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The Effect of Green Banking Disclosure on The Financial Performance of Regional-Owned Islamic Banks

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Abstract

This study aims to determine the impact of green banking disclosure on the financial performance of regional-owned Islamic commercial banks in Indonesia. This research employs a quantitative approach and uses secondary data sourced from the sustainability report of the banks starting from 2020 until 2023. The study focuses on four Islamic banks owned by local governments: Aceh Syariah Bank, BJB Syariah Bank, NTB Syariah Bank, and BRK Syariah Bank. The analysis technique used include descriptive analysis and panel data regression analysis. The results showed that GBDI has no significant effect on ROA and ROE. This outcome may be attributed to the fact that many banks are not prioritizing the disclosure of green banking information, especially in countries where regulations on green banking practices are weak. However, adequate disclosure of green banking can improve transparency, accountability and efficiency of banks, potentially leading to a positive impact on their financial performance. Some limitations of this study need to be considered, specifically the research only focuses on regional-owned Islamic commercial banks in Indonesia. Future research could expand the sample to include Islamic commercial banks owned by the central government as well as private Islamic banks to provide more comprehensive insights.

Keywords*: Green Banking Disclosure, Financial Performance, Sustainability Report*

Abstrak

Penelitian ini bertujuan untuk mengetahui bagaimana pengungkapan green banking berdampak pada kinerja keuangan bank umum syariah milik daerah di Indonesia. Penelitian ini menggunakan pendekatan kuantitatif dan menggunakan data sekunder dari laporan keberlanjutan bank mulai dari tahun 2020 sampai dengan tahun 2023.Terdapat 4 bank syariah yang dimiliki oleh pemerintah daerah, yaitu Bank Aceh syariah, Bank BJB syariah, Bank NTB syariah, dan Bank BRK syariah. Teknik analisis yang digunakan adalah Analisis Deskriptif dan Analisis Regresi Data Panel. Hasil penelitian menunjukkan bahwa GBDI tidak berpengaruh terhadap ROA dan ROE, hal ini dapat disebabkan karena sebagian besar bank belum fokus dalam mengungkapkan informasi mengenai green banking, terutama pada negara-negara yang belum memiliki regulasi yang kuat mengenai praktik green banking. Pengungkapan green banking yang memadai dapat meningkatkan transparansi, akuntabilitas dan efisiensi operasional bank, sehingga berdampak positif terhadap kinerja keuangan. Beberapa keterbatasan dari penelitian ini yang perlu diperhatikan adalah penelitian ini hanya membahas bank umum syariah daerah di Indonesia sehingga sampel penelitian perlu diperluas dengan memasukkan bank umum syariah milik pemerintah pusat dan bank umum syariah swasta.

Kata kunci: *Green Banking Disclosure*, Kinerja Keuangan, Laporan Keberlanjutan

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1. INTRODUCTION

Climate change is a global problem affecting multiple sectors. The climate crisis, marked by rising average global temperatures, changing weather patterns, and increased frequency and intensity of natural disasters, compels every sector to contribute to mitigation efforts. Mitigation, which focuses on reducing greenhouse gas emissions and adapting to

the impacts of climate change, is a crucial part of the global response (Abbass et al., 2022). The concept of a green economy emerged as a response to problems emerging throughout the increasingly complex world.

A green economy promotes equitable national development while improving overall societal welfare. It can raise social standards and encourage corporate social responsibility (Kurniawan, 2021). Therefore, governments must incorporate green economic principles into both micro and macroeconomic development (Anwar, 2022). A green economy seeks to maintain environmental sustainability by using resources efficiently, reducing carbon emissions, and fostering the development of environmentally friendly products and services (Söderholm, 2020). However, excessive reliance on technology can also pose risks to the global economy, necessitating solutions to mitigate such issues (Hasanah & Hariyono, 2022).

