Sustainability of Sharia Effects: Evidence from the Markets of Indonesia and Malaysia

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Article History
Received: April 28th 2024  Revised: June 7th 2024  Accepted: June 10th 2024

Abstract
This study is designed to assess the empirical impact of increased profitability, leverage, and carbon emission disclosure on the scale of sustainability reporting. A quantitative method was chosen as the primary approach, relying on secondary data as a source of information. Observations were conducted on manufacturing entities listed in the Sharia Securities List in Indonesia and Malaysia during the period from 2021 to 2023, using purposive sampling techniques resulting in a sample of 105 companies. Descriptive and verificative statistical methods were employed for data analysis, including panel data regression using fixed effects models. Eviews 12 software was adopted as the analytical tool. The empirical findings of this research indicate that increased profitability and carbon emission disclosure significantly contribute to the expansion of sustainability reporting disclosure. On the other hand, increased leverage does not have a significant negative impact on the scale of sustainability reporting disclosure.

Keywords: Profitability, Leverage, Carbon Emission Disclosure
I. Introduction

So far, the primary objective of business activities has been to maximize profits, as explained by (Adomako & Tran, 2024). However, efficient business operations often only focus on corporate prosperity and neglect environmental and social aspects, thereby contributing to environmental degradation. A shift in societal thinking from the single bottom line concept to the triple bottom line has become imperative. This concept, introduced by Elkington (1997), posits three main pillars: planet, people, and profit. Over time, this concept has evolved with the addition of a fourth bottom line that incorporates political and perceptual elements (Ramirez et al., 2024). The evolution within the triple bottom line framework is crucial for developing more effective interactions among business, politics, and society to achieve sustainable development goals in sustainability reporting.

The corporate responsibility for its operational activities is crucial and clearly evident in sustainability reports, which encompass social, economic, and environmental aspects and can be integrated into annual reports or published as separate documents (Coelho et al., 2023). Through sustainability reporting, companies demonstrate their commitment to minimizing the negative impact of their business activities on the environment. However, inadequacies in information disclosure in these sustainability reports often result in greater environmental damage due to business operations. This indicates that improvements in transparency and the level of detail in reports can influence the reduction of the negative impacts of corporate activities on the environment.

In the manufacturing sector, the process of transforming raw materials into finished products is often identified as an activity with a high potential for environmental damage, as revealed by (Ren et al., 2023). To address this issue, regulations issued by the Financial Services Authority of Indonesia, namely Regulation Number 51/POJK.03/2017 on the Implementation of Sustainable Finance for Financial Institutions, Issuers, and Public Companies, ensure that sustainability disclosure must include a minimum of 63 items or be measured using a disclosure index with a minimum score of 43%. Meanwhile, in Malaysia, the obligation to prepare and present sustainability reports for all public companies began to be enforced in December 2018, based on the Sustainability Reporting Guidelines issued in the same year.

In the ASEAN region, Malaysia takes the lead in sustainability reporting, with a high score of 64.5%, indicating a significant level of transparency and commitment to sustainability (Elaigwu et al., 2024). Following closely is Singapore, which achieved an impressive score of 61.7%, demonstrating its serious dedication to implementing sustainable practices. Thailand ranks third with a score of 60%, indicating efforts to enhance transparency in its reporting. The Philippines, with a score of 56.3%, shows promising progress, although there is still room for improvement. At the bottom of the list, Indonesia closes the series with a score of 53.6%, indicating that despite efforts, there is still much to be improved regarding sustainability disclosure in the country.

Based on a survey conducted on 105 manufacturing companies listed in the Shariah Securities List in Indonesia and Malaysia from 2020 to 2023, it was found that the level of sustainability reporting disclosure ranged from only 42% to 47%. This finding indicates that the sustainability reporting disclosure by companies in both countries remains relatively low. It suggests that companies are only disclosing at a level that is close to the minimum required by applicable regulations. It is important to note that Government Regulation No. 47 of 2012 has stipulated that companies are not only required to fulfill social and environmental responsibilities but also to provide detailed reports on activities related to these responsibilities in sustainability reports (Kwarto et al., 2024).
A thorough analysis of Table 1 reveals that the level of sustainability reporting disclosure by companies in Malaysia consistently surpasses that of companies in Indonesia every year. In 2021, Indonesian companies had an average disclosure rate of 40.62%, while in Malaysia, this rate reached 44.45%. The following year, Malaysia saw an increase in sustainability disclosure to 51.16%. Although Indonesia also showed an increase in disclosure to 43.98% in 2022, this figure still remained below the average disclosure achieved by Malaysia. A similar trend continued in 2023, confirming that companies in Malaysia are more proactive in reporting their sustainability initiatives.

