Analisis Green Banking Disclosure: Sebuah Perspektif pada Perbankan di Indonesia

THE ANALYSIS OF GREEN BANKING DISCLOSURE: A PERSPECTIVE ON THE BANKING SECTOR IN INDONESIA

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ABSTRACT

The aim of this study is to examine the effect of financial performance on green banking disclosure, using control mechanisms as moderating factors. This is a quantitative study with secondary data. The population consists of banking companies listed on the IDX during 2018-2021 with a purposive sampling technique. Financial performance is measured by profitability using two proxies, return on assets (ROA) and return on equity (ROE). GBD is measured using Green Banking Disclosure Index through content analysis. Smart PLS does statistical testing. This study shows that profitability (ROA) affects GBD. Meanwhile, profitability (ROE) does not affect the GBD. Furthermore, the board of commissioners and audit committees moderate the relationship between profitability (ROA and ROE) and GBD. The results provide important insights into the relationship between financial performance, sustainable banking disclosure, and the role of control mechanisms (the board of commissioners and audit committees) in the banking context in Indonesia.

Keywords: Green Banking, Profitability, Board of Commissioners, Audit Committees

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INTRODUCTION

Companies are among the economic agents whose primary goal is to maximize profit while providing a favorable and positive outlook and information to the public. The awareness of society regarding the importance of preserving and protecting the environment from harm has an impact on various sectors. As global attention towards environmental issues strengthens, the banking sector is increasingly called upon to transform its activities and business operations. The concept of the green economy, essentially advocating that every economic activity should minimize its environmental impact, has also been embraced by the banking industry. One of the ways this is achieved is through the concept of green banking. The primary aim of environmentally friendly banking is not only to raise its own standards but also to influence the business behavior of others to be socially responsible.

The adoption of green banking practices not only benefits the environment but also proves advantageous for the company in terms of operational efficiency, reduction in manual errors and susceptibility to fraud, as well as cost reduction in banking activities (Biswas, 2011). In Indonesia, some banks had previously initiated the implementation of green banking practices, but this was limited to their early stages and was still voluntary. Meanwhile, POJK 51 /POJK.03/2017 makes it to be mandatory. Handajani et al. (2019) state that banks have been pioneers in adopting the green banking concept in their business and have disclosed information about green banking in their annual reports. But, in 2021, Indonesia through Permen BUMN PER-05/MBU/04/2021 has regulated the social and environmental responsibility program for state-owned enterprises.

State-owned banks report green banking reporting issues in various patterns due to the absence of technical guidelines as a framework for green banking implementation. The period from 2015 to 2017 demonstrates an increasing trend in green banking practice reporting among state-owned banks, as evidenced by the rising green banking disclosure index (GBDI). The green banking disclosure may affected by the companies profitability.

Good financial performance is, in part, indicated by profit attainment (profitability) and returns. The ability of a bank to generate maximum profits demonstrates that its management is capable of effectively managing the company. However, the public's evaluation of a company's management performance has evolved beyond merely considering financial performance. Today, they are interested in aspects that involve maintaining and projecting the best image of the company within a broader scope that encompasses not only finances but also social and environmental factors. This statement is in line with the findings of Gani et al. (2015) which suggest that a company's financial performance significantly influences corporate social responsibility disclosure, as well as Embuningtiyas et al. (2023) who report that earnings measured by return on asset (ROA) have a positive impact on sustainability reporting. Similar conclusions have been presented by Rahman et al., (2020) who found a favorable correlation between CSR disclosure and profitability. In this study, we expect that using the ROA proxy, profitability has an impact on disclosure related to green banking.

Profitability ratios as measures used to assess a company's ability to generate profit and provide an indication of the effectiveness of management, as reflected in earnings generated from sales and investment income. By understanding profitability ratios, investors can evaluate a company's financial performance, thus serving as a reference for
decision-making. Return on equity (ROE) is an important indicator commonly used by investors to assess a company's profitability level before making investments. This is related to the CSR variable, which is also one of the factors that investors consider when making decisions. Based on this rationale, ROE is chosen as the measurement tool for a company's profitability. In this study, we expect that profitability, using the ROE proxy, has an influence on green banking disclosure.

