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Operational Efficiency and Risk Management: Implications for the Financial Performance of the Jakarta Regional Development Bank

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ABSTRACT

This study aims to analyse the factors that affect the Return on Equity (ROE) at the Jakarta Regional Development Bank (BPD) during the period 2017Q1–2024Q4. Using a multiple regression approach, the variables tested included BOPO (Operating Costs to Operating Income), NPLs (Non-Performing Loans), LDR (Loan to Deposit Ratio), and Reserve Requirements (Minimum Required Current Accounts). The regression results showed that BOPO and NPL had a significant negative influence on ROE, while LDR and reserve requirement had a significant positive influence. This regression model has an R-squared of 0.9570, which indicates that almost 96% of the variation in ROE can be explained by the variables studied. This research confirms that operational efficiency and credit risk management are very important in increasing bank profitability. Therefore, it is recommended that BPD DKI Jakarta focus on reducing operational costs, strengthening credit risk management, and managing balanced liquidity to maximize ROE. These findings provide practical insights for strategic policy making in improving the financial performance of regional development banks in Indonesia.

Keywords: ROE, BOPO, NPL, LDR, GWM, multiple regression, regional development bank

INTRODUCTION

Regional Development Bank (BPD) is a financial institution that has a strategic role in supporting regional development by providing financing to economic sectors that have the potential to improve people's welfare (Akilah, 2024). BPD DKI Jakarta, as one of the regional development banks, has a mandate to support economic development in the DKI Jakarta area by distributing credit to the public sector and the small and medium enterprises (SMEs) sector. One of the key indicators used to measure a bank's financial performance is Return on Equity (ROE), which reflects a bank's ability to generate a profit from the capital held by shareholders. Increased ROE reflects good financial performance, which is critical for banks to maintain operational continuity and increase competitiveness in the banking industry.

However, although BPD DKI Jakarta has an important role in the regional economy, the bank faces various challenges in managing financial performance, one of which is the factors that affect ROE. Along with increased competition in the banking industry and

increasingly stringent regulations imposed by monetary authorities, banks must be able to manage various factors that affect profitability. Some of the factors that are often discussed in the financial literature are Operating Costs to Operating Income (BOPO), Non-Performing Loans (NPL), Loan to Deposit Ratio (LDR), and Minimum Mandatory Current Accounts (GWM). These four factors are variables that affect the bank's ability to generate profits and have a significant impact on ROE.

BOPO is a ratio that measures a bank's operational efficiency by comparing operating costs to operating income. In the context of BPD DKI Jakarta, operational efficiency is a very important factor considering the characteristics of service-oriented banks to the public sector and MSMEs. The high BOPO ratio indicates that banks are less efficient in managing operational costs (Christaria & Kurnia, 2016), which in turn can reduce profitability. Therefore, BOPO analysis is very relevant to identify how effective the DKI Jakarta BPD is in managing resources to generate income. Banks that can control their operating costs well tend to have a higher ROE, which means they can provide more optimal results to shareholders.

In addition to BOPO, NPLs or non-performing loan ratios are also important factors that affect ROE (Vatansever & Hepsen, 2015). NPLs describe the quality of a bank's credit portfolio, with the higher the NPL ratio, the greater the risk faced by the bank. Non-performing loans have the potential to cause banks to have to provide larger reserves of credit losses, which ultimately reduces net profit and affects ROE. In the context of the Jakarta BPD, which has exposure to the public sector and MSMEs, credit risk can be higher, especially if these sectors experience economic difficulties. Therefore, good credit quality management is essential to ensure that banks can still maintain a healthy ROE.

Loan to Deposit Ratio (LDR) is a ratio that measures how effective a bank is in channeling funds collected from third parties (deposits) into credit. A high LDR ratio indicates that banks can channel most of their funds in the form of credit (Siringoringo & Sijabat, 2023), which in turn can increase interest income and profit. However, an LDR that is too high can also increase liquidity risk if not managed carefully. In this case, the Jakarta BPD must ensure that credit distribution is carried out selectively and wisely, considering the potential risks that can arise due to non-performing loans. While a high LDR has the potential to increase profitability, banks must pay attention to the balance between credit growth and liquidity.

