

The value of financing decisions and sustainability: A hybrid systematic literature review and pathways for future research

Silvah Ndallah Kivindu

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Abstract

This study seeks to provide a thorough systematic evaluation of peer-reviewed literature about financing decisions related to sustainability, emphasizing current research trends and suggesting future research avenues. The study conducts a systematic evaluation of 85 peer-reviewed journal publications concerning finance decisions and sustainability, sourced from the Web of Science database. The study employs the SPAR-4-SLR protocol alongside theory-context-characteristics and method frameworks, integrating framework-based content analysis with bibliometric methods to guarantee methodological rigor and objectivity. The review shows that research on financing decisions in the context of sustainability is mostly based on two main areas: strategic decisions and sustainability indices that are meant to help make the best financing decisions. Even though there have been some recent improvements, there are still many promising areas in sustainable finance that need to be looked into. This gives researchers a chance to do more work. This study offers essential insights for corporate decision-makers, investment managers, policymakers, and investors, enabling the incorporation of sustainability factors into financing strategies to improve long-term financial and non-financial sustainability and ensure regulatory compliance. Financing decisions and sustainability represent a relatively novel research domain in which investors, corporate decision-makers, and change agents are considering factors beyond mere financial rewards. This underscores the importance of this work as a pertinent and significant addition to academic conversation.

Keywords: Financing Decisions, Sustainability, SPAR-4-SLR, Equity Financing, Debt Financing, TCCM

Silvah.kivindu@strathmore.edu

Strathmore University Business School, Strathmore University, Nairobi, Kenya

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1. Introduction

A firm's financing decisions (FD) plays a crucial role in influencing a firm's performance and sustainability (ST). FD refers to the optimal mix choice between internal financing (retained earnings) and the external financing (debt or equity) to support a business's investments, operations and growth (Rashid, 2014). According to the pecking order theory, firms strategically allocate and hierarchically finance from internal sources and upon exhaustion, external sources (Myers and Majluf, 1984). The strategic financing mix of retained earnings, debt and equity is essential for attaining sustainability goals, as financing decisions directly influences a firm's valuation, risk profile and the cost of capital (Al Amosh et al., 2024; Arhinful et al., 2024). Internal funding mitigates the firm's risk profile relative to external financing (Magnanelli and Izzo, 2017; Arhinful et al., 2024), while external financing enhances the firm's value (Al-Najjar and Al-Najjar, 2017; Abogazia et al., 2024). Other studies have found that external financing decisions negatively affects the firm value (Le and Phan, 2017; Dang et al., 2019).

For a firm to be considered sustainable, it has to manage its financial and non-financial affairs efficiently and effectively (Salehi and Arianpoor, 2021; Ombai, Kiflemariam and Odollo, 2024). Such sustainability can be evaluated through the corporate sustainability performance (CSP) or corporate social responsibility (CSR). CSP measures the efficacy with which a firm integrates social, environmental, economic, and governance factors into its operations and assesses their effects on both the company and society (Thao, Anh and Velencei, 2019; Cassely et al., 2021). Sustainability issues have become essential to company plans (Baumgartner and Rauter, 2017; Thun *et al.*, 2024) encompassing financial systems (Ziolo et al., 2019; Folqué, Escrig-Olmedo and Corzo Santamaría, 2021), management techniques (Onwuzulike et al., 2024), and reporting requirements (Yáñez et al., 2019; Arvidsson and Dumay, 2022).

Therefore, organizations must incorporate sustainability into their strategic frameworks, cultivate new competencies, and execute focused management solutions.

Research demonstrates that robust CSP and CSR can improve financial outcomes, ease financial limitations, diminish risk while lowering the cost of capital. For instance, Xu, Xu and Yu (2021) examined the impact of obligatory CSR disclosure on the expense of debt financing in China and found that, firms that disclosed their CSR activities had access to lower cost of capital as well having access to a larger pool of debt financing. The findings corroborated earlier studies by Bhuiyan and Nguyen (2020) who studied effects of CSR on the cost of debt and cost of capital in Australian markets and Tan et al., (2020) who studied CSR disclosures on the choice of between public debt and bank debt. This access to funding enhances the firm's liquidity and mitigates its risk profile thereby improving its sustainability. In a study of the Australian market, Nguyen, Agbola and Choi (2019) found that CSR and information asymmetry were adversely correlated. The adverse correlation was more pronounced in larger enterprises and those possessing greater market power. The inverse relationship between CSR and information asymmetry was found to diminish for enterprises exhibiting elevated equity risk. According to Luo et al. (2019) each unit increase in the quality of the company's environmental information disclosure led to a 0.31% decrease debt financing costs.

Integrating sustainable practices in financing decisions has been found beneficial. Some practices like green credit increasingly facilitates the advancement of environmentally sustainable firms while constraining polluting entities by directing social capital to enhance environmental governance and foster green production within society (Xu and Li, 2020). It was found that green firms had lower cost of external financing.

This integration was further corroborated by Huang et al. (2022) who found that companies that implement strategies for managing climate risk, such as governance at the board level, corporate climate strategy, specific or integrated processes for addressing climate change, climate opportunities, and engagement in climate policy, can alleviate the adverse effects of climate risk on external financing agreements. Therefore, enhanced corporate social responsibility enables organizations to cultivate more stable connections with consumers, employees, and suppliers, thus mitigating business and insolvency risks. External financiers demand reduced loan interest rates for enterprises exhibiting superior social responsibility.

This paper therefore tries to bring out the value of the intersection between financing decisions and sustainability, with the objective of addressing existing gaps in the literature. This study enhances the literature by elucidating the trade-offs and synergies between funding decisions and sustainable results, driven by the significance of sustainable business practices. Guided by Paul et al. (2021), this study employs a comprehensive method to delineate many elements of financing decisions within a sustainable framework, providing insights for stakeholders and directing future research by identifying knowledge gaps and new avenues by examining peer-reviewed research published in esteemed academic publications.

It complies with established protocols and methodological criteria to guarantee objectivity, academic rigor, and reproducibility. Subsequent to contemporary review articles by (Bhukya and Paul, 2023; Khan, Anas and Uddin, 2024; Rashid et al., 2025), this study seeks to address research questions based on (Paul and Rosado-Serrano, 2019) theory-context-characteristics and methods (TCCM) framework.

- RQ1a** What are the dominant publications and citation trends in the literature that concurrently examine FD and ST?
- RQ1b** Who are the most prominent authors, and which works, and publications have exerted the greatest impact in this field?
- RQ2** What principal theories have been utilized to examine the junction between FD and ST?
- RQ3** In which geographical and industry-specific contexts has research investigated the concurrent dynamics of FD and ST?
- RQ4** What are the fundamental variables—namely independent, dependent, instrumental, mediating, control, and moderating variables—that delineate studies on FD and ST?
- RQ5** What tools, procedures, and statistical techniques are commonly employed in research examining FD in conjunction with ST?
- RQ6** What prospective avenues does the existing literature provide for future investigation into the interconnection between FD and ST?

The subsequent sections of this review article are structured as follows: Section 2 delineates the approach employed for this review. Section 3 delineates the findings, including the theories utilized, the situations examined, the distinguishing qualities (or dimensions), and the methodological techniques within the literature. Section 4 explores the progression of FD in ST research, pinpointing particular deficiencies and proposing possible avenues for further inquiry. Ultimately, Section 5 presents the study's conclusive insights.

2. Methodology

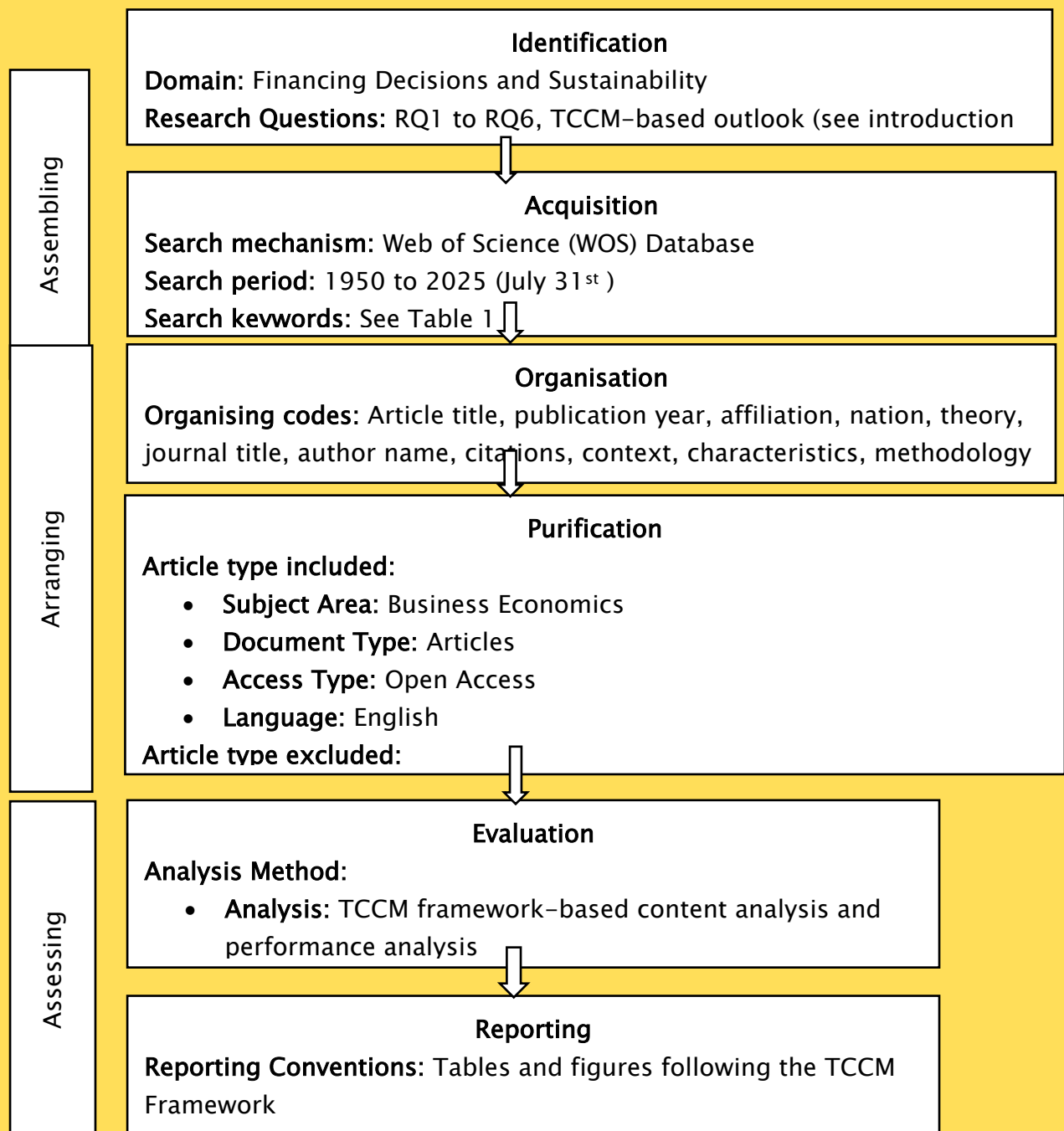
According to (Christofi *et al.*, 2021) systematic literature review (SLR) follows a step by step process of identifying, choosing and consolidating key studies that address research issues within a specific domain or field. Furthermore, it also leads to creation of new research insights, new models and theories. This study employs a domain-based methodology and focus. This is corroborated by recently published review manuals on design and technique (Kraus *et al.*, 2022; Lim, Kumar and Ali, 2022). Initially, from a methodological perspective, the study employs a hybrid systematic review technique utilizing the TCCM framework (Paul and Rosado-Serrano, 2019). Secondly, the work concentrates on domain hybrids (Rashid *et al.*, 2025), whereby the intersectional literature on FD and ST is thoroughly synthesized.