Bose et al. (2018) found evidence that higher levels of green banking disclosure (GBD) in banking companies are associated with larger board sizes and increasing institutional ownership. In line with previous findings, Barua & Rahman (2018) argue that a more effective board of commissioners can prioritize activities related to green banking. The board of commissioners, as representatives of the principal, is tasked with overseeing the performance and management of the company and providing input to the board of directors to ensure the company's objectives are met. While achieving good financial performance is the primary expectation of the principal, reputation is also a crucially important aspect. Therefore, the board of commissioners actively supervises the management, as evidenced by the number of meetings conducted, in order to achieve a balanced financial performance while fulfilling environmental responsibilities and disclosing them to the public.

Handajani (2019) found a significant influence of the board of commissioners on the disclosure of Green Banking practices. In line with the study by Kurniawan (2021), they found that the number of board of commissioners' meetings and the size of the audit committee significantly affect corporate environmental performance disclosure. In this study we expect that the board of commissioners moderates the relationship between profitability (using ROA and ROE Proxy) on green banking disclosure.

It is highly anticipated that the audit committee within a company can establish a working relationship and empower the internal audit or internal control system of the company to ensure accuracy in the delivery of financial reports. When associated with the disclosure of social responsibility, this will assist the board of commissioners and facilitate the oversight and supervision of social responsibility (Rivandi & Putra, 2019). The research findings of Waryanto (2010) revealed that the number of audit committee meetings significantly influences corporate environmental disclosure.

Financial performance is the primary focus of the corporate audit committee, with financial results serving as the initial reference point for the committee's assessments. In this context, the audit committee is responsible to the board of commissioners and plays a vital role in overseeing the internal audit function of the company to ensure its proper functioning. The internal audit function involves monitoring performance across all organizational lines, risk mitigation, and ensuring the efficiency and effectiveness of management performance.

According to the Regulation No. 55 of 2015 by the Financial Services Authority of Indonesia (OJK), the audit committee is mandated to perform effectively in terms of both financial performance and social performance in carrying out any tasks or responsibilities assigned by the board of commissioners to the audit committee. While ensuring that the company's financial goals are met, the audit committee must also monitor whether the management is fulfilling its obligations in the realms of social and environmental responsibility and not forget to disclose these activities in the sustainability reporting. In
alignment with the findings of other studies conducted by Rivandi & Putra (2019), Restu et al., (2017) and Rochayatun (2016). It has been established that the audit committee significantly influences CSR disclosure. So, in this study, we expect that the audit committee moderates the relationship between profitability (using ROA and ROE Proxy) on green banking disclosure.

This study aims to investigate and provide empirical evidence in the form of a model that can elucidate the impact of financial performance on green banking disclosure, with control mechanisms as moderating variables. Furthermore, this study is expected to contribute as an initiation of research related to the implementation of GBD by linking it with corporate governance mechanisms and financial performance. Given that this area is relatively new and lacks sufficient research references in the context of GBD in the Indonesian banking sector, this study aims to fill that gap. For the banking industry and relevant regulators, this research is anticipated to provide insights into the factors that need to be maintained to ensure the successful implementation of green banking across all banks in Indonesia.

RESEARCH METHODS

Data is gathered through archiving, which involves gathering information from already-existing documents or databases. Secondary information in the form of books and other documents about the profitability and disclosure of green banking. In addition, the information gathered comes from banking companies' audited annual reports for the years 2018 through 2021, which are posted on the Indonesian Stock Exchange website. As a data processing tool, SmartPLS version 3 software was used for data analysis. Research problems are solved using structural equation modeling (SEM) cause this approach is superior to others. Structural Equation Modeling tends to have a high level of flexibility, so it is not based on long-winded assumptions, so the analysis method is said to be quite strong. To get good research results, the sample used does not have to be large.

The dependent variable of this study is green banking. Green banking is measured using a dichotomous scale in which a value of 1 will be assigned if the present green banking reporting indicator, and 0 if otherwise. Green banking disclosure is proxied by the green banking disclosure index (Khan et al., 2021).

The independent variable of this study is profitability. The profitability is measured by two proxy, which is return on asset (ROA) and return on equity (ROE). ROA is a ratio that shows the return on the amount of assets used in the company. ROA is also a measure of management’s effectiveness in managing its assets. ROA is measured by earnings after interest and tax divided by the total assets. On the other side, ROE is a measure of financial performance calculated by the ratio of net income to the shareholders' equity (Rahmah & Komariah, 2016).

