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Analysis of Green Banking Implementation, Capital Adequacy, and Company Size on the Profitability of Commercial Banks in Indonesia for the Period 2018 – 2023

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ABSTRACT

This research aims to determine the effect of green banking, capital adequacy, and company size on profitability in public banking in Indonesia for the period 2018- 2023. The data source of this research is secondary data obtained from annual reports and sustainability reports from each conventional public banking official website. Sample selection using purposive sampling method. Hypothesis testing using panel data regression method with Eviews 10 program. The results showed that capital adequacy and company size had a positive and significant effect on profitability. While green banking has no effect and is not significant to profitability. The results of this study can be used as practical banking implications to optimize capital adequacy and total assets in an effort to increase banking profitability.

Keywords: Green Banking, Capital Adequacy, Company Size, Profitability

INTRODUCTION

The current global situation is faced with various problems and challenges regarding the environment that will potentially affect the sustainability of life. In September 2015, an international intergovernmental organization called the United Nations officially established the Sustainable Development Agenda which is used as an indicator of the implementation of long-term sustainability, one of which is the goal of sustainable businesses engaged in economic growth. Long-term sustainability will be maintained if every organization or company does not only focus on achieving profit or profit, but is also able to behave ethically and can have an impact on environmental aspects and community life. In the economic field as the direction of development, one of the companies that can support economic growth is banking. The banking sector does not directly affect environmental damage, but what is caused in banking activities has an important role in realizing a green economic climate that includes the environment, social, and government (Hakiem Ajuna et al, 2015).

Banking as part of the financial institution sector in carrying out its business practices must pay attention to ethics that are more environmentally friendly. Banking services are necessary and have a major influence on how society and the economy can manage resources for the purpose of prosperity and economic growth (Barua, 2020). Islam and Das (2013) mentioned that green banking is a concept that aims to support environmentally friendly activities and efforts to reduce carbon gas emissions that can be caused by banking operations. The first regulation in Indonesia that focuses on green banking activities is contained in Bank Indonesia Regulation No. 14/15/PBI/ Year 2012 which discusses the assessment of commercial bank asset quality. In this regulation, both conventional and sharia banks operating in Indonesia are required to take into account and evaluate environmental factors as a prerequisite for applying for credit (Karyani & Obrien, 2020).

Then the Financial Services Authority (OJK) institution strengthened it by issuing a decree Number 51 PJOK-03 of 2017 which contains rules for financial services institutions, public issuers, and business actors to implement sustainable finance through their operational activities, banks apply the concept of green banking which not only has a positive impact on the environment, and the economy, but also has a positive impact on bank profitability. Profitability is one of the steps to protect banks from unexpected losses, such as consolidating and maintaining capital positions and increasing future profits by investing in distributed unprofitable profits or so-called retained earnings (Anggraeni, 2020).

The application of the green banking concept is believed to affect the profitability of a bank (Anggraini, 2022). Bank profitability can be seen from the application of green banking whose products are able to deliver its own profit for the bank through the number of ATMs used in transactions. In the research of Asfahaliza & Anggraeni (2022) mentioned in the results of their research, that there is a positive and significant relationship between the application of green banking and bank profitability. On the other hand, research conducted by Ramadhanty & Wahyudi (2023) found that there was a negative and significant interaction between the implementation of green banking and bank profitability.

Likewise, capital adequacy with its measurement indicators in the form of the Capital Adequacy Ratio (CAR) ratio affects the profitability of a bank. Because with this ratio the bank is considered capable of managing the risk of assets in financing bank operations. The capital that will be channeled must be clear in its purpose and its impact on profit and the surrounding environment. The right placement of bank capital distribution will bring good profits to banks. In research by Ardheta & Sina (2020) revealed that there is a significant positive influence between the capital adequacy ratio on the level of banking profitability. Conversely, Moorcy (2020) in his research found that there was an insignificant positive effect between the capital adequacy ratio and bank profitability.

