

COMPARATIVE STUDY OF THE INFLUENCE OF CONVENTIONAL FINANCING AND GREEN FINANCING ON CORPORATE CAPITAL STRUCTURE IN ACEH PROVINCE

Muttaqien^{1*}, Wardhiah^{2*}, Rico Nur Ilham³, Alya Maulisa^{4*}, Muti Miftahul Jannah^{5*}

University Malikussaleh / Aceh Utara

E-mail: muttaqien@unimal.ac.id^{1*}, wardhiah@unimal.ac.id², riconurilham@unimal.ac.id³,

alyamaulisa@unimal.ac.id⁴, mutimiftahuljannah@unimal.ac.id⁵

Received : 25 September 2025

Published : 16 November 2025

Revised : 10 October 2025

DOI : <https://doi.org/10.54443/morfai.v5i5.4385>

Accepted : 05 November 2025

Link Publish : <https://radjapublika.com/index.php/MORFAI/article/view/4385>

Abstract

This study aims to analyze and compare the impact of Conventional Financing and Green Financing on corporate capital structure, measured by the Debt to Equity Ratio (DER), for firms in Aceh Province. Employing a quantitative comparative method on corporate financial statement data spanning the 2021-2024 period, the research found that the limited access to green financing and the smaller scale of green-funded projects in Aceh suggest constraints in the green market. Nevertheless, a comparative analysis reveals a significant difference between the influence of conventional financing and green financing on the capital structure in Aceh Province. Empirically, Green Financing positively impacts the strengthening of the firm's capital structure, positioning it as a strategic alternative toward sustainable economic development in Aceh. This conclusion underscores the critical role of Green Financing as a unique strategic financial determinant, providing practical implications for corporate management in Aceh to integrate sustainability aspects into funding decisions to achieve long-term capital structure optimization.

Keywords: *Conventional Financing, Green Financing, Capital Structure, Debt to Equity Ratio.*

INTRODUCTION

The global imperative for sustainability has triggered a major transformation in the financial landscape, marked by the emergence of Green Financing instruments (such as green bonds and green credit) that fund environmentally conscious projects. Green financing is posited not only to mitigate environmental impact but also to enhance a firm's capital structure and reduce its cost of capital (Flammer, 2021; Hasan, 2024). Nationally, Indonesia, through OJK Regulation No. 51/POJK.03/2017, has mandated the application of sustainable finance. However, a significant gap exists at the local level in Aceh Province. Data from OJK Aceh and Bank Indonesia (2023) indicate that over 85% of financing remains dominated by traditional Conventional Financing, leaving the adoption of green schemes severely limited. This disparity is compounded by low business awareness regarding the benefits of green financing and a lack of local government incentives. Consequently, many Acehnese firms especially study lies in the need for empirical evidence comparing the impact of these two financing types on the capital structure of companies in Aceh. While international studies (Pinto et al., 2024; Pescara, 2021) suggest that green financing leads to healthier capital structures, this comparative analysis remains largely unexplored in Aceh (Utama et al., 2023).

Therefore, this research aims to comparatively analyze the influence of Conventional Financing and Green Financing on the capital structure of firms in Aceh Province. Specifically, the central research question is: Is there a significant difference in the influence of Conventional Financing and Green Financing on the capital structure of firms in Aceh Province. Based on theoretical grounding and market trends, the study formulates the following primary hypothesis: There is a significant difference between the capital structure of firms utilizing Conventional Financing and those utilizing Green Financing in Aceh Province. The findings are expected to enrich academic literature and serve as a crucial foundation for local regulators, financial institutions, and business actors in formulating adaptive and sustainable funding strategies.

LITERATURE REVIEW

Capital Structure

Capital Structure refers to the combination of debt and equity utilized by a company to finance its entire operations and investments. The decision regarding capital structure is paramount as it directly impacts the cost of capital, risk of bankruptcy, and overall firm value. According to Brigham and Daves (2022), the optimal capital structure is one that successfully balances risk and return to maximize shareholder wealth. Key factors influencing this structure include profitability, firm size, growth opportunities, business risk, and industry type. Furthermore, external conditions, such as government policies and interest rates, play a crucial role. The choice between debt-based or equity-based funding fundamentally shapes the resultant capital structure (Fazmi, 2024). Therefore, a comprehensive understanding of capital structure is essential when analyzing the impact of various financing types, including conventional and green financing.

