

## **Analysis of Factors Affecting Profitability of Bank Book IV Period 2017-2019**

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### **Abstract**

Bank profitability remains a research topic without a common consensus. This study aims to identify and examine the factors that affect bank profitability. The subject of this research is banks classified as BUKU IV. Five commercial banks classified under BUKU IV were selected as the sample, with monthly observations from 2017 to 2019. The research hypotheses were tested by using panel data regression analysis with fixed effect. The results of the indicate that cost efficiency, interest rates, and exchange rates affect profitability; while credit risk, liquidity risk, capital strength, and inflation have no statistical effect.

Keywords: ROE, BOPO, BI 7-day, Repo Rate, IDR/USD

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### **1. Introduction**

Similar to profit-oriented business entities, banks aim to generate income through their role as financial intermediaries. They mobilize funds from the public in the form of deposits and allocate these resources as credit. With ongoing technological advancements, banking operations have evolved beyond traditional practices, although regulatory frameworks governing intermediation remain in place. Consequently, bank profitability is no longer derived solely from interest rate spreads. Extensive research has been conducted on the determinants of bank profitability, yielding diverse and sometimes conflicting results. To date, there is no universally accepted conclusion among scholars regarding the dominant factors influencing bank performance.

The study conducted by Le and Ngo highlights that three variables representing the scale of information technology-based banking products and services significantly influence bank profitability [1]. These variables include the number of cards issued, the number of automated teller machines (ATMs), and the number of point-of-sale (POS) terminals. Furthermore, their findings indicate that the net interest margin (NIM) is positively affected by non-performing loans (NPL) and market capitalization, while it is negatively influenced by capital adequacy and market strength. In addition, gross domestic product (GDP) growth was found to have a positive impact on return on assets (ROA), whereas factors such as cost overhead, market power, and financial crises have a negative effect on ROA. Complementing these findings, the study by Saona reveals that the ratio of market capitalization to GDP, GDP growth, and income diversification negatively affect bank profitability [2]. On the other hand, asset diversification, bank size, the volume of credit disbursed, the volume of deposits collected,

credit risk, and inflation were shown to have a positive influence on bank profitability.

Bekhet et al. found that internal bank variables influencing profitability include credit risk, operational risk, and diversification. In contrast, bank size, capital adequacy, and leverage do not show a significant impact [3]. Among external factors, inflation, market concentration, and market capitalization are found to affect profitability, while GDP does not exhibit any significant influence. Ekpu and Paloni examined four internal and two external bank-specific factors. Regarding credit risk, the ratio of credit loss reserves to total loans negatively affects profitability, as measured by return on average equity (ROAE) [4]. In terms of liquidity risk, only the ratio of marketable securities to total assets has a significant effect, and in the opposite direction. Capital adequacy also has a negative relationship with profitability, whereas cost efficiency contributes positively.

In Indonesia, studies on bank profitability have also been widely conducted. The research by Jumono and Fathmala, found that capital adequacy, non-performing loans (NPL), and GDP growth significantly affect the profitability of the banks under study [5]. Conversely, the loan-to-deposit ratio (LDR), bank size, and inflation were not statistically significant, and therefore cannot be considered as determinants of profitability. Rahayu et al. reported that NPL, as a proxy for credit risk, positively influence ROA, while LDR, representing liquidity risk, exerts a negative effect [6]. Other variables influencing ROA include NIM, operating expenses to operating income ratio (BOPO), and corporate governance. Furthermore, Rahmawati and Rahmawati and Husnayetti found that LDR negatively impacts ROE, while the debt-to-equity ratio (DER) has no statistically significant effect on profitability at Bank Mandiri [7].

Building upon the findings of Ekpu and Paloni and other related studies, this research aims to statistically analyze the effects of the credit loss reserve ratio to total credit, loan-to-deposit ratio, total assets to total equity ratio, and total operating costs to total operating income ratio on bank profitability, as measured by return on equity (ROE) [4]. In addition, it will assess the impact of inflation, the reference interest rate, and the exchange rate. In addition, this study will examine the effects of inflation, the reference interest rate, and the exchange rate. These last two variables reference interest rates and exchange rates have rarely been included as independent variables in prior studies, despite specific recommendations by Bekhet et al. for their inclusion in future research [3].