The Minimum Mandatory Reserve Requirement (GWM) is a liquidity reserve that banks must keep in Bank Indonesia to ensure financial system stability. Although the reserve requirement is considered an obligation that lowers a bank's ability to disburse credit (Calomiris, et al., 2015), in some cases, higher liquidity reserves can provide a positive signal to the market about the bank's stability. Higher reserve requirements can help banks manage liquidity risks and provide a sense of security for shareholders and customers. For the DKI Jakarta BPD, good fulfilment of the reserve requirement can reflect strong liquidity management, although it can ultimately affect profitability if not managed efficiently.

Overall, although BPD DKI Jakarta has an important role in supporting regional development, challenges in increasing ROE remain. Factors such as BOPO, NPL, LDR, and reserve requirements must be carefully managed to strike a balance between operational efficiency, credit quality, and liquidity management. Therefore, this study aims to analyse the influence of these variables on ROE in the DKI Jakarta BPD. It is hoped that the results of this research can provide strategic insights for bank management in optimizing financial performance and increasing its contribution to regional development.

Theoretical Framework

Return on Equity (ROE) is one of the main indicators used to measure the financial performance of a company, including banks. ROE describes the extent to which a bank can generate a net profit from the equity invested by shareholders. The higher the ROE value, the better the bank's performance in managing the funds included by the shareholders to generate profits. The theory of ROE states that this ratio is very important in describing the bank's profitability and capital use efficiency. A high ROE indicates that banks can utilize equity effectively to generate profits, which is a major goal for shareholders (Miller & Modigliani, 1961). Therefore, an analysis of the factors that affect ROE can provide important insights into the success of banks in running their business operations.

One of the variables that affects ROE is Operating Costs to Operating Income (BOPO). BOPO is a ratio that measures the operational efficiency of a bank, by comparing total operating costs with the operating income obtained. A lower BOPO ratio indicates that banks are more efficient in managing their operating costs, which in turn will increase net profit and ROE. In financial theory, operational efficiency is essential because banks that can control costs will more easily increase their profitability. On the other hand, high BOPO indicates the existence of waste or inefficiencies in operational processes, which can reduce the bank's profits (Puteh, et al., 2018). Therefore, good management of operational costs can be the main key in increasing a bank's ROE.

Non-Performing Loan (NPL) is a ratio that describes the quality of a bank's credit portfolio, which is measured based on the amount of credit that the debtor cannot repay. High NPLs indicate that many loans are in default, which ultimately increases the risk of loss for banks. According to risk management theory, an increase in NPLs will cause banks to have to reserve more funds to deal with losses due to bad loans, which can reduce net profit and ROE (Hossain, 2025). Therefore, good credit risk management is essential in ensuring that NPLs remain low, so that banks can maintain stable financial performance. In this context, banks need to make a strict selection of prospective debtors and increase monitoring and control of loans that have been disbursed.

Loan to Deposit Ratio (LDR) is a ratio that measures how much of the funds raised by banks through deposits are channelled in the form of credit. This ratio shows how effective the bank is in channelling the funds collected for credit financing, which has the potential to generate interest income. According to financial theory, an increase in LDR can increase interest income and contribute positively to a bank's profitability and ROE (Beni, et al., 2023). However, an LDR that is too high can increase liquidity risk because banks may struggle to meet short-term obligations if too many funds are disbursed in the form of credit. Therefore, banks need to maintain an optimal LDR ratio, which is high enough to generate interest income, but still maintain liquidity so as not to disrupt the bank's operational stability.

The Minimum Mandatory Current Account (GWM) is one of the instruments used by central banks to control liquidity in the banking system. Reserve requirement is a certain percentage of the funds that a bank collects through deposits that must be kept in the central bank. Although the reserve requirement can limit the bank's ability to disburse credit, good fulfilment of the reserve requirement indicates the stability and security of the bank's financial system (Santomero & Babbel, 1997). Banks that have adequate liquidity reserves tend to have the ability to deal with fluctuations in urgent funding needs and maintain market confidence. In this context, reserve requirements can have a positive effect on ROE if banks are able to manage liquidity efficiently without reducing the potential interest income generated from credit disbursement. Thus, although the reserve requirement increases liquidity obligations, its good management can create a balance between the stability and profitability of the bank.