This study will employ the SPAR-4-SLR procedure to ensure rigor and generativity (Paul *et al.*, 2021), in addition to selecting an organizing framework. The protocol has three primary stages and six subordinate stages (Refer to Figure 1). A protocol enhances impartiality in methodological selections, consistency in implementation, and transparency conducive to replication (Lim, Kumar and Ali, 2022).

2.1 Assembling

Identification: The analysis concentrated exclusively on peer-reviewed academic journal articles, which are deemed more dependable than industrial sources, theses, dissertations and conference proceedings (Paul *et al.*, 2021). Data was obtained from the Web of Science (WoS) database, one of the most comprehensive citation databases spanning several fields, including social sciences, technology, art, and science.

Acquisition: Web of Science database has been found to be the most comprehensive database compared to other databases (Martín-Martín *et al.*, 2018; Zhu and Liu, 2020; Singh *et al.*, 2021), for example WoS citations were 95% compared to Scopus at 92%. The search query was executed on the title, abstract, and keyword fields, resulting in articles published from the domain's establishment until July 2025. The keyword string (Table 1) was created based on previous systematic literature reviews (Law, Ye and Chan, 2022; Sureka *et al.*, 2022; Rashid *et al.*, 2025).



Source: Adapted from Paul *et al.* (2021) Figure 1. SPAR-4-SLR protocol review process

Table 1. Keyword search strategy

Concepts	Keywords
1. Financing Decisions	“Debt Financing” OR “Equity Financing” OR “Internal Financing” OR “Capital Structure” OR “External Financing”
2. Sustainability	“Corporate Social Responsibility” OR “Sustainable Development” OR “Environmental Sustainability” OR “Social Sustainability” OR “Corporate Sustainability” OR “Sustainability” OR “ESG”
Search Strategy	#1 AND #2

Source: Author, 2025

2.2 Arranging

Organisation: A comprehensive systematic review was performed to organize the paper efficiently. The TCCM framework was used because it allows the study to encompass many domains of the literature as the primary organizational structure (Paul et al., 2021; Rashid et al., 2025).

Purification: This step involves a number of techniques to determine the eligibility of those articles that are ultimately included in the analysis as shown in Figure 1. From the year 1950 up to 31st July 2025, query 1 in Table 1 gave us 7,227 articles whereas query 2 from Table 1 gave us 427,381 articles. Queries 1 and 2 were combined (#1 AND #2) which resulted to 585 articles. Due to accessibility, the authors were interested in the Open Access articles which narrowed it down to 284 articles. We were left with 85 high-quality publications for a thorough analysis after carefully implementing the inclusion and exclusion criteria as guided by Lim, Yap and Makkar (2021); Mishra, Singh and Koles (2021).

The 85 articles reviewed in this study was considered adequate as per the recommended number of at least 40 articles for a SLR (Paul and Criado, 2020; Paul et al., 2021). Bibliometrix-R was used to thoroughly screen, clean and combine the final data set for the hybrid SLR.

2.3 Assessing

Evaluation: We evaluated the final data set of peer-reviewed journal articles using a combination of performance analysis and content analysis rather than typical bibliometric methods in order to strictly comply to the particular feature of the SLR and its framework-based approach ((Paul et al., 2021). As shown in Figure 1, we maintained the organization of this review in accordance with the TCCM framework's dimensions. For the analysis, we used MS Excel and the Bibliometrix package to perform trends in the literature.

Reporting: After an extensive content analysis performed throughout the review, the final phase involved creating clear and exact tables and visualizations, as detailed in the following sections. These tables systematically display the organized findings obtained from the TCCM technique, supplemented by comprehensive sections, tables, and figures to assure academic rigor and improve understanding.

3. Analysis and findings

3.1 Performance trends

3.1.1 RQ1a: Publication and citation trends

According to our search history, the FD and ST domain began to attract interest in 2011 and has had exponential growth since that time (See Figure 2). During this period, 85 peer-reviewed articles of high quality were published across 37 journals (refer to Table 3), garnering a total of 3,415 citations, resulting in an average of 40.18 citations per article and an h-index of 21.

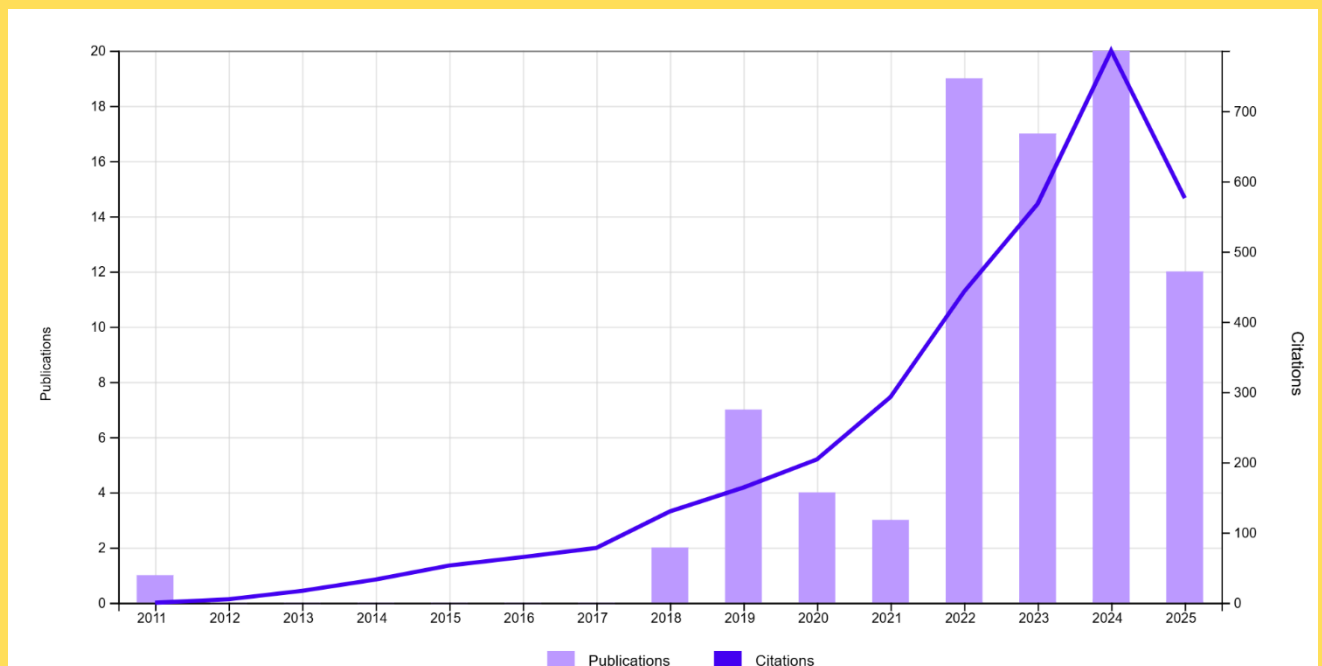


Figure 2: Yearly publications and citations

Source: Web of Science (2025)

From the initial data set of 585 articles on the financing decisions and sustainability, the interest in FD and ST started around 2002 and saw a tremendous growth up to 31st July 2025 with the year 2024 having the highest peer reviewed publications of 130 articles and the highest citation of 4,744. The total citations of the 585 articles were 18,686 with an average citation per item of 31.94 and an H-Index of 57. (See Figure 3)