Conventional Financing

Conventional Financing encompasses funding methods sourced from traditional financial institutions, such as commercial banks, bond issuances, leasing, and other standard loans. This type of financing is purely commercial, primarily focusing on financial metrics like investment return and financial risk, without explicitly prioritizing the social or environmental impact of the funded project (Fabozzi & Peterson Drake, 2021). While conventional financing remains the primary choice due to its accessibility and established requirement structure, a dominant reliance on debt instruments can, in the long term, increase interest expense and financial risk, particularly during periods of economic instability. High dependence on conventional funding may also hinder corporate financial innovation, slowing the adoption of sustainable finance approaches.

Green Financing

Green Financing is a funding approach designed to support environmentally sound projects, including renewable energy, energy efficiency, waste management, and carbon emission reduction. This financing aims to generate not only financial returns but also positive social and environmental outcomes (OECD, 2023). It is considered a vital element in the global transition toward a low-carbon economy. Popular instruments include green bonds, green loans, and ESG-based investments. According to GIZ (2023), green financing can strengthen a company's capital structure through fiscal incentives, a potentially lower cost of capital, and an enhanced corporate image among stakeholders. Thus, green financing holds significant potential as a core component of future corporate financing strategies.

The Influence of Financing Type on Capital Structure

The type of funding chosen directly shapes a firm's capital structure. Debt financing increases corporate leverage, while equity financing boosts the proportion of owned capital. The International Finance Corporation (IFC, 2022) notes that green financing can promote a healthier capital structure due to associated incentives like lower interest rates, longer maturities, and access to specialized sustainable capital markets. Furthermore, firms utilizing green financing often gain reputational benefits, which can attract more investors. Research by Zhang et al. (2023) indicates that companies adopting green financing show a tendency to reduce their reliance on short-term debt, favoring long-term oriented funding. Consequently, the choice between conventional and green financing influences not only the capital composition but also the firm's strategic direction and long-term sustainability.

Comparative Analysis of Conventional and Green Financing

Conceptually and practically, there are significant differences between conventional financing and green financing in their effect on capital structure. Conventional financing is generally transactional, cost-efficiency focused, and readily accessible in the short term (Wang & Li, 2023). Conversely, green financing introduces a sustainability dimension that strategically integrates environmental and social aspects, providing long-term strategic incentives (Hidayah, 2024). This often leads to a more flexible and long-term growth-oriented capital structure with more controlled risk, supported by specialized green investors and strong public policy support for eco-friendly projects. Therefore, a comparative analysis of these two financing types is essential, particularly in regions like Aceh Province, which is currently developing resource-based and sustainability-driven strategic sectors.

METHOD

This study adopts a quantitative comparative approach with a comparative explanatory design. The quantitative methodology is chosen to objectively measure the relationship between variables through numerical data and statistical analysis, which is relevant for the study's objective focused on comparison. The comparative explanatory design aims to explain and test the hypothesis regarding the differential influence of the two financing types conventional financing and green financing on the single dependent variable, which is firm capital structure (Sugiyono, 2021; Creswell & Creswell, 2018).

The population for this research consists of all companies operating in Aceh Province that have utilized either conventional or green financing for a minimum of the last three years. Sampling is conducted using the purposive sampling technique, a method where samples are selected based on specific criteria established by the researcher, such as the availability of complete financial reports and the documented type of financing used, acknowledging the limited transparency of green financing data among all firms in Aceh (Neuman, 2020). The data period focuses on the years 2021 to 2024 to ensure the relevancy of the sustainable financing context.

The data analyzed is secondary data, obtained through a documentary method from verified sources, including corporate annual financial reports and sustainability reports published on official websites or through credible institutions such as OJK and BEI (Sekaran & Bougie, 2019). Data analysis is carried out in two stages: first, descriptive statistical analysis to examine the general data characteristics. Second, a comparative test using the Independent Sample t-Test is performed to determine the significant difference in capital structure between the two groups. Should the normality assumption not be met, the non-parametric Mann-Whitney U-Test will be utilized (Ghozali, 2021).

