

The Effect of The CAMEL Method on Profitability in General Banking Listed on The Indonesian Stock Exchanges in 2020-2022

Ainun Putri Rayhan¹, Dinda Permatasari², Ikah Afri Cahyani³, Yasmin Fatihatul Azizah⁴, Haidar Tri Putra⁵, Rina Mudjiyanti⁶

Faculty of Economics and Business, Universitas Muhammadiyah Purwokerto, Indonesia

ainunrayhan27@gmail.com, rinamudjiyantie17@gmail.com

ABSTRACT

This research aims to determine the effect of health level using the CAMEL method on profitability. The variables in this research are capital, assets, management, earnings, liquidity, and profitability. These variables are measured by CAR, NPL, NIM, BOPO, LDR, and ROA. This research uses secondary data obtained from the Q2 and Q4 financial reports of banks listed on the IDX for 2020-2022 which were accessed from the websites www.idx.co.id. The population in this study were commercial banks listed on the IDX for the 2020-2022 period. The statistical analysis technique used is Multiple Linear Regression analysis. These results show that CAR and LDR have no effect on ROA. NIM has a positive effect on ROA, while NPL and BOPO have a negative effect. Every year there is bad credit so the NPL is uncertain. NIM affects ROA, so that interest income on productive assets managed by the bank increases so that the possibility of the bank being in trouble becomes smaller and the level of profitability can grow.

Keywords:

CAR, NPL, NIM, BOPO, LDR, ROA

INTRODUCTION

Banking financial institutions have a very important role in the country's economy. A bank is an institution that acts as a financial intermediary between parties who have funds (surplus units) and those who need funds (deficit units) through credit activities and various services provided. The assessment of the bank's health level is used to find out whether the bank is in a very healthy, healthy, moderately healthy, less healthy, or even unhealthy condition. In accordance with Financial Services Authority Regulation Number 4/PJOK.03/2016, bank health must be maintained and improved to maintain public trust. Further corrective actions are taken by the bank and supervision is carried out by the Financial Services Authority (OJK). Whether the bank is in good health or unhealthy when viewed from its profitability. If the condition of the bank is less or unhealthy, immediate action needs to be taken. The assessment

Kompartemen: Jurnal Ilmiah Akuntansi, Maret 2024, Volume 22, No.1, 99-107
of the bank's health can ultimately be determined by the bank's performance condition (www.ojk.go.id).

One of the financial performance ratios used is the profitability ratio. The ability of a company to make a profit at a certain time is called profitability (Kasmir, 2019). Profitability shows how profitable a company is in the long term and plays an important role in the company's future, measured by ROA. ROA measures a company's ability to generate net profit based on a certain level of assets.

Based on Bank Indonesia Regulation No.6/10/PBI/2004, the system for assessing the health level of commercial banks uses the CAMEL method. The assessment consists of 5 (five) aspects which are measured using the capital adequacy ratio (CAR), net performance loan ratio (NPL), net interest margin ratio (NIM), operational cost operating income ratio (BOPO), loan to deposit ratio (LDR). Based on several research results, it shows that CAR has an effect on profitability, while BOPO has a negative effect on profitability. However, Poniman & Banjarnahor (2022) show that partially CAR and LDR have no effect on the level of bank profitability. However, NPL and BOPO have a negative effect, while NIM has a positive effect on profitability.

LITERATURE REVIEW

CAMEL Ratio

The CAMEL ratio according to the Bank Indonesia Banking Dictionary (2015), is the aspect that most affects the financial condition of banks and affects the level of bank health, both conventional and Islamic banking (Syahputra, 2018: 51). The CAMEL ratio will later describe a relationship or comparison between a certain amount with another amount. Therefore, with ratio analysis, a picture of the good or bad financial position of a bank can be obtained (Paputungan, 2016: 733). According to Kasmir (2002), one of the tools used to measure bank health is by analyzing.

The effect of capital adequacy ratio (CAR) on return on asset (ROA)

According to Kasmir (2014), ROA is a financial ratio that shows the return on the use of company assets. ROA is a form of profitability ratio to measure the company's ability to generate profits using total existing assets. CAR is the ratio of bank capital adequacy or the

Kompartemen: Jurnal Ilmiah Akuntansi, Maret 2024, Volume 22, No.1, 99-107
ability of banks in existing capital to cover possible losses in credit or trading of securities (Wardiah, 2013). CAR formula according to Bank Indonesia Circular Letter No. 3/30/DPNP.