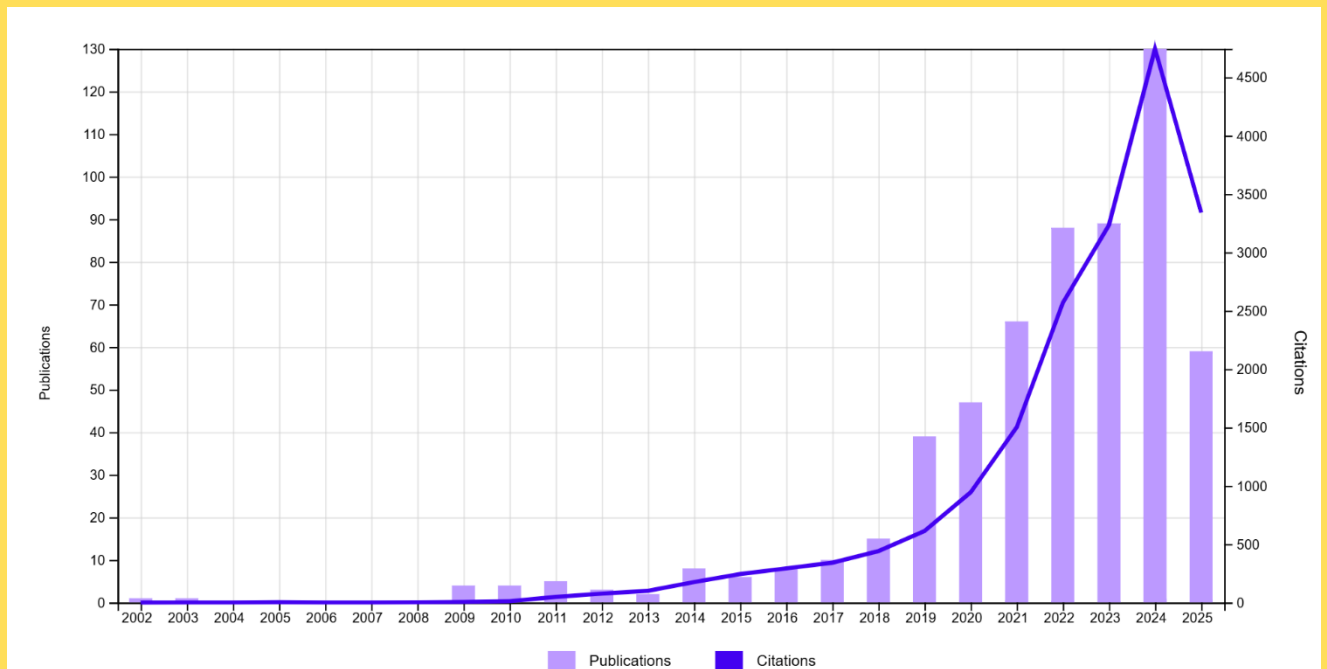


Figure 3: Yearly publications and citations of the full data set

Source: Web of Science (2025)

3.1.2 RQ1b: Prominent authors, Articles and Publications

The top 10 leading authors and articles in the financing decisions and sustainability are mentioned in Table 2, Table 3 and Table 4 respectively

Table 2: The most prominent Authors

Authors	Citations
Sadok El Ghou	1984
Omrane Guedhami	1984
Chuck C.Y. Kwok	1984
Dev R. Mishra	1984
Viktoria Aust	166
Ana Isabel Morais	166
Ines Pinto	166
Edith Ginglinger	137
Quentin Moreau	137

Source: Authors (2025)

From Table 2, we figured out that Sadok El Ghou, Omrane Guedhami, Chuck C.Y. Kwok and Dev R. Mishra are the joint most prominent authors in the FD and ST domain with 1,984 citations for an article they jointly published. Our findings on the prominent authors are in agreement with the findings of Rashid et al. (2025). Table 3 shows the top ten most prominent articles in the FD and ST domain, with the leading article having 1,984 citations and a yearly average of 132.27 citations. The most prominent article is “Does corporate social responsibility affect the cost of capital?” (El Ghou et al., 2011).

Table 3: The most prominent articles

Article	Authors	Total Citations	Citations per Year
Does corporate social responsibility affect the cost of capital?	El Ghouli et al. (2011)	1984	132.27
How does foreign direct investment contribute to Sustainable Development Goals? Evidence from African countries	Aust, Morais and Pinto (2020)	166	27.67
Climate Risk and Capital Structure	Ginglinger and Moreau (2023)	137	45.67
Carbon emissions and the cost of debt in the eurozone: The role of public policies, climate-related disclosure and corporate governance	Palea and Drogo (2020)	102	17.00
ESG performance, capital financing decisions, and audit quality: empirical evidence from Chinese state-owned enterprises	Zahid, Saleem and Maqsood (2023)	84	28.00
ESG Disclosure, REIT Debt Financing and Firm Value	Feng and Wu (2023)	79	26.33
Environmental performance and firm financing during COVID-19 outbreaks: Evidence from SMEs	Wellalage et al. (2022)	54	13.50
Sustainable product innovation in agri-food industry: Do ownership	Aibar-Guzmán et al. (2022)	50	12.50

structure and capital structure matter?			
Corporate social responsibility, green financial system guidelines, and cost of debt financing: Evidence from pollution-intensive industries in China	Li, Chen and Xiang (2022)	45	11.25
The role of environmental, social, and governance rating on corporate debt structure	Asimakopoulos, Asimakopoulos and Li (2023)	40	13.33

Source: Authors (2025)

Sustainability journal was found to be the dominant journal in the FD and ST domain with a total of 31 articles published of the 85 articles under review. The top 10 journals are shown in Table 4.

Table 4: The most prominent journals

Journal	Record Count	% of 85
Sustainability	31	36.471%
Corporate Social Responsibility and Environmental Management	4	4.706%
Business Strategy and The Environment	3	3.529%
Environmental Science and Pollution Research	3	3.529%
Frontiers in Environmental Science	3	3.529%
Journal of Cleaner Production	3	3.529%
Discrete Dynamics in Nature and Society	2	2.353%
Finance Research Letters	2	2.353%
International Journal of Environmental Research and Public Health	2	2.353%
International Review of Economics Finance	2	2.353%
Totals	55	64.705%

Source: Author (2025)

3.2 RQ2: What principal theories examine the junction between FD and ST?

Theories are essential in research as they offer a framework for comprehending, elucidating, and forecasting occurrences or a phenomenon. In the FD and ST sector, several theories have been employed, as elaborated in the subsequent sub-section, and illustrated in Table 5, according to the TCCM framework.

3.2.1 Trade-Off Theory

The trade-off theory of capital structure posits that firms select their capital structures to equilibrate the advantages of debt, particularly the interest tax shield, against the corresponding costs of financial strain (Kraus and Litzenberger, 1973). By balancing debt's tax advantages against its risks, businesses can promote responsible management, stakeholder trust, and long-term sustainability (Ai, Frank and Sanati, 2020).

By examining the capital structure of enterprises in the United Kingdom throughout periods of crises, the findings by Alhajjeah and Besim (2024) agreed with the Trade-off Theory that firms that balanced the costs of crises and the tax shield, increased their firm value. In the study by Ginglinger and Moreau (2023), their findings align with the concept that physical climate risk influences leverage through increased anticipated distress costs and elevated operating expenses. These findings strengthen the theory that for firms' sustainability, their financing decisions have to balance off the gains and the costs of the financing choice.

3.2.2 Information Asymmetry Theory

Information asymmetry is another key theory that has been used by various authors studied in this SLR. Following the works by Akerlof (1970); Spence (1973) and Rothschild and Stiglitz (1978), it asserts that an imbalance of knowledge exists between several parties, typically between management (agents) and investors or debtors (principals). Managers typically possess superior, timelier, and comprehensive information regarding the company's actual financial condition, operational hazards, and sustainability efforts compared to external stakeholders. According to El Ghouli et al. (2011), subpar CSR performance heightens information asymmetry, while robust CSR is associated with a diminished cost of equity. Furthermore, a study by Goss and Roberts (2011) revealed that organizations with elevated CSR risks due to information asymmetry had higher borrowing rates, as lenders perceived them as potentially incapable of repaying debt. Therefore, in the presence of information asymmetry, the financing decision attracts a higher cost.

3.2.3 Pecking Order Theory

In financing decisions, the pecking order theory has been used by various authors and it implies that, the financing decisions are influenced by firm specific factors as well as managerial preferences. Proposed by Myers and Majluf (1984), the pecking order theory posits that a target capital structure does not exist. The companies prioritize financing sources in the following sequence: internal financing (retained earnings) and then external financing through debt and equity. Chen, Jung and Chen (2011) studied the how the pecking order theory explained financing decisions for Taiwan based electronic companies. Their findings showed that financing decisions are influenced by profitability and growth rate. Profitability adversely impacts financing decisions thereby making companies to choose utilizing their profits to fund business operations, so relying less on debt financing. The growth rate positively influences financing decisions. The more substantial growth possibility will possess an enhanced financing decision to facilitate financing for expansion.

3.2.4 Stakeholder Theory

According to this theory, an organization cannot exist in isolation. It must coexist with society, enabling the organization to leverage natural resources, human capital, and other assets to provide goods and services (Cots, 2011). At the same time, the organization has to ensure that it does not pollute the environment during its production processes. If it so does, it has to put in sustainability measures in place to minimise the pollution effects(Hoque, Clarke and Huang, 2016). Bhattacharya, Korschun and Sen (2009) notes that, for an organization to be successful, all the needs of the different stakeholders have to be satisfied. This satisfaction leads to better financing decisions with better financing costs and reduced information asymmetry. Öztekin et al. (2022) found that, from the standpoint of debt holders, the disclosure of superior ESG performance is associated with a reduced cost of financing for the firms, which was consistent with the stakeholder's theory.

3.2.5 Other Theories

In this review domain, other theories have been used to explain the intersection of financing decisions and sustainability. Among them are Agency theory (Choi et al., 2020), Modigliani-Miller (M-M) theory (Xu *et al.*, 2020), Legitimacy theory (Lyssimachou and Bilinski, 2023), Signaling theory (Alshareef, 2024a), Life-cycle theory (Dai and Xue, 2022), Resource-Based Theory (Fernandes, Grochau and Ten Caten, 2023) and Sustainable Finance Theory (Zhang, Lin and Cao, 2024).

Using M-M theory, Feldhütter and Pedersen (2022) proposed the notion of ESG-MM, indicating that if markets price ESG linearly and ESG variables are additive, the issuance of green bonds should not diminish the overall cost of capital, as other securities become comparatively "brownier." However, their findings indicated that, although capital structure should theoretically be inconsequential under linear ESG pricing and additive ESG metrics, empirical findings revealed that green bond issuances can reduce the cost of capital, suggesting a breach of the ESG-MM principle.

Based on the study on Legitimacy theory, Attig, Rahaman and Trabelsi (2025) found that private lenders impose penalties on companies with inadequate environmental records by increasing loan spreads and fees. Furthermore, greenwashing resulted in elevated costs of debt financing thereby enabling lenders to provide favorable non-price conditions to mitigate elevated loan expenses for companies involved in selective disclosure, balancing returns with the firms' financing accessibility.