The moderation variables in this study are the board of commissioners and the audit committee. In this study, the board of commissioners uses the size formula of the board of commissioners by looking at the total number of members of the board of commissioners (Song et al., 2019). Meanwhile, the audit committee measured by the dummy variable (Hanoon et al., 2020). A value of 1 if the company has an audit committee and 0 otherwise.

RESULTS AND DISCUSSION

The population used in this research is banking companies which is listed on the Indonesian Stock Exchange for the 2018-2021
period. Samples used the research has gone through specified criteria filters. The total samples consists of 29 banking companies which result of 116 firm-year observations.

Data analysis and testing of this research model with the help of Smart PLS 3.0. PLS analysis uses two sub-models, namely outer model measurements for validity test and reliability test, then measurement of the inner model used for quality testing or hypothesis testing. The research model present in Figure 1 was analyzed internally, and then the outer model and hypothesis testing were done using Smart PLS 3.3.3. The result of the outer model is presented in Figure 2.

The coefficient of determination is used to measure the accuracy of predictions (estimates). In general, an $R^2$ value of 0.75 is considered to have high estimation accuracy, an $R^2$ of 0.50 has moderate estimation accuracy, and an $R^2$ value of 0.25 has low estimation accuracy (Hair et al., 2011). The results of the coefficient of determination values can be seen in Table 1.

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>R Square</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Banking Disclosure (GBD)</td>
<td>0.506</td>
<td>0.469</td>
</tr>
</tbody>
</table>

Based on Table 1, the estimation accuracy of the $R^2$ GBD model is 0.506. It has a high estimate of accuracy based on this value. ROA, ROE, audit committee, and board of commissioners explain 50.6% of GBD, whereas 49.4% is explained by other factors that are not included in the research model.

Researchers can use the Stone-Geisser $Q^2$ value in addition to assessing the magnitude of the $R^2$ value as a criterion for prediction accuracy. The process of blindfolding is used to determine the $Q^2$ value. According to Hair et al. (2011), a value of 0.02 indicates low predictive relevance, 0.15 indicates moderate predictive relevance, and 0.35 indicates large predictive relevance. The result of Stone-Geisser $Q^2$ is presented in Table 2 below.

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>SSO</th>
<th>SSE</th>
<th>$Q^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 ROA</td>
<td>116</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>X1*Z1</td>
<td>116</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>X1*Z2</td>
<td>116</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>X2 ROE</td>
<td>116</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>X2*Z1</td>
<td>116</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>X2*Z2</td>
<td>116</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Y GBD</td>
<td>116</td>
<td>69.89</td>
<td>0.397</td>
</tr>
<tr>
<td>Z1 Audit Committee</td>
<td>116</td>
<td>116</td>
<td></td>
</tr>
<tr>
<td>Z2 Board of Commissioner</td>
<td>116</td>
<td>116</td>
<td></td>
</tr>
</tbody>
</table>
Based on Table 2, the constructive model’s predictive relevance $Q^2$ value GBD is influenced by ROA, ROE, audit committee, and board of commissioners for 0.397. It is classified as having great predictive relevance.

In this study, we use effect size ($F^2$) to calculate each endogenous variable’s $R^2$ value. Since $F^2$ is more specific to each exogenous variable than $R^2$, it differs from $R^2$. According to Hair et al. (2011), a value of 0.02 is generally regarded as having a small effect size, 0.15 as having a medium effect size, and 0.35 as having a large effect size. The results of the effect size are presented in Table 3.

