
The Impact of Green Finance on Financial Sustainability of the Banking Sector in Sri Lanka

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A B S T R A C T

Green finance is emerging as a major force for sustainable development in the banking industry, yet there is still limited empirical research on its effects on financial sustainability in Sri Lanka. This study examines how the economic, environmental, and social dimensions of green finance affect the short-term and long-term financial sustainability of licensed commercial banks in Sri Lanka. A cross-sectional survey design grounded in a positivist, deductive, quantitative approach was adopted, whereby the economic, environmental, and social dimensions of green finance and a set of short-term and long-term indicators were used to measure the financial sustainability of the banking sector. A structured questionnaire using a five-point Likert scale was used to collect primary data from 240 managerial and finance employees of licensed commercial banks in Sri Lanka, selected through convenience (availability) sampling. Partial Least Squares Structural Equation Modelling (PLS-SEM) was used to analyse the data. The results demonstrate that all three dimensions of green finance - economic, environmental, and social - have a significant positive effect on both short-term and long-term financial sustainability, with the economic dimension having the greatest impact and the social dimension having relatively less significant effects. The study concludes that green finance is a crucial complement to financial sustainability in the banking industry in Sri Lanka, with key implications for policymakers and financial institutions seeking to enhance sustainable financial practices. The findings add to the limited empirical research available in a developing-country setting and offer lessons on how to enhance the adoption and performance of green finance initiatives.

Keywords: Economic Dimension of Green Finance, Environmental Dimension of Green Finance, Social Dimension of Green Finance, Long-Term Financial Sustainability, Short-Term Financial Sustainability.

1. Introduction

The growing intensity of climate change and the depletion of natural resources have made financial sustainability a strategic objective for organisations across the globe. Green finance has, in this respect, become one of the most important tools for ensuring the development of a green economy. In line with the concept of sustainable development, it addresses the current

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financial needs of society without jeopardising the capacity of future generations to meet their own needs (Central Bank of Sri Lanka, 2022; Feng et al., 2024).

Green finance has been attracting increasing interest in Sri Lanka, especially within the banking industry. The Central Bank of Sri Lanka has implemented programmes such as the Roadmap to Sustainable Finance and the Sri Lanka Green Finance Taxonomy, which facilitate the sustainable issuance of bonds, disclosure, and capacity building. Nonetheless, challenges remain, including insufficient awareness, limited adoption of green financial products, and institutional barriers (Feng et al., 2024; Wijethunga & Dayaratne, 2018). Moreover, private-sector involvement remains inadequate, which further restrains the development of the sector (Shaumya & Arulrajah, 2016).

There is a diversity of empirical evidence on the association between green finance and financial performance. Gunasekera et al. (2025) found that economic and social sustainability programmes had a positive impact on the financial performance of systemically important Sri Lankan banks, whereas environmental programmes did not have a significant impact. Wickramarathna et al. (2024) emphasised a lack of customer awareness regarding sustainable banking practices, without exploring financial performance directly. Globally, Banani and Sunarko (2022) found a positive correlation between green finance and financial performance in developing economies, while Viverita (2023) reported a negative effect on profitability. These contradictions point to the need for additional context-specific research.

Practical and structural difficulties also act as barriers to effective implementation, including low levels of standardisation, ineffective regulation, and capacity constraints prevalent in developing economies (Mujuka & Sporta, 2023). Issues of greenwashing and data misrepresentation further undermine reliability (Munro, 2020; Bo & Battisti, 2024), and current regulations can foster symbolic compliance rather than genuine sustainability, imposing a financial burden without commensurate environmental improvements (Zhang, 2022; Alaudhli, 2024).

This study is grounded in stakeholder theory and legitimacy theory. Stakeholder theory suggests that banks meeting the environmental and social expectations of their stakeholders build relational capital and gain access to resources, which can translate into better financial outcomes (Banani & Sunarko, 2022; Alguindigue Ruiz & Weber, 2021). Legitimacy theory similarly holds that banks are expected to implement green finance initiatives to remain congruent with regulatory and societal expectations, such as CBSL's Roadmap to Sustainable Finance and Green Finance Taxonomy (2022), and that this congruence should be reflected in short- and long-term financial outcomes. These perspectives, combined with the mixed empirical evidence summarised above, guide the hypotheses developed in the Methodology section.