Based on the above theories, it can be concluded that ROE is influenced by various interrelated factors, such as BOPO, NPL, LDR, and GWM. Good operational efficiency (BOPO) and effective credit risk management (NPL) will drive increased ROE. In addition, optimal credit disbursement (LDR) and good liquidity management (reserve requirement) can also contribute to a bank's financial performance. Therefore, to increase ROE, BPD DKI Jakarta needs to focus on operational efficiency, credit quality, and liquidity risk management by considering the balance between risk and return.

RESEARCH METHODOLOGY

This study aims to analyse the factors that affect the Return on Equity (ROE) in the Jakarta Regional Development Bank (BPD). For this reason, a quantitative approach was carried out using multiple regression analysis methods that allowed researchers to identify the influence of several independent variables on dependent variables (Basuki & Prawoto, 2019). This research involves secondary data obtained from the quarterly financial statements of BPD DKI Jakarta during the period 2017Q1 to 2024Q4.

1. Types of Research
   This type of research is quantitative research with a causal comparative approach. This study aims to determine the cause-effect relationship between independent variables (BOPO, NPL, LDR, GWM) and dependent variables (ROE). This method was chosen because it allows to measure and analyse the influence of several factors that affect the financial performance of banks, especially ROE.
2. Population and Sample
   The population in this study is all quarterly financial data from the Jakarta Regional Development Bank (BPD) covering the period from Q1 2017 to Q4 2024. The sample used was secondary data covering 32 quarters of data during the period. This study only uses one bank as the object of research, namely BPD DKI Jakarta, because the focus of the research is to understand the factors that affect the bank's financial performance.
3. Variable Definition
   This study uses five variables consisting of one dependent variable and four independent variables, namely:
   a. Variable Dependent:
      ROE (Return on Equity): A ratio that measures a bank's profitability by comparing net profit to total equity.
   b. Independent Variables:
      1) BOPO (Operating Costs to Operating Income): A ratio that measures the operational efficiency of a bank.
      2) NPL (Non-Performing Loan): A ratio that describes the quality of a bank's credit portfolio by calculating the ratio of non-performing loans to total loans disbursed.
      3) LDR (Loan to Deposit Ratio): A ratio that measures the proportion of credit disbursed to funds collected from customers (deposits).
      4) Reserve Requirement (Minimum Mandatory Current Account): The percentage of deposits that must be kept by banks in Bank Indonesia as liquidity reserves.
4. Data Collection Methods
   The data used in this study is secondary, obtained from the quarterly financial statements of BPD DKI Jakarta during the period 2017Q1–2024Q4. This financial statement includes information regarding revenues, expenses, assets, liabilities, and equity required to calculate the variables under investigation. This data is obtained directly from Bank DKI's official website or reliable sources, such as annual reports published by the Financial Services Authority (OJK).
5. Data Analysis Methods

The data obtained will be analysed using multiple regression analysis to test the influence of independent variables (BOPO, NPL, LDR, GWM) on dependent variables (ROE). The multiple regression equations used are as follows:

$ROE_t = \beta 0 + \beta 1\ BOPO_t + \beta_2\ NPL_t + \beta_3\ LDR_t + \beta_4\ GWM_t + \epsilon_t$

Information:

a. ROEt = Return on Equity in quarter t,
b. BOPOt = Operating Expenses to Operating Income in quarter t,
c. NPLt = Non-Performing Loan in quarter t,
d. LDRt = Loan to Deposit Ratio in quarter t,
e. GWMt = Minimum Mandatory Current Account in quarter t,
f. β0 = Constant,
g. β1, β2, β3, β4 = The regression coefficient for each independent variable,
h. εt = Term error or interference that cannot be explained by the model.

This regression will identify the influence of each variable on ROE and measure how much these variables contribute to the change in ROE in the DKI Jakarta BPD.

6. Classic Assumption Test

Before conducting regression analysis, a classical assumption test will be carried out to ensure that the regression model used is valid (Damodar, 2021). The tests carried out include:

a. Multicollinearity test to ensure the absence of very strong relationships between independent variables.
b. Heteroscedasticity test to test whether there is an inequality of variance in residuals.
c. Autocorrelation test to ensure that there is no relationship between residuals in different periods.
d. Normality test to check if the residual distribution follows the normal distribution.

