

FACTORS THAT INFLUENCE BANKING PERFORMANCE IN INDONESIA

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ABSTRACT

This research aims to examine the influence of ESG Score, NPL, Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, revenue growth, Bank Leverage, Economic Growth, Inflation, Diversification, Labor Productivity, and ESG Score Moderating on Bank performance, which is shown with the achievement of Return on Assets. The research sample used in this research is banks listed on the Indonesia Stock Exchange for the period 2018 to 2022. Data was taken from time series data which contains data from 2018 to 2022 for the independent variable and bank performance as the dependent variable. The research methodology used is Ordinary Least Squares using Eviews 12 software. The findings and contributions in this research are that ESG Score, Non-Performing Loans, Bank Leverage, Economic Growth, and Inflation influence bank performance. Meanwhile, Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, and revenue growth do not have a significant effect on changes in bank performance. Bank Leverage, Economic Growth, and Inflation have a positive and significant effect on changes in bank performance, while ESG Score and Non-Performing Loans have a negative and significant effect on changes in bank performance. Banks can take advantage of Bank Leverage, Economic Growth, and Inflation opportunities to improve their performance so that investors are interested in buying bank shares. Low and controlled Non-Performing Loans will increase banking profits, thereby improving the bank's performance. It is hoped that the results of this research can provide input for banks and investors to consider ESG Score, Non-Performing Loans, Bank Leverage, Economic Growth, and Inflation in managing their business and in making investment decisions.

Keywords: *ESG Score, NPL, Bank Leverage, Economic Growth, ROA*

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INTRODUCTION

Banks are financial institutions that have a very important role in a country's economic activities. Today's society is very dependent on banks as seen from the economic movements of people who do business, invest, and save through banking services. Definition of Bank according to Law No. 14 of 1967 is a financial institution whose main business is to provide credit and services in payment traffic and money circulation.

The bank's strong performance rewards shareholders with a return on their investment. Meanwhile, poor banking performance hurts economic expansion and progress. The elements that determine financial performance are dynamic over time and vary depending on the company's operating style from location to location, so measuring bank profitability has received appropriate attention in the corporate finance literature (Bushashe, 2023).

Putri et al., (2022) stated that a high level of profitability shows that the condition of the bank is getting better. Furthermore, Quoc Trung (2021) wrote that a popular ratio for measuring financial performance includes Return on Assets (ROA), by dividing net income by total assets. The higher the ROA, the greater the ROA used by the Bank.

Based on various literature, the factors that influence the achievement of ROA are varied, one of which is Corporate Social Responsibility (CSR) which is shown through the Economic Social Governance (ESG) score. In 2001, CSR was defined by the European Commission (EC) as a company's voluntary contribution to society and the environment by integrating social and environmental concerns into an activity. Furthermore, in 2011, the EC updated the definition of CSR as a company's responsibility for its impact on society. Currently, the concept of CSR is given great attention in financial institutions, especially banking, because banks are interested in the relationship between CSR policies and financial performance (Boussaada et al., 2023). Several studies found that ESG is positively correlated with ROA (Fatemi et al., 2015; Shaukat Malik et al., 2015).

Other things that influence bank performance are bank size, liquidity risk, leverage ratio, and inflation rate. Boussaada et al., (2023) found that bank performance is sensitive to these four variables. On the other hand, every increase in capital, income growth, and Gross Domestic Product (GDP) growth significantly improves bank performance.

Another thing that influences banking performance is credit risk, especially if the credit disbursed becomes non-performing loans. Iskandar et al., (2023) found that with low problem loans, bank performance was better. The existence of problem loans can be caused by internal factors, such as expansive credit policies, irregularities in the credit process, bad faith from internal stakeholders, and weak credit information systems. Problematic credit can also occur due to external factors such as the debtor's business failure, the debtor's use of an unhealthy banking competitive climate, decreased economic activity, and high credit interest rates.