The disclosure of sustainability reports shows a significant correlation with company profitability. Companies that record high profitability usually have greater financial flexibility, allowing them to manage and report business activities more effectively. According to Jung & Im (2023), companies that generate higher profits tend to gain greater trust from stakeholders. This trust then facilitates more transparent and comprehensive sustainability reporting. Thus, profitability not only measures financial performance but also influences the company’s ability to communicate about its social and environmental impacts.

Research conducted by Das et al. (2024), Lamanda & Tamásné (2024), and Mishra & Sant (2024) consistently indicate a positive relationship between profitability and sustainability reporting disclosure. In contrast to previous findings, research conducted by Alhawaij et al. (2023), Cerciello et al. (2023), Ebaid (2023), Kuo et al. (2023), and Mahmuda & Muktarid-Al-Mukit (2023) indicates that there is no significant correlation between profitability and sustainability reporting disclosure. These findings indicate that the motivation to enhance transparency and fulfill social responsibilities may operate independently of the company’s financial conditions. This underscores that other factors may have a more significant influence in driving companies to engage in more comprehensive and responsible disclosure.

One factor suspected to influence sustainability reporting disclosure is financial leverage. Research conducted by Buallay et al. (2022), Hasan et al. (2022), and Ho et al. (2022) supports this view. They found that higher levels of leverage have a negative impact on sustainability reporting disclosure. Meanwhile, recent studies by Alshirah & Alshira’h (2024), Bedi & Singh (2024), Githaiga (2024), Nicolo et al. (2024), and Wicaksono et al. (2024) indicate that leverage has a negative influence on sustainability reporting disclosure. These findings suggest that companies with significant financial obligations may be less able or unwilling to invest resources in initiatives that promote transparency and social and environmental responsibility.

One factor contributing to the low disclosure of sustainability reports is carbon emissions, with Indonesia known as the largest carbon emitter in Southeast Asia. This condition significantly contributes to environmental damage and global warming. The National Aeronautics and Space Administration (NASA) reported that in 2021, there was a recorded increase in global temperature of 0.85°C, and in 2022, it marked the hottest year on record with a temperature increase of 1.02°C. This phenomenon of global warming affects various aspects of life, resulting in climate change threats such as rising sea levels, increased global temperatures, glacier melting, and Arctic warming. These consequences, particularly those
related to the increase in carbon dioxide (CO₂) concentrations, pose serious threats to human survival and the stability of the Earth’s ecosystems.

Every company is required to disclose information about its carbon emissions, which contributes to the completeness of sustainability reports. Research by Ding et al. (2023) supports the view that carbon emission disclosure has a positive impact on the completeness of sustainability reports. However, a study by Moneva et al. (2023) indicates that carbon emission disclosure does not always have a significant impact on sustainability reporting. The reason behind this finding is that not all companies have significant or environmentally harmful carbon emissions, and information about carbon emissions is often not the primary benchmark used by stakeholders to evaluate company performance.

Based on existing literature reviews, profitability, leverage, and carbon emission disclosure play significant roles in improving the quality of sustainability reporting disclosure. However, related research is still limited, especially in the context of Shariah-compliant companies listed on the stock exchanges of Indonesia and Malaysia. This deficiency is particularly evident when evaluating the implementation of these factors within the scope of Shariah-compliant companies. To address this gap, this study is designed to provide empirical evidence regarding the influence of profitability, leverage, and carbon emission disclosure on sustainability reporting disclosure in Shariah-compliant companies in both countries. This research is expected to enrich the literature by presenting new insights into the contribution of these factors to the extent of sustainability reporting disclosure and offering new perspectives in evaluating sustainability reports in Shariah-compliant companies in Indonesia and Malaysia.

II. Literature Review

2.1. Legitimacy Theory

Guthrie & Parker (1989) defined legitimacy as a shared evaluative framework that refers to the alignment between a company's activities and external environmental expectations. The legitimacy theory, further elaborated by Brown & Deegan (1998), outlines the dynamics of the relationship between business entities and the general public regarding disclosures related to corporate sustainability. This theory emphasizes the importance of synchronizing the social values of corporate operations with the norms existing in the communities where the company operates, as expressed by (Caputo et al., 2021). Furthermore, the legitimacy theory seeks to provide a comprehensive perspective on reporting corporate activities related to sustainability and acknowledges that companies operate within ethical boundaries and accepted social norms, as illustrated by (Quattrone, 2022).

