

## Profitability Determinants in Indonesian Conventional Banking Companies

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**Abstract:** This study was conducted to determine the factors that affect banking profitability. The number of samples used in this study were 14 conventional banks listed on the Indonesia Stock Exchange (IDX). The sample selection technique used is purposive sampling. The data analysis used is panel data regression analysis with the help of EViews 9 software. Based on the research results partially show that the Operating Expenses Operating Income (BOPO) and Loan to a loan-to-deposit ratio (LDR) variables have a negative and significant effect on profitability (ROA). Variables that do not affect profitability are Capital Adequacy Ratio (CAR), and Non-Performing Loan Ratio (NPL).

**Keywords:** Profitability, Solvability, Liquidity, and Activity

### 1. INTRODUCTION

As we now know that the impact of the COVID-19 pandemic is very influential in all aspects, especially on health and economic conditions. To maintain its existence and improve its performance, various efforts have been made by the company, one of which is by increasing capital by seeking financing from outside the company. The addition of venture capital aims to increase the company's profit which in the end the company is able to survive in this very unstable condition Ratna (2013).

The role of finance companies is now felt very much needed, in line with the development of the business world and intense competition. financial institutions can be an alternative for the development of several business sectors. The role of the financing services industry is to provide funds for people who need sources of financing funds, both for investment, working capital, and consumption purposes, which are expected to be useful in boosting the national economy. Finance companies are business entities outside banks and non-bank financial institutions that are specifically established to carry out activities that are included in the business field of financing institutions. A finance company is also one of the business entities of a financing institution consisting of the finance company itself, venture capital company, and infrastructure finance company. As an institution financing is a business entity that carries out financing activities in the form of providing funds or capital goods Kurniawati(2017).

Profitability allows companies to survive and thrive, even profitability can be said to be a benchmark for the establishment of a company. With profitability, companies can turn on elements in it such as operations and maintenance Marlinah (2014).

The company's profitability is the company's ability to generate net income from activities carried out in the accounting period. Profit is a description of the performance achieved from the general transaction process carried out by the company during a certain period. Profit is used as an indicator for stakeholders to assess the extent to which management is performing in managing a company. The level of the company's ability to earn profits can be seen and measured by analyzing financial statements through profitability ratios. This ratio shows the success of a company in generating profits. Profitability is also important to strengthen the financial position.

According to the OJK, the financing industry is currently facing quite a tough challenge. In the last 2 years, the financing industry only grew by 4%. There is a phenomenon regarding the decline in net profit at the Financing Institution by 22.9% in the first quarter of 2015. One of the multi-finance companies that experienced a decrease in profit in the first quarter of 2015 was PT Buana Finance Tbk. Antoni Muljono, Finance Director of Buana Finance said that his party experienced a 25% decrease in net profit to Rp25.83B when compared to the same period in 2014 of Rp34.45B (Agustine, 2015) (source: <https://finansial.bisnis.com> accessed on 7 November 2020).

Furthermore, the phenomenon of a decline in net profit at the Performance Financing Institution PT Verena Multi Finance Tbk declined in the third quarter of 2018. This multi-finance company had to be satisfied with the revenue and profit that fell significantly from 2017. Based on the company's financial statements, as of September 2018, Verena Multi Finance recorded revenue of Rp 177.98 billion own 26.7 percent from last year. This decline was also followed by the company's profit performance, which was minus Rp 171.26 billion, whereas in September last year it was still positive at Rp 4.04 billion. President Director of Verena Multi Finance, Andi Harjono, said the decline in the company's revenue and profit performance was due to a decline in the financing portfolio. "The decline occurred due to a decrease in the financing portfolio. However, the company's liquidity condition is still good, because funding comes from Panin Bank and other banks," Andi told Kontan.co.id, Tuesday (6/11). The decline in profit and revenue performance has resulted in a 32.5 percent decline in the company's assets to Rp 1.18 trillion. This condition was further exacerbated by the 50.72% increase in the company's expenses, Rp. 357.92 billion. Verena Multi Finance decided to increase capital by conducting a rights issue II or preemptive rights II (HMETD). The company offered 3.1 billion ordinary shares with a nominal value of Rp 100. The offering price was Rp 140 per share, meaning that Verena could reap fresh funds of Rp 434.3 billion. IBJ Leasing Company (IBJL), a Japanese financing company will act as a standby buyer.