Green banking plays a significant role in promoting investments that focus on renewable energy and operate in environmentally friendly business sectors (Azwar et al., 2023). The core of the green banking concept is that every economic activity should minimize its environmental impact (Salsabila et al., 2022). In implementing green banking, prioritizing the welfare not only for their customers but also of the environment in which they operate, is a must. Furthermore, special attention must be given to environmental justice and the surrounding ecosystem (Kusumaningtyas et al., 2023). Green banking enhances transparency and accountability for both investors and entrepreneurs. Islamic banks with a high level of green banking disclosure can attract more investors, as increased green banking practices lead to better sustainability report, risk management, and financial performance (Liu & Wu, 2023). In the context of sustainable finance, green banking disclosure, financial performance, and sustainability report are closely interrelated, influencing the financial performance of Islamic banks by increasing funding opportunities and business value (Apriandi & Lastanti, 2023).

Several studies have explored the impact of green banking disclosure on financial performance. Some findings indicate that green banking practices have varying effects on financial performance (Anggraini et al., 2019). Green banking policies and bank efficiency positively influence profitability, implying that the adoption of green banking should be supported through digital information technology. On the other hand, (RK Dewi, 2023) found that green banking implementation does not impact banking profitability in the short term but represents an investment that will yield substantial returns in the future. Additionally, (Mahardika & Fitanto, 2023) observed that green banking practices, including the Green Banking Disclosure Index (GBDI), frequency of mobile banking transactions, bank efficiency (BOPO), and CSR funds, have a significant simultaneous impact on bank profitability in Indonesia.

The development of green banking is part of the government's broader efforts to promote environmental and social sustainability. The government has encouraged banks to adopt green banking practices, such as the "paperless" principle, by facilitating online transactions like internet banking to reduce the use of paper, which negatively affects the environment. Additionally, there is an ongoing effort to raise awareness among business leaders and the general public about the importance of environmentally responsible business practices. Green banking is a government initiative designed to motivate banks to provide loans to clients engaged in sectors that are environmentally and socially responsible. Policies and regulations have been established to guide the implementation of green banking practices as part of the government's effort to enhance environmental and social sustainability.

This research aims to examine how green banking disclosure impacts the financial performance of regional owned islamic banks in Indonesia. The study is particularly relevant as the green banking concept is rapidly evolving and being adopted across various sectors, including sustainable development and environmental products. This research is important not only in identifying factors that influence financial performance within the green banking framework but also in offering recommendations for improving the effectiveness and success of banking finance programs.

LITERATURE REVIEW

Green Banking Disclosure

Financial institutions adopt green banking practices to improve environment and reduce pollution. Banks provide funding for environmentally beneficial projects and act as social stewards. For instance, the adoption of the triple-bottom-line approach supports sustainable development

initiatives, with bank involvement in green banking benefiting the government as a regulator. In response to stakeholder pressure, green banking disclosure practices have been introduced, encouraging banks to adopt more ethical practices. However, due to the lack of standardized regulations governing green banking reporting, disclosure and reporting practices vary significantly (Handajani, 2019).

Banks utilize green banking strategies to ensure long-term sustainability by pursuing profits while simultaneously improving environmental and social outcomes. They assume greater environmental responsibility by developing inclusive strategies that ensure the sustainable use of natural resources, social welfare, and environmental protection. In line with the central bank's sustainability policy guidelines, banks are now responsible for conducting independent green banking practices and sustainability report to disclose past performance, current activities, and future plans aimed at environmental stewardship (Ilahi et al., 2023). By integrating inclusive strategies, banks support sustainable economic development (Winarto et al., 2021).

The development of Sharia-compliant banking products and services is crucial for banks to maintain their competitiveness. A key principle of green banking is to enhance risk management capabilities, particularly in the environmental sector, while expanding environmentally friendly financing portfolios, such as renewable energy, energy efficiency, and sustainable transportation. The more innovative and diverse the product offerings, the more a financial institution can grow (Yusuf et al., 2023). The introduction of technological innovations and improved banking management methods, especially in operations, can help reduce environmental harm. Offering credit for projects that meet environmental standards is part of a bank's responsibility to consider the environmental impact of its business operations (Cupian et al., 2023). Factors motivating banks to adopt the green banking concept include external pressures related to transparency and accountability, as well as internal awareness, leading some banks to issue sustainability reports as part of their responsibility to stakeholders (Khamilia & Nor, 2022).