**Table 3. The Results of Effect Size**

<table>
<thead>
<tr>
<th>Latent Variable</th>
<th>Green Banking Disclosure</th>
</tr>
</thead>
<tbody>
<tr>
<td>X1 ROA</td>
<td>0.215</td>
</tr>
<tr>
<td>X1*Z1</td>
<td>0.005</td>
</tr>
<tr>
<td>X1*Z2</td>
<td>0.006</td>
</tr>
<tr>
<td>X2 ROE</td>
<td>0.001</td>
</tr>
<tr>
<td>X2*Z1</td>
<td>0.003</td>
</tr>
<tr>
<td>X2*Z2</td>
<td>0.042</td>
</tr>
<tr>
<td>Z1 Audit Committee</td>
<td>0.001</td>
</tr>
<tr>
<td>Z2 Board of Commissioner</td>
<td>0.122</td>
</tr>
</tbody>
</table>

Based on the constructive model’s $F^2$ effect size value, the GBD variable is impacted by the ROA variable by 0.215 and it is categorized as having a moderate estimation value. The $F^2$ effect size value for the constructive model variables $X1*Z1$ (ROA*Audit Committee) affect the GBD variable by 0.005 and it is classified as having a small estimation value. The variables $X1*Z2$ (ROA*Board of Commissioner) affect the GBD by 0.006 and it is classified as having a small estimation value. The ROE variable affects the GBD by 0.001 and it is classified as having a small estimation value. The $X2*Z1$ (ROE*Audit Committee) influences the GBD by 0.003 and it is classified as having a small estimation value. The $X2*Z2$ (ROE*Board of Commissioner) influences the GBD by 0.042 and it is classified as having a small estimation value. The audit committee influences the GBD by 0.001 and it is classified as having a small estimation value. The board of commissioners influences the GBD by 0.122 and it is classified as having a small estimation value.

To Answer the research question and our research objective, we do hypothesis testing using Smart PLS 3.3.3 software. The results of hypothesis testing are presented in Figure 3.

**Figure 3. The Results of Research Path Structural Bootstrapping Test Calculations**

Structural model coefficient analysis is used to test the hypothesis by finding out which relationships have a significant influence. If the $p$-value < a (0.05) then the relationship is significant, conversely if the $p$-value > a (0.05) then the relationship is not significant (Hair et al., 2011). The summary of the main results is presented in Table 4.

**Table 4. The Summary of Hypothesis Testing Results**

<table>
<thead>
<tr>
<th>Path Coeff.</th>
<th>Original Sample (O)</th>
<th>t-stat</th>
<th>p</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>ROA -&gt; GBD</td>
<td>-0.446</td>
<td>4.871</td>
<td>0.000</td>
</tr>
<tr>
<td>H3</td>
<td>ROE -&gt; GBD</td>
<td>-0.035</td>
<td>0.312</td>
<td>0.755</td>
</tr>
<tr>
<td>H4</td>
<td>X1*Z1 -&gt; GBD</td>
<td>0.097</td>
<td>0.875</td>
<td>0.382</td>
</tr>
<tr>
<td>H2</td>
<td>X1*Z2 -&gt; GBD</td>
<td>0.115</td>
<td>0.983</td>
<td>0.326</td>
</tr>
<tr>
<td>H5</td>
<td>X2*Z1 -&gt; GBD</td>
<td>-0.059</td>
<td>0.464</td>
<td>0.643</td>
</tr>
<tr>
<td>H6</td>
<td>X2*Z2 -&gt; GBD</td>
<td>-0.295</td>
<td>2.032</td>
<td>0.043</td>
</tr>
</tbody>
</table>
Based on the information presented in Table 4, it is shown that the Original Sample (O) value for the relationship between ROA and GBD is -0.446 with p-value 0.000 (< 0.05). It can be concluded that H0 is rejected and H1 is supported. The Original Sample (O) value of -0.035 and p-value of 0.755 (> 0.05) are found in the relationship between ROE and GBD. It is evident that the negative influence is negligible. Therefore, H0 is accepted and H2 is rejected (not supported).

The ROA*Audit Committee (X1*Z1) has a p-value of 0.382 and an Original Sample (O) value of 0.097. It is evident from these values that the positive effect is negligible. Therefore, H0 is accepted and H3 is rejected (not supported). The ROA*Board of Commissioner (X1*Z2) has an Original Sample (O) value of 0.115 with a p-value of 0.326. It can be concluded that H0 is accepted and H4 is rejected (not supported).

The ROE*Audit Committee (X2*Z1) has a p-value of 0.643, which is greater than 0.05, and an Original Sample (O) value of -0.059. It is evident from this value that the negative influence is negligible. Therefore, H0 is accepted and H5 is not supported. The ROE*Board of Commissioner (X2*Z2) has an Original Sample (O) value of -0.295 and the p-value of 0.043 for Green Banking Disclosure are both less than 0.05. It is evident from this value that there is a sizable negative influence. Thus, H0 is rejected and H6 is accepted.