If all classical assumptions are met, then the regression model used is acceptable and the results of the analysis can be interpreted properly.

7. Research Hypothesis

Based on the purpose of the research, the hypotheses proposed are as follows:

a. H1: BOPO has a significant negative effect on ROE in the DKI Jakarta BPD.
b. H2: NPLs have a significant negative effect on ROE at the DKI Jakarta BPD.
c. H3: LDR has a significant positive effect on ROE in the DKI Jakarta BPD.
d. H4: Reserve Requirement has a significant positive effect on ROE at BPD DKI Jakarta.

RESULTS AND DISCUSSION

The following is a descriptive statistical analysis of the financial data of five banking indicators: ROE, BOPO, LDR, NPL, and GWM, based on 32 observations:

An average ROE of 8.85 indicates a fairly good rate of return on equity. A maximum value of 10.72 and a minimum of 6.38 indicate a moderate variation, with a standard deviation of 1.26. A negative skewness (-0.5769) indicates a left-leaning distribution (more data on the right-side), and a lower 2.37 kurtosis of 3 indicates a rather flat distribution. A Jarque-Bera value of 2.31 with a probability of 0.3149 indicates that the ROE distribution is close to normal.

Table 1. Descriptive Statistics of the Variables Studied

Information	ROE	BOPO	LDR	NPL	GWM
Mean	8.8453	78.8591	82.8659	2.8172	6.4625
Median	9.1800	77.9000	81.9450	2.9900	6.2900

Maximum	10.7200	87.0200	100.3300	3.7600	11.5900
Minimum	6.3800	75.2000	66.2900	1.7500	3.2300
Std. Dev.	1.2577	3.5411	8.2181	0.6722	2.4144
Skewness	-0.5769	1.1528	0.1500	-0.3156	0.4076
Kurtosis	2.3659	3.0036	2.3576	1.6738	1.9673
Jarque-Bera	2.3109	7.0882	0.6702	2.8763	2.3081
Probability	0.3149	0.0289	0.7153	0.2374	0.3154
Sum	283.0500	2523.4900	2651.7100	90.1500	206.8000
Sum Sq. Dev.	49.0342	388.7161	2093.6590	14.0069	180.7128
Observations	32	32	32	32	32

Source: Data processed 2025

BOPO has a high average of 78.86%, indicating operational efficiency that can be improved. Positive skewness (1.15) and kurtosis of about 3 indicated a distribution slightly skewed to the right and close to normal, but a Jarque-Bera value of 7.08 (p = 0.0289) indicated a significant deviation from normality.

The average LDR of 82.87 indicates a high level of credit disbursement to third-party funds. The variability is relatively large (Std. Dev = 8.22). Slightly positive skewness (0.15) and low kurtosis (2.36) indicate a distribution that is close to symmetrical and somewhat flat. The Jarque-Bera p-value of 0.7153 supports that this data is normally distributed.

Average NPLs of 2.82% are within the safe limit, but the range is quite large (1.75%–3.76%) with a standard deviation of 0.67. A rather negative distribution (Skewness = -0.3156) and low kurtosis (1.67) indicate a flatter distribution and skew slightly to the left. The NPL distribution also did not differ significantly from normal (p = 0.2374).

The average reserve requirement is 6.46%, with high variability (standard deviation of 2.41). Positive skewness (0.4076) and low kurtosis (1.97) indicate a slightly skewed distribution to the right and flatter than the normal distribution. The Jarque-Bera value of 2.31 with p = 0.3154 indicates that the data is quite close to normal.

Most indicators show a relatively normal distribution with slight slope and reasonable data spread. BOPO needs attention because its distribution deviates significantly from normal and has a high average indicating potential inefficiency. Meanwhile, other indicators such as ROE, LDR, and NPL are in the fairly good performance range with stable data distribution.