CAR is a capital ratio that shows the bank's ability to provide funds for business development purposes and accommodate possible losses caused in bank operations. The greater the ratio, the better. The percentage results illustrate where the greater the capital owned by the bank will affect the level of public trust which leads to an increase in bank profits (ROA) The adequacy of capital owned by the bank makes customers feel safe to trust their funds. it can be concluded that CAR is directly proportional or in line with ROA. This in line with Cuandra & Setiawan (2020); Mustafa (2020); Prayoga et al. (2022); Rizky and Mandagie (2021); Setya et al. (2021); Sunaryo (2020).

H₁: CAR has a positive effect on ROA

The effect of net performing loan (NPL) on return on asset (ROA)

Meanwhile, according to Darmawi (2011), the definition of non-performing loan (NPL) is one measurement of the bank's business risk ratio which shows the amount of non-performing credit risk that exists in a bank. NPL is a credit that can cause problems, not only to banks as credit institutions, but also to credit recipient customers. NPL is the percentage of non-performing loans to total loans issued by banks. A high NPL ratio will increase costs, potentially causing losses to banks. This reason is the basis for research to determine the NPL ratio to be a negative variable because the higher the non-performing loans, the higher the possibility of bank losses or the lower the profitability. Based on the explanation above (Banjarnahor 2022; Cuandra & Setiawan 2020; Devi 2021; Murtiningrum and Wahyuningsih 2024; Rizky and Mandagie 2021) the following hypotheses can be developed:

H₂: NPL has a negative effect on ROA

The effect of net interest margin (NIM) on return on asset (ROA)

Net Interest Margin is a financial ratio used in banking that measures the difference between the interest income generated by banks and the amount of interest paid to their lenders (e.g., depositors), relative to the amount of their assets that generate interest. Net Interest Margin (NIM) is comparison between net interest income to average productive assets. This ratio indicates the bank's ability to generate net interest income by placing productive assets. The greater this ratio, the better the bank's performance in generating interest income. However, it

Kompartemen: Jurnal Ilmiah Akuntansi, Maret 2024, Volume 22, No.1, 99-107
must be ensured that this is not due to high intermediation costs, the assumption is that interest income must be reinvested to strengthen the bank's capital. If NIM increases, interest income on productive assets managed by banks increases so that the possibility of a bank in a problematic condition is smaller and the level of profitability can grow. Several studies have been conducted before, one of which is research conducted by (Banjarnahor 2022) that NIM has a positive effect on ROA.

H₃: NIM has a positive effect on ROA.

The effect of operating expenses operating income (BOPO) on return on asset (ROA)

According to Pandia (2012) defined that operating cost operating income (BOPO) is a ratio called the efficiency ratio is used to measure the ability of bank management to control operating costs to operating income. BOPO is the ratio between operating expenses to operating income. Banks that are efficient in reducing their operational costs will be able to reduce losses due to inefficiencies in managing their business so that the profits obtained will also increase (Prayoga et al. 2022). This reason is the basis for research to determine the BOPO ratio to be a negative variable because the lower the BOPO means the more efficient the bank is in controlling its operational costs. The hypothesis is as follows:

H₄: BOPO has a negative effect on ROA

The effect of loan to deposit ratio (LDR) on return on asset (ROA)

Loan to deposit ratio is a ratio to determine the ability of banks to pay back obligations to customers who have invested their funds with loans that have been given to their debtors. (Banjarnahor 2022) The higher the LDR, the profit obtained by the bank will increase, assuming the bank is able to channel its credit effectively so that it is expected that the number of bad loans is low, it will have an impact on increasing ROA. the hypothesis is as follows:

H₅: LDR has a positive effect on ROA

METHOD

The use of quantitative approaches was used in this study. Which variable is assumed here is an independent variable consisting of several financial ratios, namely CAR, NPL, NIM, BOPO, LDR which affects the dependent variable, namely profitability (ROA). This research uses secondary data, data generated through intermediary media generally in the form of evidence,

Kompartemen: Jurnal Ilmiah Akuntansi, Maret 2024, Volume 22, No.1, 99-107
records, or financial statements of Q2 and Q4 banking companies listed on the Indonesia Stock Exchange (IDX) for 2020-2022 can be accessed from www.idx.co.id websites

The regression method is performed on the model proposed by the researcher using SPSS to predict the relationship between the independent variable and the dependent variable. Linear regression basically shows whether all the independent variables referenced in the model have any influence on the dependent variable. The test was performed using a significant rate of 0.05 (5%). This examination is carried out to determine whether the independent variable tested simultaneously and partially has a positive and significant effect on the dependent variable.