Within the framework of legitimacy theory, organizations are seen to operate through a social contract with society, aiming to gain approval and ensure long-term business sustainability. Sustainability reporting serves as a tool to strengthen social legitimacy. This theory explains why entities or organizations may voluntarily report all activities related to social and environmental issues as part of an implicit social contract with society. Although sustainability reporting in Indonesia is still voluntary and not all companies report their social and environmental activities comprehensively, legitimacy theory offers long-term benefits. Good disclosure, according to legitimacy theory, can motivate organizations to report their social and environmental activities, thus enabling these companies to sustain and grow.
2.2. Sustainability Reporting

Sustainability reports, designed and published by companies, aim to provide stakeholders and the general public with a comprehensive overview of the company’s performance in economic, social, and environmental aspects. The main objective of these reports is to provide accountable information to all stakeholders, reflecting the transparency and accountability of the company. According to Tetteh et al. (2024), these reports follow the Global Reporting Initiative Standards (GRI) and cover 149 disclosure items. These items are divided into 60 general disclosure items, 17 items for economic aspects, 32 items for environmental aspects, and 40 items for social aspects, in accordance with the GRI G4. This ensures that companies effectively communicate the impacts and outcomes of their activities to the public.

2.3. Profitability and Sustainability Reporting

Companies with high profitability often have greater opportunities to allocate some of their profits to activities that benefit society. This not only helps enhance the company’s image but is also reflected in its sustainability reports. With a strong reputation in society, these companies are able to compete more effectively in the same industry. Sustainability reports by highly profitable companies are often used by management to showcase their competence to stakeholders, providing transparency about company activities as a form of accountability. According to Nasta et al. (2024), legitimacy theory, which describes the social contract between society and business entities indirectly, suggests that the social recognition gained through these practices provides long-term benefits that enable companies to continue to exist.

The disclosure of sustainability reports by companies is often triggered by increasing moral awareness and ethical standards, aiming to gain broad social recognition. Public satisfaction with a company’s business operations strengthens its legitimacy, which is key to long-term sustainability. When companies achieve high profitability, maintaining or increasing profits becomes a priority. Companies need to maintain public trust by intensively communicating their sustainability practices, according to (Carvajal & Nadeem, 2023). Furthermore, Lau & Wong, (2023), indicate that companies with high profitability tend to elaborate on their performance in detail through sustainability reports as evidence of accountability and transparency to stakeholders.

2.4. Leverage and Sustainability Reporting

Leverage is a financial strategy involving the use of funds and fixed-cost assets from external sources, such as debt. Increased use of debt in financing a company’s operations can lead to higher fixed costs, particularly interest expenses. This demands that companies manage their cash flow efficiently to pay off debt principal and interest. Companies with high leverage tend to cut costs on non-essential activities, including social and environmental initiatives, to focus on efficiency and enhance profitability. Reductions in the implementation of these programs result in a decrease in the amount of disclosure that can be reported in sustainability reports. According to Bai (2022), companies with high leverage prioritize debt repayment to third parties over allocating their resources to other activities, ultimately reducing the level of disclosure in their sustainability reports.

To ensure operational sustainability, companies need to meet the expectations of stakeholders. Stakeholder theory emphasizes that stakeholders play a vital role in enhancing the company’s value and reducing potential losses. In situations where companies face significant levels of debt, they tend to prioritize cost reduction in social and environmental areas to maintain stakeholder interest stability. This often results in decreased company involvement in community social activities and potentially reduces the
level of disclosure in sustainability reports. Research conducted by Chen et al. (2024) indicates that increased leverage is associated with high debt cost and interest burdens, ultimately limiting the financial capacity for in-depth disclosure in sustainability reports. Álvarez-Botasa et al. (2024) also note that in high-leverage conditions, companies will be more selective in disclosing sustainability reports.

2.5. Carbon Emissions Disclosure and Sustainability Reporting

Disclosure of carbon emissions information is a vital practice for companies to demonstrate environmental responsibility. Rohani & Jabbour (2024) state that this is part of environmental conservation efforts focused on reducing the negative impact of carbon emissions. Furthermore, Issa & In’airat (2024) argue that this activity is crucial to support the company's operational sustainability. This disclosure not only includes data on emission levels but also encompasses the strategies and policies implemented by the company to reduce these emissions. Through this initiative, companies demonstrate their commitment to fulfilling their social contract with society and efforts to reduce the industrial impact on the environment. From a legitimacy perspective, this step helps ensure the company's sustainability by aligning its operations with social and environmental responsibilities. It also enables companies to gain broader resources for long-term operations and build public trust. Mehedi et al. (2024) emphasize that disclosure of carbon emissions is a tangible manifestation of a company's commitment to its sustainability efforts.