This research contributes to the body of knowledge by identifying and empirically testing factors influencing bank profitability. For bank management, the findings are expected to provide guidance to enhance performance in generating profits. For regulators and policymakers, the results aim to reflect current banking conditions related to profitability. This study focuses on commercial banks classified as BUKU IV according to POJK Number 6/POJK.03 /2016. The sample consists of BUKU IV banks during the period from January 2017 to December 2019. The observation period is limited to the end of 2019 to avoid the statistical distortions caused by the COVID-19 pandemic crisis in 2020, which could affect the generalizability of the findings.

## 2. Research Method

This study aims to analyze the factors that affect the profitability of BUKU IV banks in Indonesia. In the previous section, a literature review was conducted to identify several variables that may influence bank profitability. These variables include the ratio of loan loss reserves to total credit, which serves as a proxy for credit risk; the ratio of marketable securities to total assets, representing liquidity risk; the ratio of total equity to total assets, indicating capital adequacy; and the ratio of total costs to total income, reflecting cost efficiency. In addition to these internal financial indicators, several macroeconomic variables were also considered, namely inflation, the benchmark interest rate, and the exchange rate. The first four financial variables were obtained from the banks' financial statements, while inflation data was sourced from the Central Statistics Agency (BPS). Meanwhile, data on the benchmark interest rate and exchange rate were acquired from Bank Indonesia.

The population in this study includes all banks in Indonesia, while the sample is limited to banks in the BUKU IV category. The rationale for this selection is that BUKU IV banks have the highest total assets and exhibit operational similarities, making them a relatively homogeneous group. One of the defining criteria of BUKU IV banks is having a minimum core capital of IDR 30 trillion (POJK No. 6/POJK.03/2016). This homogeneity helps minimize estimation and statistical analysis errors, particularly related to

normality and heteroscedasticity. As of the end of 2020, there were eight commercial banks classified under the BUKU IV category [7].

The sample in this study was selected using a purposive sampling technique based on specific criteria. These criteria included the availability of monthly data up to December 2019 and the requirement that the banks be classified as part of the BUKU IV group during the period from 2017 to 2019. The observation period was deliberately set to end in 2019 in order to avoid potential distortions caused by the economic crisis in 2020 due to the COVID-19 pandemic, which could compromise the statistical power and generalizability of the research findings. Monthly observations were employed to increase the number of data points and enhance the robustness of the analysis. Based on these criteria, the sample consisted of five banks: PT Bank Rakyat Indonesia Tbk, PT Bank Central Asia Tbk, PT Bank Mandiri Tbk, PT Bank Negara Indonesia Tbk, and PT Bank CIMB Niaga Tbk, with the observation period covering January 2017 to December 2019 [8].

This research falls under the category of quantitative research. Quantitative research is characterized by its objective nature and its focus on measuring phenomena through the use of numerical data [7]. In this study, data were analyzed using panel data regression, which involves regression analysis on panel data comprising cross-sectional observations that are tracked over multiple time periods. Panel data regression offers several advantages, including the ability to account for the heterogeneity of cross-sectional units and the provision of more informative and varied data. It also helps reduce multicollinearity among variables, increases degrees of freedom, and enhances the efficiency of the estimations [8]. The panel data regression model used in this study is formulated as follows

$$ROE_{it} = \beta_0 + \beta_1 RKREDIT_{it} + \beta_2 LDR_{it} + \beta_3 CAR_{it} + \beta_4 BOPO_{it} + \beta_5 INFLASI_{it} + \beta_6 BI7DRRR_{it} + \beta_7 KURS_{it} + \varepsilon_{it}$$