Based on the result of Hypothesis 1, this assertion aligns with the findings of studies conducted by Amelda et al. (2021) and Wu et al. (2018) which suggest that a company's financial performance has a noteworthy impact on its CSR disclosure and that sustainability reporting benefits from earnings as measured by ROA. Yuan & Gallagher (2015) and Chen (2013) discovered a positive correlation between profitability and CSR disclosure expressed the same idea. A growing number of financial institutions and investors are beginning to consider social and environmental factors when making investment decisions. Businesses with strong CSR policies might find it simpler to get funding and draw in more investment.

Based on the result of Hypothesis 2, contrary to Atakan-Duman & Ozdora-Aksak (2014). Their results show that almost all eight Turkish banks concentrate on the broad impact and development and core functions of banking as measured by productivity, profitability, and customer orientation. Three emphasize superiority and the other three emphasize ethics. Therefore, profitability as a proxy for ROE is rejected, and green banking disclosure is unaffected. According to the results of Pratihari & Uzma (2018), private banks prioritize the environment and community above all else, while public sector banks prioritize CSR initiatives related to the community, the environment, and other customers. Certain CSR initiatives might incur extra expenses, particularly during the initial phases of execution. While a well-executed CSR program can yield long-term benefits in terms of stakeholder relations and reputation, the implementation costs may initially strain return on equity (ROE).

In the context of Hypothesis 3 dan 4, the results show that those hypotheses are not supported. According to research findings from Atakan-Duman & Ozdora-Aksak (2014), Rivandi & Putra (2019), and Chen (2013), the audit committee significantly improves disclosure, which is consistent with the earlier CSR studies. Hypothesis 5 and 6 differ from the findings of those earlier studies. According to previous research, the size of the audit committee and the frequency of board of commissioners meetings
have a big impact on how much information a company discloses about its environmental performance. But, in this study, we do not find that impact.

The results on Hypothesis 6 is consistent with the previous research (Handajani, 2019; Amir, 2021; Khan et al., 2021; Pratihari & Uzma, 2018) that found a significant influence from the board of commissioners on the disclosure of green banking practices. The board of commissioners had a major impact on the disclosure of Green Banking practices. According to the research, the frequency of board of commissioners meetings has a big impact on how much information a company discloses about its environmental performance.

**CONCLUSION**

The aim of this research is to examine the effect of financial performance on green banking disclosure, using control mechanisms (audit committee and board of commissioner) as moderating factors. The results show that profitability with the ROA proxy influences green banking disclosure while profitability with the ROE proxy does not affect green banking disclosure. The research results show that profitability with the company's ROA proxy has an impact on the extent to which banking companies disclose information related to green banking practices. This could mean that good or bad profitability can influence the extent to which banking companies care about environmental issues and seek to disclose their sustainability practices.

On the point of the audit committee as a monitoring mechanism, the number of audit committee meetings does not moderate the influence of financial performance on green banking disclosure. This means that how often the audit committee meets does not affect the impact of financial performance on closing sustainable practices. Furthermore, this study shows that the frequency of board of commissioners' meetings does not moderate the effect of profitability as a proxy for ROA on green banking disclosure. This means, in the context of this study, the intensity of board of commissioners meetings does not affect the extent to which profitability (as a proxy for ROA) affect green banking disclosure. Meanwhile, the board of commissioners moderates the influence of profitability with the ROE proxy on green banking disclosure, meaning that in the context of this study, the intensity of board of commissioners meetings influences the extent to which profitability with the ROE proxy influences green banking disclosure.

This study has several limitations. First, this study only focuses on two supervisory mechanism variables, namely the board of commissioners and the audit committee. Future research is expected to explore more variables related to supervisory mechanisms in banking companies. Second, this study is based on green banking measurements which may have limitations in comprehensively describing sustainable banking practices.

This study provides insight into the relationship between financial performance, supervisory mechanisms, and green banking disclosures in the context of banking companies. These findings can be used as a basis for further research and development of sustainable corporate banking practices.

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