Although attention to this topic is increasing, there remains a paucity of empirical research on the effects of green finance on the short- and long-term financial sustainability of the banking industry in Sri Lanka (Feng et al., 2024; Sivalingam & Arulrajah, 2022). This research seeks to fill this gap by exploring how green finance has affected financial sustainability in Sri Lanka. The objectives of this study are (i) to investigate the impact of the economic, environmental, and social dimensions of green finance on the short-term financial sustainability of the banking sector in Sri Lanka, and (ii) to investigate the impact of these same dimensions on the long-term financial sustainability of the banking sector in Sri Lanka.

The research questions guiding this study are:

1. How does green finance influence the short-term financial sustainability of the banking sector in Sri Lanka?
2. How does green finance influence the long-term financial sustainability of the banking sector in Sri Lanka?

This study is significant in that it contributes to the existing literature by addressing the identified gap, and it provides practical insights for banking institutions seeking to enhance green finance as part of their financial sustainability initiatives.

2. Research Methodology

2.1. Research Philosophy

The research is founded on the positivist research philosophy, which assumes that reality is objective and measurable through scientific means. Positivism examines relationships between variables using quantitative data and statistical analysis. As this study investigates the connections between green finance drivers and financial sustainability, the positivist approach is suitable, enabling hypothesis testing and generalised findings based on empirical data (Bryman, 2016).

2.2. Research Design

This research adopts a quantitative, cross-sectional survey design. The quantitative method allows the assessment of relationships between variables using numerical data, while the cross-sectional design enables data collection at a single point in time. The survey targeted employees in managerial and finance-related positions in licensed commercial banks in Sri Lanka, as identified by the Central Bank, since they are directly involved in financial decision-making and are aware of the green finance initiatives at their institutions.

2.3. Sample and Population

This study focuses on all employees of licensed commercial banks in Sri Lanka as its target population. The sample size was calculated according to established rules for structural equation modelling (SEM), and 240 respondents were selected given the large and not precisely defined population. This sample size is adequate according to the 10-times rule, which indicates that the smallest sample must be at least 10 times the largest number of structural paths directed at any construct in the model (Hair et al., 2019). Power-analysis guidance also confirms the adequacy of the sample, since a sample of more than 200 is sufficient to identify significant relationships in PLS-SEM models with moderate effect sizes. A convenience (availability) sampling technique was employed: participants were selected from bank branches when they were available to be interviewed. This approach was suitable given resource and access constraints, although it allows for self-selection and restricts the statistical generalisability of the results to the institutions sampled.

2.4. Data Collection and Measurement

A structured, self-administered questionnaire was used to gather primary data over a defined period. The questionnaire comprised 25 items across five constructs - Economic Green Finance (EGF), Environmental Green Finance (EnGF), Social Green Finance (SGF), Long-Term Financial Sustainability (LTS), and Short-Term Financial Sustainability (STS) - measured on a five-point Likert scale. EGF captured cost efficiency, the profitability of green products, and access to green financing; EnGF captured environmental risk management, resource efficiency, and compliance with environmental regulation; SGF captured stakeholder engagement, staff awareness, and community-oriented green initiatives; STS captured short-

term profitability and liquidity outcomes; and LTS captured long-term growth and competitiveness outcomes. Items were adapted from Abuatwan (2023) and Abdulrahman et al. (2025) to ensure content validity and reliability.

The study was conducted under ethical guidelines. Informed consent was obtained before the start of the study, and the purpose was explained to participants. Participation was voluntary, and respondents were free to withdraw at any time. No personal information was collected, responses were anonymous, and all data were stored securely and used only for academic purposes (Bryman, 2016).