Furthermore, the phenomenon regarding debt policy is alternative funding for a company in increasing productivity and financing business expansion in the future, the Financial Services Authority (OJK) will provide relaxation for the issuance of debt securities to strengthen the financing for finance companies or multi-finance companies. This new rule is a refinement of POJK No. 35/2018 concerning the Implementation of Financing Company Business. With this regulation, he hopes that finance companies can take advantage of this relaxation to support productive financing in the micro, small and medium enterprise (MSME) sector during limited funds from banks.

Researchers use the ROI indicator to analyze the profitability data as a whole and to measure the level of profit invested by the company in capital. ROI is relatively simple, it can be seen from the formula that if you want to increase your return on investment, you only need to reduce costs and increase profits.

This study will look at how to find out the effect of funding from long-term debt, short-term debt, and own capital either simultaneously or partially on the level of profitability in companies engaged in financing institutions where the company is engaged in financing institutions, especially during the pandemic finance company. need the ability to survive. Which of the long-term debt, short-term debt and capital is the most dominant influence on the profitability of a finance company. The banking industry is critical to a country's economic success. This is due to the financial sector's ability to mobilize cash from those with surplus funds and invest it in others in need of financing. When the financial sector grows, so does the amount of finance available to the productive or real sectors, which contributes favorably to economic growth (Supartoyo, *et al*, 2018).

However, the profitability ratio (ROA) is currently improving at a modest rate. According to Indonesian Banking Statistics (SPI) data, banks' profitability ratios would remain flat in 2018. Banks achieved a ROA of 2.36% in February 2018, up only 1 basis point from 2.35% in February 2017. (Kontan, 2018.) Several uncertain global economic factors caused this downturn, the most notable of which was the US central bank's hike in benchmark interest rates (the Federal Reserve or the Fed).

The financial system's instability will have an impact on the intermediation function, which will be unable to function correctly, and the banking sector's inadequate internal conditions will demonstrate the low quality of banking. As a result, the allocation of cash is inefficient, limiting the increase of profit income and undermining the company's success (Sugianto,S. *et.al*, 2020).

In the banking business, return on assets (ROA) is commonly used to measure company success. ROA focuses on the company's ability to generate profits through its activities. Profitability is one of the most relevant measures of a company's performance (Sugianto, *et al.*, 2020; Endri, E. and Fathony, M, 2019). The company's ability to make profits serves as a measure of its performance. Companies with high profitability indicate that they have good prospects and will be able to maintain their operations in the long run. The bank's performance improves as its profitability increases.

Banks must maintain high profitability to promote business efficiency, which preserves bank equity and creates relative profits. If the ratio is profitable, the bank's survival is ensured, and it can attract new participants to the industry, and vice versa. If the bank's profitability is low, it will not survive long since it will be unable to fulfill operating costs. In addition, the lack of profitability will also have an impact on the difficulty of banks in developing their business (Yusriani, 2018; Zulfikar, 2014; Lukitasari and Kartika, 2015; Mismiawati, 2016; Christianto, *et al.*, 2014). Meanwhile, other studies state that BOPO does not affect ROA (Zulfikar, 2014; Rohimah, E, 2021; Rembet, W.E.C *et al.*, 2020).

Probability, as one of the standards for measuring profit, is becoming increasingly important in judging whether the business has run efficiently. A new business's efficiency can be measured by comparing its profit to the assets or capital used to develop it. ROA is used to determine banking businesses' profitability since it measures asset management performance. Mosey, *et al.*, 2018; Alshatti, 2015; Christianto, *et al.*, 2014; Nurfahmi, *et al.*, 2014; Krisnawati dan Chabachib, 2014; Mismiawati, 2016; Lukitasari dan Kartika, 2015; Maria, 2015). Meanwhile, other investigations have concluded that CAR does not affect ROA. (Rahman, R.A *et al.*, 2019; Zulfikar, 2014).

