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FACTORS AFFECTING PROFITABILITY ON BANKING COMPANIES LISTED ON THE IDX

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ABSTRACT

This study aims to obtain empirical evidence about the effects of Capital Adequacy Ratio (CAR), Non-Performing Loan (NPL), Net Interest Margin (NIM), Current Account Saving Account (CASA), and Operating Expenses to Operating Income (BOPO) on the profitability of banking companies listed on the Indonesia Stock Exchange (IDX) in 2017-2020. This research uses 27 banking companies selected using purposive sampling method. The research data will be processed using the EViews 9.0 program. The results of this research indicate that the NIM has a positive and significant effect on profitability, BOPO has a negative and significant effect on profitability, while CAR, NPL, and CASA have no significant effect on profitability.

Keywords: *Capital Adequacy Ratio, Non-Performing Loan, Net Interest Margin, Current Account Saving Account, Operating Expenses to Operating Income, profitability.*

1. INTRODUCTION

The banking sector is one sector that plays a vital role in the development of the country's economy as a pillar of economic growth and national stability in improving people's living standards from the financial sector. Almost every industry involving financial activities, both individuals and companies, requires a bank's services. In addition to collecting and distributing funds, banks also function as intermediary institutions in supporting the smooth running of the payment system, implementing monetary policy, and achieving financial stability. A bank must collect and distribute funds effectively and efficiently to achieve an optimal level of profitability.

To face the increase of fierce competition, every financial institution continues to try and compete to improve and evaluate its performance because bank performance significantly impacts public trust. One of the tools that can be used to measure company performance is to analyze and assess financial statements through financial ratio analysis. The profitability ratio is one of the most important financial ratios to measure the maximum financial performance of a company. The profitability ratio measures how much profit a company can generate either through assets, sales, or share capital during a specific period (monthly, quarterly, semester, and yearly). A bank needs to maintain a stable profitability ratio and even increase it to fulfill obligations to shareholders and creditors, attract potential investors to invest their capital, and increase public trust to put their funds in the bank.

Our Contribution

This research is beneficial for investors, companies, creditors, governments, and researchers. For investors, it is useful as a foundation for decision-making when investing in companies. For companies, it is useful as a source of information in assessing the performance of a good and healthy bank. For creditors, as a basis for decision-making in providing loans to

companies. For the government, as a source of information in assessing the health condition of the company and for further researchers can be considered for conducting research.

Paper Structure

The structure of this paper is arranged as follows: Part 1 introduces and explains the contribution of this paper. Part 2 explains theories and research hypothesis. Part 3 presents the proxy and method used in this study. Part 4 presents the outcome & discussions of the research. Finally, Part 5 concludes the research and presents directions for future researchers.

2. THEORETICAL REVIEW

Agency Theory

Agency theory explains the relationship between one or more people (principals) assign the other people (agent) to conduct a service on behalf of that person by delegating some authority to the agent in making the best decisions for the principal (Jensen and Meckling, 1976). Agency theory describes principals as shareholders and agents as management. Agency theory aims to ensure that the contract between principal and agent can run efficiently and balance the interests of each involved to minimize conflicts of interest. Because this agency conflict occurs, it will cause agency costs, which are costs incurred by the principal in supervising management to misbehave. So, information will also be more transparent and evenly distributed so that investors and creditors will know the condition of the company's profitability to be invested.

Signalling Theory

Signalling Theory describes how important companies are to present information to the public in the form of financial statements, information related to company policies, and others that managers can disclose (Syahid, 2016). The Signal theory aims to signal to the company's external parties through one of the company's financial statements, which contain relevant, complete, and reliable company financial information and of course, will provide an overview of the prospects for the sustainability of the company in the future. If the ROA value is high, it will undoubtedly attract investors to invest their money in the company. This will indicate a good signal where the company's financial performance can be said to be good.

Profitability (Return on Assets)

Return on Assets (ROA) is the profitability ratio used to determine a company’s ability to make profits in the past and will be projected in the future (Abdurrohman, 2020). The company's ability to generate profits in its operational activities is the main key to assessing its performance. In addition to being an indicator of the company's ability to fulfill its obligations to creditors, company profits are also one of the elements to determine its value (Silaban, 2017). The higher the bank’s profitability, the better the performance of the bank because it can run its operational activities efficiently.

