

## Impact of Bank Performance on Profitability

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**Abstract:** This study aims to examine the effect of Capital Structure (DER), Credit Efficiency (BOPO), Non Performance Loan (NPL), and Capital Adequacy Ratio (CAR), on the profitability of banking companies in Indonesia. The sample of this study consisted of 10 banks that have the largest assets of the study population namely banking companies listed on the Indonesia Stock Exchange (IDX) from 2010 to 2016. Based on the results of the analysis showed that: 1) Capital Structure (DER) has a negative effect but not significant to profitability in banking companies on the Indonesia Stock Exchange, 2) BOPO does not have a negative and significant effect on profitability in banking companies on the Indonesia Stock Exchange, 3) Non-Performing Loans have no negative effect on profitability in banking companies on the Indonesia Stock Exchange, 4) Capital Adequacy Ratio influences negatively but not significantly on Profitability in banking companies on the Indonesia Stock Exchange.

**Keywords:** Bank performance, Profitability (ROA), Efficiency (BOPO), Credit Risk (NPL), Capital Adequacy Ratio (CAR).

### INTRODUCTION

The decline in profits was triggered indirectly by the swelling of non-performing loans (NPL). Credit is classified as an NPL when the debtor starts to not smoothly pay the installments until it gets stuck at all.

Based on data from the Financial Services Authority (OJK), at the end of the first quarter of 2016, the total nominal NPL reached 113.08 trillion or 2.8 percent of the total credit of Rp 4,000 trillion. While at the end of the first quarter of 2015, the nominal NPL amounted to Rp 88.4 trillion or 2.4 percent of the total loans valued at Rp 3,679.87 trillion. That is, during the period March 2015 - March 2016, the nominal NPL increased by Rp. 24.6 trillion.

Efficiency is a key word in today's business competition [1]. Efficiency is an important indicator in measuring the overall performance of a company's activities [1]. Measurement of bank efficiency can be used by using a comparison between Operational Costs and Operating Income (BOPO). This performance is a measure of efficiency that is commonly used to assess the performance of banking efficiency [2]. Efficiency for a bank is an important aspect to be considered in an effort to realize a healthy and sustainable bank financial performance [1]. The research conducted by Widati [3] shows that BOPO does not affect the amount of ROA, but it is not in line with research conducted by Endri [4] showing a significant negative relationship between BOPO and ROA.

Bank lending contains risks. Credit risk for banks is the risk of losses that may be suffered by a

bank due to counterparty failure to fulfill its obligations that are due. Based on Bank Indonesia regulations, one of the risks that are a source of health assessment for a bank is from financing or credit sources in which a bank must have a 5% NPL. This figure shows what percentage of credit is problematic from the total credit disbursed by the bank to the public. Good or bad banking financial performance can be assessed from the health of the bank. The higher this ratio, the worse the quality of bank credit will cause the number of non-performing loans to be greater and therefore the bank must bear losses in its operational activities so that it affects the decrease in profit (ROA) obtained by the bank [5]. However, research conducted with Syaichu and Sukarno [6], and Putriditya [7] which shows that credit risk does not affect ROA, but research conducted by Ariyanto [8] which shows a significant negative influence of NPL on ROA.

Problems that must always be a priority of banks are capital problems. CAR reflects the bank's ability to cover the risk of loss from its activities and the bank's ability to fund its operational activities [9]. The higher bank CAR, shows the better the bank's ability to bear the risk of any risky credit or productive assets. If the CAR of a bank is high, the bank will be able to finance its operational activities and make a substantial contribution to profitability. Research

shows different results. Endri [10] CAR affects ROA. Endri [4] CAR affects changes in earnings. While Hutagalung *et al.* [11], Eng [12], Natalina *et al.* [13], Akhtar *et al.* [14], Sudiyatno and Fatmawati [15] show that CAR does not affect ROA.