Table 5: A summary of the theories used by the reviewed studies on the intersection of financing decisions and sustainability

Theories used	Representative studies
Trade-off Theory	Du, Wu and Jin (2019); Xu et al. (2020); Zhao et al. (2022); Asimakopoulos, Asimakopoulos and Li (2023); Kong et al. (2023); Wen et al. (2023); Wu et al. (2023); Xin et al. (2023); Alhajjeah and Besim (2024); Subhani, Zunhuan and Khan (2025)
Information Asymmetry Theory	El Ghouli et al. (2011); Palea and Drogo (2020); Li, Chen and Xiang (2022); Wang et al. (2022); Yao, Qi and Guo (2022); Feng and Wu (2023); Tu et al. (2024); Yang et al. (2024); Zhu, Liu and Zhang (2025)
Pecking Order Theory	Zhao et al. (2022); Asimakopoulos, Asimakopoulos and Li (2023); Ginglinger and Moreau (2023); Kong et al. (2023); Wu et al. (2023); Xin et al. (2023); Zahid, Saleem and Maqsood (2023); Ahamad et al. (2024); Alhajjeah and Besim (2024); Rivera-Franco, Requejo and Suárez-González (2025)
Stakeholder Theory	El Ghouli et al. (2011); Li, Chen and Xiang (2022); Wang et al. (2022); Wellalage et al. (2022); Yao, Qi and Guo (2022); Alshareef (2024); Dai and He (2025); Mhiri et al. (2025); Rivera-Franco, Requejo and Suárez-González (2025); Subhani, Zunhuan and Khan (2025)
Legitimacy Theory	Wang et al. (2022); Lyssimachou and Bilinski (2023); Zahid, Saleem and Maqsood (2023); Yang et al. (2024); Yao and Bao (2024); Attig, Rahaman and Trabelsi (2025)
Modigliani-Miller Theory	Xu et al. (2020); Feldhütter and Pedersen (2022); Asimakopoulos, Asimakopoulos and Li (2023); Ginglinger and Moreau (2023); Kong et al. (2023)

Source: Author (2025)

3.3 RQ3: Research Contexts

This section analyses the article's settings to ascertain the contextual significance of FD and ST. Context denotes the background, setting, and conditions pertinent to a study, which affect its design, interpretation, and generalizability (Weise et al. 2020). The focus extends beyond the individual study issue to encompass the overarching societal, cultural, and theoretical frameworks that inform the research process. Grasping the context is essential for researchers to explain their work effectively, interpret findings appropriately, and guarantee the relevance and impact of their research (Ponterotto and Grieger, 2007). In line with previous review articles (Lim, Kumar and Ali, 2022; Rashid et al, 2025) the study considers industries and countries as the contexts of analysis.

3.3.1 Industry-specific context

For the industry-specific context, the study sample of clusters is shown in Table 6. Most of the studies were done on A-share listed companies. Other industries studied were Renewable energy, manufacturing sector, social enterprises, hospitality and tourism, PPP projects, health care industry, mining and extraction industry, financial firms as well as micro-finance institutions. SMEs sector was also studied from the SLR articles sampled.

Table 6: Industry-specific context of the study sample

Industry	Representative studies
A-Share listed companies	Tang, Qi and Zhou (2023); Tu et al. (2024); Yao and Bao (2024); Zhu, Liu and Zhang (2025)
Renewable energy	Dogah, Wesseh Jr and Adomako (2025)
Manufacturing sector	Yang, et al. (2024)
Social enterprises	Fernandes, Grochau and Ten Caten (2023)
Hospitality and tourism	Lyssimachou and Bilinski (2023)
PPP projects	Du, Wu and Zhao (2018); Du, Wu and Jin (2019)
Health care	Y. Zhao et al. (2022)
Mining & extraction	Wojewska et al. (2024)
Financial sector	Rehman, Gonenc and Hermes (2023)
Micro-finance institutions	Ahamad et al., (2024b)

Source: Author (2025)

3.3.2 Country-specific context

Table 7 illustrates the regional distribution of publications based on the sample country of the study. The majority of the studies have been conducted in China, EU and USA. The notion of CS in the context of ST has been less examined in developing or emerging economies (Mubashar and Tariq 2019; Rashid et al. 2025). This indicates that the subject has predominantly been investigated in developed economies, underscoring the need for research encompassing developing and impoverished nations.

Table 7: Country-specific context of the study sample

Country	Count	Representative studies
China	48	Yao and Bao (2024)
EU	18	Amarna et al. (2024)
USA	15	Liu, Wu and Zhou (2024)
Ghana	2	Kong et al. (2023)
Pakistani	1	Xuezhou et al. (2022)
Saudi Arabia	1	Alshareef (2024b)

Source: Author (2025)

3.4 RQ4: Fundamental variables delineating the studies on FD and ST

This section presents the fundamental variables that have been used for studies on FD and ST. It presents the independent variables, dependent variables, mediating variables, moderating variables, control variables as well as instrumental variables that have been used. This summary is shown in Table 8.

Table 8: Dimensions of financing decisions in the context of sustainability

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
CSR Performance	Cost of Equity	Beta, Size, Book to Market ratio, Leverage	-	-	-	El Ghouli et al. (2011)
Climate Risk	Leverage, Cost of Debt, Credit Rating, Net Equity Issued	Profitability, Age, Tobin's Q, Operational Expenses, R&D Expenditure, Size, Interest Coverage	ESG Performance	-	-	Ginglinger and Moreau (2023)
Carbon Intensity	Cost of Debt	Leverage, Operating Margin,	post-2015 Dummy	-	-	Palea and Drogo (2020)

		Working Capital Ratio, Size				
ESG	Debt Financing, Equity Financing	ROA, Z-Score, Net Operating Assets, Board Size, CEO Duality	Audit Quality	-	-	Zahid, Saleem and Maqsood (2023)
ESG Disclosure	Cost of Debt, Financial flexibility, Credit Ratings, Firm value	Book value of Assets, Age, Assets Growth, Operating Income, Leverage, Cash Equivalents,	-	-	-	Feng and Wu (2023)
<i>(continued)</i>						

Table 8: Dimensions of financing decisions in the context of sustainability (continued)

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
Capital Structure, Ownership Structure	Sustainable Product Innovation	Size, ROA, Cash, Dividends, CAPEX, Age, Foreign Sales	-	-	-	Aibar-Guzmán et al. (2022)
CSR	Cost of Debt	Size, ROA, Leverage, Growth, Debt Structure, Cash needs, Age, Fixed Assets, Number of Independent Directors	Green Financial Guidelines	-	-	Li, Chen and Xiang (2022)

ESG Rating	Debt Structure	Assets, Market-to-Book Ratio, Sales, Tangibility, Profitability, SGA cost, Sales over Assets, Financial Pressure. R&D Intensity		-	-	Asimakopoulos, Asimakopoulos and Li (2023)
Debt Funding, Equity funding	ESG performance	Size, Age, Profitability	Ownership Concentration	-	-	Wen et al. (2023)

(continued)

Table 8: Dimensions of financing decisions in the context of sustainability (continued)

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
Green Innovation	Firm Value (Tobin's Q)	Size, ROA, Leverage, Growth, CEO Duality, Age	Corporate Governance Index	Sustainable Development Capability, Debt Financing Cost	Green_Mean	Dai and Xue (2022)
ESG Grade, CSR	Cost of equity	Book-to-Market, Size, Leverage, Market Beta	-	-	-	Ok and Kim (2019)
Environmental management, Debt Financing	Sustainable Financial Growth	Size, Net Assets, Growth Rate	-	Debt Financing	-	Xu et al. (2020)

CSR	Institutional Ownership	Leverage, ROA, R&D, MV, B/M, P/S	-	-	-	Lyssimachou and Bilinski (2023)
Profitability, Growth Opportunity, Non-debt Tax Shields, Size, Tangibility of Assets, Debt Ratio	Leverage	Industry Effect, Ownership type	-	-	-	L. Zhao et al. (2022)
Environmental performance	Access to External Financing	Size, Age, Ownership Top Managers Experience, Current Loan	-	-	-	Wellalage et al. (2022)

(continued)

Table 8: Dimensions of financing decisions in the context of sustainability (continued)

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
CSR	Enterprise Innovation (RD)	Financial Slack, Leverage, Age, Equity concentration, Enterprise value, Growth, ROA, Nature of ownership	Market Competition Degree	Debt Financing Cost	-	Yao, Qi and Guo (2022)
Current Ratio (CR), Debt Ratio (DR)	ROE, Return on Invested Capital (ROIC)	Size, Asset Growth, Operation Efficiency, Assets Tangibility	-	-	-	Wu et al. (2023)

Absolute Disclosure Ratio, Weighted Disclosure Ratio	Debt Cost	Leverage, Profitability, Tangibility, Interest coverage ratio, Expected Default Frequency, Cashflow volatility, Environmental Impact ratio	-	-	-	Attig, Rahaman and Trabelsi (2025)
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(continued)

Table 8: Dimensions of financing decisions in the context of sustainability (continued)

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
Debt Ratio, Debt to Equity Ratio	ROE, Return on Invested Capital (ROIC)	Size, Assets Growth, Operational Efficiency, Assets Tangibility	-	-	-	Kong et al. (2023)
Age, Beta, Dividend Yield, Size, Turnover, Firm specific risk	Leverage, Institutional Ownership	Market-to-Book ratio, R&D, Asset Beta, Log of Sales, Selling Expenditure/Sales	-	-	Industry Dummy & Year Dummy	Choi et al. (2020)

Carbon Information Disclosure (CarbDisc), Sustainable Development (SustaDe)	Financing Cost (Debt Cost)	Size, Profitability, ROA, Quick Ratio, Fixed Asset Turn Over, Total Asset Turn Over, Equity Concentration, Stock liquidity	Sustainable Development	-	-	Wang et al. (2022)
ESG Score	Leverage	Cash, Growth, Profitability, Dividend payout, Non-debt tax shields, Tangibility, Size	-	-	-	Morais et al. (2025)