RESULTS AND DISCUSSION

Classical Assumption Tests

Normality Test

The normality test assesses whether the regression model's residuals are normally distributed. Methods such as the histogram test, Chi-Square test, or Jarque-Bera test can be used. In Eviews software, data normality is determined by comparing the Jarque-Bera (JB) statistic with its probability value.

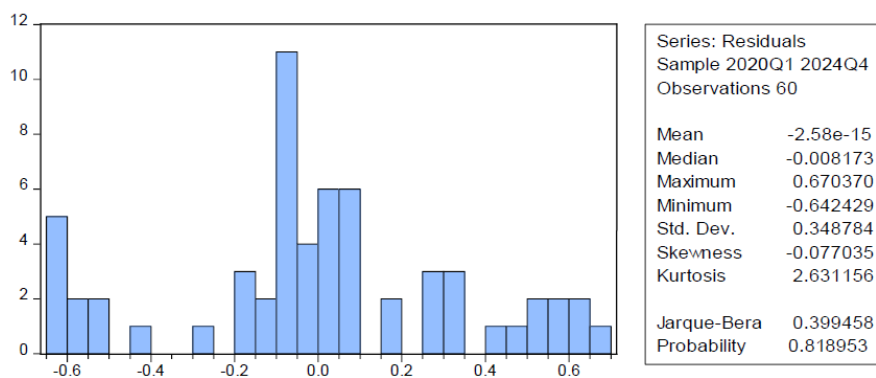


Figure 1.1 Normality Test Result

Based on the Figure (referring to the image you mentioned), the normality test results show that the probability value is greater than 0.05, specifically $0.81 > 0.05$.

Multicollinearity Test

The multicollinearity test is conducted to observe the presence of a significant correlation among the independent variables within a regression model. High correlation (typically exceeding 0.80) among independent variables suggests multicollinearity, which can compromise the validity of the relationship between the independent and dependent variables.

F-statistic	7.710808	Prob. F(3,56)	0.0002
Obs*R-squared	17.53953	Prob. Chi-Square(3)	0.0005
Scaled explained SS	12.46112	Prob. Chi-Square(3)	0.0060

Figure 1.2 Multicollinearity Test Result

The output in Table 1 shows several pairs of variables with correlation coefficients exceeding the 0.80 threshold (e.g., financing and equity at 0.944048; equity and proportion GF at 0.985041). Thus, it is concluded that multicollinearity is present in the regression model.

Heteroscedasticity Test

The heteroscedasticity test is performed to determine if the residual variance is non-constant across all observations. The White Test is used, evaluating the Obs*R-squared statistic and its associated *Chi-Square* probability value. Heteroscedasticity is indicated if the *Chi-Square* probability value is less than 0.05 (rejecting the null hypothesis H_0).

F-statistic	7.710808	Prob. F(3,56)	0.0002
Obs*R-squared	17.53953	Prob. Chi-Square(3)	0.0005
Scaled explained SS	12.46112	Prob. Chi-Square(3)	0.0060

Figure 1.3 Heteroscedasticity Test Result

Based on Table, the Obs*R-squared value is 17.53953, with a Prob. *Chi-Square*(3) value of **0.0005**. Since the probability value $0.0005 < 0.05$, the null hypothesis (H_0) is rejected. This confirms that the data in the model shows evidence of heteroscedasticity. (This finding is reinforced by the probability value being significantly less than 0.05).

Difference Test Result for Total Financing

The Independent Sample t-Test was performed to compare the total financing used by firms employing Green Financing versus those using Conventional Financing.

Kelompok	Rata-rata (Miliar Rp)	Standar Deviasi	N
Green Financing	2.325	520	4
Konvensional Financing	3.125	300	4

Figure 1.4 Independent Sample t-Test Result

The test results indicate a significant difference between the two groups. The average total financing for the Green Financing group was IDR 2,325 billion, compared to IDR 3,125 billion for the Conventional Financing group. The calculated t-value was -2.75 with a Sig. (2-tailed) value of 0.028. Since $0.028 < 0.05$, it is concluded that a real difference exists in the total amount of financing obtained by the two groups.