Financial Performance

Financial performance reflects how a bank manages its resources and the outcomes of its achievements as disclosed in financial reports (Aryanti et al., 2021). It represents the efficiency and effectiveness of a bank in utilizing its resources to generate profits (AK Dewi et al., 2023). The financial performance of an organization, especially in banking, can influence its ability to implement sustainability initiatives and reporting, as these efforts often involve costs related to fulfilling social, environmental, and economic responsibilities. Management must ensure the institution remains in good financial performance while conducting its operations. However, a bank's responsibilities extend beyond financial performance to include social and environmental considerations, ensuring long-term growth and sustainability (Intari & Khusnah, 2023).

In the case of islamic banking, financial performance refers to the financial condition of the bank over a specific period, particularly in terms of fund mobilization and distribution. This performance is typically measured through indicators such as capital adequacy, liquidity, and profitability (Rahmiyanti et al., 2022). Islamic banks must also adopt green banking practices to help protect the environment and avoid activities that are unethical or harmful to society. One indicator of successful green banking is the ability to distribute funds towards development projects that promote environmental protection and provide productive investment opportunities. The benefits of green banking include encouraging environmentally business practices and making transactions more efficient through paperless, online processes (Rachman & Saudi, 2021).

Sustainability Report

Islamic banks in Indonesia have been pioneers in integrating green banking into their operations, as highlighted in their annual sustainability reports (Lelawati et al., 2023). According to OJK Regulation No. 51/POJK.03/2017, a sustainability report is a published document that outlines how financial institutions, issuers, and public companies conduct their business in an economically, socially, and environmentally sustainable manner (OJK, 2017). Banks are required to publish sustainability reports that disclose their sustainable finance and green banking initiatives.

The purpose of a sustainability report is to provide a balanced and accurate presentation of an organization's performance, considering its goals, experiences, and the reasonable expectations of its stakeholders (Leony & Pambudi, 2022). Bank use annual sustainability reports to inform the public and

gain legitimacy with policymakers, while investors benefit as these reports demonstrate the bank's commitment to environmental concerns.

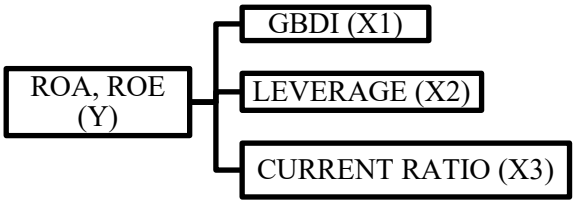

Figure 1. Research Model

2. RESEARCH METHOD

Sample Procedure

This study adopts a quantitative approach, utilizing secondary data from sustainability and financial reports of regional owned islamic banks from 2020 to 2023. The data is accessible through the Indonesian Stock Exchange and the official websites of the respective banks. A purposive sampling method was applied, with the main criterion being islamic banks whose shares are owned by local governments. This criterion aims to evaluate the commitment of regional governments in implementing green banking practices. Based on these criteria, four regional government-owned islamic banks Aceh Syariah Bank, BJB Syariah Bank, NTB Syariah Bank, and BRK Syariah Bank were selected for the study, as they have published complete sustainability reports from 2020 to 2023.

Variable operationalization

a. Dependent Variable

The dependent variable in this research is financial performance, which is measured using return on assets (ROA) and return on equity (ROE), as outlined by (Ousama et al., 2019). Financial performance reflects the effectiveness of the banks' resource management, and it is assessed alongside green banking disclosure as the independent variable.

b. Independent Variable

The independent variable in this study is green banking. Data on green banking activities was extracted from the sustainability reports of the selected banks using a content analysis method. The Green Banking Disclosure Index (GBDI) is measured by evaluating 21 specific items, based on the indicators developed by (Bose et al., 2017). Each disclosed item is given a score of 1, while undisclosed items receive a score of 0.