(continued)

Table 8: Dimensions of financing decisions in the context of sustainability (continued)

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
ESG Rating	Excessive Corporate Debt	Size, Age, Revenue Growth, CEO Duality, Ownership Concentration, Board Size	Cost of Equity Capital	Total Asset Turnover, Debt Financing Cost	Lagged ESG Performance	Yang, Yang, et al. (2024)
Investor Sentiment (Stock Mispricing)	Green Innovation	Size, Age, leverage, ROA, Growth, Asset Structure, Cash Flow, Ownership Concentration, Board Independence, State Ownership	Financial Constraints, Institutional ownership, analyst coverage, state ownership	-	-	Dong, Zhang and Chen (2024)

ESG of Debt, ESG Level	Cost of debt capital, Cost of equity capital, WACC, Enterprise value	Control bond	-	-	-	Feldhütter and Pedersen (2022)
ESG Rating, Financial Sector Development	Corporate Debt Financing	Size, Inflation Rate, Trade Openness, Government Effectiveness, Political Stability, Cross-Border Investment	Financial Sector Development	-	-	Subhani, Zunhuan and Khan (2025)

(continued)

Table 8: Dimensions of financing decisions in the context of sustainability (continued)

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
Carbon Emissions Trading Policy (CETP)	ESG performance	Firm Size, Total number of employees, Firm age, Debt-Asset ratio, ROA, Fixed Asset investment	-	Green Tech Innovation & Financing Constraints	-	Dai and He (2025)
Retained Earnings, Deposits, Donations, Commercial	Self-Sustainability, Cost efficiency, revenue efficiency	size, Inflation Rate, GDP, CYR	External governance	-	-	(Ahamad et al. (2024a, 2024b)

**Borrowing,
Equity**

Climate Risk (CR)	Shadow Banking (SB), Credit Chain (SB_CC), Credit Intermediary (SB_CI)	Leverage, ROA, Size, Age, Dual, Interest, Tangible Asset Ratio	-	Cross-Risks (RISK2), Cash Holding (CASH)	Average Climate Risk Levels of other Firms	Zhang, Lin and Cao (2024)
ROA, ROE, Tobin's Q, CSR,	Short Term Debt to Assets (SDA), Long-Term Debt to Assets (LDA), Total Debt to Assets (TDA)	Growth, Tangibility, Liquidity, Size, Risk	-	ESG	-	Alhajjeah and Besim (2024)

(continued)

Table 8: Dimensions of financing decisions in the context of sustainability (continued)

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
Enterprise digital evolution	Outward foreign investment	Size, Age, Revenue Growth, Board Independence, CEO Duality, Ownership Concentration, Board Size	Age, Debt Cost	ESG Performance	Lagged digital evolution	Yang, Gan, et al. (2024)
Dividend distribution, Market orientation,	Financial Diversity Index	Impact Sector, business model, development stage	-	-	-	Fernandes, Grochau and Ten Caten (2023)

Impact measurement, incubation, tech adoption						
CSR Score	Trade credit	Size, Age, Cash, Tangibility, ROA, Leverage, Tobin's Q, Asset maturity, Purchases, GDP Growth Rate,	Family ownership	-	-	Rivera-Franco, Requejo and Suárez-González (2025)
ESG Performance	Excessive Debt level, Probability of excessive debt	ROA, Firm Size, Growth, Ownership, non-debt tax shield	Internal Control Quality, Analyst Attention	Corporate Debt Financing costs, Short-term debt length,	Number of shares held by corporate ESG funds	Zhu, Liu and Zhang (2025)
<i>(continued)</i>						

Table 8: Dimensions of financing decisions in the context of sustainability (continued)

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
CSR	Leverage, Long-term debt ratio	ROA, Board Size, Tangibility, GDP rate, Tobin-Q, Inflation	Culture	-	ESG Score	Mhiri et al. (2025)
Firm environmental Protection Investment (EPI)	Debt financing costs (Cost)	Tobin's Q, Liquidity, Sales, ROA, Bankruptcy Risk (Z-Score), Intangible Assets	Green Finance, Air quality, Environmental regulation intensity (policy)	Green Technology innovation, ESG performance	EPI_Mean of other firms in the same province	Yao and Bao (2024)

Institutional Ownership (IO), Family Ownership (FO), Government Ownership (GO), Managerial Ownership (MO)	Higgins (1977) Sustainable Growth Rate	Size, Leverage, Age, Board Size, Board Independence	-	-	-	Alshareef (2024a, 2024b)
Lagged Financial Leverage (Leveraget-1)	Market Long term Debt ratio	Profitability, Tangibility, Size, Growth	Gross National Income (GNI), Life Cycle Stages (LCS)	-	-	Xin et al. (2023)
Financing Source proportions, Sustainability Factor,	Capital Structure, Debt-Service Capacity, Equity IRR	Interest Rates, Tax Benefits, Inflation, Public v Private funding	Debt-Equity ratio, Tax Benefits	-	-	González-Ruiz, Botero-Botero and Peña (2022)

**Investment per
period**

(continued)

Table 8: Dimensions of financing decisions in the context of sustainability (continued)

Independent Variables	Dependent Variables	Control Variables	Moderating Variables	Mediating variables	Instrumental Variable	Representative Studies
Environmental management, Debt Financing	Financial Sustainable Growth	Size, Net Assets, Growth Rate	-	Debt Financing	Lagged EM and DF	Ren et al. (2022)
ESG Rating	Corporate Innovation, Media Sentiment	Size, Debt Level, ROA, Age, Analyst coverage, Cash flow level	Media Sentiment	Corporate Financing Constraints	Lag Term of ESG rating (ESGR_L), Mean value of ESGR for other companies in the same industry (ESGR_A)	Tu et al. (2024)

Source: Author (2025)

3.5 RQ5: Research Methods

(Rashid *et al.*, 2025) notes that, conceptual research entails the formulation of an idea by analysing existing data or augmenting a theory by a review of relevant literature, whereas empirical research is grounded in observations, experiments, and verified data. From the findings of this review, almost all the articles under review were empirical research.

Research design for the empirical studies were observed, out of which quantitative studies were the majority, then case studies, qualitative and mixed methods. Furthermore, panel data was used by majority of the empirical articles. The conclusion from this review is that research in FD and ST is mostly empirical, quantitative and uses panel data. This trend is shown in Table 9.

Table 9. Trends in research design

Research design	% of the studies	Representative studies
Quantitative	90.70%	(Wang <i>et al.</i> , 2022; Dong, Zhang and Chen, 2024; Attig, Rahaman and Trabelsi, 2025; Rivera-Franco, Requejo and Suárez-González, 2025)
Case Studies	4.65%	González-Ruiz, Botero-Botero and Peña (2022)
Qualitative	2.33%	Zheng, Li and Zhao (2021)
Mixed Methods	2.32%	Du, Wu and Jin (2019)

Source: Author (2025)

For the data analysis, OLS and panel regression was the mostly across the articles reviewed for the data analysis. GMM estimators were used by several studies as well as discounted cashflows (DCF) and Difference in Differences (DID). Scenario and period analysis was used as well. Some of the studies could use more than one data analysis method. This is summarised in Table 10.

Table 10. Trends in data analysis

Data Analysis	Representative studies
OLS Regression	Ginglinger and Moreau (2023); Lyssimachou and Bilinski (2023); Xin et al. (2023); Zahid, Saleem and Maqsood (2023); Yao and Bao (2024)
Panel Regression	Wang et al. (2022); Wen et al. (2023); Dong, Zhang and Chen (2024); Yang, Gan, et al. (2024)
2SLS & GMM	Xu et al. (2020); Ren et al. (2022); Wu et al. (2023)
Scenario/Period Analysis	González-Ruiz, Botero-Botero and Peña (2022)
DID	Dai and He (2025)
Propensity Score Matching	Tu et al. (2024); Dai and He (2025); Morais et al. (2025)
Quantile Regression	L. Zhao et al. (2022)

Source: Author (2025)

4. RQ6: Future research avenues in Financing Decisions and Sustainability

Under the TCCM lens, this review paper provides a comprehensive overview of the intersection of financing decisions and sustainability. The first observation made was in regard to the geographical distribution. Much of the studies were done in the developed markets and this provides a gap in that the developing and less developed countries/regions. As noted by Yeh et al. (2020) and Rashid et al., (2025), studies in the developing and the underdeveloped regions would not only validate the trends seen in the developed markets but also bridge the global gap in the FD and ST interaction.

Under the research designs, comparative studies are missing. We have investors who invest in different geographics, and this would enrich the findings in the FD and ST dimension. As noted in prior review works by Muhammad and Ali (2025); Rashid et al. (2025), most of the studies relating to capital structure or financing decisions and sustainability are empirical studies that are quantitative in nature. Future studies should diversify the study methodologies for example, adopting mixed methods, using qualitative data as well as refocusing on conceptual studies. Case studies can be considered as well for future studies as it might validate the quantitative studies.

Under the quantitative studies, most of the reviewed articles used panel data. It would be beneficial for future studies to use other types of data in their studies. Panel regression and OLS regression were highly used to analyse the data as well. Analysing the data with other options like structural equation modelling would improve the rigour of future studies. On the variables, moderating variables were mostly used compared to mediating variables. Future studies can mediate more than moderate the relation between financing decisions and sustainability. Also, most of the studies have financing decisions as the dependent variables, and sustainability as the predictor variable. Making the FD to be independent variable and ST be the dependent variable might add rigour the studies in FD and ST. CSR, ESG performance are worthwhile variables that need further studying.

From this review, there have been heavy reliance on listed firms being studied. This leaves the unlisted firms out but for future studies, they can focus more on the unlisted firms. The argument could be lack of data publicly, but then future researchers can benefit by changing the research methodology as well as the data. Lastly, from this review, research in FD and ST only started around 2011, this means that this is a relatively new field that requires a lot of research.

5. Conclusion and Limitations

This SLR concludes by looking at the implications of FD and ST research and findings to different stakeholder, followed by the research conclusions and the limitations of the study.