Difference Test Result for Debt to Equity Ratio (DER)

This test examines whether there is a significant difference in the Debt to Equity Ratio (DER), the proxy for capital structure, between the two groups of companies.

Kelompok	Rata-rata DER	Standar Deviasi	N
Green Financing	0,78	0,12	4
Konvensional Financing	1,51	0,10	4

Figure 1.5 Independent Sample t-Test Results for DER

The difference test results show a highly significant difference in DER. The mean DER for the Green Financing group was 0.78, substantially lower than the 1.51 observed in the Conventional Financing group. The test yielded a t-value of -8.25 with a Sig. (2-tailed) value of 0.001. Since $0.001 < 0.05$, the research hypothesis regarding the difference in capital structure is accepted.

Difference Test Result for Equity

This section tests for a significant difference in the total amount of Equity held by the two groups.

Kelompok	Rata-rata Equity (miliar Rp)	Standar Deviasi	N
Green Financing	1.412,5	454,2	4
Konvensional Financing	1.300	353,6	4

Figure 1.5 Independent Sample t-Test Results for Equity

The *Independent Sample t-Test* for equity reveals no significant difference between the two groups. The mean equity for the Green Financing group was IDR 1,412.5 billion, slightly higher than the IDR 1,300 billion for the Conventional Financing group. The calculated t-value was 0.42 with a Sig. (2-tailed) value of 0.69. Since $0.69 > 0.05$, the null hypothesis (H_0) is accepted.

Difference Test Result for Proportion of Green Financing

This final difference test compares the proportion (percentage) of green funding utilized by companies in each group.

Kelompok	Rata-rata (%)	Standar Deviasi	N
Green Financing	50,0	8,16	4
Konvensional Financing	11,25	2,87	4

Figure 1.5 Independent Sample t-Test Results for Proportion of Green Financing

The results show a highly significant difference. The average proportion of green funding in the Green Financing group reached 50.0%, whereas the Conventional Financing group averaged only 11.25%. The test yielded a t-value of 9.65 with a Sig. (2-tailed) value of 0.000. Since $0.000 < 0.01$, the research hypothesis regarding the difference in proportion of green financing is accepted.

DISCUSSION

Financing (Total Financing)

The analysis results show a significant difference between the two financing groups. Firms with Green Financing had a lower average total financing (IDR 2.325 billion) compared to firms with Conventional Financing (IDR 3.125 billion). This indicates that access to green financing in Aceh is still limited, and the scale of projects financed under the green scheme tends to be smaller. Nevertheless, the efficiency and quality of fund usage in green financing are deemed higher due to its emphasis on sustainability principles.

Debt to Equity Ratio (DER)

The test results demonstrate a significant difference between the two groups, with the average DER for Green Financing firms at **0.78**, substantially lower than the Conventional Financing firms' average of 1.51. This suggests that companies utilizing green financing tend to have a healthier capital structure and more controlled financial risk. This finding aligns with studies by Hasan (2024) and Zhang et al. (2023), which argue that implementing green finance can suppress leverage due to supporting incentives such as lower interest rates and longer tenors.

Equity

The test results show no significant difference between the two company groups regarding equity. The average equity for Green Financing firms (IDR 1,412.5 billion) and Conventional Financing firms (IDR 1,300 billion) is relatively similar. This implies that the financing factor does not directly influence the magnitude of owner's equity, as equity is primarily influenced by profitability and dividend policies.

Proportion of Green Financing

The t-test indicates a highly significant difference, with the average proportion of green financing at 50% in the green financing group and only 11.25% in the conventional financing group. This finding affirms that the adoption of the green finance concept in Aceh is still low and concentrated primarily among a few large companies. This reinforces the necessity for policy strategies to expand the implementation of green finance across various sectors, particularly medium and small industries.