As an intermediation institution, the bank's main income is credit interest income. Some literature links bank performance with the acceptance of other banks (diversification), where (Rakshit & Bardhan, 2022) state that diversification has a positive impact on bank profitability, which is different from research by Massie, (2014) where fee-based income does not have a significant effect on profitability. Several kinds of literature also found a significant positive influence of labor productivity on bank performance as found in (Melaku & Merin, 2016) and (Rakshit & Bardhan, 2022). The test results are different from Balyan, (2011) who stated that there is no influence of Labor Productivity on bank performance.

Based on the explanation of the background and phenomena above, research was conducted entitled "Factors that Influence Banking Performance in Indonesia".

METHOD

The research was carried out using hypothesis testing. This test is carried out to see the cause-and-effect relationship between the variables to be studied, namely the dependent variable and the independent variable. The dependent variable (Y) used is ROA, while the independent variable (X) used is ESG Score, NPL ratio, Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, Revenues Growth, Bank Leverage, Economic Growth, Inflation, Diversification, Labor Productivity, and ESG Score Moderating. The type of data used in this research is secondary data which can be obtained from the Indonesian Stock Exchange. The data method used in this research is panel data, a combination of cross-sectional and time series data on banks in Indonesia listed on the Indonesia Stock Exchange (BEI) in the period 2018 to 2022.

The dependent variable determined in this research is banking performance which is proxied by ROA, while the independent variables are ESG Score, NPL ratio, Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, Revenues Growth, Bank Leverage, Economic Growth, Inflation, Diversification, Labor Productivity, and ESG Score Moderating. The data collection technique used in this research is a secondary data collection technique, which is carried out by downloading the annual financial reports of banks registered on the official website of the Indonesia Stock Exchange at www.idx.co.id and the websites of banks that are the object of research for the year 2018 to 2022. Meanwhile, specifically for ESG Score data obtained from the website www.spglobal.com.

The data analysis method used in this research is the panel data regression method, which aims to test the influence of ESG Score, NPL ratio, Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, revenue growth, Bank Leverage, Economic Growth, Inflation, Diversification, Labor Productivity, and ESG Score Moderating with Bank performance, which is shown by the ROA achievement in the Indonesian banking industry listed on the Indonesia Stock Exchange in the period 2018 to 2022. The available data is then processed and tested using Eviews 12 software.

RESULTS AND DISCUSSION

Description of Research Data

The data used in the research is secondary data. This secondary data was obtained from financial reports and annual banking reports in Indonesia for the period 2018 to 2022 which were obtained from the official IDX website, namely www.idx.co.id, and the bank's official website. Meanwhile, ESG Score information was obtained from the website www.spglobal.com.

The research population is banking in Indonesia, with a purposive sampling method for sampling which refers to the following criteria:

1. Banks in Indonesia listed on the Indonesian Stock Exchange during the period 2018 to 2022.
2. Banks that have an ESG Score as stated on the website www.spglobal.com.

After purposive sampling was carried out, the number of samples obtained was 26 banks.

Furthermore, the data from the 26 banks will be examined to see whether there is an influence between ESG Score, NPL ratio, Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, Revenues Growth, Bank Leverage, Economic Growth, Inflation, Diversification, Labor Productivity, and ESG Score Moderating with the Bank's performance, as shown by ROA achievements. The measurements were carried out using panel data regression analysis with the Eviews 12 program.

Descriptive statistics

Descriptive statistics explain the characteristics of the data used in research as seen from the minimum, maximum, mean, and standard deviation values. The minimum value is the lowest value for each variable, the maximum value is the highest value for each variable in the study, and the mean value is the average value of each variable in the study. Meanwhile, standard deviation is the distribution of research data used to reflect the homogeneity of each variable.

The independent variables used in this research are ESG Score, NPL ratio, Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, Revenues Growth, Bank Leverage, Economic Growth, Inflation, Diversification, Labor Productivity, and ESG Score Moderating, while the dependent variable used is bank performance (ROA).

The data used in the observations is data from 26 banks for 5 years, namely from 2016 to 2022, with descriptive statistical results as in Table 1.