Sources of bank funds can come from three sources, namely: 1) First Party Funds, namely owners or own capital, 2) Second party funds, in the form of debt and 3) TPF, in the form of savings, time deposits and demand deposits. The composition of debt and equity is reflected in the capital structure. Debt for companies that are in the growth phase will be able to become financial levers (leverage financial). The results of research on the relationship between capital structure and profitability show different results. Endri [4] shows that capital structure influences profitability. While Fachrudin [16] capital structure has no effect on profitability. Lin's [17] finding of debt to asset ratios has a negative effect on company performance, but Calisir *et al.* [18] found that debt to asset ratios have a positive effect on company performance.

Banks have a goal of achieving high profitability. Profitability is one indicator to assess the company's financial performance. High profitability shows good company prospects, so investors will respond positively to these signals and the value of the company will increase [19]. Bank Indonesia prioritizes the value of a bank's profitability as measured by its asset value, namely ROA. This is because bank assets mostly come from Third Party Funds. ROA is used to measure the efficiency and effectiveness of a company in generating profits by utilizing its assets. Based on the unevenness of some of the results of the study, the authors are interested in conducting research on the banking industry listed on the IDX with the population in this study are commercial banks listed on the Indonesia Stock Exchange. The number of population is 43 (forty three) banking companies.

### **THEORETICAL FRAMEWORK**

According to the trade-off theory expressed by Myers [20], "Companies will be indebted to a certain level of debt, where tax savings (tax shields) from additional debt equals the cost of financial difficulties". The cost of financial difficulties is the cost of bankruptcy or reorganization, and agency costs that are increased due to the decline in the credibility of a company. The trade-off theory in determining the optimal capital structure includes several factors including tax, agency costs) and the cost of financial difficulties but still maintains the assumption of market efficiency and symmetric information as a balance and benefits of using debt. According to Myers [21], pecking order theory states that "Companies with high levels of profitability are actually low in debt, because companies with high profitability have abundant internal funding sources." In this pecking order theory

there is no optimal capital structure. Specifically the company has a sequence of preferences (hierarchy) in the use of funds.

Agency theory describes the relationship between shareholders as principals and management as agents. Management is a party contracted by shareholders to work for the benefit of shareholders. Because they are chosen, the management must account for all their work to shareholders. Assessment to determine the condition of a bank, usually using a variety of measuring instruments. one of the main measuring tools used to determine the condition of a bank is known as the CAMEL analysis. This analysis consists of aspects of capital, assets, management, earnings, and liquidity. Profitability is the ability of a company to get profit (profit) in a certain period. The same understanding is conveyed by Endri [4] that Profitability is the ability of a company to generate profits (profit) at certain levels of sales, assets, and share capital.

Capital structure is a combination of various components on the right side of the balance sheet, namely debt and equity [22]. According to Brigham and Gapenski [23], capital structure is a mix of debt and equity. It is clearer where Weston and Copeland [24] say that the capital structure is permanent financing which consists of long-term debt, preferred stock, and shareholder capital. Endri [4] shows that capital structure influences profitability. While Fachrudin [16] capital structure has no effect on profitability. Lin's [17] finding of debt to asset ratios has a negative effect on company performance, but Calisir *et al.* [18] found that debt to asset ratios have a positive effect on company performance.

The level of bank efficiency is a measurement of how much the bank is capable of operating. The financial ratio used to measure operating efficiency is BOPO which is the ratio between operating costs divided by operating income [25]. The BOPO ratio aims to measure the level of efficiency and ability of the bank in carrying out its operations. Increasing the amount in this ratio reflects the lack of the bank's ability to manage its business [25]. As per SE No. 6/23 / DPNP dated May 31, 2004 BOPO ratio. The research conducted by Widati [3] shows that BOPO does not affect the amount of ROA, but it is not in line with research conducted by Endri [4] showing a significant negative relationship between BOPO and ROA.

Capital Adequacy Ratio is a capital ratio that shows the bank's ability to provide funds for business development needs and accommodate the possible risk of losses caused in bank operations. According to Bank Indonesia Regulation Number 10/15 / PBI / 2008 article 2 paragraph 1 listed banks must provide minimum capital amounting to 8% of risk-weighted

assets (ATMR), CAR is a ratio that shows how much the total assets of a bank that contain risks (credit, investments, securities, bills to other banks) are also financed from their own capital in addition to obtaining funds from sources outside the bank.