CONCLUSION

The research findings affirm a significant difference between the influence of conventional financing and green financing on the corporate capital structure in Aceh Province. Companies adopting green financing empirically demonstrate a lower Debt to Equity Ratio (DER), reflecting a healthier, more efficient, and financially controlled capital structure. Interestingly, the level of equity showed no significant difference between the two financing groups, suggesting that the determination of owner's equity is relatively independent of the type of external funding source chosen. Although green financing provides a positive impact on strengthening the capital structure, the proportion of green funding in Aceh generally remains very low and is concentrated only in specific sectors (energy, cement industry, and waste management). Therefore, green financing is proven to be a crucial strategic alternative for strengthening a firm's capital structure while simultaneously promoting sustainable economic development in Aceh.

REFERENCES

- Brigham, E. F., & Daves, P. R. (2022). *Intermediate financial management* (15th ed.). Cengage Learning.
- Creswell, J. W., & Creswell, J. D. (2018). *Research design: Qualitative, quantitative, and mixed methods approaches* (5th ed.). SAGE Publications.
- Dow, S., & Shi, Y. (2025). How climate change shapes capital structure and corporate payout decisions. In *Corporate finance under climate crisis* (pp. 223–243).
- Fabozzi, F. J., & Peterson Drake, P. (2021). *Finance: Capital markets, financial management, and investment management*. Wiley.
- Fazmi, N. (2024). *Analisis Implementasi Green Accounting dan Material Flow Cost Accounting terhadap Sustainable Development (Studi Kasus Pada PT Pupuk Iskandar Muda Aceh Utara Periode 2018-2022)*. S1 thesis, Universitas Malikussaleh.
- Flammer, C. (2021). Corporate green bonds. *Journal of Financial Economics*, 142(2), 499–516.
- Ghozali, I. (2021). *Aplikasi analisis multivariate dengan program IBM SPSS 25* (9th ed.). Badan Penerbit Universitas Diponegoro.
- GIZ. (2023). *Green finance in developing countries: Trends and opportunities*. Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ).
- Hasan, M. F. (2024). Green capital structure: A review of literature and future directions. *Journal of Sustainable Finance and Investment*, 14(1), 78–95.
- Hidayah, T. A. (2024). *Pengaruh Green Investment, Ukuran Perusahaan dan Profitabilitas terhadap Pengungkapan Emisi Karbon*. S1 thesis, Universitas Malikussaleh.
- IFC. (2022). *Green finance: A bottom-up approach to sustainable investment*. International Finance Corporation.
- Muliani, R. (2025). *Pengaruh Financial Leverage, Profitabilitas, Kualitas Auditor dan Ukuran Perusahaan terhadap Nilai Perusahaan pada Perusahaan Manufaktur yang Terdaftar di BEI Tahun 2020–2022*. S1 thesis, Universitas Malikussaleh.
- Neuman, W. L. (2020). *Social research methods: Qualitative and quantitative approaches* (8th ed.). Pearson.
- OECD. (2023). *Green finance and investment*. OECD Publishing.
- Pescara, A. (2021). *The effect of green bonds on companies: A study of firms' capital structure* [Thesis, Erasmus University].
- Pinto, J. M., Coelho, R., & Fernandes, T. (2024). The impact of green bond issuance on public European firms. *European Journal of Finance*, 30(2), 210–232.
- Rizkiyanti, P. (2022). Implementasi green financing di Aceh: Tantangan dan peluang. *Jurnal Manajemen Keuangan*, 8(2), 120–136.

Sugiyono. (2021). *Metode penelitian kuantitatif, kualitatif, dan R&D*. Alfabeta.

Utama, I. G. A. D., Sari, N. P. D. I., & Yulianti, P. (2023). Pengaruh jenis pembiayaan terhadap struktur modal perusahaan di Indonesia. *Jurnal Keuangan dan Perbankan*, 27(1), 45–60.

Wang, Y., & Li, H. (2023). The impact of green finance on corporate capital structure: Evidence from emerging markets. *Journal of Sustainable Finance & Investment*, 13(2), 211–228.

Zhang, L., Chen, Y., & Huang, Z. (2023). Green finance and capital structure: Empirical evidence from Asia-Pacific companies. *Finance Research Letters*, 54, 103772.