c. Control Variables

To mitigate potential bias in the results, the study includes control variables: leverage (LEV) and the current ratio to account for additional factors influencing financial performance.

d. Variable Operationalization

Table 1. Variable Operationalization

Variable Name	Formula	Source
GDBI (Green Banking Disclosure Index)	Number of GBDI Disclosures: 21 items	(Bose et al., 2017)
ROA (return on assets)	Profit: Assets	(Ousama et al., 2019)
ROE (return on equity)	Profit: Equity	(Ousama et al., 2019)
LEV (leverage)	Debt: Capital	(Zhen & Lu, 2024)
Current Ratio	Current assets: Current Liabilities	(Chang et al., 2024)

Analysis Techniques

a. Descriptive Analysis

The purpose of this stage is to organize, summarize, and analyze the collected data to provide a clearer understanding of the variables. Descriptive analysis includes calculating the mean, standard deviation, and identifying the maximum and minimum values for each variable.

b. Panel Data Regression Analysis

This study uses panel data, which combines cross-sectional and time-series data. The panel data regression analysis is conducted using EViews software, following these steps:

1) Perform the Chow Test, Lagrange Multiplier (LM) Test, and Hausman Test to determine the most suitable model for the panel data
2) Conduct significance tests on the panel data regression parameters to evaluate the model's explanatory power.

3. RESULT AND DISCUSSION

3.1. Result

3.1.1. Descriptive Analysis

Table 2. Results of Descriptive Statistical Analysis

Descriptive Analysis					
Variable	Mean	Median	Std. Dev	Min	Max
GBDI (Green Banking Disclosure Index)	0.84	0.81	0.06	0.76	1.00
LEV (Leverage)	2.15	1.18	2.47	0.66	8.66
CR (Current Ratio)	0.62	0.06	0.91	0.00	2.52
ROA (Return On Assets)	0.02	0.02	0.01	0.00	0.03
ROE (Return On Equity)	0.13	0.14	0.06	0.03	0.28

Source: Annual Report of 4 islamic commercial banks 2020-2023 (processed data)

In Table 2, the Green Banking Disclosure Index (GBDI) variable shows a strong overall mean value of 0.84, indicating that green banking disclosures are relatively robust. The range of disclosures is also consistent, with a maximum value of 1 and a minimum of 0.76. A maximum GBDI value of 1.00 signifies that the respective Islamic bank has fully disclosed all green banking criteria in its sustainability report. This reflects the bank's complete implementation and communication of green banking practices, as measured by the GBDI. In particular, BJB Syariah Bank achieved a GBDI score of 1, demonstrating a strong commitment to sustainable finance and minimizing the environmental impact of banking operations.

The leverage (LEV) variable has an average value of 2.15, which suggests that these banks rely heavily on debt, with a relatively large portion of their capital structure comprised of debt compared to equity. The median value of 1.18 indicates that most banks have a leverage ratio below this figure. With a minimum value of 0.66 and a maximum of 8.66, it is clear that some banks carry extremely high levels of leverage, which could increase their financial risk. This excessive leverage can elevate the bank's vulnerability to financial instability.

The average value of Current Ratio is 0.62, indicating that these banks have limited capacity to meet their short-term liabilities. The median value of 0.06 shows that the majority of banks have a current ratio below the threshold. A relatively high standard deviation of 0.91 indicates substantial variability in liquidity levels across banks, with a minimum value of 0.00 and a maximum of 2.52. Some banks exhibit very low or relatively high liquidity ratios, suggesting the need for those with lower ratios to enhance their ability to fulfill short-term liabilities.

The ROA and ROE variables reflect modest profitability, with an average of 0.02 and 0.13 respectively, indicating that asset efficiency and returns on shareholder capital still require improvement. The low standard deviations for ROA (0.01) and ROE (0.06) show that profitability does not vary significantly between banks. However, the overall low profitability remains a concern, and improvements in efficiency and competitiveness are necessary. This analysis offers a more comprehensive understanding of the financial condition of the observed banks, particularly in terms of leverage, liquidity, and profitability.