Based on previous research, it states that LDR affects ROA (Rahman and Isynuwardhana, 2019; Yusriani, 2018; Winarso, *et al.*, 2017; Kosoh, *et al.*, 2017; Mismiawati, 2016; Lukitasari and Kartika, 2015; Christianto, *et al.*, 2014; Margaretha and Zai, 2013; Oktaviani, *et al.*, 2019; Pinasti and Mustikawati, 2018; Pratiwi and Wiagustini, 2018). . Meanwhile, other studies state that LDR has no effect on ROA (Zulfikar, 2014; Rohimah, E, 2021; Rembet, W.E.C *et al.*, 2020).

The results of previous research state that NPL affects ROA (Yusriani, 2018; Nurfahmi, *et al.*, 2014; Rahman and Isynuwardhana, 2019; Maulana and Farida, 2018; Inggawati, *et al.*, 2018; Nophiansah, 2018; Winarso, *et al.*, 2017; Kosoh, *et al.*, 2017; Krisnawati and Chabachib, 2014; Margaretha and Zai, 2013). This contradicts the results of research which state that NPL has no effect on ROA (Zulfikar, 2014; Rohimah, E, 2021; Rembet, W.E.C *et al.*, 2020).

There is still a study gap in determining the components that determine banking profitability and assessing the factors that influence the fluctuation average. Profitability and contradictory research outcomes necessitate additional investigation into the aims to be reached in this study.

## 2. THEORY AND HYPOTHESES DEVELOPMENT

### 2.1 Signaling Theory.

According to Brigham and Houston (2015), a signal or signal is an action taken by company management that provides clues to investors about how management views the company's prospects in the future. Then companies with unfavorable prospects will tend to choose to sell shares. Companies with favorable prospects will try to avoid selling shares and seek new capital in other ways such as by way of debt. The manager of a company has an incentive to voluntarily report information to the capital market even though there are no provisions that require it to be explained in signaling theory.

Information published as an announcement will provide a signal for investors in making investment decisions. if the announcement contains a positive value, the market is expected to react at the time the announcement can be received by the market. When information is announced and all market participants have received the information, market participants first interpret and analyze the information as good news or bad news. If the information announcement is a good signal for investors, there will be a change in stock trading volume (Brigham and Houston, 2015).

## 2.2 Profitability

Profitability, or what is called rentability, is the ability of a company to generate profits during a certain period. The higher the profitability of a company, it can be assumed, the stronger the company's ability to survive in competitive economic conditions. There are three ratios to measure the company's income, namely: profit margin, return on total assets (ROA), and return on equity (ROE). The way to measure the bank's ability to use the ROA indicator. An important profitability ratio for banks is a return on assets (ROA), which is used to measure the profitability of banking companies because ROA is more focused on calculating the ability of banking companies' effectiveness in managing the assets owned by the company to generate profits (Mosey et al., 2018). ROA can also measure the efficiency and effectiveness of the company in generating profits by using assets to earn overall profits (Rahman, 2019).

## 2.3 Capital Adequacy Ratio

Capital Adequacy Ratio is a financial ratio related to banking capital where the amount of capital of a bank will affect whether a bank can carry out its operations. The CAR owned by the bank reflects its activities efficiently. The higher the CAR ratio, the more bank capital that can be used. (Aprilia and Handayani, 2018). Bank Indonesia Regulation No. 15/12 / PBI / 2013 concerning the obligation to provide minimum capital for Commercial Banks is set at 6% of risk-weight assets for credit risk.

## 2.4 Operating Expenses Operating Income Ratio

According to Harun (2016), it states that the smaller the Operating Expenses Operating Income ratio, the more efficient the operating costs incurred by the bank concerned so that the possibility of a bank in problematic conditions is smaller. Operating expenses are calculated based on the summation of total interest expense and total operating expenses. And while operating income is the sum of total interest income and total other operating income. In Bank Indonesia Circular Letter No. 15/7 / DPNP / BOPO for Commercial Banks, the Operating Expenses Operating Income ratio that must be maintained by commercial banks is no more than 85%.

## 2.5 Loan to Deposit Ratio

The loan-to-deposit ratio (LDR) is a ratio used to measure the composition of the amount of credit provided compared to the amount of third-party funds (Kasmir, 2016). In other words, the bank's ability to pay its debts, pay back its deposits and fulfill the proposed credit request. In Bank Indonesia Circular Letter No. 15/41/DKNP, the upper limit set by Bank Indonesia on the LDR ratio is 78 percent.