Calculation of Capital Adequacy is based on the principle that every investment that contains risks must be provided with a certain amount of capital for the amount of investment. In line with the standards set by the Bank of International Settlements (BIS), all banks in Indonesia are required to provide a minimum capital of 8% from RWA [26]. Research shows different results. Sudiyatno and Suroso [27] CAR affects ROA. Endri [5] CAR affects changes in earnings. While Hutagalung *et al.* [11], Eng [12], Natalina *et al.* [13], Akhtar and Sadaqat [14], Sudiyatno and Fatmawati [27] show that CAR does not affect ROA

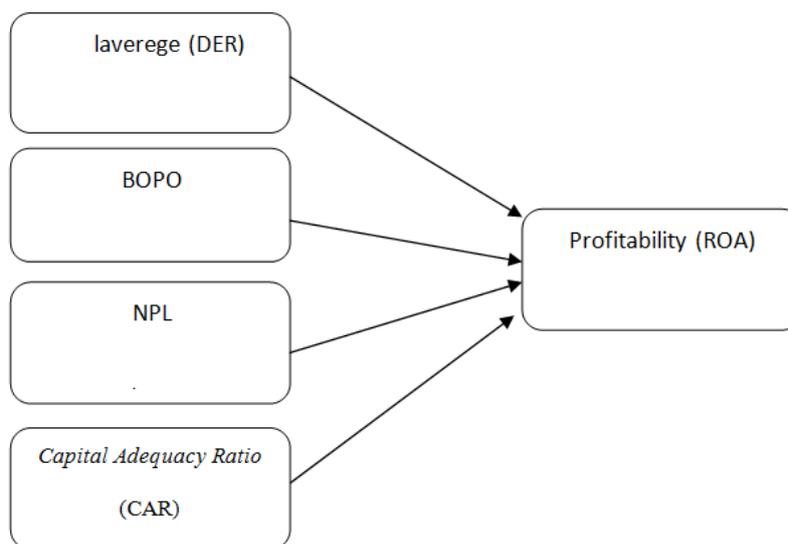
**RESEARCH METHODOLOGY**

The population in this study is a Commercial Bank registered in the Brusa Securities Indonesia. The number of population is 43 (forty three) banking companies. The sample in this study was taken by

purposive sampling method, namely sampling conducted in accordance with the research objectives with the following criteria: 1) Registered on the IDX in 2010-2016, 2) The bank issued financial statements each year and had complete data during the period observation, and 3) The bank is included in the category of the 10 biggest asset banks from banking companies listed on the IDX. Based on the sample selection of commercial banks based on purposive sampling, the total population of the study obtained a sample of 10 banks.

Research variables consist of independent variables (X) and Dependent variables (Y) with research titles "Effect of Capital Structure (X1), Efficiency (X2), Credit Risk (X3), and Capital Adequacy Ratio / CAR (X4) on Profitability Performance ( Y) for all banks listed on the IDX for the period 2015-2016 "by using the ratio measurement scale. The financial ratios used in this study are Capital Structure (DER), Efficiency (BOPO), Credit Risk (NPL), Capital Adequacy Ratio (CAR) and Profitability (ROA). Estimation of the research model using panel data regression models.

**Research Framework**



**Fig-1: Research Framework**

**Research Hypothesis**

The source of corporate funds is reflected by foreign capital and own capital which is measured by a debt to equity ratio (DER). If DER gets higher, then the company's ability to get profitability will be lower, so DER has a negative relationship with profitability.

$$DER = \frac{\text{Bank Debt}}{\text{Equity}} \times 100\%$$

H1: DER Has a negative effect on ROA

In industry, competition among banks can somehow reduce the profitability of each bank. And if this level of profitability is low, it can result in a significant loss and this can certainly threaten the survival of the entity itself. Operational efficiency indicators commonly used are BOPO (Operational Income Operating Costs).

$$BOPO = \frac{\text{Total Operating Expenses}}{\text{Total Operating Income}} \times 100\%$$

H2: BOPO has a negative effect on ROA

High NPLs will increase costs, thus potentially damaging banks. The higher this ratio, the worse the quality of bank credit will cause the number of non-performing loans to be greater and therefore the bank must bear losses in its operational activities so as to affect the decrease in profit (ROA) obtained by the bank. Loans provided to third parties do not include credit to other banks.