3.1.2. Selection of Panel Data Regression Models

LM Test (Common Effect vs. Random Effect)

To determine whether to use the Common Effect or Random Effect model, we evaluate the probability value of the Cross Section F test. If the probability value is greater than 0.05, the Common Effect model is selected. Conversely, if the probability value is less than 0.05, the Random Effect model is more appropriate. In this case, the Breusch-Pagan value from the Lagrange Multiplier test is 0.2403, which is greater than 0.05. This indicates that the Common Effect Model is the most suitable choice over the Random Effect Model.

Table 3. Langrage-Multiple test results

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	1.379120 (0.2403)	1.297211 (0.2547)	2.676331 (0.1019)
Honda	1.174359 (0.1201)	-1.139952 (0.8726)	0.025037 (0.4900)
King-Wu	1.174359 (0.1201)	-1.139952 (0.8726)	0.025037 (0.4900)
Standardized Honda	2.743810 (0.0030)	-0.997919 (0.8408)	-2.057463 (0.9802)
Standardized King-Wu	2.743810 (0.0030)	-0.997919 (0.8408)	-2.057463 (0.9802)
Gourieroux, et al.	--	--	1.379120 (0.2456)

Source: Data processed by researchers

Chow Test (Common Effect vs. Fixed Effect)

The Chow test is used to determine whether the Common Effect Model or the Fixed Effect Model is more suitable. In order to decide between the two, the Cross Section F probability value is considered. If the probability value is greater than 0.05, the Common Effect Model is selected, whereas a probability value less than 0.05 indicates that the Fixed Effect Model is more appropriate. In this analysis, the Cross Section F probability value is 0.0077, which is less than 0.05, suggesting that the Fixed Effect Model is the more suitable choice over the Common Effect Model.

Table 4. Chow Test Results

Effects Test	Statistic	d.f.	Prob.
Cross-section F	7.624204	(3,9)	0.0077
Cross-section Chi-square	20.232359	3	0.0002

Source: Data processed by researchers

Hausman Test (Random Effect vs. Fixed Effect)

The Hausman test is used to determine whether the Fixed Effect Model or the Random Effect Model is more appropriate. The test relies on the random cross-section probability value to make this decision. If the probability value is greater than 0.05, the Random Effect Model is preferred; if it is less than 0.05, the Fixed Effect Model is more suitable. Based on the analysis, the random cross-section probability value is 0.0000, which is less than 0.05. Therefore, it can be concluded that the Fixed Effect Model is the better choice over the Random Effect Model.

Table 5. Hausman test results

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	22.872611	3	0.0000

Source: Data processed by researchers

3.1.3. Model Selection Conclusion Results

The results of the three model tests show:

a. The test between the Common Effect Model (CEM) and the Random Effect Model (REM) shows that the Common Effect Model (CEM) is more suitable for use in the regression equation.

b. The test between the Random Effect Model (REM) and the Fixed Effect Model (FEM) shows that the Fixed Effect Model (FEM) is more suitable for use in the regression equation estimation model.

c. The test between the Common Effect Model (CEM) and the Fixed Effect Model (FEM) shows that the Fixed Effect Model (FEM) is more suitable for use in the regression equation estimation model.

d. Based on the 3 tests above, the Fixed Effect Model (FEM) is the most suitable model to be used in this panel data regression analysis.