Where ROE is the return on equity. The independent variables are defined as follows; RCREDIT represents credit risk, proxied by the ratio of loan loss reserves to total credit; LDR is the loan-to-deposit ratio, serving as a proxy for liquidity risk; CAR is the capital adequacy ratio, measured by the ratio of total equity to total assets; BOPO is the ratio of total operating costs to total operating income, used as a proxy for cost efficiency; INFLATION refers to the monthly inflation rate; BI7DRRR is the Bank Indonesia 7-Day (Reverse) Repo Rate, used as a proxy for the benchmark interest rate; and EXCHANGE refers to the middle exchange rate of IDR to USD. The coefficient  $\beta_0$  denotes the intercept or constant term of the model, while,  $\beta_1$  through  $\beta_7$  represent the regression coefficients for each explanatory variable, and The term  $\varepsilon_{it}$  captures the error term or residuals for bank  $i$  at time  $t$ . Subscript  $i$  refers to cross-sectional units (banks), and  $t$  refers to time periods.

In this study, three models were employed in the panel data regression analysis: the common effects model, the fixed effects model, and the random effects model. To determine the most appropriate model for the data, a series of statistical tests were conducted, including the Chow test, the Hausman test, and the Lagrange Multiplier (LM) test. Once the optimal model was identified based on these tests, hypothesis testing was carried out using the t-test on the selected regression model, ensuring that it met the necessary classical assumptions. All data analyses were performed using EViews version 10 software [9].

### 3. Result and Discussion

Statistical tests were carried out in order to achieve the research objectives, namely statistically testing the influence of each factor that is thought to affect bank profitability. The factors were identified by literature study as described in the previous section. The independent variables tested in this study are credit risk (RKREDIT), liquidity risk (LDR), capital strength (CAR), cost efficiency (BOPO), inflation, benchmark interest rate (BI7DRRR), and exchange rate (KURS). Meanwhile, profitability as the dependent variable is measured using return on equity (ROE). Panel data regression analysis is described as follows.

In panel data regression analysis, there are three models, namely the common effect model, fixed effect, and random effect. This study does not estimate the random effect model due to the characteristics of the research data that have a number of cross-sectional observations less than the number of time series. Therefore, this study estimates the common effect and fixed effect models and a statistical test (Chow test) was conducted to find out which model was suitable for use. Based on the results of the Chow test, the value of Chi-square cross-section Prob. (0.0033) is smaller than the significance level (0.05). This shows that the fixed effect model is more appropriate to use see Table 1.

Table 1. Chow Test Result

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.844764	(4,168)	0.0051
Cross-section Chi-square	15.76644	4	0.0033

Based on the Chow test, it was decided that the fixed effects model was the most appropriate. Therefore, this study uses a fixed effect model to test the research hypothesis. The fixed effect model is also known as the least square dummy variable (LSDV), which is a model that uses a dummy variable to determine the differences between observations [10]. The fixed effect model uses the ordinary least square method so it needs to comply with the classical assumptions. The fixed effects model used has fulfilled the assumption of residual normality and there is no multicollinearity among the independent variables. The normality test aims to test whether in the regression model, the confounding or residual variables have a normal distribution or not [11]. The residuals in the regression

model used have a normal distribution. This is indicated by the Jarque-Bera statistical probability value (0.078800) which is more than the significance level (0.05). The correlation coefficient between independent variables ranged from -0.667070 to 0.765809. This value indicates that the independent variables do not have a perfect correlation.

On the other hand, the classical assumption that requires homoscedasticity is not fulfilled in the fixed effect model. This is indicated by the presence of an independent variable which statistically significantly affects the absolute value of the residual. The classical assumption that requires no autocorrelation is also not fulfilled. The Durbin-Watson statistical value is 0.738208 which is less than the dL table value (1.6761). This indicates a positive autocorrelation.

The existence of heteroscedasticity and autocorrelation causes the estimator produced by the fixed effect regression model to be no longer efficient [12]. Therefore, the regression model needs to be refined so that the resulting estimator is the best, linear, and unbiased estimator (best, linear, unbiased estimator or BLUE). To overcome the problem of violating the classical assumption, this study uses weighting, namely cross-section weight. The fixed effect regression model with cross-section weight is used as the basis for testing the research hypothesis see Table 2.