## 2.6 Non-Performing Loan (NPL)

The non-performing loan (NPL) ratio is the ratio between total non-performing loans and total loans given to debtors. If non-performing loans are greater than the amount of credit provided, the bank will have a high NPL. The higher the NPL, the worse the credit quality of the bank, which causes the number of non-performing loans to increase, and the greater the possibility of a bank in problematic conditions (Harun, 2016).

According to Bank Indonesia regulation No. 11/25/PBI/2009, credit risk is the risk due to the failure of debtors and other parties to fulfill an obligation to the bank. Credit risk arises because there are borrowers who cannot fulfill their financial obligations to the bank at maturity. This will cause losses to the bank because the customer's obligations to the bank are not fulfilled. Bank Indonesia regulations state that NPLs are no more than 5% of the Provision for Earning Assets that must be provided by banks to cover losses arising from earning assets.

## 3. RESEARCH METHODS

### 3.1 Research design

Banking companies are listed on the Indonesia Stock Exchange (IDX) 2015-2020 through the website (Financial and

Annual Report, 2020) which is the official website of the Indonesia Stock Exchange (IDX) and the website of the Financing company.

To obtain data and answer the problem to be studied, the authors use secondary data. Secondary data is a data source that does not directly provide data to data collectors, for example through other people or through documents Sugiyono, (2016). The data used in this study is company data on the Indonesia Stock Exchange which was published in 2015-2021.

The population is a generalization area consisting of objects/subjects that have certain qualities and characteristics determined by the researcher to be studied and then draw conclusions Sugiyono, (2017) The population used in this research is a Banking institution sub-sector company listed on the Indonesia Stock Exchange Sugiyono, (2017). BEI in 2015-2020 as many as 42 companies.

The sample is part of the number and characteristics possessed by the population. If the population is large, then researchers can use samples taken from that population, for samples taken from the population must be truly representative Sugiyono, (2017). The sample in this study is part of the total population of Banking Institutions Sub-sector companies listed on the Indonesia Stock Exchange (IDX) in 2015-2021 as many as 14 companies.

### 3.2 Variable Operational Definition

According to Siregar, (2017) the definition of a variable is a construct whose properties have been numbered (quantitative) or it can also be interpreted that a variable is a concept that has various values, both quantitative and qualitative, which can change in value. The variables used in this study are:

#### 1. Dependent Variable (Y)

The dependent variable is often referred to as the output variable, criteria, and consequent. In Indonesian, it is often referred to as the dependent variable. The dependent variable is a variable that is influenced or becomes a result because of the independent variable Sugiyono, (2017). The dependent variable in this study is Profitability. Profitability is a ratio to assess the company's ability to seek profit. The level of company profitability is expressed in Return on Asset (ROA).

#### 2. Independent Variable (X)

Independent variables are often referred to as stimulus, predictor, and antecedent variables. In Indonesian it is often referred to as the independent variable. The independent variable is the variable that affects or is the cause of the change or the emergence of the dependent (bound) variable Sugiyono, (2017). The independent variables in this study are: Capital Adequacy Ratio (CAR), Operating Expenses Operating Income, Loan to Deposit Ratio (LDR) and Non-Performing Loan (NPL).

## 4. RESULTS AND DISCUSSION

### 4.1 Research result.

#### 4.1.1 Descriptive Statistics

Descriptive statistics is a way to describe and present information from a large amount of data. Descriptive analysis is used to analyze data by describing it. This analysis is done by looking at the maximum, minimum, mean, and standard deviation values (Ghozali, 2013). With descriptive statistics, raw data is converted into information that can describe and explain the characteristics of each variable contained in the study, both independent and dependent variables. Then the data for each year is described and compared.



**Table 1. Descriptive statistical test**

	ROA	CAR	BOPO	LDR	NPL
Mean	1.981531	18.73908	81.77398	90.14959	1.492041
Median	1.850000	18.44000	82.41000	88.40000	1.210000
Maximum	4.500000	25.67000	119.4300	163.1000	6.370000
Minimum	-0.300000	10.44000	58.20000	68.29000	0.000000
Std. Dev.	1.082449	3.592926	10.96759	11.41801	1.206858
Observations	98	98	98	98	98

Source: statistical test tool

Based on the results of the descriptive statistical output in table 1, it can be seen that the number N = 98, which means that the amount of data processed in this study is 98 samples consisting of 14 companies sampled consisting of variables Return on Asset (ROA), Capital Adequacy Ratio (CAR), Operating Expenses Operating Income (BOPO), Loan to Deposit Ratio (LDR), and Non-Performing Loan Ratio (NPL).