Disclosure of carbon emissions significantly contributes to improving the quality of a company's sustainability report. Initiatives taken to reduce carbon emissions, detailed in emission reports, help strengthen the company's sustainability disclosure practices. According to Rehman et al. (2024), this action directly enhances transparency in sustainability reporting. The activity of disclosing carbon emissions by companies is not limited to specifying the amount of emissions emitted but also includes the steps taken to reduce these emissions. Hettler & Graf-Vlachy (2024) emphasize that these details should be comprehensively included in sustainability reports, demonstrating not only environmental impacts but also the company's responsive efforts in managing these impacts. Therefore, in this study, the proposed hypothesis is as follows;

\[ H_1 \]: The implications of high profitability will increase the extent of Sustainability Report Disclosure.

\[ H_2 \]: The implications of high leverage will decrease the extent of Sustainability Report Disclosure.

\[ H_3 \]: The implications of high carbon emission disclosure will increase the extent of Sustainability Report Disclosure.

III. Methodology

This research adopts a quantitative methodology to analyze a causality model that evaluates the influence of profitability, leverage, and carbon emission disclosure on the level of disclosure in sustainability reports. The study population consisted of manufacturing companies listed on the Sharia-compliant stock exchanges in Indonesia and Malaysia from 2021 to 2023. Sample selection was conducted using purposive sampling techniques based on pre-established criteria to ensure data relevance and consistency. From this selection process, 35 companies were chosen that consistently issued annual reports and sustainability reports meeting the Global Reporting Initiative (GRI) standards. The total observations collected amounted to 105, covering three annual periods from 2021 to 2023. The results of this sampling provide a solid foundation for further analysis regarding the
relationship between financial factors and sustainability disclosure practices in the manufacturing sector.

3.1. Sustainability Reporting
Sustainability reporting, better known as Sustainability Report Disclosure (SRD), is assessed through the Sustainability Reporting Disclosure Index by Dinh et al. (2023). This index refers to standards developed by the Global Reporting Initiative (GRI), a global non-profit organization, which in 2018 established a total of 149 disclosure indicators. The methodology for calculating this index involves dividing the number of indicators disclosed and reported by companies in their sustainability reports by the total number of indicators set by GRI. The formula used to calculate the Sustainability Reporting Disclosure Index is as follows:

\[
SRDi = \frac{V}{M}
\]

Where,
- \( SRDi \): sustainability Report Disclosure Index
- \( V \): number of items disclosed by the company
- \( M \): number of expected items (149 items)

3.2. Profitability
The profitability of a company can be measured through Return on Assets (ROA), which is a ratio comparing net income to total assets (Ochnio, 2024). A high ROA indicates that the company not only generates greater profits but also manages its assets efficiently. This ratio integrates two crucial aspects, profit, and assets, facilitating comparative performance analysis among companies operating in the same industry. It also provides insight into a company's ability to optimize its assets to generate profits.

\[
ROA = \frac{\text{Net Income}}{\text{Total Assets}}
\]

Where,
- ROA: return on assets

3.3. Leverage
Leverage is measured using the Debt to Equity Ratio (DER), a metric that analyzes the proportion of debt to equity in the company’s capital structure (Ranjan, 2024). DER serves as an indicator of financial sustainability, given that this ratio provides an overview of the company’s ability to meet its obligations in the long term. Thus, the DER ratio becomes crucial information for stakeholders in assessing the financial stability of the company. This research utilizes DER to evaluate the financial sustainability of the company and identify potential financial risks that may arise in the future. Through DER comparisons, analysts can assess the capital structure among companies, which is useful in measuring the relative leverage levels among companies operating in the same industry or having similar characteristics.

\[
DER = \left( \frac{\text{Total Debt}}{\text{Total Equity}} \right) \times 100\%
\]