Table 2. Summary of Hypothesis Testing

Variable	Coefficient	Prob.	Description
C	-526.2391	0.0000	
Credit risk	0.9106	0.1762	H <sub>1</sub> not supported
Liquidity risk	0.1613	0.1292	H <sub>2</sub> not supported
Capital strength	0.3822	0.4620	H <sub>3</sub> not supported
Cost efficiency	-0.7099	0.0000	H <sub>4</sub> supported
Inflation	0.0292	0.9745	H <sub>5</sub> not supported
Interest rates	-2.8089	0.0000	H <sub>6</sub> supported
Exchange rate	60.2533	0.0000	H <sub>7</sub> supported
R <sup>2</sup>	0.5088		
Adjusted R <sup>2</sup>	0.4766		
F-statistic	15.8182		
Prob (F-statistic)	0.0000		

Simultaneous Test (F Test), the F statistic value of 15.8182 with a probability less than the significance level (0.05) indicates that all independent variables (RCREDIT, LDR, CAR, BOPO, INFLATION, BI7DRRR, and LOG(EXCHANGE)) together affect the dependent variable (ROE). Coefficient of Determination (R<sup>2</sup>), the adjusted R<sup>2</sup> value of 0.4766 indicates that the variation of the dependent variable (ROE) which can be explained by the independent variables (RCREDIT, LDR, CAR, BOPO, INFLATION, BI7DRRR, and LOG (EXCHANGE)) is 47.66%. The rest, amounting to 52.34%, the variation of ROE is explained by other variables not included in the model. Partial Test (t-Test), the fixed effect regression model can be written mathematically as follows.

$$ROE_{it} = -526.2391 + 0.9106 \times RKREDIT_{it} + 0.1613 \times LDR_{it} + 0.3822 \times CAR_{it} - 0.7099 \times BOPO_{it} + 0.0292 \times INFLASI_{it} - 2.8089 \times BI7DRRR_{it} + 60.2533 \times LOG(KURS)_{it}$$

Where the weighted fixed effects estimation shows that six out of the seven independent variables in the model demonstrate directions of influence consistent with the theoretical expectations outlined in the research hypotheses. These include credit risk, liquidity risk, capital adequacy, cost efficiency, the central bank policy rate (BI7DRRR), and the exchange rate. The signs of their coefficients align with the hypotheses, indicating that these factors tend to behave as predicted in relation to bank profitability.

However, only three of these variables namely cost efficiency, benchmark interest rate, and exchange rate were found to have a statistically significant effect on ROE, as indicated by p-values below the standard 0.05 significance threshold. Meanwhile, the inflation rate, although positively associated with ROE, did not exhibit a statistically significant impact within the model, suggesting that its role in influencing profitability during the observed period may have been indirect or overshadowed by other macroeconomic conditions.

The constant term in the regression, which is estimated at -526.2391, implies that in the hypothetical absence of all explanatory variables, banks would experience a significant decline in profitability, reflected in a negative ROE. Although such a scenario is unrealistic in practice, this result highlights the critical role played by both internal financial ratios and macroeconomic indicators in sustaining the profitability of BUKU IV banks. Based on the t-test findings presented in Table 2, it can be concluded that only hypotheses H4 (cost efficiency), H6 (interest rate), and H7 (exchange rate) are empirically supported. The remaining hypotheses- H1 (credit risk), H2 (liquidity), H3 (capital strength), and H5 (inflation)-are not statistically substantiated by the data.

In terms of explanatory power, the coefficient of determination ( $R^2$ ) in this study is recorded at 0.5088, slightly below the  $R^2$  value reported, which stood at 0.5129. This suggests that incorporating the interest rate and exchange rate variables in the current model did not significantly increase its ability to explain variation in bank profitability. One possible reason lies in differences in model design and variable selection; certain variables used in the prior study could not be adopted here due to contextual or data-related constraints, prompting necessary adjustments in the model structure.