RESULT AND DISCUSSIONS

According to Ghozali (2018: 19) descriptive statistics is an analytical technique that describes or describes research data through minimum, maximum, mean, and standard deviation.

Table 1. Descriptive statistical results

Variable	Minimum	Maximum	Mean	Std. Dev.
CAR	0.19	50.94	26.63	8.32
NPL	0.00	5.23	2.74	1.21
NIM	0.05	7.35	4.21	1.18
BOPO	0.84	99.34	76.29	14.33
LDR	0.88	122.34	77.13	17.97
ROA	0.02	5.80	1.87	1.05

Based on Table 1, the CAR ratio has a value of 26.63% (>8%), then the health level of the bank is considered good. Good NPL standard if NPL value is below 5%. The results of the NPL ratio study have a value of 2.74% (<5%), it is considered good. Because if it is above 5%, it can be said that the amount of bad loans is greater than current loans. The results of the NIM ratio study have a value of 4.21% (<6%). That is, the possibility of a bank in a troubled condition is even greater because the NIM ratio is smaller than the existing standard. This could be due to the previous year's COVID-19 which caused unstable NIM in a bank. Good BOPO standard if the BOPO value is a maximum of 80%. The BOPO ratio that we examined has a value of 76.29% (<80%) which means that the BOPO ratio is good. The result of the LDR study is 77.1284 which means it is quite good. The results of the ROA study have a value of 1.87%. That is, the ROA ratio that we examined did not meet the criteria because it was less than the existing standard.

Results of multiple linear regression analysis

Kompartemen: Jurnal Ilmiah Akuntansi, Maret 2024, Volume 22, No.1, 99-107
 Analisis regresi linier berganda merupakan alat analisis untuk meramalkan nilai pengaruh dua atau lebih variabel bebas terhadap variabel terikat untuk membuktikan ada tidaknya hubungan fungsi antara dua atau lebih variabel bebas dengan satu variabel terikat.

Table 2. Multiple linear regression test

Variable	Coefficient	t	Sig.
Constant	2.17	3.61	0.00
CAR	0.01	0.48	0.63
NPL	-0.34	-3.59	0.00
NIM	0.45	5.65	0.00
BOPO	-0.02	-3.21	0.00
LDR	0.00	0.39	0.69

$$ROA = 2.17 + 0.01CAR - 0.34NPL + 0.45NIM - 0.02BOPO + 0.002LDR$$

According to Sugiyono (2018; 223) the t-test is a temporary answer to the problem formulation, which asks about the relationship between two or more variables. The hypothesis testing design is used to determine the correlation of the two variables studied. Sig value <0.05 and the calculated value of the t-table > is known to be 1.98.

The effect of capital adequacy ratio on return on asset

Based on Table 2, the t test results show that H_{01} is accepted, H_{a1} is rejected. This means that there is no effect of CAR on ROA. This condition is caused by several factors such as capital conditions in the company that are not allocated effectively and efficiently, thus affecting the components or results of asset returns. In addition, although capital in commercial banks is said to be good, it is not accompanied by an increase in the quality and amount of credit provided, so the increase in capital have not an effect on increasing profits. This in line with Banjarnahor (2022); Devi (2021); Dewi (2022); Murtiningrum and Wahyuningsih (2024) which states that CAR has no effect on profitability. This is different from research results (Cuandra & Setiawan 2020; Mustafa 2020; Prayoga et al. 2022; Rizky and Mandagie 2021; Setya et al. 2021; Sunaryo 2020; YP 2022) which stated that CAR has a positive effect to ROA.