Capital Adequacy Ratio

Capital Adequacy Ratio (CAR) is the ratio used to identify a bank's ability to maintain bank capital adequacy and the strength of bank management in identifying, measuring, monitoring, and controlling risks that may arise and affect the bank's capital (Silaban, 2017). According to (Al-Sharkas and Al-Sharkas, 2022), based on risk-based capital adequacy standards, capital can be classified into two categories, namely tier 1 (core) capital, which includes common stock, retained earnings, qualifying non-cumulative preference shares, etc. Second, tier 2 (supplement) capital provides debt capital instruments, convertible debt, inter-mediate term preferred stock, etc. With the capital adequacy standard set, the greater the capital bank raises, the banking business can minimize the risk of loss and carry out its operational activities to increase business profitability (Djaya and Yanuarti, 2021).
Ha1: Capital Adequacy Ratio (CAR) has a significant positive effect on profitability

Non-Performing Loan

According to (Imani and Pracoyo, 2018), Non-Performing Loan is a ratio that shows the potential loss experienced by banks due to the failure or inability of customers to repay several loans obtained and the interest by a predetermined period. Credit is one factor that significantly affects the bank's income and expenses. If the credit is at a reasonable or current limit, credit is an effective source of revenue for the bank (Putranto, 2017). The higher the NPL ratio of a bank, the worst the soundness of the business being carried out, and of course, profitability will decrease.
Ha2: Non-Performing Loan (NPL) has a significant negative effect on profitability

Net Interest Margin

According to (Murdiyanto, 2020), Net Interest Margin (NIM) is a ratio used by banks to identify the ability of bank to control all productive assets owned by a bank so that they can be used properly to produce net interest income. The high value of NIM is affected by high-interest rates, which can help banking institutions increase interest income and reduce competitiveness with other banking institutions, finally increasing bank profitability (Fidanoski et al., 2018).
Ha3: Net Interest Margin (NIM) has a significant positive effect on profitability

Current Account Saving Account

According to (Khabibah et al., 2020), Current Account Saving Account (CASA) is a low-cost fund consisting of current accounts and savings. CASA is an indicator that assesses the level of low-cost funds against the total third-party funds owned by the company. CASA is one of the banking institutions' strategies to increase profitability. According to (Fidanoski et al., 2018), banks with a higher proportion of deposits tend to have lower profitability because deposits are synonymous with a high cost of funds. A high proportion of CASA can reduce the cost of funds and generate greater profits.
Ha4: Current Account Saving Account (CASA) has a significant positive effect on profitability

Operating Expenses to Operating Income

According to (Haryanto, 2016), Operating Expenses to Operating Income (BOPO) is a ratio that measures whether all the factors of production have been used effectively and efficiently by the bank's management. According to (Sudarmawanti and Pramono, 2017), operational costs occur when a bank incurs costs used to run its main business, such as costs for labor, marketing, interest, and others. Meanwhile, operating income arises when a bank can generate its main income, such as from lending and other banking services. A higher BOPO ratio causes an increase in operating costs greater than the operating income, so the operational activities carried out also become inefficient and hinder the profitability growth.
Ha5: BOPO has a significant negative effect on profitability.

3. LITERATURE REVIEW

Capital Adequacy Ratio and Profitability

Capital Adequacy Ratio (CAR) is one of the important indicators for banks from the risk of losses that can threaten the existence of banks in carrying out their operational activities. The higher the risk-weighted asset value indicates that the bank has difficulty in obtaining funding sources, increasing the cost of capital, and hampering bank profitability (Mehta and Bhavani, 2017). Therefore, the higher the CAR ratio, the better the bank can handle any risks arising from any risky assets it has.

Non-Performing Loan and Profitability

Credit is the main and largest income for the banking industry that can be obtained through interest income and fees from providing credit to debtors. This can certainly be realized if the credit provided by the bank can run smoothly. Therefore, the lower the NPL ratio owned by a bank, the better the health level of the business being run, and of course, profitability will increase.

Net Interest Margin and Profitability

The bank must manage its productive assets and manage the distribution and placement of funds as well as possible so that the income the bank can obtain is also optimal. The higher the Net Interest Margin (NIM) value, the higher the interest income obtained from productive assets carried out by the bank and finally will increase the financial performance and profitability of the bank.

Current Account Saving Account and Profitability

CASA is a low-cost fund obtained by banks from savings and current accounts. This is because the interest banks pay for current accounts and savings is not as much as the interest costs for deposits. So, the higher the CASA value, it will cause the decrease in lending rates that can encourage an increase in the competitiveness of Indonesian banks and ultimately increase banking profitability (Khabibah et al., 2020).