Where,
- DER: debt equity ratio
3.4. Carbon Emission Disclosure

The analysis of carbon emission disclosure in corporate reports adopts an approach developed by Rehman et al. (2024), which encompasses several essential categories. These categories include explanations about climate change-related risks and opportunities, energy consumption, greenhouse gas emissions, initiatives to reduce greenhouse gas impacts, and costs associated with research and development for emission mitigation. Additionally, categories assessing accountability in carbon emission management are also included. In the analysis process, data is obtained through content analysis. This method involves scoring each disclosure item related to carbon emissions using a dummy scale. This scale assigns a value of 1 if the company discloses a specific disclosure item related to carbon emissions and a value of 0 if the company does not disclose that item. This procedure is followed by calculating aggregate scores based on a specific formula, which facilitates a quantitative evaluation of companies' level of carbon emission disclosure. Thus, this approach enables a comprehensive assessment of corporate transparency in managing and reporting their carbon emissions.

\[ \text{CED: } \frac{\text{Total Disclosed Items}}{\text{Total Overall Items}} \times 100 \% \quad eq.(4) \]

Where,
CED : carbon emission disclosure

This research used panel data regression analysis models. There are several approaches in panel data analysis, namely the Common Effect Model (CEM), the Fixed Effect Model (FEM), and the Random Effect Model (REM). All of these tests must be conducted as a series of steps to obtain the best model for data analysis in this study. After the model selection is made, the data is tested with classical assumption tests to ensure that the data is not biased. The analytical tool used is the Eviews Software V.12 application.

<table>
<thead>
<tr>
<th>No.</th>
<th>Issuer</th>
<th>Country</th>
<th>No.</th>
<th>Issuer</th>
<th>Country</th>
</tr>
</thead>
<tbody>
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<td>19.</td>
<td>UNVR</td>
<td>Indonesia</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Processed secondary data by the researcher, 2024
IV. Results and Analysis

4.1. Descriptive Analysis

Descriptive statistical analysis is applied to each variable to describe the characteristics of the data collected and processed in this study. Evaluated parameters include the mean value, minimum value, and maximum value. Additionally, standard deviation and variance are also examined to provide a deeper understanding of data dispersion. The results of this analysis are presented in Table 2, with further explanation provided in the following section:

<table>
<thead>
<tr>
<th>Table 3. The Results of Descriptive Analysis of Variables</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
</tr>
<tr>
<td>Sustainable and Responsible Dimension Index</td>
</tr>
<tr>
<td>Return on Assets</td>
</tr>
<tr>
<td>Debt to Equity Ratio</td>
</tr>
<tr>
<td>Carbon Emission Disclosure</td>
</tr>
</tbody>
</table>

Source: Data processed by the researcher through EViews Software V.12, 2024.

The SRDi indicates an average of 0.457, with a standard deviation of 0.835. The high standard deviation value indicates significant variation among companies in the level of sustainability practice implementation. This reflects potential differences in sustainability aspects among industries, sizes, and internal company policies. Furthermore, the ROA has an average of 0.311, with a standard deviation of 0.966. The high standard deviation indicates significant variation in the efficiency of asset utilization to generate profit among companies. Negative ROA values (minimum -0.799) indicate companies that may experience losses in asset management, while the maximum value (0.829) shows excellent performance in generating profit from assets.

Then, DER shows an average of 1.086, with a standard deviation of 1.128. The high standard deviation indicates significant variation in the company's capital structure within the sample. The high maximum value (4.338) indicates companies with very high levels of debt, which can increase the company's financial risk, and CED has an average of 0.512, with a standard deviation of 0.821. The high standard deviation indicates significant variation in the company's ability to meet their short-term obligations. The high maximum value (0.833) indicates companies with very good liquidity, while the minimum value (0.111) indicates companies that may face challenges in managing their liquidity.

4.2. Model Selection Test

In the process of selecting the best estimation method for regression analysis using panel data, two main testing stages are conducted. The first stage involves comparing the common effect model and the fixed effect model using the Chow Test. If the Chow Test results indicate the superiority of the common effect model, it is recommended for use in data analysis. However, if the test results show the superiority of the fixed effect model, then it proceeds to the second stage. The second stage involves the use of the Hausman Test, which aims to select the most appropriate model between the fixed effect model and the random effect model. This test helps determine whether more consistent estimates are obtained through the fixed effect model or the random effect model based on the assumptions and characteristics of the data used.
Table 4. Chow Test Results and Hausman Test Results

<table>
<thead>
<tr>
<th>Effects Test</th>
<th>Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>5.942942</td>
<td>(34,67)</td>
<td>0.0000</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
<td>145.975393</td>
<td>34</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

**Test Summary**

<table>
<thead>
<tr>
<th>Chi-Sq. Statistic</th>
<th>Chi-Sq. d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section random</td>
<td>13.987174</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Data processed by the researcher through EViews Software V.12, 2024.