Credit risk, which is proxied by the ratio of reserve for credit losses to the amount of credit, has a positive influence on the profitability of BUKU IV Bank in 2017-2019. The direction of this influence is in accordance with the research hypothesis (H1). The high credit risk as indicated by the increase in credit loss reserves makes banks charge higher loan interest to customers. This will then increase the spread and ultimately increase the profitability of the bank [13]. The results of this study indicate that credit risk does not statistically significantly affect the profitability of BUKU IV Banks during 2017-2019. The insignificant

positive effect of credit risk on bank profitability was also found in the research of [14][15][16] who found that credit risk is not a determinant of bank profitability when the bank operates at a high diversification level. Referring to Lin et al. the results of this study indicate that BUKU IV banks operate at a high level of diversification because these banks have a wide customer network considering the large size of the assets managed [15]. The amount of assets under management is more than IDR 30 trillion because to be categorized as a BUKU IV Bank, a bank must have a core capital of at least IDR 30 trillion. The large number of assets that can be managed allows the bank to reach more market share so that the level of diversification is high.

The behavior of BUKU IV Banks during 2017-2019 tends to reduce risk in lending. This is indicated by a downward trend in the ratio of reserve for credit losses to total loans at Bank BCA, CIMB Niaga, Mandiri, and BNI, but not at Bank BRI. Bank BRI actually tends to take a higher credit risk. The behavior of BUKU IV banks which tend to reduce credit risk is accompanied by a decrease in profitability at some BUKU IV banks. However, credit risk does not have a statistically significant effect on profitability. This shows that not all banks can optimally utilize low-risk loans. There are some banks in certain periods that actually have a trend of profitability growth by utilizing low-risk loans. That is why the positive effect of credit risk on profitability is not statistically significant [17].

Liquidity risk as proxied by the loan-to-deposit ratio has a positive influence on the profitability of BUKU IV Bank in 2017-2019. The direction of this influence is in accordance with the research hypothesis (H2). The loan-to-deposit ratio (LDR) reflects the ratio between the amount of credit disbursed by the bank to the amount of deposits that can be collected from the public. If the bank distributes the funds collected in large enough amounts in the form of credit, the bank will also get a large profit from credit interest. Banks that have large third party funds have the opportunity to channel large amounts of credit so that they can increase profitability [18].

The results of this study indicate that liquidity risk does not statistically significantly affect the profitability of BUKU IV Banks during 2017-2019. This is contrary to the research of Rahmawati and Husnayetti [7]. The positive but insignificant effect of liquidity risk on bank profitability was also found in the research of [4]. A bank with a high LDR indicates that the bank disburses more credit than the proportion of third party funds. The more loans disbursed, the less funds available to meet depositors' obligations so that liquidity decreases. This means that the bank has a higher liquidity risk. The effect of liquidity risk on the profitability of BUKU IV Banks is not significant, indicating that the bank is not able to manage the loans it disburses.

The LDR value of BUKU IV Banks during 2017-2019 on monthly observations tends to be constant at



75.52% to 100.82% with an average of 90.10%. Meanwhile, the LDR recommended by Bank Indonesia is 78% (lower limit) to 92% (upper limit). This indicates that BUKU IV banks tend to have high liquidity risk because they channel an average of 90.10% of third party funds into loans. However, BUKU IV Bank is not able to manage the loans it disburses. Bank CIMB Niaga is the bank with the highest LDR value during the observation period, namely 89.13%-100.82% with an average of 94.82%. On the other hand, the high LDR was not accompanied by an increase in ROE, as happened to Bank CIMB Niaga. ROE growth tends to have a flat and declining trend since 6 months towards the end of the observation. Likewise, BNI Bank has an LDR between 85.58% -96.86% with ROE growth which tends to be constant but has decreased since 10 months before the end of the observation. This is thought to make the positive influence of liquidity risk on profitability statistically insignificant.