Table 1. Descriptive Statistics

Variables	Mean	Maximum	Minimum	Std. Dev.
ROA	0.006987	0.031343	-0.089189	0.016567
ESG Score	27.46154	63.00000	13.00000	9.266221
Non-Performing Loan	0.031640	0.116800	1.10E-06	0.019765
Bank Size	18.49849	21.41268	15.23890	1.468970
Bank Capital	0.163779	0.278363	0.073773	0.043710
Liquidity Risk	0.860414	1.791314	0.100159	0.255410
Bank Liquidity	1.414407	4.680495	1.046309	0.384688
Revenues Growth	0.029641	1.510992	-0.51074	0.207122
Bank Leverage	5.586978	12.55512	2.592431	1.941008
Economic Growth	3.422000	5.310000	-2.1	2.831752
Inflation	2.780000	4.200000	1.600000	0.942568
Diversification	0.150900	0.595712	0.006848	0.095350
Labour Productivity	2101.223	21874.45	588.2810	1892.314
ESG Score Moderating	0.836615	2.984800	1.65E-05	0.510885

Source: Data processing with Eviews 12, 2023

Based on the results of the descriptive analysis contained in Table 7, several significant conclusions can be drawn regarding the variables that are the focus of the research. First, ROA has an average value of 0.006987 with a standard deviation of 0.016567, indicating moderate performance variation. The highest ROA reached 0.031343, while the lowest reached -0.089189. Second, the Environmental, Social, and Governance (ESG) Score has an average value of 27.46153, indicating that the banks in this study generally have sustainable performance. The highest ESG Score is 63, while the lowest is 13. Third, the Non-Performing Loans (NPL) ratio has an average value of 0.031640, with moderate variations and a significant range between the highest and lowest values. Other findings include the average scores for Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, revenue growth, Bank Leverage, Economic Growth, Inflation, Diversification, Labor Productivity, and ESG Score Moderating, each of which provides in-depth insight into the characteristics and banks' performance in an economic and sustainability context.

Data Analysis

Multiple Linear Regression Analysis

Data analysis in this research uses multiple regression tests on panel data. In research that uses panel data, three models can be used, namely the Common Effect Model, Fixed Effect

Model, and Random Effect Model. Before carrying out a regression test, the regression model that will be used is tested. The results of the regression model test in this research were using the Fixed Effect Model.

The multiple regression test aims to test whether or not there is an influence of independent variables in the form of ESG Score, NPL ratio, Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, revenue growth, Bank Leverage, Economic Growth, Inflation, Diversification, Labor Productivity, and ESG Score Moderating the dependent variable, namely ROA. The results of multiple regression statistical processing produce a regression model equation, namely:

$$ROA_{it} = \beta_0 + \beta_1 ESGS_{it} + \beta_2 NPL_{it} + \beta_3 BS_{it} + \beta_4 BC_{it} + \beta_5 LR_{it} + \beta_6 BL_{it} + \beta_7 RG_{it} + \beta_8 BL_{it} + \beta_9 EG_{it} + \beta_{10} Inf_{it} + \beta_{11} Div_{it} + \beta_{12} LP_{it} + \beta_{13} ESGScore * NPL_{it} + \epsilon_{it}$$

Hypothesis Test (T-Test)

The T-test is a test of the regression coefficient of each independent variable on the dependent variable to find out how much influence the ESG Score, NPL ratio, Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, Revenues Growth, Bank Leverage, Economic Growth, Inflation, Diversification, Labor Productivity, and ESG Score Moderating ROA. The decision-making criteria are if the probability value $t \geq 0.05$ then H_0 is accepted, meanwhile if the probability value $t < 0.05$ then H_a is accepted. This test was carried out based on the results of the selected test, namely the Fixed Effect Model with results as in Table 2.