The effect of net performing loan on return on asset

Based on Table 2, the t test results show that H_{02} is rejected, H_{a2} is accepted. This means that there is a negative effect of NPL on ROA. The greater the NPL, the greater the risk of credit failure disbursed, which has the potential to reduce interest income and reduce profits, so the

higher the NPL, the lower the ROA will be due to the loss of the bank's opportunity to earn profits. The results of this research are in line with (Banjarnahor 2022; Cuandra & Setiawan 2020; Devi 2021; Murtiningrum and Wahyuningsih 2024; Rizky and Mandagie 2021) which stated that NPL has a negative effect on ROA, which is different from (Prayoga et al. 2022) research results from which states that NPL has an effect on ROA.

The effect of net interest margin on return on asset

Based on Table 2, the t test show that H_{03} is rejected, H_{a3} is accepted. This means that there is a positive effect of NIM on ROA. This means that if the bank can increase efficiency and effectiveness in disbursing funds to productive assets, it will increase the bank's ability to generate greater profitability. If this ratio increases, interest income on productive assets managed by banks increases so that the possibility of a bank in a problem condition is smaller and the level of profitability can develop. The results of research are similar to the results of research from (Banjarnahor 2022; Rizky and Mandagie 2021; Septiyani and Santosa 2022; Sunaryo 2020) which stated that NIM has a positive effect on ROA. Different from research results from (Cuandra & Setiawan 2020; Dewi 2022; YP 2022).

The effect of operating expenses operating income on return on asset

Based on Table 2, the t test show that H_{04} is rejected, H_{a4} is accepted. This means that there is a negative effect of BOPO on ROA. This means that the level of the bank's ability to carry out its operations affects the level of income obtained by the bank. The results of research from (Prayoga et al. 2022) stated that BOPO has a negative influence on ROA because the lower the position of BOPO means that a bank is more effective in managing its operations, with the ability of a bank to achieve profit. So, the bank will continue to be large, on the other hand, if the higher the BOPO, it shows the lack of expertise of the bank in controlling its operations, it will have an impact on the lack of profits obtained by a bank, which in turn is low ROA. The negative influence shown by the BOPO ratio shows that a bank is increasingly inefficient in conducting its business operations, this is in line with (Banjarnahor 2022; Cuandra & Setiawan 2020; Goddess 2022; Khamisah et al., 2020; Septiyani and Santosa 2022; Setya et al. 2021; Y 2022) which states that BOPO has a negative effect on ROA. In contrast to the results of research from (Devi 2021; Tamin et al. 2022) which stated that BOPO has no effect on ROA.

The effect of loan to deposit ratio on return on asset

Based on Table 2, the t test show that the value of sig. LDR to ROA is $0.69 > 0.05$ and t-statistic $0.39 < t\text{-table } 1.98$, then H_0 is accepted, H_a is rejected. This means that there is no significant effect of LDR on ROA. The large number of loans disbursed resulted in a higher LDR value so the bank performance was not optimal in obtaining profits. The bank has not optimized the distribution of credit to the public properly due to the lack of maximum data return so the level of liquidity is not always due to increased profits by analyzing using the ROA ratio. The results of the research are in line with (Banjarnahor 2022; Dewi 2022; Murtiningrum and Wahyuningsih 2024; Septiyani and Santosa 2022; YP 2022).

CONCLUSION

The Adjusted R square value is 0.426 or 42.6% which shows that the variance of CAR, NPL, NIM, BOPO, LDR effect ROA and the remaining 57.4% is effect by other variables. Capital measured by CAR has not effect on profitability (ROA) in Commercial Banks listed on the Indonesia Stock Exchange. That is, changes in CAR have no effect on profitability (ROA) and any changes are not followed significantly. Assets measured by NPLs have a positive and significant effect on profitability (ROA) at Commercial Banks listed on the Indonesia Stock Exchange. This means that changes in NPL can significantly effect Profitability (ROA). Management as measured by NIM has a positive effect on profitability (ROA) in General Banking listed on the Indonesia Stock Exchange. This means that changes in NIM can effect Profitability (ROA). The profit measured by BOPO has a positive effect on profitability (ROA) in General Banking listed on the Indonesia Stock Exchange. This means that changes in BOPO will affect Profitability (ROA). Liquidity as measured by LDR negatively effect the general profitability (ROA) of commercial banks listed on the Indonesia Stock Exchange. That is, changes in LDR have no effect on Profitability (ROA) and any changes are not followed significantly.