Capital strength as proxied by the capital adequacy ratio (CAR) has a positive influence on the profitability of BUKU IV Bank in 2017-2019. The direction of this influence is in accordance with the research hypothesis (H3). The stronger the bank's capital, the higher the profitability of the bank due to the low cost of funding caused by the low risk of bankruptcy [19]. The results of this study indicate that capital strength statistically does not significantly affect the profitability of BUKU IV Bank during 2017-2019. On the other hand, the insignificant effect of capital strength on bank profitability is also found. Bank BUKU IV has become the public's trust which is indicated by the increasing strength of bank capital. However, this cannot be put to good use because banks are unable to find other profitable investment opportunities [19].

The CAR value of BUKU IV Banks during 2017-2019 in monthly observations tends to be constant at 13.64% to 18.84% with an average of 15.80%. A constant trend is seen in Bank CIMB Niaga, Bank Mandiri, and Bank BRI during the observation period. Bank BCA and Bank BNI, on the other hand, have a constant trend that tends to increase at the end of the observation year. The trend that tends to increase during the last year of observation cannot be utilized by Bank BCA and Bank BNI to increase profitability. This is indicated by the constant trend of ROE growth in the two banks during the observation period. This is thought to make the positive influence of liquidity risk on profitability statistically insignificant.

The ratio of operating expenses to operating income (BOPO) has a negative effect on the profitability of BUKU IV Banks in 2017-2019 and is statistically significant. These results are in accordance with the research hypothesis (H4). The high BOPO indicates that the bank is not efficient in managing its operational costs. A high BOPO can mean that the bank uses more operational costs to generate the same operating income or with the same operational cost, the bank generates less operating income. This causes the

bank's profitability to decline. The results of this study are in accordance with the results of previous studies [4][5] and also in accordance with the concept of efficiency that has been proposed in the development of research hypotheses.

During the observation period, BUKU IV Banks used an average of 71.45% of operating income as operational costs each month where Bank BCA had the lowest average, which was 61.57%, while Bank CIMB Niaga had the highest average BOPO. high, which is equal to 83.02%. Bank BCA has an average ROE during the observation period of 9.23%, which ranks second out of 5 other banks. In contrast to Bank BCA, Bank CIMB Niaga has an average ROE of 4.47% and ranks last in terms of profitability among the 5 sample banks. This shows that banks that are able to save money by using low operating costs tend to be able to generate high profits.

Inflation has a positive effect on the profitability of BUKU IV Banks in 2017-2019, but is not significant. This result is not in accordance with the research hypothesis (H5). High inflation causes a decrease in people's purchasing power. This situation should limit the bank's lending so that the bank's income from interest will decrease. The positive coefficient of inflation on the profitability of BUKU IV Banks during 2017-2019 which is not significant shows that banks are able to take quick and appropriate action to anticipate inflation by adjusting their interest rates [7], banks are able to transfer costs inflation to its customers [8], and inflation is not related to the interest rate set by the bank to its customers; rather it relates to non-interest costs. The statistically insignificant effect shows that ROE is not a procyclical variable with inflation [10]. The results of this study do not support the research hypothesis (H5) and previous studies [9] However, the results of this study support the research conducted by [18][19].

The reference interest rate as measured by the BI 7-Days (Reverse) Repo Rate has a negative and statistically significant effect on the profitability of BUKU IV Banks in 2017-2019. These results are in accordance with the research hypothesis (H6). The change in the reference interest rate determined by the monetary authority makes banks adjust by changing the interest rate. The high reference interest rate makes banks increase deposit and loan interest rates. The increasing deposit interest makes people interested in saving their money in the bank so that third party funds increase. However, BUKU IV Banks during the 2017-2019 period were unable to take advantage of this condition by channeling more credit.

Credit cannot be disbursed because customers are reluctant to borrow funds from banks with high interest rates. So that an increase in the benchmark interest rate makes profitability decrease. This also shows that deposit rates tend to be more sensitive to changes in the benchmark interest rate when compared to credit interest rates. When the benchmark interest rate increases, banks are competing to increase their deposit

rates so that customers do not switch to other banks that may adjust their deposit rates more quickly. The significant negative effect of the benchmark interest rate on bank profitability was also found in the research of [20].