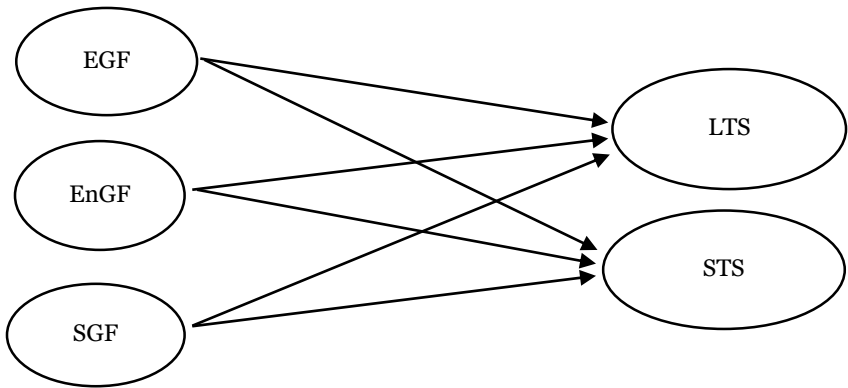


Figure 1: Conceptual Framework

Source: Authors constructed

Based on the conceptual framework outlined above, the following hypotheses were developed:

H1: The economic dimension of green finance positively affects the short-term financial sustainability of Sri Lankan banks.

H2: The economic dimension of green finance positively affects the long-term financial sustainability of Sri Lankan banks.

H3: The environmental dimension of green finance positively affects the short-term financial sustainability of Sri Lankan banks.

H4: The environmental dimension of green finance positively affects the long-term financial sustainability of Sri Lankan banks.

H5: The social dimension of green finance positively affects the short-term financial sustainability of Sri Lankan banks.

H6: The social dimension of green finance positively affects the long-term financial sustainability of Sri Lankan banks.

2.5. Data Analysis

The collected data were analysed using Partial Least Squares Structural Equation Modelling (PLS-SEM) with SmartPLS 4 software (SmartPLS, 2014), chosen for its applicability to complex models with multiple relationships and its suitability for prediction-oriented research (Hair et al., 2019). The analysis proceeded in two stages: the measurement model was assessed first to establish the reliability and validity of the constructs, using Cronbach's alpha, composite reliability, average variance extracted (AVE), and discriminant validity via the heterotrait-monotrait ratio (HTMT; Henseler et al., 2015). The structural model was then assessed to test

the hypothesised relationships by examining path coefficients, R^2 values, and levels of statistical significance. The significance of relationships was further assessed using a bootstrapping procedure with 5,000 resamples, as recommended in PLS-SEM research for robust and reliable significance estimates (Hair et al., 2019). In addition, effect sizes (f^2) were calculated for each exogenous construct to determine its contribution to the explained variance of the relevant endogenous construct, and the predictive relevance of the model (Q^2) was assessed using the blindfolding procedure with an omission distance of 7, as recommended by Hair et al. (2019).

3. Results and Discussion

A total of 240 responses were collected and found suitable for analysis. The respondents represented employees from different banks and various levels of experience, providing a reliable dataset for analysis.

3.1. Measurement Model Assessment

All outer loadings exceeded the 0.70 threshold, ranging from 0.750 to 0.879, confirming indicator reliability. Cronbach's alpha values, ranging from 0.880 to 0.910, and composite reliability values, ranging from 0.882 to 0.933, both exceeded the 0.70 threshold, supporting internal consistency. AVE values of 0.676 and above confirmed convergent validity, exceeding the 0.50 threshold. Discriminant validity was established through HTMT ratios ranging from 0.797 to 0.882, all below the conservative 0.90 threshold. All VIF values were below 5.0, indicating no multicollinearity among the measurement constructs.

3.2. Structural Model Assessment

After confirming the measurement model, the structural model was tested to assess the hypothesised relationships between the constructs. The model demonstrated good explanatory power, with R^2 values of 0.715 (adjusted $R^2 = 0.711$) for short-term financial sustainability (STS) and 0.649 (adjusted $R^2 = 0.645$) for long-term financial sustainability (LTS), indicating a satisfactory level of predictive relevance, consistent with Hair et al. (2019). SRMR values were below 0.08, indicating a satisfactory fit between the proposed model and the observed data (Hu & Bentler, 1999).

Table 1 presents the results of the hypothesis testing based on the path coefficients, t-values, and p-values generated through the bootstrapping procedure.