Table 2. T Test Results Table

Fixed Effects Model				
Variabel Dependent: ROA				
Variables	Coefficient	Prob.	Hypothesis	Conclusion
C	-0.048076	0.2336		
ESG Score	-0.000266	0.0275	Ha Accepted	Significant Influence
Non-Performing Loan	-0.274355	0.0087	Ha Accepted	Significant Influence
Bank Size	0.002035	0.3776	Ha Rejected	No effect
Bank Capital	0.056324	0.1894	Ha Rejected	No effect
Liquidity Risk	-0.000369	0.9111	Ha Rejected	No effect
Bank Liquidity	0.000859	0.5216	Ha Rejected	No effect
Revenues Growth	-0.005083	0.2824	Ha Rejected	No effect
Bank Leverage	0.002314	0.0490	Ha Accepted	Significant Influence
Economic Growth	0.000462	0.0006	Ha Accepted	Significant Influence
Inflation	0.001286	0.0010	Ha Accepted	Significant Influence
Diversification	-0.000412	0.9576	Ha Rejected	No effect
Labour Productivity	1.06E-07	0.1176	Ha Rejected	No effect
ESG Score Moderating	0.006197	0.1558	Ha Rejected	No effect

Source: Data processing with Eviews 12, 2023

Based on the T-Test results contained in Table 8, this research can provide a comprehensive picture of the influence of various variables on ROA in the banking sector. First, the ESG Score variable is proven to have a significant influence on ROA with a probability value of $0.0275 < 0.05$, so the first hypothesis (H_1) is accepted. Meanwhile, the Non-Performing Loan variable

also has a significant influence on ROA, with a probability value of $0.0087 < 0.05$, supporting the acceptance of the second hypothesis (H2). However, the third (H3) and fourth (H4) hypotheses which state that Bank Size and Bank Capital influence ROA must be rejected because they have probability values of 0.3776 and $0.1894 > 0.05$, respectively.

Furthermore, the variables Liquidity Risk, Bank Liquidity, Revenues Growth, Labor Productivity, and Diversification also do not have a significant influence on ROA, according to the probability results which are 0.9111 , 0.5216 , 0.2824 , 0.1176 , respectively. and $0.9576 > 0.05$, so that the fifth (H5), sixth (H6), seventh (H7), twelfth (H12), and eleventh (H11) hypotheses are rejected.

However, Bank Leverage (H8), Economic Growth (H9), and Inflation (H10) are proven to have a significant effect on ROA with probability values of 0.0490 , 0.0006 , and $0.0010 < 0.05$, respectively, so the eighth hypothesis, ninth, and tenth are accepted. Apart from that, the results of the moderation test show that Non-Performing Loans do not moderate the influence of ESG Score on ROA because the probability value of ESG Score Moderating is $0.1558 > 0.05$, so the thirteenth hypothesis (H13) is rejected. Overall, these findings provide in-depth insights into the factors that can influence banks' financial performance in an economic and sustainability context.

ESG Score has a significant effect on ROA

In hypothesis testing, it can be concluded that the hypothesis is accepted where there is a significant negative influence of ESG Score on ROA. The results of this test are in line with the findings of Mohamed Buallay et al., (2023) who stated that ESG generally has a negative correlation with ROA. Observing that banks and other financial institutions are responding slowly to sustainability challenges. In reality, most bank operations do not disclose sustainability information because they need to recruit and train new accountants to understand and prepare sustainability reports, which results in additional costs that affect short-term profits.

NPL has a significant effect on ROA

In hypothesis testing it can be concluded that the hypothesis is accepted where there is a significant negative influence of NPL on ROA. This is consistent with previous findings studied by (Boussaada et al., 2023; Khan et al., 2020; Quoc Trung, 2021). An increase in NPL requires individual banks to increase the formation of loss reserves which can then reduce bank profitability and even cause losses. Furthermore, the increase in NPLs also has an impact on reducing debtors' ability to pay principal and interest, resulting in a decrease in bank income. (Boussaada et al., 2023). In line with these findings, according to Quoc Trung (2021), NPLs can have a worsening impact on the economy if prevention is not taken, because bank failure, especially systemic banks, can erode public trust and have negative implications for the banking industry as a whole. For this reason, according to research by Khan et al., (2020), the Authority needs to create a policy that enables banks to carry out appropriate loan management processes to carry out analyses to assess the creditworthiness of creditors.