Return on Asset (ROA) has a maximum ROA value of 4.500000, which was found at the National Pension Savings Bank Tbk in 2013. The minimum value of -0.300000 was found at Bank Arta Graha Internasional Tbk in 2019. The capital adequacy ratio (CAR) has a maximum CAR value of 25.67000. The minimum value is 10.44000. Operating Expenses Operating Income has a maximum value of 119.4300. The minimum value is 58.20000. Next, the loan-to-deposit ratio (LDR) has a maximum value of 163.1000. Finally, the non-performing loan ratio (NPL) has a maximum value of 6.370000. The minimum value is 0.000000.

**4.1.2 Random Effect Model.**

The Random Effect model is a regression method that estimates panel data by calculating the error of the regression model using the Generalized Least Square method.

**Table 2. Random Effect Model**

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section random effects)				
Date: 03/22/23 Time: 23:15				
Sample: 2015 2021				
Periods included: 7				
Cross-sections included: 14				
Total panel (balanced) observations: 98				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	9.196936	0.565818	16.25424	0.0000
CAR	0.005146	0.012364	0.416168	0.6782
BOPO	-0.079515	0.005822	-13.65757	0.0000
LDR	-0.007828	0.003636	-2.152683	0.0339
NPL	-0.069627	0.044946	-1.549121	0.1247
Effects Specification				
			S.D.	Rho
Cross-section random			0.330440	0.5766
<u>Idiosyncratic random</u>			0.283131	0.4234

Weighted Statistics			
R-squared	0.773282	Mean dependent var	0.610504
Adjusted R-squared	0.763530	S.D. dependent var	0.592153
S.E. of regression	0.287953	Sum squared resid	7.711287
F-statistic	79.30015	Durbin-Watson stat	1.200184
Prob(F-statistic)	0.000000		
Unweighted Statistics			
R-squared	0.829657	Mean dependent var	1.981531
Sum squared resid	19.36030	Durbin-Watson stat	0.478038

Source: statistical test tool

Random effect test results can be seen with the following equation:

$$ROA = C + 0.416168 CAR - 13.65757 BOPO - 2.152683 LDR - 1.549121$$

Based on the results of the random effect model calculation above, the following results are obtained: CAR has no effect, BOPO has a negative and significant effect, LDR has a negative and significant effect, and NPL has no effect. It can be said to be significant with the assumption of an alpha value of 0.05 or 5 percent that researchers use with a confidence level of 95 percent, where the probability value  $< \alpha$  (0.05) is declared significant, if the probability value  $> \alpha$  (0.05) can be declared to have no effect on the variables studied.

#### 4.1.3 Chow test

In the Eviews 9.0 software, the Chow test is carried out by looking at the probability F value in the output results. The basis for decision-making is that if the probability value  $F \geq 0.05$ , then  $H_0$  is accepted and  $H_a$  is rejected, which means that the more appropriate model to use is the common effect, but if the probability value  $F < 0.05$ , then  $H_a$  is accepted and  $H_0$  is rejected, the better model to use is the fixed effect model. From data processing using Eviews 9.0, the results of the probability value  $< \alpha$  (0.05) are 0.0000, thus  $H_a$  is accepted and  $H_0$  is rejected, so the better model to use is the fixed effect model in estimating panel data compared to the common effect model. Then proceed with the Hausman test to choose whether to use a fixed effect or a random effect to be used in panel data regression.

#### 4.1.4 Hausman Test

The Hausman test is a statistical test to determine whether the fixed effect or random effect model is most appropriate to use if, from the Chow test results, it is determined that the fixed effect method is used to estimate panel data regression. The test is conducted using the Hausman test. In this test, the basis for taking the chi-square probability value is  $< 0.05$ , then  $H_a$  is rejected and a fixed effect is used, and vice versa, if the chi-square probability value  $> 0.05$ , then  $H_a$  is accepted and a random effect is used. From data processing using Eviews 9.0, the result is 0.1259. It shows that in this study, the random effect model is better used for estimating panel data than the fixed effect model. Because this test states the correct random effect, the LM test is needed as the final stage in determining the most appropriate model between the common effect and random effect models.