3.1.4. Results of Panel Data Regression Analysis

a. Fixed effect model regression test results (ROA as dependent variable)

Table 6. Fixed effect model regression test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004054	0.017811	0.227589	0.8251
GBDI	0.008211	0.022366	0.367133	0.7220
LEV	0.002004	0.000627	3.197058	0.0109
CR	0.001619	0.005572	0.290655	0.7779
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.853059	Mean dependent var		0.016250
Adjusted R-squared	0.755098	S.D. dependent var		0.007188
S.E. of regression	0.003557	Akaike info criterion		-8.140082
Sum squared resid	0.000114	Schwarz criterion		-7.802074
Log likelihood	72.12066	Hannan-Quinn criter.		-8.122773
F-statistic	8.708166	Durbin-Watson stat		2.790018
Prob(F-statistic)	0.002474			

Source: Data processed by researchers

The Green Banking Disclosure Index (GBDI) variable has a t-statistic value of 0.367 with a significance value of 0.722, which is greater than 0.05. Therefore, this indicates that the GBDI variable does not have a significant effect on the ROA variable. Meanwhile, the leverage (LEV) variable shows a t-statistic value of 3.197 and a significance value of 0.010, which is less than 0.05, meaning the LEV variable has a significant effect on ROA. Additionally, the Current Ratio variable has a t-statistic value of 0.290 with a significance value of 0.777, which is greater than 0.05, suggesting that the Current Ratio does not significantly affect ROA. As a result, based on the results of the Fixed Effect Model regression test, it can be concluded that the only variable with a significant effect on ROA is the LEV variable.

b. Common effect model regression test results (ROA as dependent variable)

Table 7. Common effect model regression test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.055141	0.019975	2.760490	0.0173
GBDI	-0.049422	0.024061	-2.054018	0.0624
LEV	0.002296	0.000742	3.092802	0.0093
CURRENTRASIO	-0.003961	0.001961	-2.019727	0.0663
R-squared	0.479622	Mean dependent var		0.016250
Adjusted R-squared	0.349528	S.D. dependent var		0.007188
S.E. of regression	0.005797	Akaike info criterion		-7.250560
Sum squared resid	0.000403	Schwarz criterion		-7.057412
Log likelihood	62.00448	Hannan-Quinn criter.		-7.240669
F-statistic	3.686725	Durbin-Watson stat		1.147297
Prob(F-statistic)	0.043273			

Source: Data processed by researchers

From the results of the three tests in the table, it is shown that the Green Banking Disclosure Index (GBDI) variable has a t-statistic value of -2.054 with a significance value of 0.062, which is greater than 0.05. Thus, the GBDI variable does not have a significant effect on the ROA variable. In contrast, the leverage (LEV) variable has a t-statistic value of 3.092 with a significance value of 0.009, which is less than 0.05, indicating that the LEV variable has a significant effect on the ROA variable. However, the Current Ratio variable has a t-statistic value of -2.019 with a significance value of 0.066, which is greater than 0.05, showing that the Current Ratio variable does not have a significant effect on ROA. Therefore, based on the results of the Common Effect model regression test, it can be concluded that the only variable with a significant effect on ROA is the LEV variable.

c. Random effect model regression test results (ROA as dependent variable)

Table 8. Random effect model regression test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GBDI	-0.049422	0.014764	-3.347514	0.0058
LEV	0.002296	0.000456	5.040462	0.0003
CURRENTRASIO	-0.003961	0.001203	-3.291628	0.0064
C	0.055141	0.012257	4.498880	0.0007
Effects Specification			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			0.003557	1.0000

Source: Data processed by researchers

The Green Banking Disclosure Index (GBDI) variable has a t-statistic value of -3.347 and a significance value of 0.005, which is less than 0.05, indicating a significant effect on the ROA variable. The Leverage (LEV) variable shows a t-statistic of 5.040 and a significance value of 0.000, also less than 0.05, suggesting that LEV significantly impacts ROA. Additionally, the Current Ratio variable has a t-statistic of -3.291 with a significance value of 0.006, which is below 0.05, demonstrating a significant effect on ROA as well. Therefore, the results from the Random Effects model regression analysis indicate that all three variables—GBDI, LEV, and Current Ratio—significantly influence the ROA variabl.

d. Fixed effect model regression test results (ROE as dependent variable)