RECOMMENDATION

Commercial banks are required to pay attention to and maintain financial performance. Based on the research results, it is known that the NPL, NIM and BOPO ratios influence the level of bank profitability (ROA). Further research can develop research by adding internal and external factor variables, for example adding the financial ratios used, observation period and objects studied as well as adding other variables that are not used in the research.

Acknowledgements

Thanks to (1) Muhammadiyah University of Purwokerto and the implementing committee for providing a forum for us to conduct research so that this research can be carried out; (2) To our supervisor, who has guided us in writing this article and provided support to us until this research was carried out.

REFERENCES

- Banjarnahor, Haposan. 2022. "Dampak camel terhadap profitabilitas perbankan." 16(2):121–29.
- Cuandra, F., & Setiawan, I. 2020. "Factors that affect the profitability of conventional." 2020(4):1105–10.
- Devi, Heidy Paramitha. 2021. "Pengaruh Rasio Kesehatan Bank Terhadap Return on Assets Pada Bank Umum Syariah di Indonesia." 5:1–11.
- Dewi, V. A. 2022. "Pengaruh Camels Terhadap Return on Asset Pada Bank Umum Swasta Nasional Devisa Periode 2017-2020." 10(2016):185–98.
- Khamisah, Nur, Dhiona Ayu Nani, and Izza Ashsifa. 2020. "Pengaruh Non-Performing Loan (NPL), BOPO dan Ukuran Perusahaan terhadap Return on Assets (ROA) Perusahaan Perbankan yang Terdaftar di Bursa Efek Indonesia (BEI)." 3(2):18–23.
- Murtiningrum, Widiastuti, and Erna Wahyuningsih. 2024. "Analysis of the Effect of Financial Ratios on ROA at Commercial Banks on the IDX." 3(1):12–19.
- Mustafa, M. 2020. "Pengaruh Faktor Camel Terhadap Profitabilitas (Roa) Pada Bank Umum Syariah Periode 2014-2018." 3(1).
- Prayoga, Renal Adi, Didit Supriyadi, and Nunung Nurhasanah. 2022. "Pengaruh BOPO , CAR Dan NPL terhadap ROA pada Perbankan BUMN Periode 2015-2021." 4(3).
- Rizky, Yuana, and Octaviani Mandagie. 2021. "Analyzing the impact of CAR, NIM and NPL on ROA of banking companies (an empirical study on bei listed companies)." 1(June):72–87.
- Septiyani, Eka, and Agus Budi Santosa. 2022. "Analisis Pengaruh Rasio Keuangan terhadap Return on Asset (ROA) pada Perusahaan Perbankan Tahun 2017- 2021." 5(3):1368–76.
- Setya, Muhammad, Pratama Sari, Riki Afriansyah, Directory Icmd, Bursa Efek, and Indonesia Populasi. 2021. "Pengaruh CAR, LDR, NIM, BOPO terhadap ROA pada Sektor Perbankan Go Public di BEI 2016-2018 to Deposit Ratio), NIM (Net Interest Margin), BOPO (Beban Operasional Pendapatan)." 17(1):118–26.
- Sunaryo, Deni. 2020. "The Effect of Capital Adequacy Ratio (CAR), Net Interest Margin (NIM), Non-Performing Loan (NPL), and Loan to Deposit Ratio (LDR) against Return on Asset (ROA) In General Banks In Southeast Asia 2012-2018." 1(4):149–58.
- Tamin, Muhammad, Prodi Akuntansi, Fakultas Ekonomi, Universitas Malikussaleh, Lhokseumawe Aceh, Kampus Bukit Indah, Blang Pulo, and Muara Satu. 2022. "Pengaruh Biaya Operasional Pendapatan Operasional (BOPO) dan Financing to Deposit Ratio (FDR) terhadap Profitabilitas Pada Bank Umum Syariah di Indonesia tahun 2016-2020." 1(1).
- YP, H. R. 2022. "Analisis Pengaruh Tingkat Kesehatan Bank dengan Metode CAMEL Terhadap Profitabilitas pada Bank Konvensional yang Tercatat di BEI." 1(4):757–74.