Sartono in Dewi (2016), reveals that company size describes the size of a company which is calculated from the total value of the company's assets. When the scale of the business increases, the company has more assets and resources to generate profits. Banks with higher assets can also readjust their loan portfolio so that interest income increases with less risk because loans are given to more borrowers (Tan, 2012). Similarly, research by Haryono & Widiyanti (2024) found that there is a positive and significant influence between company size and bank profitability. However, research by Jigeer & Korovela (2023) showed that firm scale (firm size) has a negative impact on bank profitability. In previous studies, there were still many research gaps and the research results obtained also varied. So that researchers are interested in taking the research title “Analysis of Green Banking Implementation, Capital Adequacy, and Company Size on the Profitability of Commercial Banking in Indonesia for the Period 2018 - 2023”.

LITERATURE REVIEW

The Effect of Green Banking on Profitability

The World Bank defines “green banking” as a financial organization that places a high priority on the sustainability of its operations. One of the several ways that banks fulfill their social obligations to the environment is through green banking practices. Green banking practices suggest that, to be paperless in banking operations, it is better to use online cards, mobile cards, and cards made from recyclable materials (Nath, 2014). Banks that integrate green banking practices into their operations will also leverage the rapid growth of the internet and technical advancements to transform paper-based banking operations to paperless, which is predicted to reduce carbon emissions and carbon footprint.

Although not directly linked to contributing to environmental degradation, banks can contribute indirectly through the loans they provide to customers (Setyoko & Wijayanti, 2022). Therefore, banks should create regulations relating to the evaluation of business feasibility for project financing, lending, or corporate financing to determine how such actions impact the environment. Banking operations will be more environmentally friendly if green banking is practiced regularly. By implementing this idea in accordance with stakeholder theory, banks will be able to attract more investors and generate more profits by improving reputation and public perception among stakeholders and the general public.

Based on research conducted by Asfahaliza & Anggraeni (2022), it is stated that the application of green banking projected with green banking products, namely the number of ATM units, has a positive and significant effect on profitability. With the same results, research conducted by Ayuningtyas & Sufina (2023) also states that the number of ATMs has a positive effect on bank profitability.
H1: Green Banking Has a Positive and Significant Effect on Profitability Effect of Capital

Adequacy on Profitability

Capital adequacy ratio is a performance measure used in banking to assess how much capital the bank has to support assets that contain or generate risk, including loans given to customers. If this ratio is high, profitability will increase because the capital owned will be used to finance the bank's expenses and cover the risk of using assets in the form of risky loans. Banks that have sufficient capital will be more resilient to risk because the bank will earn a large income from the development of a safe company.

Based on capital theory which states that the strength of bank capital is a key factor in determining CAR and the capital is used to absorb risk. The risk is the bank's operational risk used to extend credit. The bank will generate income and increase profitability if the bank can manage its operational risk effectively.

Damayanti & Mawardi (2022) concluded that CAR has a positive and significant effect on increasing bank profitability. Jigeer & Koroleva (2023) found that CAR has a positive influence on profitability in previous studies.
H2: Capital Adequacy Has a Positive and Significant Effect on Profitability

The Effect of Company Size on Profitability

The terms “company size” and “bank size” refer to the combination of total assets and company revenue. Companies with a larger scale tend to have a higher market value (Angga and Wiksuana, 2016). Total assets owned can be used to determine the size of a bank. The size of the bank's total assets can indicate the size of the company. The profitability of the company will increase in proportion to its size because larger businesses generate more profits (Simbolon in Nainggolan, 2022).

According to capital theory, larger firms may require less external financing as they will have more retained earnings that can be used for funding. This can increase profitability because banks can invest more funds without increasing their debt burden.

Previous research by Praja & Hartono (2018) showed that company size has a positive impact on profitability. The same findings, according to research conducted by Haryono & Widiyanti (2024), state that company scale positively and significantly increases profitability.
H3: Company Size Has a Positive and Significant Effect on Profitability

RESEARCH METHOD

The research methodology used is quantitative research method. The quantitative research approach is used in this study, because it allows numerical measurement of variables including the variables of capital adequacy, company size, and the application of green banking to the profitability of conventional commercial banks for 2018-2023. The Eviews 10 data processing program was used to process the data for this study. The dependent variable is profitability (Y), and the independent variables are green banking (X1), capital adequacy (X2), and company size (X3).