Bank Size has a significant effect on ROA

Based on the research results, it is shown that Bank Size does not affect bank performance. The results of this research are in line with research from Putri et al., (2022) where Bank Size does not affect ROA. Putri et al., (2022) stated that based on legitimacy theory, recognition is a company's need so that the company's survival is guaranteed. A company as a business entity cannot develop without recognition from the public, where every product and service produced by the company is aimed at the public as consumers.

The longer a company is in the community, the more information the public receives about the company, and the more the company can convince the public to accept all its activities and performance so that a company known to the public can become a large company. Large companies are entities that are highly scrutinized by the market and the public in general, therefore companies must ensure that the company has made maximum efforts for the benefit of society. Thus, the public needs to get information on the ratios that influence bank financial performance.

Legitimacy is a company management system that is oriented towards taking sides with society, government, individuals, and community groups. For this reason, as a system that prioritizes support for the community, company operations must be according to community expectations.

Bank Capital has a significant effect on ROA

Based on the research results, it is shown that Bank Capital does not affect ROA. The results of this research are in line with research by Purwoko & Sudiyatno (2013) which states that capital does not affect bank performance. The absence of capital influence on Bank performance occurs because the addition of bank capital in the form of fresh money by Bank owners is intended only to comply with authority regulations which require Banks to maintain capital ratios at certain ratios. The banking business is a business that prioritizes trust, so as long as the public believes in the bank's credibility, the amount of capital a bank has will not affect the bank's performance. Thus, no matter how big a bank's capital is, if the public does not trust the bank's management, it will be a disaster for the bank. Meanwhile, on the other hand, if the public believes, then public funds channeled through the bank will increase and the bank can carry out operational activities without being disturbed by capital problems. Therefore, management must be able to build and maintain public trust in the bank, so that bank performance will increase.

Liquidity Risk has a significant effect on ROA

Research shows that Liquidity Risk does not affect bank performance. The results of this research are in line with research from Putri et al., (2022). The absence of influence between LDR and ROA refers to the income anticipation theory, where all credit can be collected according to the scheduled time without considering the possibility of failure to repay the credit by the debtor. Income anticipation theory explains that failure to channel funds into productive assets will trigger bad credit in the banking industry. The higher the level of bad credit, the greater the credit risk borne by the bank. With high levels of bad credit, banks will be more careful in disbursing credit in line with the increasing potential for uncollectible credit. High

levels of bad credit will increase credit risk which will result in high credit interest rates, and then credit interest rates that are too high will reduce public demand for credit.

Bank Liquidity has a significant effect on ROA

Research shows that Bank Liquidity does not affect bank performance. This lack of influence is in line with research by Rafael & Fatihat, (2023) which shows that liquidity has no effect on bank performance considering the bank's function as an intermediation institution. Fluctuations in liquidity do not influence achieving or increasing bank profits (Upatiartha et al., 2023).

Revenue growth has a significant effect on ROA

Research shows that Revenues Growth does not affect bank performance. The greater the revenue growth of a company does not mean that more earnings management actions are taken, which means that there are other factors that more significantly influence the high or low level of earnings management practices in the company (Haryanto & Lina, 2017).

Bank Leverage has a significant effect on ROA

In hypothesis testing, it can be concluded that the hypothesis is accepted where there is a significant positive influence of Bank Leverage on ROA. The results of this test are also supported by research from Ardhefani et al., (2021). Achievement of company profits is greatly influenced by DER which reflects funding policy. External funding will be used by the company to improve performance and expand so that it has an impact on achieving ROA. This is supported by trade-off theory which assumes that profitability will increase as DER increases. The increase in profitability was due to the smaller proportion of the tax burden due to the reduction in debt interest on taxable income, resulting in an increase in net profit after tax.