Based on the observations in this study, the BI 7-Days (Reverse) Repo Rate has a constant trend with little fluctuation. BI7DRRR has increased since April 2018 before dropping in July 2019 and finally constant at the 5% level starting in October 2019. The increase in BI7DRRR since April 2018 was accompanied by a stagnation in the ROE growth rate of BUKU IV Banks which tended to decline. Meanwhile, the BI7DRRR stagnation in November 2018 was accompanied by a decline in the ROE growth rate. Bank CIMB Niaga and Bank BNI felt the biggest impact from the decline in BI7DRRR. This is indicated by the ROE growth rate which has decreased drastically in the two banks.

The exchange rate has a positive influence on the profitability of BUKU IV Banks in 2017-2019. These results are in accordance with the research hypothesis (H7). When the Rupiah depreciates against the US Dollar, people need more Rupiah to exchange 1 USD. This condition benefits banks as providers of foreign exchange services because of the high price of the US Dollar. On the other hand, when the Rupiah appreciates, banks experience a decrease in income as a result of the cheap US Dollar.

BUKU IV banks do not only rely on Rupiah in their operations, but also foreign currencies, which is indicated by the proportion of 3% of interest income generated by banks derived from foreign currencies. Based on the research results, BUKU IV Banks were able to take advantage of the depreciation of the Rupiah against the US Dollar until October 2018. This was evidenced by the increasing ROE growth rate of most banks during this period. However, the ROE growth rate has decreased since October 2018 when the Rupiah appreciated. The positive and significant effect of the exchange rate on bank profitability is in line with [20] research. The depreciation of the Rupiah against the US Dollar made the bank's profitability increase. This shows that banks can anticipate exchange rate fluctuations and the public tends to trust the US Dollar more than the Rupiah [19]. In addition, this result also shows the optimal treasury activity of BUKU IV Bank. Existing treasury activities at BUKU IV Bank take advantage of fluctuations in the exchange rate of the Rupiah against the US Dollar so that it can increase the bank's net profit.

#### **4. Conclusion**

This study aims to identify and statistically examine the factors that influence the profitability of banks in the BUKU IV category during 2017-2019. The study uses secondary data derived from monthly financial reports of each bank and publications from Bank Indonesia. The results indicate that three out of seven independent variables significantly affect bank profitability: cost efficiency, the benchmark interest

rate, and the exchange rate. The findings confirm that BUKU IV Banks that manage operational costs efficiently tend to be more profitable. The benchmark interest rate set by the monetary authority also influences bank profitability. When the benchmark rate rises, profitability tends to decline due to higher lending rates, which can discourage borrowing or result in loan defaults. Moreover, deposit rates appear to be more responsive to changes in the benchmark rate than lending rates. Banks often raise deposit rates to retain existing customers and remain competitive. The operations of BUKU IV Banks, which include lending in foreign currencies, are also affected by fluctuations in the Rupiah exchange rate. A depreciation of the Rupiah against the US Dollar tends to increase profitability, while appreciation such as that observed since October 2018 reduces it. This also demonstrates the effectiveness of treasury activities, which enable banks to capitalize on exchange rate movements to increase profitability. These findings imply that bank managers should prioritize cost efficiency in daily operations, as it has a significant positive impact on profitability. They should also monitor exchange rate fluctuations and consider increasing foreign currency lending when the Rupiah depreciates, in order to optimize interest income. Enhancing treasury operations could also serve as a strategic measure to improve financial performance. From a regulatory standpoint, the government should take into account the banking sector when determining benchmark interest rates. An increase in the benchmark rate often intensifies competition among banks to attract or retain depositors, as deposit rates tend to adjust more quickly than lending rates. This study has several limitations, mainly related to the scope of available data. The use of monthly financial reports published by banks restricts the variety and depth of variables that can be examined. Future research should consider utilizing more comprehensive data sources and broader variable dimensions to gain a better understanding of internal banking factors. Additionally, the inclusion of more relevant variables may offer deeper insights into the drivers of profitability. Finally, given the complex structure of panel data, which combines cross-sectional and time-series elements, future studies are encouraged to adopt alternative models or analytical tools for more robust results.

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