The object of this research is conventional commercial banking in Indonesia for the period 2018-2023. Cross-sectional and time series data were used in this study. According to Sarwono (2016), time series data is observational data categorized by date and time. Meanwhile, data about several visible objects collected at one time is called cross section (Nani, 2022). The population in this study is all conventional commercial banks listed on the IDX for the period 2018 - 2023. So that the population in this study was 47 Conventional Commercial Banks. The purposive sampling technique will be used as a sampling technique, so as to obtain a sample of conventional commercial banks which in terms of total assets meet the 10 largest qualifications.

In this study, hypothesis testing will be carried out by analyzing panel data regression equations to obtain a comprehensive picture of the effect of green banking implementation, capital adequacy, and company size on profitability. The panel data regression equation is formulated as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e$$

Description:
Y : Profitability (ROA)
α : Constant Coefficient
β1 : Green Banking Regression Coefficient X1 : Green Banking
β2 : Capital Adequacy Regression Coefficient X2 : Capital Adequacy
β3 : Coefficient of Regression Company Size X3 : Company Size

RESULTS

Descriptive statistical analysis is a type of analysis in which a number of data are collected, summarized, and presented so as to obtain a description of the character of the sample to be used in the research. Descriptive analysis of the data collected for this study includes 10 banking data from the period 2018 - 2023. The descriptive statistics used in this study describe variables such as minimum value, maximum value, average (mean), and standard deviation of one dependent variable, namely profitability, and three independent variables, namely green banking, capital adequacy, and company size.

Table 1. Descriptive Statistics (*N* =60)

Construct	Min.	Max.	M	SD
Profitability	0.130000	4.030000	2.052712	0.960756
Green Banking	2.560000	10.03000	8.080508	1.527463
Capital Adequacy	16.80000	38.70000	23.51780	4.805339
Company Size	18.85000	21.50000	19.96712	0.876903

Source: Output Eviews 10

Dependent variable (Y), namely Profitability as measured by ROA (Return On Assets), has a maximum value of 4.030000 and a minimum value of 0.130000. Profitability has a mean value of 2.052712 per year, this shows that banks generate net income of 2.052712 from each rupiah of funds embedded in assets and a standard deviation value of 0.960756. The independent variable (X1), namely Green Banking as measured by the number of ATMs, has a maximum value of 10.03000 while the minimum value is 2.560000. Green Banking has a mean value of 8.080508, and a standard deviation of 1.527463. The independent variable (X2), namely Capital Adequacy as measured by CAR, has a maximum value of 38,70000 while the minimum value is 16,80000. Capital adequacy has a mean of 23.51780, and a standard deviation value of 4.805339. The independent variable (X3), namely Company Size as measured by total assets, has a maximum value of 21,50000 while the minimum value is 18,85000. Company size has a mean value of 19.96712, and a standard deviation value of 0.876903.

Table 2. Regression Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-15.14794	2.589386	-5.850012	0.0000
ATM	-0.085651	0.082648	-1.036339	0.3046
CAR	0.014005	0.019913	0.703320	0.0048
TA	0.879627	0.143455	6.131711	0.0000

Noted: TA = Total Assets Source : Output Eviews 10

The above equation can be interpreted as follows; the negative constant value of - 15.14794 states that if the green banking variable, capital adequacy, and company size are constant, then the profitability variable is -15.14794. The regression coefficient of the number of ATMs with a negative value of -0.085651 states that each addition of the green banking variable by 1% will reduce the profitability variable by 0.085651 with the assumption that the other independent variables are constant. The CAR regression coefficient of 0.014005 states that each addition of the capital adequacy variable by 1% will increase the profitability variable by 0.014005 assuming other independent variables are constant. The total asset regression coefficient of 0.879627 states that each addition of the company size variable by 1% will increase the profitability variable by 0.879627 assuming other independent variables are constant.