Table 9. Fixed effect model regression test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.102386	0.173573	0.589872	0.5698
GBDI	-0.045171	0.217962	-0.207243	0.8404
LEV	0.018399	0.006108	3.012121	0.0147
CR	0.046347	0.054299	0.853547	0.4155
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.802441	Mean dependent var		0.133125
Adjusted R-squared	0.670735	S.D. dependent var		0.060412
S.E. of regression	0.034665	Akaike info criterion		-3.586522
Sum squared resid	0.010815	Schwarz criterion		-3.248514
Log likelihood	35.69218	Hannan-Quinn criter.		-3.569213
F-statistic	6.092670	Durbin-Watson stat		2.426242
Prob(F-statistic)	0.008517			

Source: Data processed by researchers

The Green Banking Disclosure Index (GBDI) has a t-statistic of -0.207 and a significance value of 0.840, which is greater than 0.05, indicating that GBDI does not significantly affect the ROE. The Leverage (LEV), with a t-statistic of 3.012 and a significance value of 0.014 (less than 0.05), shows a significant effect on the ROE. Meanwhile, the Current Ratio has a t-statistic of 0.853 and a significance value of 0.415, which is greater than 0.05, meaning it does not significantly impact ROE. Therefore, the results of the Fixed Effect model regression analysis conclude that the LEV significantly influences the ROE.

e. Common effect model regression test results (ROE as dependent variable)

Table 10. Common effect model regression test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.447310	0.173586	2.576878	0.0242
GBDI	-0.407901	0.209093	-1.950813	0.0748
LEV	0.018298	0.006451	2.836433	0.0150
CURRENTRASIO	-0.019555	0.017044	-1.147357	0.2736
R-squared	0.443661	Mean dependent var		0.133125
Adjusted R-squared	0.304576	S.D. dependent var		0.060412
S.E. of regression	0.050379	Akaike info criterion		-2.926181
Sum squared resid	0.030456	Schwarz criterion		-2.733033
Log likelihood	27.40945	Hannan-Quinn criter.		-2.916290
F-statistic	3.189857	Durbin-Watson stat		1.369545
Prob(F-statistic)	0.062766			

Source: Data processed by researchers

The Green Banking Disclosure Index (GBDI) variable has a t-statistic of -1.950 and a significance value of 0.074, which is greater than 0.05, indicating that GBDI does not significantly affect the ROE variable. The Leverage (LEV) variable, with a t-statistic of 2.836 and a significance value of 0.015 (less than 0.05), has a significant effect on ROE. In contrast, the Current Ratio variable has a t-statistic of -1.147 and a significance value of 0.273, which is greater than

0.05, indicating no significant effect on ROE. Therefore, the results from the Common Effect model regression test show that only the LEV variable has a significant impact on ROE.

f. Random effect model regression test results (ROE as dependent variable)

Table 11. Random effect model regression test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GBDI	-0.407901	0.143875	-2.835097	0.0150
LEV	0.018298	0.004439	4.122158	0.0014
CURRENTRASIO	-0.019555	0.011728	-1.667442	0.1213
C	0.447310	0.119443	3.744949	0.0028
Effects Specification			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			0.034665	1.0000

Source: Data processed by researchers

The Green Banking Disclosure Index (GBDI) has a t-statistic of -2.835 and a significance value of 0.015, which is less than 0.05, indicating a significant effect on ROE. Leverage (LEV) has a t-statistic of 4.122 and a significance value of 0.001, also less than 0.05, showing a significant effect on ROE. In contrast, the Current Ratio has a t-statistic of -1.667 and a significance value of 0.121, greater than 0.05, indicating no significant effect on ROE. Therefore, the results from the Random Effect model regression test conclude that both GBDI and LEV have a significant effect on ROE.