#### 4.1.5 Lagrange multiplier Test

This model is used to determine whether the random effect model is better than the common effect (OLS) method using the Lagrange multiplier (LM) test. Lagrange multiplier (LM) is a test to determine whether the random effect model or the common effect (OLS) model is the most appropriate to use. A random effect significance test was developed by Breusch Pagan. The Breusch-Pagan method for the random effect significance test is based on the residual value of the OLS method.

Table 3. Lagrange multiplier Test

Lagrange Multiplier Tests for Random Effects  
Null hypotheses: No effects  
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided  
(all others) alternatives

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	65.93948 (0.0000)	0.125787 (0.7228)	66.06527 (0.0000)
Honda	8.120313 (0.0000)	0.354665 (0.3614)	5.992715 (0.0000)
King-Wu	8.120313 (0.0000)	0.354665 (0.3614)	4.856590 (0.0000)
Standardized Honda	9.729410 (0.0000)	0.786579 (0.2158)	3.752848 (0.0001)
Standardized King-Wu	9.729410 (0.0000)	0.786579 (0.2158)	2.591645 (0.0048)
Gourierioux, et al.*	--	--	66.06527 (< 0.01)

\*Mixed chi-square asymptotic critical values:

1%	7.289
5%	4.321
10%	2.952

Source: statistical test tool

So, to decide which model is used, this LM test is carried out. This LM test is based on the chi-square distribution with a degree of freedom equal to the number of independent variables. If the LM statistic value is greater than the critical value of the chi-squares statistic, then we reject the null hypothesis, which means that the correct estimation for the panel data regression model is the random effect method rather than the common effect method. Conversely, if the LM value is smaller than the chi-squares statistic as a critical value, from data processing using Eviews 9.0, a cross-section probability value of  $0.0000 < \alpha (0.05)$  is obtained, so  $H_0$  is rejected and  $H_a$  is accepted. In this study, the random effect model is better used in estimating panel data than the common effect model.

#### 4.1.6 Coefficient of Determination Test ( $R^2$ )

Based on the adjusted value ( $R^2$ ) in table 6.4 of the random effect test results of 76%, it means that CAR, BOPO, LDR, and NPL can explain their relationship to ROA, while the remaining 24% is explained by other variables outside the research model.

#### 4.1.7 Hypothesis Testing Results

Based on the random effect test results, the t-test results with t-statistic and probability can be explained as follows: If the CAR variable obtained a t-statistic value of 0.416168 with a probability value of  $0.6782 > \alpha (0.05)$ , then  $H_0$  is accepted and  $H_1$  is rejected. The Operating Expenses Operating Income variable obtained a t-statistic value of -13.65757 with a probability value of  $0.0000 < \alpha (0.05)$ , then  $H_0$  is rejected and  $H_2$  is accepted. The LDR variable obtained a t-statistic value of -2.152683 with a probability value of  $0.0339 < \alpha (0.05)$ , so  $H_0$  is rejected



and  $H_a$  is accepted. The NPL variable obtained a t-statistic value of -1.549121 with a probability value of  $0.1247 > \alpha (0.05)$ , then  $H_0$  is accepted and  $H_s$  is rejected. This shows that the non-performing loan ratio (NPL) variable has no effect on profitability (ROA) in the banking sector between 2015 and 2021.

## 4.2 Discussion

### a) The capital adequacy ratio (CAR) on Profitability

Based on the results of the hypothesis above, CAR does not affect profitability (ROA), implying that a rise in CAR does not always increase ROA. This is because banks have not been effective in managing their capital to maximize profitability, such as by producing non-loan goods and services that generate fee-based revenue. The high value of CAR indicates that the bank is not optimizing its capital, resulting in a large amount of idle cash, inadequate returns, and even costs.