Operating Expenses to Operating Income and Profitability

The bank must be more selective in managing the ratio between the number of operating expenses and the operating income they generate. The increase in the BOPO ratio causes a greater increase in operating costs than operating income, so the operational activities carried out also become inefficient and hinder the growth of the generated profitability.

4. METHODS

This research is based on quantitative data from all banking companies listed on the Indonesia Stock Exchange (IDX) from 2017 to 2020. This research uses a non-probability sampling technique with a purposive sampling method to select the research sample based on the specified criteria. These criteria include: (1) Banking companies listed on the IDX during 2017-2020 consecutively; (2) Banking companies that earn profits during 2017-2020; (3) Banking companies that conducted an IPO before 2017; and (4) Banking companies that were not delisted during 2017-2020.

From a total population of 49 banking companies that were consistently listed on the IDX between 2017 and 2020, a sample of 27 banking companies was selected using the criteria described. This research used EViews 9.0 and Microsoft Excel programs to handle the corporate data in annual reports. Multiple regression analysis is used in this study to determine the relationship between the independent and dependent variables.

The dependent variable in this study is profitability, measured by Return on Assets (ROA) proxy following research [4] where the formula is as follows:

$$ROA = \frac{Net\ profit}{Total\ assets}$$

The independent variables in this study are Capital Adequacy Ratio, Non-Performing Loan, Net Interest Margin, Current Account Saving Account, and Operating Expenses to Operating Income.

Capital Adequacy Ratio is calculated by dividing a bank's capital by its risk-weighted assets following research [4] by using the CAR symbol where the formula is as follows:

$$CAR = \frac{Bank\ capital}{Total\ Risk\ Weighted\ Assets}$$

Non-Performing Loan is measured by a ratio that compares bad credit to total disbursed loans following research [4] by using the NPL symbol where the formula is as follows:

$$NPL = \frac{Total\ nonperforming\ loans}{Total\ credit\ disbursed}$$

Net Interest Margin (NIM) measures a bank's ability to generate interest income in lending because the bank's own operating income is highly dependent on the difference between interest and loans. Based on research from [4], NIM can be calculated using the following formula:

$$NIM = \frac{Net\ interest\ income}{Total\ assets}$$

Current Account Saving Account measures the level of low-cost funds against the total third-party funds owned by the company. Based on research from [11], CASA can be calculated using the following formula:

$$CASA = \frac{Deposits\ in\ current\ account + savings\ account}{Total\ Deposits}$$

Operating Expenses to Operating Income measures a bank's ability to minimize or manage its expenses by producing good output while maintaining existing quality [15]. Based on research from [12], BOPO can be calculated using the following formula:

$$BOPO = \frac{Operating\ costs}{Operating\ income}$$

5. RESULT AND DISCUSSION

Test of Descriptive Statistics

Return on Assets has an average value of 0.016781 and a standard deviation of 0.010613, which means that ROA has a low level of data variation. The max value is 0.050300 and the min value is 0.001000. Capital Adequacy Ratio has an average value of 0.237446 and a standard deviation of 0.079707, which means that CAR has a low level of data variation. The max value is 0.664300 and the min value is 0.126700. Non-Performing Loan has an average value of 0.014918 and a standard deviation of 0.010428, which means that NPL has a low level of data variation. The max value is 0.056500 and the min value is 0.0000. Net Interest Margin has an average value of 0.051443 and a standard deviation of 0.016854, which means that NIM has a low level of data variation. The max value is 0.116000 and the min value is 0.004700. Current Account Saving Account has an average value of 0.414685 and a standard deviation of 0.180142, which means that CASA has a low level of data variation. The max value is 0.770600 and the min value is 0.116900. Operating Expenses to Operating Income has an average value of 0.829597 and a standard deviation of 0.116331, which means that BOPO has a low level of data variation. The max value is 1.194300 and the min value is 0.582000.