The table above reveals that the F-test value is significant, less than 0.05, indicating the superiority of the fixed effect model over the common effect model. Based on these results, the fixed effect model is selected, which necessitates further implementation of the Hausman test. This testing process aims to compare the effectiveness of the fixed effect model and the random effect model to determine the most accurate panel data regression model. According to the data presented in the table, the results indicate that the cross-section p-value is 0.0029, which is lower than the significance threshold of 0.05. Therefore, the fixed effect model is chosen as the best model for this analysis. With the acceptance of the fixed effect model, the LM test becomes unnecessary.

### 4.3. Classical Assumption Test

Table 5. Testing Classical Assumptions

<table>
<thead>
<tr>
<th>Normality Test</th>
<th>Series: Residual</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observations</td>
<td>105</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>5.075530</td>
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<tr>
<td>Probability</td>
<td>0.079043</td>
</tr>
</tbody>
</table>

**Multicollinearity Test**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient Variance</th>
<th>Uncentered VIF</th>
<th>Centered VIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.001296</td>
<td>37.55055</td>
<td>N/A</td>
</tr>
<tr>
<td>ROA</td>
<td>0.005903</td>
<td>9.925715</td>
<td>1.013648</td>
</tr>
<tr>
<td>DER</td>
<td>0.004677</td>
<td>22.32812</td>
<td>1.017539</td>
</tr>
<tr>
<td>CED</td>
<td>0.001052</td>
<td>9.025496</td>
<td>1.009274</td>
</tr>
</tbody>
</table>

**Heteroskedasticity Test: White**

<table>
<thead>
<tr>
<th>F-statistic</th>
<th>Prob. F (9.95)</th>
<th>0.2605</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observations’ R-squared</td>
<td>Prob. Chi Square(9)</td>
<td>0.2546</td>
</tr>
<tr>
<td>Scaled explained SS</td>
<td>Prob. Chi Square(9)</td>
<td>0.5472</td>
</tr>
</tbody>
</table>

**Breusch-Godfrey Serial Correlation LM Test:**

<table>
<thead>
<tr>
<th>F-statistic</th>
<th>Prob. F(2.99)</th>
<th>0.0001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Observations’ R-squared</td>
<td>Prob. Chi Square(2)</td>
<td>0.0001</td>
</tr>
</tbody>
</table>

Source: Data processed by the researcher through EViews Software V.12, 2024.

From the normality test results, the probability value or p-value recorded is 0.079, which is higher than the significance level $\alpha = 0.05$ ($0.079 > 0.05$). This indicates that the data residuals have a normal distribution. In the multicollinearity test, it was found that the Variance Inflation Factor values for all independent variables are within the range of 1 to 10. This indicates that there are no multicollinearity issues in the regression model used. The heteroskedasticity test results show that the $P_{value}$ for the Observations’ Chi-square Statistic is 0.254, which exceeds $\alpha = 0.05$ ($0.254 > 0.05$). This indicates that there is no heteroskedasticity in the model. Meanwhile, based on the autocorrelation test results, the $P_{Obs’Chi-Square}$ value indicates the presence of autocorrelation in the data.
4.4. Panel Data Regression Analysis

\[
SRD_i = 0.130861 + 1.272477 \cdot ROA - 0.086972 \cdot DER + 0.136791 \cdot CED + \epsilon_i
\]

In the considered regression model, the constant value of 0.130861 indicates that if all independent variables, namely profitability, leverage, and carbon emission disclosure, are assumed to be zero, the level of sustainability reporting disclosure will be at 0.130861. The regression coefficient for the profitability variable is 1.272477, indicating a positive relationship with sustainability reporting disclosure. This means that every one-unit increase in profitability will result in an increase in sustainability reporting disclosure by 1.272477, provided that the leverage and carbon emission disclosure variables remain constant. This implies that an increase in profitability tends to increase sustainability reporting disclosure.

Conversely, the regression coefficient for leverage is -0.086972, indicating a negative relationship with sustainability reporting disclosure. This means that every one-unit increase in leverage will decrease sustainability reporting disclosure by 0.086972, assuming profitability and carbon emission disclosure remain unchanged. In other words, the higher an entity's leverage, the lower its level of sustainability reporting disclosure. For the carbon emission disclosure variable, the regression coefficient of 0.136791 indicates a positive effect on sustainability reporting disclosure. This means that an increase of one unit in carbon emission disclosure will result in an increase in sustainability reporting disclosure by 0.136791, provided that profitability and leverage remain constant. This implies that intensifying carbon emission disclosure by entities facilitates an increase in sustainability reporting disclosure.