Table 1: PLS-SEM Path Coefficients and Hypothesis Testing Results

Hypothesis	Path	β	t-value	p-value	Decision
H1	EGF $\rightarrow$ STS	0.373	4.458	< .001	Supported
H2	EGF $\rightarrow$ LTS	0.318	3.547	< .001	Supported
H3	EnGF $\rightarrow$ STS	0.336	4.239	< .001	Supported
H4	EnGF $\rightarrow$ LTS	0.359	3.705	< .001	Supported
H5	SGF $\rightarrow$ STS	0.215	3.441	.001	Supported
H6	SGF $\rightarrow$ LTS	0.206	2.549	.011	Supported

Source: Authors' compilation based on PLS-SEM bootstrapping results (2026).

Economic Factors (EGF) significantly and positively influenced both STS ($\beta = 0.373$, $t = 4.458$, $p < .001$) and LTS ($\beta = 0.318$, $t = 3.547$, $p < .001$), supporting H1 and H2. Environmental Factors (EnGF) similarly demonstrated significant positive effects on STS ($\beta = 0.336$, $t = 4.239$, $p < .001$) and LTS ($\beta = 0.359$, $t = 3.705$, $p < .001$), confirming H3 and H4. Social Factors (SGF) likewise exerted statistically significant effects on STS ($\beta = 0.215$, $t = 3.441$, $p = .001$) and LTS ($\beta = 0.206$, $t = 2.549$, $p = .011$), lending support to H5 and H6.

This smaller impact of social factors relative to the economic and environmental dimensions may be attributable to limited customer awareness of sustainable banking practices (Wickramarathna et al., 2024) and the difficulty institutions face in translating social green-finance initiatives into tangible financial outcomes (Mujuka & Sporta, 2023). All six hypothesised paths were supported, indicating that the model has strong explanatory power and that the economic, environmental, and social dimensions of green finance are major determinants of both the short-term and long-term financial performance of the banking sector.

4. Conclusions, Implications, and Limitations

All six hypotheses were supported, confirming that green finance is a major determinant of financial sustainability in the banking sector of Sri Lanka. Because of the cross-sectional, self-reported design of the data, these findings should be interpreted as evidence of association rather than causation. EGF had the greatest impact on both STS and LTS, consistent with the view that economically viable green products enhance the competitiveness of banks (Banani & Sunarko, 2022). This contrasts with the finding by Viverita (2023) that green-credit diversification reduces profitability, highlighting the context- and measurement-specific nature of the financial impacts of green finance. EnGF had the strongest long-term coefficient (0.359), supporting the view that environmental risk management provides a form of insurance against regulatory liability under the emerging CBSL green finance taxonomy. Although not negligible, SGF had the smallest effects (STS = 0.215; LTS = 0.206), suggesting that social initiatives have yet to translate into tangible financial outcomes, reflecting a lack of customer awareness (Wickramarathna et al., 2024) and institutional capability (Mujuka & Sporta, 2023). The high R^2 values for STS (0.715) and LTS (0.649) support the model's strength as a predictor of these relationships.

This study contributes to the limited body of empirical research on the green finance-performance relationship in South Asian banking. In practice, banks are advised to focus revenue-diversification efforts on green loan portfolios and ESG products, while the Central Bank of Sri Lanka is advised to reinforce incentive policies, such as preferential refinancing for green bond issuers. Further investment in staff capacity building and stakeholder communication is recommended to help translate social green-finance efforts into concrete financial outcomes.

The findings should be interpreted in light of several limitations. The cross-sectional design and reliance on self-reported data from managerial employees of licensed commercial banks limit causal inference, while the Sri Lankan context and convenience sampling restrict the generalisability of the results beyond the sampled banks. Future studies should adopt longitudinal panel or mixed-method designs to capture the dynamic effects of green finance over time. Incorporating moderating variables such as regulatory stringency, institutional quality, and digital finance adoption, and extending the model to microfinance and non-bank institutions, would further expand the theoretical and practical understanding of green finance in developing economies.

Overall, the results confirm that green finance - encompassing its economic, environmental, and social dimensions - is a strong predictor of both short- and long-term bank performance in Sri Lanka, and that sustainability and financial performance are complementary rather than competing goals in responsible banking. In developing economies such as Sri Lanka, and subject to the constraints noted above, there remains a need for the development of further models and techniques to advance this research agenda.

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