It will require collective efforts of all stakeholders towards attainment of the SDGs, and this would improve economic, social and environmental sustainability. To academicians, this review highlights the need for more research in the FD and ST intersection. There are different ways on how academicians can improve the research in FD and ST field. For example, collaborations between sustainability researchers and finance scholars could provide more rigour in this domain. Furthermore, FD and ST cuts across different firms in different sectors and such studies could be used to validate other studies.

To the shareholders, the review has found that firms engaging in CSR activities are more likely to get lower cost of debt. With lower cost of debt, it would mean more distributable profits, and this would be beneficial to the shareholders. Furthermore, firms that engage in sustainability activities have been found to increase their firm value and this would be in line with wealth maximization objective of the shareholders.

To the creditors and debtholders, firms that engage in sustainability practices are more likely to perform better and this ensures that debts and liabilities are paid on time. Furthermore, firms engaging in CSR activities, having better ESG performance, have reduced risk profile and this would mean that creditors and debtholders risk of having non-performing credit is lowered. The lenders can also incorporate CSR and ESG ratings in their credit evaluation criteria.

The investors are able to align their investment practices with the firms that have their shared vision and goals. For example, impact investors are not only interested in the financial gains from investments, but also are interested in how the firm impacts socially, economically and environmentally.

Furthermore, ethical and responsible investors are able to weed out firms from their portfolios that are not aligned with their investment mantra. To the regulators, they can formulate guidelines that link financing decisions and sustainability. Also, they can promote disclosures and reporting requirements for FD and ST.

This study finds that Trade-off theory is the most used foundational theory for the FD and ST intersection. Most of the studies have been done in the developed world and close to none in the developing and under-developed countries. Methodologically, most of the studies have relied more on empirical studies over conceptual studies with the empirical studies relying more on quantitative methods. The quantitative methods have relied more on panel data with panel and OLS regression being the most used tools of analysis. This study acknowledges possible limitations among them, source scope as well as restricted language as the study focussed on articles that have been published in English only. This could have produced biasness that could affect the generalizability of the findings. The use of TCCM framework may have limited the analytical depth and so, future reviewers could utilise other frameworks. Finally, this SLR highlights the fields of FD and ST as emerging and underexamined domains, offering significant prospects for the advancement of rigorous research in this area.

Declaration on the use of AI

This SLR has not been generated by any generative software. The authors declare the use of Quillbot for paraphrasing as well as reducing the grammatical errors of this SLR.

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References

- Abogazia, A.H. *et al.* (2024) ‘The moderating effect of external financing on the relationship between integrated reporting and firm value in Egypt’, *Journal of Financial Reporting and Accounting*, 22(5). Available at: <https://doi.org/10.1108/JFRA-05-2022-0195>.
- Ahamad, S. *et al.* (2024a) ‘Relationship between microfinance institutions’ self-sustainability and financing sources: Moderating role of external governance. ’, *Annals of Public and Cooperative Economics*, 95(4), pp. 971–1001.
- Ahamad, S. *et al.* (2024b) ‘Relationship between microfinance institutions’ self-sustainability and financing sources: Moderating role of external governance. ’, *Annals of Public and Cooperative Economics*, 95(4), pp. 971–1001.
- Ai, H., Frank, M.Z. and Sanati, A. (2020) ‘The Trade-off Theory of Corporate Capital Structure’, *SSRN Electronic Journal* [Preprint]. Available at: <https://doi.org/10.2139/ssrn.3595492>.
- Aibar-Guzmán, B. *et al.* (2022) ‘Sustainable product innovation in agri-food industry: Do ownership structure and capital structure matter?’, *Journal of Innovation and Knowledge*, 7(1). Available at: <https://doi.org/10.1016/j.jik.2021.100160>.
- Akerlof, G.A. (1970) ‘The market for “lemons”: Quality uncertainty and the market mechanism’, *Quarterly Journal of Economics*. Available at: <https://doi.org/10.2307/1879431>.
- Alhajjeah, D. and Besim, M. (2024) ‘Firms’ Capital Structure during Crises: Evidence from the United Kingdom. ’, *Sustainability*, 16(13), p. 5469.
- Al-Najjar, B. and Al-Najjar, D. (2017) ‘The impact of external financing on firm value and a corporate governance index: SME evidence’, *Journal of Small Business and Enterprise Development*, 24(2). Available at: <https://doi.org/10.1108/JSBED-11-2016-0172>.
- Alshareef, M.N. (2024a) ‘Ownership structure and financial sustainability of Saudi listed firms. ’, *Sustainability*, 16(9), p. 3773.
- Alshareef, M.N. (2024b) ‘Ownership structure and financial sustainability of Saudi listed firms. ’, *Sustainability*, 16(9), p. 3773.

- Amarna, K. *et al.* (2024) ‘The effect of environmental, social, and governance disclosure and real earning management on the cost of financing’, *Corporate Social Responsibility and Environmental Management*, 31(4). Available at: <https://doi.org/10.1002/csr.2740>.
- Al Amosh, H. *et al.* (2024) ‘Capital structure decisions and environmental, social and governance performance: insights from Jordan’, *Journal of Financial Reporting and Accounting*, 22(4). Available at: <https://doi.org/10.1108/JFRA-12-2021-0453>.
- Arhinful, R. *et al.* (2024) ‘The influence of cost of debt, cost of equity and weighted average cost of capital on dividend policy decision: Evidence from non-financial companies listed on the Frankfurt Stock Exchange. ’, *Future Business Journal*, 10(1), p. 99.
- Arvidsson, S. and Dumay, J. (2022) ‘Corporate ESG reporting quantity, quality and performance: Where to now for environmental policy and practice?’, *Business Strategy and the Environment*, 31(3). Available at: <https://doi.org/10.1002/bse.2937>.
- Asimakopoulous, P., Asimakopoulous, S. and Li, X. (2023) ‘The role of environmental, social, and governance rating on corporate debt structure’, *Journal of Corporate Finance*, 83. Available at: <https://doi.org/10.1016/j.jcorpfin.2023.102488>.
- Attig, N., Rahaman, M. and Trabelsi, S. (2025) ‘Creditors at the gate: Effects of selective environmental disclosure on the cost of debt. ’, *Corporate Governance: An International Review*, 33(2), pp. 202–230.
- Aust, V., Morais, A.I. and Pinto, I. (2020) ‘How does foreign direct investment contribute to Sustainable Development Goals? Evidence from African countries’, *Journal of Cleaner Production*, 245. Available at: <https://doi.org/10.1016/j.jclepro.2019.118823>.
- Baumgartner, R.J. and Rauter, R. (2017) ‘Strategic perspectives of corporate sustainability management to develop a sustainable organization’, *Journal of Cleaner Production*, 140. Available at: <https://doi.org/10.1016/j.jclepro.2016.04.146>.
- Bhattacharya, C.B., Korschun, D. and Sen, S. (2009) ‘Strengthening stakeholder-company relationships through mutually beneficial corporate social responsibility initiatives’, *Journal of Business Ethics*, 85(SUPPL. 2). Available at: <https://doi.org/10.1007/s10551-008-9730-3>.

- Bhuiyan, M.B.U. and Nguyen, T.H.N. (2020) 'Impact of CSR on cost of debt and cost of capital: Australian evidence', *Social Responsibility Journal*, 16(3). Available at: <https://doi.org/10.1108/SRJ-08-2018-0208>.
- Bhukya, R. and Paul, J. (2023) 'Social influence research in consumer behavior: What we learned and what we need to learn? – A hybrid systematic literature review', *Journal of Business Research*, 162. Available at: <https://doi.org/10.1016/j.jbusres.2023.113870>.
- Cassely, L. *et al.* (2021) 'Corporate social performance (CSP) in time of economic crisis', *Sustainability Accounting, Management and Policy Journal*, 12(5). Available at: <https://doi.org/10.1108/SAMPJ-07-2020-0262>.
- Chen, L., Jung, C. and Chen, S.-Y. (2011) 'How the Pecking-Order Theory Explain Capital Structure', *Journal of International Management Studies*, 6.2(1984).
- Choi, P.M.S. *et al.* (2020) 'Corporate governance and capital structure: Evidence from sustainable institutional ownership', *Sustainability (Switzerland)*. Available at: <https://doi.org/10.3390/su12104190>.
- Christofi, M. *et al.* (2021) 'Agility and flexibility in international business research: A comprehensive review and future research directions', *Journal of World Business*, 56(3). Available at: <https://doi.org/10.1016/j.jwb.2021.101194>.
- Cots, E.G. (2011) 'Stakeholder social capital: A new approach to stakeholder theory', *Business Ethics*, 20(4). Available at: <https://doi.org/10.1111/j.1467-8608.2011.01635.x>.
- Dai, D. and Xue, Y. (2022) 'The Impact of Green Innovation on a Firm's Value from the Perspective of Enterprise Life Cycles', *Sustainability (Switzerland)*, 14(3). Available at: <https://doi.org/10.3390/su14031226>.
- Dai, Y. and He, R. (2025) 'The Impact of Carbon Emissions Trading Policy on the ESG Performance of Heavy-Polluting Enterprises: The Mediating Role of Green Technological Innovation and Financing Constraints. ', *Sustainability*, 17(4), pp. 2071–1050.
- Dang, H.N. *et al.* (2019) 'Study the Impact of Growth, Firm Size, Capital Structure, and Profitability on Enterprise Value: Evidence of Enterprises in Vietnam', *Journal of Corporate Accounting and Finance*, 30(1). Available at: <https://doi.org/10.1002/jcaf.22371>.