DISCUSSION

The Effect of Green Banking on Profitability

Based on the test results in this study, it shows that Green Banking as measured by the number of ATMs has no effect on profitability. This is evidenced by the significance value of 0.3046> 0.05 with a t-statistic value of -1.036339, meaning that the number of ATMs has no negative and insignificant effect on profitability. This is not in line with the concept of stakeholder theory assumed by Philllips, et al (2023) where the implementation of green banking in the company will have a direct and indirect impact which causes an increase in the reputation and positive image of the bank in the eyes of stakeholders and the public so that it can increase the number of investors and obtain profits. The findings of this study are consistent with research conducted by Anany and Faruq (2023), who found that green banking has no effect on profitability at PT Bank Rakyat Indonesia (BRI).

Effect of Capital Adequacy on Profitability

Based on the test results in this study, it shows that capital adequacy affects profitability. This is shown by the effect of capital adequacy as measured by the CAR ratio on profitability producing a significance value of 0.0048 <0.05 with a t-statistic value of 0.703320. This means that capital adequacy has a positive and significant effect on profitability. This research is in line with the pecking order theory or capital theory developed by Myers & Majluf which states that companies prefer internal funding, namely funding from the company's operating results in the form of retained earnings. Capital adequacy can be used to bear the risk.

The Effect of Company Size on Profitability

Based on the test results in this study, it shows that company size as measured by total assets has an effect on profitability. This is shown in the company size on profitability obtaining a significance value of 0.0000 <0.05 with a t-statistic value of 6.131711. This means that company size has a positive and significant effect on profitability. This is in line with the pecking order theory where companies that are larger in size will have more retained earnings that can be used for funding which can reduce the need for external funding. This can increase profitability because banks can invest more funds without increasing their debt burden. According to research conducted by Haryono and Widiyanti (2024), company size has a positive and significant effect on profitability. Banks with sizable assets are considered capable of meeting short-term and long-term liabilities, so they are classified as healthy banks.

CONCLUSION

Based on the results of research that examines green banking as measured by the number of ATMs, capital adequacy as measured by the Capital Adequacy Ratio (CAR), and company size as measured by total assets to profitability, the results of the analysis and discussion that have been described can be concluded: The results of this study indicate that green banking variables have no effect and are not significant to banking profitability. This can be seen from the significance value of the green banking variable as measured by the number of ATMs 0.304> 0.05 with a t-statistic value of -1.036339. This means that the green banking variable as measured by the number of ATMs has no negative and insignificant effect on profitability.

This study found that capital adequacy has a strong positive impact on banking profitability. The capital adequacy variable measured by CAR has a significance value of 0.0048 <0.05 and a t-statistic value of 0.703320. This indicates that capital adequacy has a positive and significant influence on profitability. This study found that firm size has a strong positive impact on banking profitability. The firm size variable measured by total assets has a t-statistic value of 6.131711, and shows a significance level of 0.0000 <0.05. This means that firm size has a positive and significant influence on profitability. From the common effect regression results, the coefficient of determination or R^2 is 0.496393 or 49.63%. This means that 49.63% of changes in profitability variables can be influenced or explained by green banking variables, capital adequacy, and company size, and the difference of 50.36% is explained and influenced by other variables.

Based on the research results there are several suggestions including; Green banking procedures require minimal attention at this time. The negative and small results indicate that conventional commercial banks in Indonesia currently do not need to incorporate the concept of green banking ideas into their operating activities. In addition, in an effort to reduce their carbon footprint, banks can adopt other green banking practices, such as the use of internet banking, m-banking, capital financing for environmentally impactful development projects, and other sustainable products. Bank management should monitor capital reserves. A higher capital reserve ratio will increase the profitability of the bank. Banks with adequate capital adequacy can fund asset expansion internally, thereby minimizing reliance on risky external borrowings. A high level of capital adequacy indicates that the bank is better equipped to deal with risks in order to maintain its profitability.

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