$$NPL = \frac{\text{Number of Troubled Credit}}{\text{Total Credit}} \times 100\%$$

H3: NPL has a negative effect on ROA

Capital Adequacy Ratio (CAR) is a capital adequacy ratio that serves to accommodate the risk of

losses that may be faced by banks. The higher the Capital Adequacy Ratio / CAR, the better the bank's ability to bear the risk of any risky credit/productive assets. If the value of Capital Adequacy Ratio / CAR is high, the bank is able to finance operational activities and make a substantial contribution to profitability.

$$CAR = \frac{\text{Owner's Equity}}{\text{ATMR}} \times 100\%$$

H4: Capital Adequacy Ratio (CAR) has a positive effect on ROA

## RESULTS AND DISCUSSION

**Table-1: Description of Research Variable Statistical Data**

|              | Y        | X1       | X2       | X3       | X4       |
|--------------|----------|----------|----------|----------|----------|
| Mean         | 2.622143 | 8.300286 | 76.24086 | 2.271714 | 16.47371 |
| Median       | 2.550000 | 7.515000 | 76.05000 | 2.205000 | 16.10000 |
| Maximum      | 5.100000 | 19.50000 | 150.8000 | 8.800000 | 22.91000 |
| Minimum      | 0.200000 | 3.780000 | 44.76000 | 0.400000 | 11.83000 |
| Std. Dev.    | 1.209770 | 2.964751 | 14.89332 | 1.307799 | 2.472213 |
| Skewness     | 0.200038 | 1.240252 | 1.552919 | 1.676237 | 0.466048 |
| Kurtosis     | 2.120633 | 5.117669 | 10.31106 | 10.08242 | 2.678902 |
| Jarque-Bera  | 2.722263 | 31.02582 | 184.0353 | 179.0826 | 2.834734 |
| Probability  | 0.256371 | 0.000000 | 0.000000 | 0.000000 | 0.242351 |
| Sum          | 183.5500 | 581.0200 | 5336.860 | 159.0200 | 1153.160 |
| Sum Sq. Dev. | 100.9846 | 606.4926 | 15304.95 | 118.0134 | 421.7166 |
| Observations | 70       | 70       | 70       | 70       | 70       |

Source: Data processed

Minimum and maximum value of the total score of the Banking Profitability Performance variable on 70 Data analyzed is 0.200000 from PT. Bank Permata Year 2015 and 5,100,000 from PT. Bank Rakyat Indonesia (BRI) 2011 and PT. Bank Permata Year 2016, while the average and standard deviation are 2.622143 and 1.209770 respectively. This shows that the banking companies in the sample studied have an average profitability performance (ROA) of 262%. The minimum and maximum value of the total score of the variable effect of the Capital Structure on 70 data analyzed is 3.780000 from PT. Bank Danamon in 2016 and 19,50000 PT. Bank Rakyat Indonesia (BRI) in 2010, while the average and standard deviation are 8.300286 and 2.964751, respectively. This shows that the banking company in the sample studied has an average capital structure (DER) of 830%.

The minimum and maximum values of the total score of the efficiency variable on 70 data analyzed are 44.76000 from PT. Panin Bank in 2010 and 150.8000 from PT. Bank Permata Year 2016, while the average and standard deviation are 76.24086 and 14.89332 respectively. This shows that the banking companies in the sample studied have an average efficiency (BOPO) of 762%. The minimum and maximum value of the total score of the Credit Risk variable on 70 data analyzed is 0.400000 from PT. Bank Central Asia (BCA) in 2012 and PT. Bank Negara Indonesia (BNI) in 2014 and 8,800,000 from PT. Panin Bank in 2010, while the average and standard deviation are 2.271714 and 1.307799 respectively. This shows that the banking company in the sample studied has an average credit risk (NPL) of 227%.

