational Stability

Consistent with its lowest contextual weight in Table 1, the social dimension receives the least emphasis under short-term debt financing. Nevertheless, Table 4 reveals that certain labor-related social factors remain relatively influential. Working conditions and employee benefits (S1) rank fourth overall, indicating that workforce stability is a key concern for short-term lenders. Employee training and development (S4) also receives moderate attention. In contrast, broader social initiatives, such as community development and gender equality, are assigned low priorities. This pattern suggests that short-term debt financing values social practices primarily when they have direct and immediate implications for operational continuity and cash flow stability, rather than for broader societal impact.

6. CONCLUSION AND POLICY IMPLICATIONS

6.1 Conclusion

This study examines ESG orientation under short-term debt financing using the AHP, based on the empirical results reported in the author's dissertation. By adopting a multi-criteria decision-making perspective, the study moves beyond causal analysis to evaluate the relative importance of ESG dimensions and factors associated with short-term debt financing among Vietnamese listed firms.

The AHP results reveal a distinct and consistent ESG orientation under short-term debt financing. At the context level, governance emerges as the dominant ESG dimension, followed by environmental and social considerations. This hierarchy reflects the fundamental characteristics of short-term debt, including frequent refinancing, strict repayment obligations, and intensive creditor monitoring. Under such conditions, firms prioritize governance mechanisms that enhance transparency, accountability, and risk control to safeguard liquidity and maintain access to credit.

At the factor level, governance-related attributes, particularly transparency and accountability, as well as risk management and compliance, are identified as the most influential ESG factors.

Environmental practices receive moderate attention and are largely evaluated through a compliance- and risk-mitigation lens, rather than as long-term strategic investments in sustainability. Social practices are assigned the lowest priority overall and are valued primarily when they contribute directly to labor stability and operational continuity.

Overall, the findings suggest that short-term debt financing shapes ESG orientation toward control, compliance, and short-horizon risk management, rather than comprehensive or transformational ESG engagement. This orientation contrasts sharply with equity financing, which emphasizes long-term environmental sustainability, underscoring the importance of financing structure in shaping corporate ESG priorities.

6.2 Managerial Implications

The findings of this study offer several implications for corporate managers. First, firms that rely heavily on short-term debt should recognize the central role of governance quality in maintaining creditor confidence. Strengthening transparency, disclosure practices, and risk management systems is essential not only for financial stability but also for meeting ESG expectations associated with short-term lending. Second, managers should be aware that environmental and social initiatives under short-term debt are primarily evaluated in terms of their immediate operational and regulatory implications. Environmental compliance, emissions control, and workplace stability are more likely to be valued by short-term creditors than long-term sustainability projects. As a result, firms seeking to pursue broader ESG transformation may need to complement short-term debt with more patient sources of capital. Third, the results highlight the importance of aligning ESG strategies with financing structure. Treating ESG as a uniform agenda, regardless of capital structure, may lead to misaligned priorities and inefficient resource allocation. Instead, managers should tailor ESG initiatives to the expectations and constraints associated with specific financing instruments.

6.3 Policy Implications

From a policy perspective, the study provides several important insights. First, regulators and financial authorities should acknowledge that short-term debt financing inherently incentivizes

governance-focused ESG behavior. Strengthening corporate governance standards, particularly those related to disclosure quality, internal controls, and risk management, can enhance the effectiveness of short-term credit markets while simultaneously supporting ESG objectives. Second, policymakers may consider developing differentiated ESG disclosure frameworks that account for firms' financing structures. Uniform ESG reporting requirements may not fully capture the ESG priorities of firms reliant on short-term debt, particularly with respect to governance and compliance-related indicators. Third, to encourage long-term environmental and social sustainability, policy interventions may be needed to reduce firms' dependence on short-term debt. Measures such as promoting long-term financing instruments, supporting green credit programs, or incentivizing equity-based and long-term debt financing could help rebalance ESG priorities toward more strategic sustainability outcomes.

6.4 Limitations and Future Research

This study has several limitations. First, the AHP methodology relies on expert judgment, which, despite consistency checks, may involve subjective perceptions. Second, the analysis focuses exclusively on short-term debt financing and does not incorporate dynamic changes over time. Future research could extend this work by comparing ESG orientation across equity, short-term debt, and long-term debt using integrated AHP frameworks, or by combining AHP with quantitative methods to explore how ESG priorities translate into actual ESG performance outcomes.

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