- Dogah, K.E., Wesseh Jr, P.K. and Adomako, S. (2025) 'Green credit policy, technological innovation, and corporate financial performance: Evidence from the energy industry. ', *Business Strategy and the Environment*, 34(1), pp. 1171–1188.
- Dong, L., Zhang, X. and Chen, J. (2024) 'Does investor sentiment drive corporate green innovation: Evidence from China. ', *Sustainability*, 16(8), p. 3220.
- Du, J., Wu, H. and Jin, R. (2019) 'Capital structure of public-private partnership projects: A sustainability perspective', *Sustainability (Switzerland)*, 11(13). Available at: <https://doi.org/10.3390/su11133505>.
- Du, J., Wu, H. and Zhao, X. (2018) 'Critical factors on the capital structure of Public-Private Partnership projects: A sustainability perspective', *Sustainability (Switzerland)*, 10(6). Available at: <https://doi.org/10.3390/su10062066>.
- Feldhütter, P. and Pedersen, L.H. (2022) 'Is Capital Structure Irrelevant with ESG Investors?', *SSRN Electronic Journal* [Preprint]. Available at: <https://doi.org/10.2139/ssrn.4227547>.
- Feng, Z. and Wu, Z. (2023) 'ESG Disclosure, REIT Debt Financing and Firm Value', *Journal of Real Estate Finance and Economics*, 67(3). Available at: <https://doi.org/10.1007/s11146-021-09857-x>.
- Fernandes, E. da S., Grochau, I.H. and Ten Caten, C.S. (2023) 'Impact Investing: Determinants of External Financing of Social Enterprises in Brazil', *Sustainability (Switzerland)*, 15(15). Available at: <https://doi.org/10.3390/su151511935>.
- Folqué, M., Escrig-Olmedo, E. and Corzo Santamaría, T. (2021) 'Sustainable development and financial system: Integrating ESG risks through sustainable investment strategies in a climate change context', *Sustainable Development*, 29(5). Available at: <https://doi.org/10.1002/sd.2181>.
- El Ghouli, S. *et al.* (2011) 'Does corporate social responsibility affect the cost of capital?', *Journal of Banking and Finance*, 35(9). Available at: <https://doi.org/10.1016/j.jbankfin.2011.02.007>.
- Ginglinger, E. and Moreau, Q. (2023) 'Climate Risk and Capital Structure', *Management Science*, 69(12). Available at: <https://doi.org/10.1287/mnsc.2023.4952>.

- González-Ruiz, J.D., Botero-Botero, S. and Peña, A. (2022) 'Analysis of the Capital Structure in Sustainable Infrastructure Systems: A Methodological Approach', *Sustainability (Switzerland)*, 14(19). Available at: <https://doi.org/10.3390/su141912662>.
- Goss, A. and Roberts, G.S. (2011) 'The impact of corporate social responsibility on the cost of bank loans', *Journal of Banking and Finance*, 35(7). Available at: <https://doi.org/10.1016/j.jbankfin.2010.12.002>.
- Hoque, A., Clarke, A. and Huang, L. (2016) 'Lack of Stakeholder Influence on Pollution Prevention: A Developing Country Perspective', *Organization and Environment*, 29(3). Available at: <https://doi.org/10.1177/1086026615623057>.
- Huang, H.H. et al. (2022) 'Firm climate risk, risk management, and bank loan financing', *Strategic Management Journal*, 43(13). Available at: <https://doi.org/10.1002/smj.3437>.
- Khan, F.M., Anas, M. and Uddin, S.M.F. (2024) 'Anthropomorphism and consumer behaviour: A SPAR-4-SLR protocol compliant hybrid review', *International Journal of Consumer Studies*. Available at: <https://doi.org/10.1111/ijcs.12985>.
- Kong, Y. et al. (2023) 'Capital Structure and Corporates Financial Sustainability: Evidence from Listed Non-Financial Entities in Ghana', *Sustainability (Switzerland)*, 15(5). Available at: <https://doi.org/10.3390/su15054211>.
- Kraus, A. and Litzenberger, R.H. (1973) 'A STATE-PREFERENCE MODEL OF OPTIMAL FINANCIAL LEVERAGE', *The Journal of Finance*, 28(4). Available at: <https://doi.org/10.1111/j.1540-6261.1973.tb01415.x>.
- Kraus, S. et al. (2022) 'Literature reviews as independent studies: guidelines for academic practice', *Review of Managerial Science*, 16(8). Available at: <https://doi.org/10.1007/s11846-022-00588-8>.
- Law, R., Ye, H. and Chan, I.C.C. (2022) 'A critical review of smart hospitality and tourism research', *International Journal of Contemporary Hospitality Management*. Available at: <https://doi.org/10.1108/IJCHM-08-2021-0986>.
- Le, T.P.V. and Phan, T.B.N. (2017) 'Capital structure and firm performance: Empirical evidence from a small transition country', *Research in International Business and Finance*, 42. Available at: <https://doi.org/10.1016/j.ribaf.2017.07.012>.

- Li, Y., Chen, R. and Xiang, E. (2022) 'Corporate social responsibility, green financial system guidelines, and cost of debt financing: Evidence from pollution-intensive industries in China', *Corporate Social Responsibility and Environmental Management*, 29(3). Available at: <https://doi.org/10.1002/csr.2222>.
- Lim, W.M., Kumar, S. and Ali, F. (2022) 'Advancing knowledge through literature reviews: "what", "why", and "how to contribute"', *Service Industries Journal*, 42(7–8). Available at: <https://doi.org/10.1080/02642069.2022.2047941>.
- Lim, W.M., Yap, S.F. and Makkar, M. (2021) 'Home sharing in marketing and tourism at a tipping point: What do we know, how do we know, and where should we be heading?', *Journal of Business Research*, 122. Available at: <https://doi.org/10.1016/j.jbusres.2020.08.051>.
- Liu, F.H., Wu, Q. and Zhou, Y. (2024) 'Bank deregulation and corporate social responsibility. ', *Journal of Financial Stability*, 74, p. 101313.
- Luo, W. *et al.* (2019) 'Environmental information disclosure quality, media attention and debt financing costs: Evidence from Chinese heavy polluting listed companies', *Journal of Cleaner Production*, 231. Available at: <https://doi.org/10.1016/j.jclepro.2019.05.237>.
- Lyssimachou, D. and Bilinski, P. (2023) 'Does corporate social responsibility affect the institutional ownership of firms in the hospitality and tourism industry?', *Tourism Economics*, 29(4). Available at: <https://doi.org/10.1177/13548166211069899>.
- Magnanelli, B.S. and Izzo, M.F. (2017) 'Corporate social performance and cost of debt: The relationship', *Social Responsibility Journal*, 13(2). Available at: <https://doi.org/10.1108/SRJ-06-2016-0103>.
- Martín-Martín, A. *et al.* (2018) 'Google Scholar, Web of Science, and Scopus: A systematic comparison of citations in 252 subject categories', *Journal of Informetrics*, 12(4). Available at: <https://doi.org/10.1016/j.joi.2018.09.002>.
- Mhiri, C. *et al.* (2025) 'Corporate social responsibility and capital structure: Moderating effect of culture. ', *Corporate Social Responsibility and Environmental Management*, 32(1), pp. 698–717.

- Mishra, R., Singh, R.K. and Koles, B. (2021) 'Consumer decision-making in omnichannel retailing: Literature review and future research agenda', *International Journal of Consumer Studies*. Available at: <https://doi.org/10.1111/ijcs.12617>.
- Morais, F. *et al.* (2025) 'The effect of environment, social and governance on demand and supply of debt', *Applied Economics*, 57(21). Available at: <https://doi.org/10.1080/00036846.2024.2331422>.
- Mubashar, A. and Tariq, Y. Bin (2019) 'Capital budgeting decision-making practices: evidence from Pakistan', *Journal of Advances in Management Research*, 16(2). Available at: <https://doi.org/10.1108/JAMR-07-2018-0055>.
- Muhammad, H. and Ali, S. (2025) 'The interplay of board gender diversity, debt financing, and sustainable investment: evidence from Europe. ', *Journal of sustainable finance & investment*, 15(1), pp. 1–21.
- Myers, S.C. and Majluf, N.S. (1984) 'Corporate financing and investment decisions when firms have information that investors do not have', *Journal of Financial Economics*, 13(2). Available at: [https://doi.org/10.1016/0304-405X\(84\)90023-0](https://doi.org/10.1016/0304-405X(84)90023-0).
- Nguyen, V.H., Agbola, F.W. and Choi, B. (2019) 'Does corporate social responsibility reduce information asymmetry? Empirical evidence from Australia', *Australian Journal of Management*, 44(2). Available at: <https://doi.org/10.1177/0312896218797163>.
- Ok, Y. and Kim, J. (2019) 'Which corporate social responsibility performance affects the cost of equity? Evidence from Korea', *Sustainability (Switzerland)*, 11(10). Available at: <https://doi.org/10.3390/su11102947>.
- Ombai, P., Kiflemariam, A. and Odollo, L. (2024) 'Financial and Non-Financial Information on Strategy Management Process; A Systematic Literature Review. ', *Journal of Strategic Management*, 8(1), pp. 33–64.
- Onwuzulike, O.C. *et al.* (2024) 'Corporate sustainability and innovation: Integrating strategic management approach. ', *World Journal of Advanced Research and Reviews*, 23(3), p. 4.
- Öztekin, Ö. *et al.* (2022) 'ESG and the cost of capital Does disclosure of ESGÖztekin, Ö., Flannery, M. J., Aleknevičienė, V., Stralkutė, S., Modigliani, F., Miller, M. H., Bacha, S.,

Ajina, A., Saad, S. Ben, Liao, L. K. C., Mukherjee, T., Wang, W., Freeman, R. E., Harrison, J. S., ', *Sustainability (Switzerland)*, 16(1).

Palea, V. and Drogo, F. (2020) 'Carbon emissions and the cost of debt in the eurozone: The role of public policies, climate-related disclosure and corporate governance', *Business Strategy and the Environment*, 29(8). Available at: <https://doi.org/10.1002/bse.2550>.

Paul, J. *et al.* (2021) 'Scientific procedures and rationales for systematic literature reviews (SPAR-4-SLR)', *International Journal of Consumer Studies* [Preprint]. Available at: <https://doi.org/10.1111/ijcs.12695>.

Paul, J. and Criado, A.R. (2020) 'The art of writing literature review: What do we know and what do we need to know?', *International Business Review*, 29(4). Available at: <https://doi.org/10.1016/j.ibusrev.2020.101717>.

Paul, J. and Rosado-Serrano, A. (2019) 'Gradual Internationalization vs Born-Global/International new venture models: A review and research agenda', *International Marketing Review*. Available at: <https://doi.org/10.1108/IMR-10-2018-0280>.