Multicollinearity Test

The multicollinearity test is used to determine whether in the regression model has perfect correlation between the independent variables used in this research. Based on the multicollinearity test results, the correlation coefficient value between Capital Adequacy Ratio and Non-Performing Loan is -0.046728. The correlation coefficient value between Net Interest Margin and Capital Adequacy Ratio is 0.022837. The correlation coefficient value between Capital Adequacy Ratio and Current Account Saving Account is -0.239744, and the correlation coefficient value between Capital Adequacy Ratio and Operating Expenses to Operating Income is 0.025495. Non-Performing Loan and Net Interest Margin have a correlation coefficient of -0.048811. The correlation coefficient value between the Non-Performing Loan and Current Account Saving Account is -0.025655. The correlation coefficient value between Non-Performing Loan and Operating Expenses to Operating Income is 0.206471. The correlation coefficient value between Net Interest Margin and Current Account Saving Account variable is 0.267011. The correlation coefficient value between Net Interest Margin and Operating Expenses to Operating Income is -0.351682. The

correlation coefficient value between Operating Expenses to Operating Income and Current Account Saving Account variable is -0.40831. The overall data shows that the correlation coefficient value among independent variables is less than 0.85, which indicates there is no multicollinearity in the regression model.

Heteroscedasticity Test

The heteroscedasticity test is used in the linear regression to determine the inequality of variation [16]. The data was processed using Breusch Pagan as the basis for heteroscedasticity testing. Based on the heteroscedasticity test results, the value of Obs*R-squared Prob. Chi-Square is 0.1130, which is greater than the significance level of 0.05, so there is no heteroscedasticity in the regression model in this study.

Chow Test

The Chow test was conducted to decide the most appropriate regression model panel data between the FEM and CEM. The chi-square cross section results has a probability value of 0.0045, which represents that the value is less than 0.05. It can be implied that H0 is rejected, so the regression model chosen is FEM, continued to the Hausman test.

Hausman Test

The Hausman test was conducted to determine the most appropriate regression model panel data between the FEM and REM. The random cross-section results has a probability value of 0.8337, which represents that the value is greater than 0.05. It can be implied that H0 is accepted, so the regression model chosen is REM, continued to the Lagrange Multiplier test.

Lagrange Multiplier Test

The Lagrange Multiplier (LM) test was conducted to decide the most appropriate panel data regression model between the Random Effect Model (REM) and Common Effect Model (CEM). From the test results, the both probability of Breusch-Pagan is 0.0897, which indicates that the value is greater than 0.05. It can be concluded that H0 is accepted, so the most suitable model to be used in this study is the CEM.

Table 1 Common Effect Model

Variable	Coefficient	Std. Error	t-Statistics	Prob.
C	0.070945	0.006159	11.51945	0.0000
X1_CAR	-0.005868	0.007101	-0.826350	0.4105
X2_NPL	0.008481	0.053649	0.158088	0.8747
X3_NIM	0.164579	0.035059	4.694397	0.0000
X4_CASA	-0.006847	0.003477	-1.969157	0.0516
X5_BOPO	-0.070545	0.005477	-12.88131	0.0000
R-squared	0.730283			
Adjusted R-squared	0.717061			
Prob (F-statistics)	0.000000			

The following is the regression model equation that was used in this research:

ROA = 0.070945 - 0.005868CAR + 0.008481NPL + 0.164579NIM – 0.006847CASA – 0.070545BOPO + e

Based on the regression model equation above, it shows that if the CAR, NPL, NIM, CASA, and BOPO have constant value, then the value of ROA as the dependent variable will be 0.070945. With a confidence level of 95%, CAR has no effect on ROA where the probability of CAR is 0.4105, which is greater than 0.05. The regression coefficient value for CAR is -0.005868, means a negative relationship between CAR and ROA, so that every 1 unit increase in CAR variable assuming other variables are fixed, ROA will decrease by 0.005868 units. With a confidence level of 95%, NPL has no effect on ROA where the probability of NPL is 0.8747, the value is greater than 0.05. 0.008481, the regression coefficient value for NPL, means a positive relationship between NPL and ROA, so that every 1 unit increase in NPL variable assuming other variables are fixed, ROA will increase by 0.008481 units. With a confidence level of 95%, the probability of NIM is 0.0000 which has an influence on ROA because the value is smaller than 0.05. The regression coefficient value for NIM is 0.164579, means a positive relationship between NIM and ROA, so that every 1 unit increase in NIM variable assuming other variables are fixed, ROA will increase by 0.164579 units. With a confidence level of 95%, CASA has no effect on ROA where the probability of CASA is 0.0516, the value is greater than 0.05. -0.006847, the regression coefficient value for CASA, means a negative relationship between CASA and ROA, so that every 1 unit increase in CASA variable assuming other variables are fixed, ROA will decrease by 0.006847 units. With a confidence level of 95%, the probability of BOPO is 0.0000 which has an influence on ROA because the value is smaller than 0.05. BOPO has regression coefficient value of -0.070545, means the relationship between BOPO and ROA is negative, so that every 1 unit increase in BOPO variable assuming other variables are fixed, ROA will decrease by 0.070545 units.