**Table-2: Conclusions for Testing Panel Data Regression Models**

| No. | Method                 | Testing                        | Result       |
|-----|------------------------|--------------------------------|--------------|
| 1   | Chow-Test              | Common Effect vs Fixed Effect  | Fixed Effect |
| 2   | Hausman Test           | Fixed Effect vs Random Effect  | Fixed Effect |
| 3   | Lagrange Multiplier-BP | Common Effect vs Random Effect | Random Effec |

Based on testing of panel data regression models in pairs, the panel data regression model is

used to analyze the factors that influence the level of debt of real estate companies and property listed on the

Indonesia Stock Exchange (IDX) during the period 2010-2016 in the hope of empirical findings in accordance with research hypothesis. The fixed effect model is the right model for estimating and analyzing the profitability performance in the banking industry in the Indonesia Stock Exchange (IDX) during the period 2010-2016. The fixed effect method applied in this study is a panel data regression model which

eliminates the problem of heteroscedasticity by constructing the residual using a white diagonal estimation coefficient, while the autocorrelation problem is not required in the fixed effect model so that the test of autocorrelation can be ignored [28]. The panel data regression estimation results using the white diagonal estimation coefficient model

**Table-3: FE with Cross Section Weight White Diagonal estimation coefficient**

| Dependent Variable: Y  |             |                    |             |        |
|--|-------------|--------------------|-------------|--------|
| Method: Panel EGLS (Cross-section weights)                   |             |                    |             |        |
| Sample: 2010 2016  |             |                    |             |        |
| Periods included: 7  |             |                    |             |        |
| Cross-sections included: 10                                  |             |                    |             |        |
| Total panel (balanced) observations: 70                      |             |                    |             |        |
| Linear estimation after one-step weighting matrix            |             |                    |             |        |
| White diagonal standard errors & covariance (d.f. corrected) |             |                    |             |        |
| Variable   | Coefficient | Std. Error         | t-Statistic | Prob.  |
| C  | 6.789145    | 0.972960           | 6.977826    | 0.0000 |
| X1   | -0.140580   | 0.067809           | -2.073161   | 0.0428 |
| X2   | -0.002638   | 0.008796           | -0.299923   | 0.7653 |
| X3   | 0.027401    | 0.131501           | 0.208369    | 0.8357 |
| X4   | -0.173686   | 0.055938           | -3.104995   | 0.0030 |
| Effects Specification  |             |                    |             |        |
| Cross-section fixed (dummy variables)                        |             |                    |             |        |
| Weighted Statistics  |             |                    |             |        |
| R-squared  | 0.912902    | Mean dependent var | 4.172150    |        |
| Adjusted R-squared   | 0.892683    | S.D. dependent var | 3.282661    |        |
| S.E. of regression   | 0.628247    | Sum squared resid  | 22.10290    |        |
| F-statistic  | 45.15027    | Durbin-Watson stat | 1.610911    |        |
| Prob(F-statistic)  | 0.000000    |                    |             |        |
| Unweighted Statistics  |             |                    |             |        |
| R-squared  | 0.732904    | Mean dependent var | 2.622143    |        |
| Sum squared resid  | 26.97257    | Durbin-Watson stat | 1.554022    |        |

Source: Data processed

F count or F-statistic value: 45.15027 with p value or Prob (F-statistic): 0.0000 <0.05 then accept H1 or that means simultaneously all independent/independent variables are significant in influencing dependent /dependent variables. The value of Adjusted R Square in this study amounted to 0.892683, so a set of independent variables can explain the dependent variable of 0.892683 or 89.27% where>

0.5 then a set of independent variables are strong in explaining the dependent variable. So that there are 100% - 89.27% = 10.73% of the value of the dependent variable that is influenced by factors outside the independent variables in the study. Based on the table can be seen the coefficients for the regression equation of this study, which can be arranged in mathematical equations as follows:

$$Y = 6.78914473712 - 0.140579899548 * X1 - 0.00263818226324 * X2 + 0.0274008243333 * X3 - 0.173686277754 * X4$$

**DISCUSSION**

**Effect of Capital Structure on Profitability Performance in the Banking Industry in Indonesia**

With the results of the research above it can be concluded that the Capital Structure influences the profitability of the banking industry in Indonesia. The results of this study are in line with the research conducted by Endri [4], Sheikh and Wang [29], and Thalib [30] who obtained research results that the

capital structure has a negative effect on profitability. The capital structure determines funding sources for the company. Therefore the capital structure will be an important problem for the company and has a direct impact on the company's financial position, and financial risk.