Ponterotto, J.G. and Grieger, I. (2007) 'Effectively Communicating Qualitative Research', *The Counseling Psychologist*, 35(3). Available at: <https://doi.org/10.1177/0011000006287443>.

Rashid, A. (2014) 'Firm external financing decisions: explaining the role of risks', *Managerial Finance*, 40(1). Available at: <https://doi.org/10.1108/MF-02-2013-0049>.

Rashid, U. *et al.* (2025) 'Unlocking the synergy between capital structure and corporate sustainability: a hybrid systematic review and pathways for future research. ', *International Journal of Organizational Analysis*. [Preprint].

Rehman, A., Gonenc, H. and Hermes, N. (2023) 'Carbon disclosure policy, external financing needs and the cost of capital: Does financial market quality matter?', *Business Strategy and the Environment*, 32(8). Available at: <https://doi.org/10.1002/bse.3452>.

Ren, Z. *et al.* (2022) 'A Decision Support System to Estimate Green Sustainability from Environmental Protection and Debt Financing Indicators', *Agriculture (Switzerland)*, 12(8). Available at: <https://doi.org/10.3390/agriculture12081249>.

Rivera-Franco, P., Requejo, I. and Suárez-González, I. (2025) 'Does CSR facilitate access to trade credit? The role of family ownership. ', *Review of Managerial Science*, 19(5), pp. 1477–1512.

Rothschild, M. and Stiglitz, J. (1978) 'Equilibrium in competitive insurance markets: An essay on the economics of imperfect information. In *Uncertainty in economics* ', *Academic Press.*, pp. 257–280.

Salehi, M. and Arianpoor, A. (2021) 'The relationship among financial and non-financial aspects of business sustainability performance: evidence from Iranian panel data', *TQM Journal*, 33(6). Available at: <https://doi.org/10.1108/TQM-08-2020-0175>.

Singh, V.K. *et al.* (2021) 'The journal coverage of Web of Science, Scopus and Dimensions: A comparative analysis', *Scientometrics*, 126(6). Available at: <https://doi.org/10.1007/s11192-021-03948-5>.

Spence, M. (1973) 'Job market signaling', *Quarterly Journal of Economics*, 87(3). Available at: <https://doi.org/10.2307/1882010>.

Subhani, B.H., Zunhuan, S. and Khan, M.A. (2025) 'Finance for a Greener future: Evolving the financial sector for ESG and sustainable corporate debt management.', *Borsa Istanbul Review*, 25(2), pp. 337–349.

Sureka, R. *et al.* (2022) 'Five decades of research on capital budgeting – A systematic review and future research agenda', *Research in International Business and Finance*, 60. Available at: <https://doi.org/10.1016/j.ribaf.2021.101609>.

Tan, W. *et al.* (2020) 'Corporate social responsibility (CSR) disclosure and the choice between bank debt and public debt', *Accounting Horizons*, 34(1). Available at: <https://doi.org/10.2308/acch-52631>.

Tang, S., Qi, S. and Zhou, C. (2023) 'Impact of dual control system of energy consumption and intensity on cost of debt financing: micro-evidence from Chinese listed companies', *Environmental Science and Pollution Research*, 30(19). Available at: <https://doi.org/10.1007/s11356-023-26408-4>.

- Thao, L.H.N., Anh, D.N.P. and Velencei, J. (2019) 'Measuring corporate social performance', *Serbian Journal of Management*, 14(1). Available at: <https://doi.org/10.5937/sjm14-18009>.
- Thun, T.W. *et al.* (2024) 'The role of sustainability integration into the corporate strategy – A perspective on analysts' perceptions and buy recommendations', *Heliyon*, 10(3). Available at: <https://doi.org/10.1016/j.heliyon.2024.e25008>.
- Tu, K. *et al.* (2024) 'ESG Ratings, Media Sentiment, and Corporate Innovation Performance.', *Sustainability*, 16(24), p. 11166.
- Wang, G. *et al.* (2022) 'Corporate Carbon Information Disclosure and Financing Costs: The Moderating Effect of Sustainable Development', *Sustainability (Switzerland)*, 14(15). Available at: <https://doi.org/10.3390/su14159159>.
- Weise, A. *et al.* (2020) 'Assessing context suitability (generalizability, external validity, applicability or transferability) of findings in evidence syntheses in healthcare—An integrative review of methodological guidance', *Research Synthesis Methods*. Available at: <https://doi.org/10.1002/jrsm.1453>.
- Wellalage, N.H. *et al.* (2022) 'Environmental performance and firm financing during COVID-19 outbreaks: Evidence from SMEs', *Finance Research Letters*, 47. Available at: <https://doi.org/10.1016/j.frl.2021.102568>.
- Wen, K. *et al.* (2023) 'The Moderating Role of Ownership Concentration on Financing Decisions and Firm's Sustainability: Evidence from China', *Sustainability (Switzerland)*, 15(18). Available at: <https://doi.org/10.3390/su151813385>.
- Wojewska, A.N. *et al.* (2024) 'The criticality of lithium and the finance-sustainability nexus: Supply-demand perceptions, state policies, production networks, and financial actors', *Extractive Industries and Society*, 17. Available at: <https://doi.org/10.1016/j.exis.2023.101393>.
- Wu, N. *et al.* (2023) 'Do Liquidity and Capital Structure Predict Firms' Financial Sustainability? A Panel Data Analysis on Quoted Non-Financial Establishments in Ghana', *Sustainability (Switzerland)*, 15(3). Available at: <https://doi.org/10.3390/su15032240>.

- Xin, Y. *et al.* (2023) 'Unleashing the Moderating Influence of Firms' Life Cycle Stages and National Income on Capital Structure Targeting Behavior: A Roadmap towards Sustainable Development', *Sustainability (Switzerland)*, 15(4). Available at: <https://doi.org/10.3390/su15042945>.
- Xu, H., Xu, X. and Yu, J. (2021) 'The Impact of Mandatory CSR Disclosure on the Cost of Debt Financing: Evidence from China', *Emerging Markets Finance and Trade*, 57(8). Available at: <https://doi.org/10.1080/1540496X.2019.1657401>.
- Xu, X. and Li, J. (2020) 'Asymmetric impacts of the policy and development of green credit on the debt financing cost and maturity of different types of enterprises in China', *Journal of Cleaner Production*, 264. Available at: <https://doi.org/10.1016/j.jclepro.2020.121574>.
- Xu, X.L. *et al.* (2020) 'The Effects of Environmental Management and Debt Financing on Sustainable Financial Growth in the Tourism Industry', *SAGE Open*, 10(3). Available at: <https://doi.org/10.1177/2158244020948530>.
- Xuezhou, W. *et al.* (2022) 'Does Firm Growth Impede or Expedite Insolvency Risk? A Mediated Moderation Model of Leverage Maturity and Potential Fixed Collaterals', *Frontiers in Environmental Science*, 10. Available at: <https://doi.org/10.3389/fenvs.2022.841380>.
- Yáñez, S. *et al.* (2019) 'The sustainability report as an essential tool for the holistic and strategic vision of higher education institutions', *Journal of Cleaner Production*, 207. Available at: <https://doi.org/10.1016/j.jclepro.2018.09.171>.
- Yang, X., Gan, H., *et al.* (2024) 'A study on the impact of enterprise digital evolution on outward foreign investments. ', *Sustainability*, 16(10), p. 4021.
- Yang, X., Yang, T., *et al.* (2024) 'The Impact of ESG on Excessive Corporate Debt. ', *Sustainability*, 16(16), p. 6920.
- Yao, J. jing, Qi, Y. ang and Guo, B. (2022) 'Corporate social responsibility, debt financing cost and enterprise innovation', *Scientific Reports*, 12(1). Available at: <https://doi.org/10.1038/s41598-022-26076-3>.
- Yao, X. and Bao, X. (2024) 'Corporate Environmental Protection Investment and Debt Financing Costs: Evidence from China. ', *Sustainability*, 16(23), p. 10786.

- Yeh, C.C. *et al.* (2020) 'Does corporate social responsibility affect cost of capital in China?', *Asia Pacific Management Review*, 25(1). Available at: <https://doi.org/10.1016/j.apmr.2019.04.001>.
- Zahid, R.M.A., Saleem, A. and Maqsood, U.S. (2023) 'ESG performance, capital financing decisions, and audit quality: empirical evidence from Chinese state-owned enterprises', *Environmental Science and Pollution Research*, 30(15). Available at: <https://doi.org/10.1007/s11356-023-25345-6>.
- Zhang, Q., Lin, Y. and Cao, Y. (2024) 'From financialization to sustainability: the impact of climate risks on shadow banking activities in non-financial firms in China. ', *Sustainability*, 16(19), p. 8675.
- Zhao, L. *et al.* (2022) 'Determinants of Financial Sustainability in Chinese Firms: A Quantile Regression Approach', *Sustainability (Switzerland)*, 14(3). Available at: <https://doi.org/10.3390/su14031555>.
- Zhao, Y. *et al.* (2022) 'Equity financing intention of elderly care enterprises: Influence of institutional logic and operation mode', *Frontiers in Public Health*, 10. Available at: <https://doi.org/10.3389/fpubh.2022.811876>.
- Zheng, H., Li, J. and Zhao, X. (2021) 'How does financial policy support the development of China's fishery? Characteristics, experience and prospects', *Marine Policy*, 132. Available at: <https://doi.org/10.1016/j.marpol.2021.104678>.
- Zhu, J. and Liu, W. (2020) 'A tale of two databases: the use of Web of Science and Scopus in academic papers', *Scientometrics*, 123(1). Available at: <https://doi.org/10.1007/s11192-020-03387-8>.
- Zhu, T., Liu, D. and Zhang, L. (2025) 'Does ESG Performance Help Corporate Deleveraging? Based on an Analysis of Excessive Corporate Debt. ', *Sustainability*, 17(3), p. 1274.
- Ziolo, M. *et al.* (2019) 'How to design more sustainable financial systems: The roles of environmental, social, and governance factors in the decision-making process', *Sustainability (Switzerland)*, 11(20). Available at: <https://doi.org/10.3390/su11205604>.