The Adjusted R-squared value is 0.717061, indicating that Capital Adequacy Ratio, Non-Performing Loan, Net Interest Margin, Current Account Saving Account, and Operating Expenses to Operating Income can explain 71.71% of the variation in profitability. The remaining 28.29% is a variation of other independent variables not tested in this study.

The simultaneous test (F test) shows the Prob (F-statistic) is 0.000000, meaning that the value is smaller than the 5% significance level. This indicates that H0 is rejected so that the independent variable has a significant effect simultaneously on profitability as a dependent variable.

Discussion

Based on the test results, the Capital Adequacy Ratio variable has no influence and has a negative direction. This research is consistent with research conducted by (Silaban, 2017) and (Imani and Pracoyo, 2018). Still, it is not compatible with research (Haryanto, 2016) and (Jadhav et al., 2021), which states that CAR has a positive significant effect on profitability and is different from research (Abdurrohman et al., 2020) and (Gautam, 2019), which shows that CAR has a negative and significant effect on profitability. CAR has no impact on ROA because the amount of capital owned by the company is not invested in the form of credit but in the form of company assets.

The Non-Performing Loan does not affect the Return on Assets. The results of this study are in line with research conducted by (Abdurrohman, et l., 2020) and (Uddin, 2022) but differ from (Silaban, 2017) and (Putranto et al., 2017), which state that NPL has a negative effect on ROA and research conducted by (Dini and Manda, 2020) also shows that NPL can have a positive impact to ROA. NPL does not affect ROA because the bank can anticipate by selling collateral owned by the relevant debtor so that the bank will have additional assets in connection with the sale of the relevant debtor's collateral so that the bank's profitability is not too impacted.

The Net Interest Margin variable has a positive effect on ROA. The findings are consistent with (Silaban, 2017) and (Musah et al., 2018), who found that the NIM positively affects ROA. However, it contradicts research by (Murdiyanto, 2020), who said that NIM has a negative impact on ROA. It contradicts a study published by (Moorcy, 2020) which found that the NIM does not affect ROA. NIM has a positive effect on ROA, meaning that the higher the NIM value, the higher the interest income on productive assets managed by the bank. Therefore, the risk of problematic conditions experienced by a bank will be more negligible and the bank's financial performance and profitability will also increase.

The Current Account Saving Account variable does not affect the Return on Assets. This study's results differ from the research conducted by (Khabibah et al., 2020), which states that CASA positively affects ROA. CASA does not affect ROA because a low CASA means that the proportion of low-cost funds (for current and savings accounts) compared to time deposits in the research sample is still within reasonable limits, so it has not affected bank’s profitability.

The Operating Expenses to Operating Income (BOPO) variable has a negative effect on ROA. The result obtained from this study are in line with the study by (Al-Sharkas and Al-Sharkas, 2022) and (Murdiyanto, 2020). However, it is not in line with research conducted by (Uddin, 2022) which shows that BOPO does not affect ROA. BOPO has a negative and significant effect on ROA, meaning that BOPO which shows a high value is influenced by the cost of funds, so that it will influence the efficiency level of the bank and will reduce the financial performance and profitability of the bank.

6. CONCLUSION

The results showed that the variables of Capital Adequacy Ratio (CAR), Non-Performing Loan (NPL), and Current Account Saving Account (CASA) had no significant effect on profitability. While the variable Net Interest Margin (NIM) has a positive and significant effect on profitability and the variable Operating Expenses to Operating Income (BOPO) has a significant and negative effect on ROA/profitability. This study has limitations as follows; (1) This study only uses five independent variables, which is as follows: Capital Adequacy Ratio (CAR), Non-Performing Loan (NPL), Net Interest Margin (NIM), Current Account Saving Account (CASA), and Operating Expenses to Operating Income (BOPO) and not all variables have a significant positive or negative effect on ROA/profitability. (2) The study sample period was limited to only four years. (3) The research subject used is limited to the financial sub-sector, namely the banking sector, and does not cover the financial sector as a whole. Suggestions that can be given to further researchers are (1) Adding other independent variables to be studied, such as bank size, Loan to Deposit Ratio (LDR), inflation, rupiah exchange rate, fee-based income, etc., (2) Extending the research period (3) Using samples from companies engaged in other financial sub-sectors/financial sector as a whole.

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