4.5. Hypothesis Testing

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>0.130861</td>
<td>0.045993</td>
<td>2.845245</td>
<td>0.0059</td>
<td>Accepted</td>
</tr>
<tr>
<td>ROA</td>
<td>1.272477</td>
<td>0.099043</td>
<td>12.84768</td>
<td>0.0000</td>
<td>Accepted</td>
</tr>
<tr>
<td>DER</td>
<td>-0.086972</td>
<td>0.077282</td>
<td>-1.125375</td>
<td>0.2644</td>
<td>Rejected</td>
</tr>
<tr>
<td>CED</td>
<td>2.334304</td>
<td>0.967791</td>
<td>2.411992</td>
<td>0.0187</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Source: Data processed by the researcher through EViews Software V.12, 2024.

The Implications of Increased Profitability on the Extent of Sustainability Reporting Disclosure

The data analysis indicates a positive and significant influence of profitability on the level of disclosure in sustainability reporting. This suggests that an increase in a company's profitability is directly related to an increase in the extent of sustainability reporting disclosure. Conversely, a decrease in profitability tends to result in a decrease in the extent of such reporting disclosure. Profitability, measured through various financial ratios, provides insight into a company's ability to generate profit relative to its revenue, assets, or capital employed.

An increase in profitability ratios indicates a company's ability to allocate funds to programs supporting the fulfillment of social contracts with the community and the environment. Active engagement of companies in social activities can enhance public legitimacy and trust in corporate operations. In the long run, this legitimacy and trust are crucial for the company's operational sustainability and business stability. Company operations aligned with social and ethical expectations reduce the risk of operational disruptions, such as complaints or protests from the community regarding norm violations. The stability of
operations contributes to the increase in the company's value. This is evidenced by the test data results with a probability level of $0.0000 < \alpha 0.05$. It can be concluded that management, in response to this achievement, tends to report it in financial statements and voluntarily provides details of social activities in sustainability reports, thereby demonstrating their commitment to social and environmental responsibility.

The increase in sustainability reporting disclosure not only reinforces the company's legitimacy in the eyes of the community and the environment but also aims to strengthen investor confidence. According to the stakeholder theory framework, companies with solid financial performance are generally believed to be more capable of providing accurate and transparent information to stakeholders, including investors and creditors. These companies are considered capable of effectively meeting those expectations. The findings of this research are consistent with the findings of studies conducted by Ellili & Nobanee (2023), Faisal et al. (2023), and Monteiro et al. (2023), which indicate a positive and significant influence of profitability on sustainability reporting disclosure. Conversely, these results reject the findings of Maemunah (2024), which indicate a significant negative influence on sustainability reporting disclosure.

The Implications of Increased Leverage on the Extent of Sustainability Reporting Disclosure

The data analysis results indicate that leverage has a non-significant negative influence on the extent of sustainability reporting disclosure. This finding suggests that the level of company leverage does not directly affect the magnitude of disclosure in sustainability reports. Although there is a practice where companies with high leverage tend to reduce sustainability reporting disclosure, this is evidenced by test data results with a probability level of $0.2644 > \alpha 0.05$. In reality, management remains responsible for transparently presenting leverage information in sustainability reports to maintain the trust of investors and creditors by demonstrating a healthy financial condition.

Studies by Al-Shaer et al. (2022) and Desai (2022) support the finding that leverage does not have a significant impact on the extent of sustainability reporting disclosure. Conversely, this research contradicts the findings of Thompson et al. (2022), which state that leverage has a negative influence, and the study by Akhter et al. (2023), which found that leverage has a significant positive impact on the extent of sustainability reporting disclosure. This study reaffirms that, under any circumstances, company management remains obligated to provide comprehensive disclosure regarding leverage in sustainability reports.

The Implications of Increased Carbon Emission Disclosure on the Extent of Sustainability Reporting Disclosure

The hypothesis analyzed in this research aims to evaluate the impact of carbon emission disclosure on the extent of sustainability reporting disclosure. Data analysis indicates a positive and significant relationship between carbon emission disclosure and the extent of sustainability reporting disclosure. In other words, companies that intensively disclose carbon emissions tend to have more comprehensive sustainability reports.