Thus, it may be argued that the amount of the bank's capital adequacy (CAR) does not always determine the size of the bank's earnings. Banks with huge capital must properly employ and maximize their capital to create profits. The results of this study are consistent with the research of Oktavianai, *et.al* (2019), Pinasti and Mustikawati (2018), Pratiwi and Wiagustini (2018), and Nophiansah (2018), which states that capital adequacy ratio (CAR) has a negative but insignificant effect on return on assets (ROA).

### b) The Effect Operating Expenses and Operating Income on Profitability

The results of the hypothesis above suggest that Operating Expenses and Operating Income have a negative and significant effect on profitability (ROA). The negative in the BOPO ratio value can be understood as the Operating Expenses Operating Income value being inversely proportional to the ROA value, which means that as the Operating Expenses Operating Income ratio increases, the ROA decreases and vice versa.

According to Harun (2016), this is because raising operating income and lowering operating costs are going to increase bank profits, which will raise income. The lower the Operating Expenses Operating Income ratio, the more efficient the bank's operating costs are, reducing the chance of a bank being in trouble. Therefore, banks need to pay more attention and cut operating costs because it may negatively impact profits. The results of this study are consistent with the study of Oktaviani, *et al*, (2019), Pinasti and Mustikawati, (2018), Inggawati, and *al*, (2018), Pratiwi and Wiagustini, (2018), Sinung, *et.al*, (2016), Maria, (2015), Nurfahmi and Rahardjo, (2014), Margaretha and Zai, (2013), which stated that Operating Expenses Operating Income had a negative and significant influence on Return on Asset. (ROA).

### c) The Effect Loan of Deposit Ratio (LDR) on Profitability

The results of the hypothesis show that the LDR ratio has a negative and significant impact on profitability (ROA). The negative influence on the value of the LDR ratio can be understood as many unemployed funds that have not been circulated in credit, even though liquidity is good. However, this will have a direct impact on the bank's income reduction because most bank funds are received from third parties and channelled through credit.

The higher the LDR, the greater the bank's profits and the more effectively the bank can channel credit, and the lower the LDR, the lower the funds channeled, assuming the bank has followed the Bank of Indonesia's rules, which state that the minimum LDR that the bank holds is 80% and the maximum LDR is 110%. The large amount of credit routed will raise the bank's profit while also improving its performance, resulting in a large distribution of funds. Thus, the results of this study are consistent with Ranga and Farida, (2018), Ratna, *et.al* (2018), Daniel, *et.al* (2016), Ali, 2015, Harish and Siddiq, 2014, Krisnawati and Chabachid, 2014, which stated that Loan Of Deposit Ratio (LDR) had a negative but significant impact on Return On Asset. (ROA).

### d) The Effect of Non-Performing Loan Ratio (NPL) on Profitability

Non-Performing Loan (NPL) is defined as the ratio of total problem credit to total credit extended to the debtor. If the problem credit exceeds the amount of credit extended to a debtor, the bank will have a large Non-

Performing Loan. If a bank's Non-Performing Loan is bigger, it will increase the financing of both productive assets and other charges.

Thus, it can be stated that the high level of credit difficulties causes a delay in the bank's expected income, resulting in a fall in the bank's profitability rate. As a result, the bank should be more selective in issuing credit and evaluate the debtor's ability to repay the loan through reviews and assessments such as credit score and credit improvement. Thus, the findings of this study are consistent with those of Mismiwati (2016), Sinung et al. (2016), Lukitasari and Kartika (2015), and Maria (2015), who found that the non-performing loan ratio (NPL) has a negative but not significant impact on return on assets (ROA).

### 4.3. Research Findings

The results showed that the Operating Expenses and Operating Income and Loan of Deposit Ratio variables had relevance to profitability in the banking sector in 2015-2021.

### 4.4 Conclusion

The Operating Expenses and Operating Income and Loan of Deposit Ratio have a negative and significant effect on the profitability (ROA) of banking sector companies listed on the Indonesia Stock Exchange (IDX) for the 2015-2021 period.

### 4.5 Recommendation

Further research could uncover more parameters connected with bank profitability. And can collect samples of companies from other sectors that can be added in the middle or after the epidemic.

The banking company must continue to enhance the stock price via return on assets (ROA), and then the bank must be able to generate profits through higher sales, which can attract clients and increase the company's profitability.

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