Economic Growth has a significant effect on ROA

In hypothesis testing it can be concluded that the hypothesis is accepted where there is a significant positive influence of Economic Growth on ROA. The test results are in line with the findings from (Boussaada et al., 2023; Gupta & Mahakud, 2020; Nguyen, 2019). High GDP growth can create a good economic climate, increase market demand, and encourage consumption and corporate investment. This can increase revenue, operational efficiency, and macroeconomic stability, which can ultimately contribute to increased ROA.

Inflation has a significant effect on ROA

In hypothesis testing it can be concluded that the hypothesis is accepted where there is a significant positive influence of inflation on ROA. The results of this test are in line with research results from Batsinda & Shukla (2019) and Nguyen (2019) which state that inflation is a macroeconomic variable that has a positive impact on bank performance. With inflation, prices of goods and services will increase, and bank interest rates will also increase. Banks as financial institutions can take advantage of this increase in interest rates to increase interest income from the credit provided.

Furthermore, during periods of inflation, demand for loans tends to increase because prospective and existing debtors need more funds for consumption and investment projects. Banks can expand their credit portfolio by offering loans which in turn can have implications for increasing interest income and profitability.

Diversification has a significant effect on ROA

Research shows that diversification does not affect bank performance. The research results are in line with research conducted by Lestari & Jayanti (2019) which stated that Fee Based Income does not affect ROA. The absence of this effect occurs because banks place more emphasis on interest income than other income.

Massie (2014) in his research stated that the development of fee-based income does not have a significant effect on profitability because of fluctuating public interest in using banking services, which has an impact on the interest income component which is the main part of the banking industry's operational income which is of greater value compared to fee-based. income in the banking industry. However, fee-based income is more profitable for banks because it has a small risk compared to lending. Although the contribution of fee-based income to bank revenues is currently not significant enough, further development needs to be carried out considering that fee-based income has a different character from interest income. Apart from that, fee-based income can be considered as a form of bank business diversification in gaining profits.

Labor Productivity has a significant effect on ROA

Research shows that Labor Productivity does not affect bank performance. The results of this research are supported by Balyan (2011). This is due, among other things, to the many factors that contribute more to banking performance, such as effective business strategies, good risk management, operational efficiency, and a stable economic environment.

Non-performing loans moderate the influence of ESG Score on ROA

The results of hypothesis testing show that ESG Score Moderating does not moderate the influence of ESG Score on ROA. The results of this research are different from the research of Boussaada et al., (2023), where only the corporate governance score did not have a significant effect in almost all estimates. Meanwhile, ESG and environmental and social scores are the most effective in reducing NPLs and improving bank performance.

CONCLUSION

From the results of research evaluating the impact of several independent variables on banking performance in Indonesia, as measured by the ROA ratio, several conclusions can be drawn. First, the Environmental, Social, and Governance (ESG) Score is proven to have a significant influence on bank performance, even though the regression coefficient is negative. This indicates that the higher the ESG Score, the lower the bank's performance, validating the acceptance of the first hypothesis. Furthermore, the Non-Performing Loan (NPL) ratio also influences bank performance with a negative impact, supporting the acceptance of the second hypothesis.

However, several other variables show different results. Bank Size, Bank Capital, Liquidity Risk, Bank Liquidity, revenue growth, Diversification, and Labor Productivity, although they are the focus of research, are not proven to have a significant effect on bank performance, with the rejection of the third, and fourth, fifth, sixth, seventh, eleventh, and twelfth.

On the other hand, Bank Leverage, Economic Growth, and Inflation show a significant positive influence on bank performance, supporting the acceptance of the eighth, ninth, and tenth hypotheses. However, Diversification and Labor Productivity do not make a significant contribution to bank performance, rejecting the eleventh and twelfth hypotheses.

Finally, the ESG Score Moderating variable failed to moderate the impact of NPLs on bank performance, rejecting the thirteenth hypothesis. This conclusion provides an in-depth view of the factors influencing banking performance in Indonesia, enriching an understanding of the dynamics of the financial industry and the role of sustainability in this context.

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