**Effect of Efficiency on Profitability Performance in the Banking Industry in Indonesia**

The greater the BOPO of a bank shows the greater the amount of operating costs, so that it tends to reduce bank profitability and conversely the smaller the BOPO of a bank shows the more efficient, so the profitability will be higher. Banks with high efficiency indicate banks are more effective in running their businesses. The results of the above study concluded that efficiency did not affect the profitability of the banking industry in Indonesia. This research is in line with the research conducted by Widati [3] and Eng [12] showing that BOPO does not affect the amount of ROA, but it is not in line with the research conducted by Turkey [31], Barus and Sulisty [32] showed a significant negative relationship between BOPO and ROA.

#### **Effect of Credit Risk on Profitability Performance in the Banking Industry in Indonesia**

The higher the NPL ratio, the worse the quality of bank credit which causes greater number of non-performing loans and therefore the bank must bear losses in its operational activities, thus affecting the decrease in profit (ROA) obtained by the bank [5]. In the above research results, Credit Risk does not affect the performance of the profitability of the banking industry in Indonesia. The results of this study are in line with research conducted with Syaichu and Sukarno [6], Putriditya [7] which shows that credit risk does not affect ROA, but is different from the results of research conducted with Sari [6] in which credit risk / NPL affects Profitability / ROA Performance. The BI regulation governing each outstanding increase in loans must be covered with a reserve of earning assets by debiting the earning asset reserve account and crediting the write-off of productive assets, so that any increase in loans provided will increase the cost of earning assets which will eventually affect ROA.

#### **The Influence of Capital Adequacy Ratio / CAR on Profitability Performance in the Banking Industry in Indonesia**

The higher the CAR, the better the bank's ability to bear the risk of any risky credit / productive assets. The results of the research that has been done can be concluded that the Capital Adequacy Ratio / CAR have a significant effect on the performance of the profitability of the banking industry in Indonesia. With the results of the above research is the same as the results of research conducted by Hanania [33] and Usman [34], but not in line with the results of research conducted by Eng [12] in which the CAR variable does not affect ROA. This difference can be caused by the large amount of capital held by banks if not managed effectively and placed in investments that generate profits will not be able to contribute to the level of profitability of the banking sector concerned. The precautionary principle must be taken into account by banks, especially when they will place their funds in investment because banks must be able to maintain

their capital adequacy level in accordance with the standards set by Bank Indonesia so that the soundness of the banking sector is maintained.

#### **CONCLUSION**

Based on the results of the analysis and the results of the discussion in the previous chapter concerning. Then it can be concluded as follows: a) there is a significant influence between Capital Structure and Profitability Performance of the Banking Industry in Indonesia listed on the IDX for the period 2010-2016, b) the results of this study indicate that efficiency does not affect the performance of the profitability of the banking industry in Indonesia which is listed on the IDX for the period 2010-2016, c) the results of this study illustrate that Credit Risk does not affect the profitability performance of the banking industry in Indonesia listed on the IDX for the period 2010-2016, d) The results of this study indicate that there is a significant influence between Capital Adequacy Ratio (CAR) on the profitability performance of the banking industry in Indonesia listed on the IDX for the period 2010-2016.

While the research recommendations are: a) banks should consider the factors of CAR and DER in the context of achieving the expected level of profit by taking into account the level of efficiency and quality of credit disbursement as well as efficiency of operational costs and maintaining the loan interest rates offered, b) It is recommended for further research to use a longer and more recent observation period. The addition of the number of research samples with longer and most recent observation periods is likely to provide results that are closer to the actual conditions c) To improve profitability performance, especially the banking industry, it is hoped that management or investors pay more attention to or control the formation of the company's capital structure. Because the value of a bank's profitability is measured by the value of assets, namely ROA. This is because bank assets mostly come from Third Party Funds. ROA is used to measure the efficiency and effectiveness of a company in generating profits by utilizing its assets.

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