3.2. Discussion

The results from the model accuracy tests indicate that the Fixed Effect model is the most appropriate for conducting the panel data regression analysis in this study. This conclusion is based on the outcomes of the model selection tests, which demonstrate the Fixed Effect model's suitability for the data structure in this research. The regression results obtained using this model are presented in the following image:

Table 12. Fixed Effect model regression results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.004054	0.017811	0.227589	0.8251
GBDI	0.008211	0.022366	0.367133	0.7220
LEV	0.002004	0.000627	3.197058	0.0109
CR	0.001619	0.005572	0.290655	0.7779
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.853059	Mean dependent var		0.016250
Adjusted R-squared	0.755098	S.D. dependent var		0.007188
S.E. of regression	0.003557	Akaike info criterion		-8.140082
Sum squared resid	0.000114	Schwarz criterion		-7.802074
Log likelihood	72.12066	Hannan-Quinn criter.		-8.122773
F-statistic	8.708166	Durbin-Watson stat		2.790018
Prob(F-statistic)	0.002474			

Source: Data processed by researchers

The regression test results indicate that the Green Banking Disclosure Index (GBDI), with a significance value of 0.722 (greater than 0.05), does not significantly affect the Return on Assets (ROA). Similarly, the Current Ratio, with a significance value of 0.777 (greater than 0.05), does not have a significant impact on ROA. In contrast, the Leverage (LEV) variable, with a significance value of 0.010 (less than 0.05), significantly affects ROA. This suggests that a bank's debt level and capital structure play a substantial role in influencing its financial performance. The regression analysis further reveals that the independent variables used in this study explain 85% of the variation in the dependent variable, with an R-squared value of 0.85. The adjusted R-squared value of 0.75 indicates that this model adequately explains the dependent variable, accounting for the number of independent variables included in the analysis.

The findings also show that GBDI has no significant effect on ROA and ROE. This may be due to the limited focus on green banking disclosures by many banks, especially in countries without strong green banking regulations. Consequently, the information disclosed by these institutions may be insufficient to influence their financial performance significantly (Rachmawati et al., 2023). These results align with previous research (Siahaan et al., 2021), which found that GBDI had a negative and insignificant impact on ROA. This suggests that while green banking practices may not directly increase bank profitability, they can enhance investor and public trust, potentially boosting funding and the bank's business value.

Additionally, the study highlights that while capital adequacy has a minor effect on ROA, it exerts a more significant impact on ROE. This implies that adequate capital plays a crucial role in improving the profitability and efficiency of Islamic banks, particularly Islamic rural banks (BPRS). Adequate capital allows for more profitable operations and reduces financing risk (Mubarok et al., 2024). From a managerial perspective, the findings suggest that local government-owned Islamic banks in Indonesia should intensify efforts to disclose green banking practices more comprehensively in their sustainability report or annual report. Furthermore, these banks should assign sufficient resources to develop and implement green banking initiatives, such as energy efficiency measures and renewable energy projects, as these

could serve as strategies for improving financial performance through enhanced green banking disclosures.

The regression results indicate that banks which implement and disclose green banking practices can increase their financing capacity and generate higher income. However, some regional Islamic commercial banks have not fully disclosed their green banking activities. These institutions can improve their green banking disclosures to enhance financial performance and competitiveness within the islamic banking industry. In conclusion, this research underscores the importance of implementing and transparently disclosing green banking practices for local government-owned islamic commercial banks in Indonesia, not only to improve financial performance but also to contribute to sustainable economic development.

4. CONCLUSION

This study aimed to examine the impact of green banking disclosures on the financial performance of regional owned islamic commercial banks in Indonesia. The findings indicate that the implementation of green banking, as measured by the Green Banking Disclosure Index (GBDI), does not significantly affect the financial performance of these banks. While green banking practices promote transparency, accountability, and operational efficiency, they have yet to demonstrate a direct, measurable impact on financial performance in this context.

While this study provides valuable insights into the impact of green banking disclosures on the financial performance of regional owned sharia commercial banks in Indonesia, several limitations should be considered when interpreting the findings. First, this research focused solely on regional islamic commercial banks in Indonesia, and thus, the sample could be expanded to include sharia banks owned by the central government or the private sector. Second, the study relied solely on secondary data, including sustainability reports and financial reports. Future research could enhance the findings by incorporating primary data, such as interviews with management, to gain deeper insights into green banking practices. Additionally, the inclusion of other financial performance indicators, such as liquidity or efficiency, would provide a more comprehensive understanding of how green banking disclosures impact financial outcomes.

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