The company's carbon emission disclosure provides a detailed overview of the efforts made to reduce carbon emissions, including preventive and mitigation activities. This is evidenced by test data results with a probability level of $0.0187 < \alpha 0.05$, indicating that the more proactive a company is in taking concrete actions to reduce emissions, the higher the likelihood that these efforts will be widely documented in the carbon emission disclosure.
report. This step not only reflects the company's efforts to reduce environmental impact but also strengthens the social contract with the surrounding community, gains social legitimacy, and ensures operational sustainability. Thus, carbon emission disclosure activities directly contribute to the improvement of the quality and scope of sustainability reporting disclosures.

The findings of this research support the results of the study conducted by He et al. (2023), which found that carbon emission disclosure has a positive and significant impact on the extent of sustainability reporting disclosure. This research also provides a counterposition to the findings obtained by Lee et al. (2023), which stated that the level of carbon emission disclosure does not have a significant influence on the extent of sustainability reporting disclosure.

V. Conclusion and Recommendation

There is a strong positive implication between profitability and the extent of sustainability reporting. This is consistent with the theory that more profitable companies tend to have more resources to allocate to sustainability initiatives and generate more relevant data to include in their reports. Additionally, an increase in carbon emission disclosure also correlates with an increase in the extent of sustainability reporting. This can be understood because the greater awareness of the environmental impact of business activities, the more important it is for companies to disclose information regarding their carbon emissions transparently. However, it is important to remember that these results only apply to the companies sampled in the research and cannot be directly applied to the population of companies in general. Furthermore, although leverage was also analyzed, no significant influence on the extent of sustainability reporting was found. This may be due to companies' greater focus on other factors when deciding to disclose their sustainability information or perhaps because the level of debt is not directly correlated with the need to disclose sustainability information. Thus, the conclusion provides important insights into the factors influencing the extent of sustainability reporting but also highlights the complexity and variation in corporate sustainability practices.

Furthermore, future research could also investigate effective strategies to enhance carbon emission disclosure and its impact on the extent of sustainability reporting. This might involve researching the factors driving companies to be more transparent in disclosing their carbon emission-related information, as well as the effectiveness of various disclosure types in influencing stakeholders' perceptions and decisions. Additionally, considering the complexity of corporate sustainability practices, future research could also explore other factors that may influence the extent of sustainability reporting beyond variables already analyzed, such as leverage. For example, research could focus on the role of factors like company size, industry, corporate governance, and pressure from stakeholders in determining the level of sustainability disclosure. Overall, future research should aim to enhance understanding of corporate sustainability practices and factors influencing the extent of sustainability reporting, thereby providing better guidance for companies to strengthen their commitment to sustainability and meet stakeholder demands.

Acknowledgment

We express our deepest appreciation to the Journal of Islamic Economic and Business Research (JIEBR) from Universitas Muhammadiyah Yogyakarta for the opportunity to publish our research. The support and guidance provided by the JIEBR editorial team have been invaluable in the completion and refinement of this article. Additionally, we appreciate
the technical support from several colleagues in their efforts to assist with data collection in Malaysia, as well as providing feedback and improvements in data processing.

Author Contributions
This research is the result of collaboration among several authors. Adi Gunanto, S.E., M.Ak. (First Author from Universitas Muhammadiyah Surakarta) was responsible for the research design and data analysis, and wrote the main part of the manuscript. Dr. Siti Aisyah, S.E., M.M. (Second Author from STKIP PGRI Lumajang) contributed to the statistical analysis. Mohammad Ridwan, S.E., M.Ak. (Third Author from Universitas Muhammadiyah Semarang) provided the literature review. Sofyan Syamsuddin, S.E., M.Ak. (Fourth Author from Universitas Muhammadiyah Palopo) assisted in writing and editing the manuscript. Munzir, S.E., M.Ak. (Fifth Author from Universitas Pendidikan Muhammadiyah Sorong) played a role in data and methodology editing. Sunarmi, S.E., M.Ak. (Sixth Author from Universitas Siti Aisyah Pringsewu, Lampung) contributed to the theoretical review. All authors have read and approved the final version of this manuscript.

Disclosure Statement
The authors declare that there are no conflicts of interest that could be perceived as influencing the results of this research.

Funding
This research received no funding from any party.

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Data Availability Statement
The data supporting the findings of this research are available from the lead author, Adi Gunanto, S.E., M.Ak, via email at adigunamanusia@gmail.com, upon reasonable request. The data are accessible in accordance with ethical policies and the agreement of all authors.
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