The following is the analysis of multiple regression results with dependent variables ROE (Return on Equity) and independent variables BOPO, NPL, LDR, and GWM in BPD DKI Jakarta during the period 2017Q1–2024Q4:

a. Goodness of Fit (R-squared and Adjusted R-squared); R-squared = 0.9570 and Adjusted R-squared = 0.9506; This means that about 95.7% of the variation in ROE can be explained by all four independent variables in this model. This shows that the model has very strong predictive power. Adjusted R-squared is high and close to R-squared indicates that all the independent variables used are indeed relevant and do not cause overfitting.
b. F-test (F-statistic = 150.28, p-value = 0.0000); These results show that simultaneously the variables BOPO, NPL, LDR, and GWM significantly affect ROE. A very small P-value (< 0.01) confirms the overall power of the model.

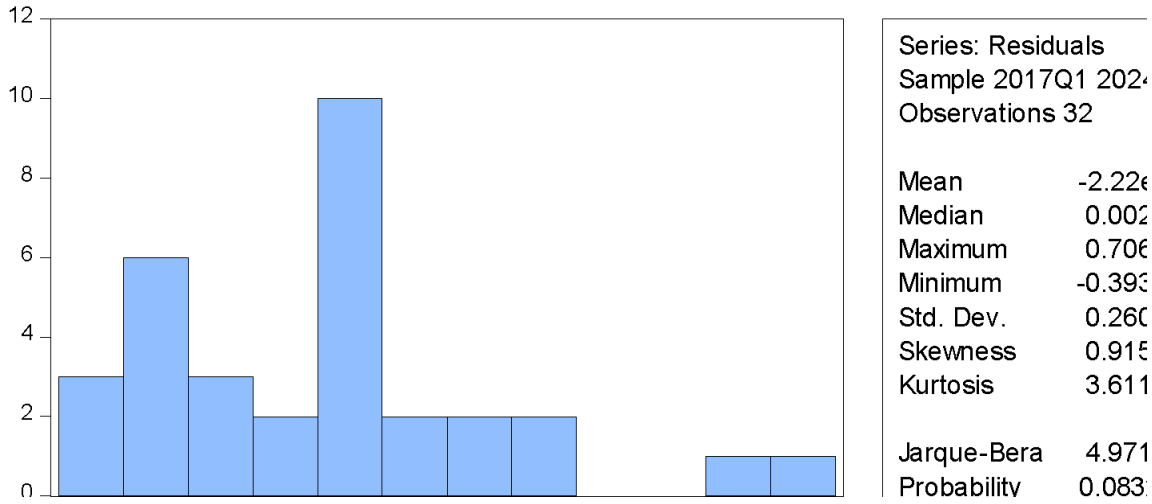
Table 2. Regression Test Results

Dependent Variable: ROE				
Sample: 2017Q1 2024Q4				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
BOPO	-0.3581	0.015188	-23.57578	0.0000
NPL	-0.6109	0.154	-3.967165	0.0005
LDR	0.0179	0.008174	2.190689	0.0373
GWM	0.1531	0.038837	3.942335	0.0005
C	36.3294	1.330817	27.29855	0.0000
R-squared	0.9570	Mean dependent var		8.8453
Adjusted R-squared	0.9506	S.D. dependent var		1.2577
S.E. of regression	0.2794	Akaike info criterion		0.4303
Sum squared resid	2.1078	Schwarz criterion		0.6593
F-statistic	150.2774	Hannan-Quinn criter.		0.5062
Prob(F-statistic)	0.0000	Durbin-Watson stat		2.2214

Source: Data processed 2025

c. t-test (Partial Significance of Independent Variables)
   1) BOPO (coefficient = -0.3581, p = 0.0000); The negative and significant coefficient indicates that the higher the BOPO (the less efficient the bank's operations), the ROE will decrease significantly. With a very large t-statistic (-23.58), BOPO is the dominant factor in reducing profitability.
   2) NPL (coefficient = -0.6109, p = 0.0005); NPLs also have a significant negative effect on ROE. This means that the higher the level of non-performing loans, the lower the bank's profitability. This is consistent with prudential principles in banking.
   3) LDR (coefficient = 0.0179, p = 0.0373); A positive and significant influence ($p < 0.05$) indicates that the higher the credit disbursement to third-party funds, the higher the ROE. However, the coefficient is small, showing that the effect is not as large as BOPO or NPL.
   4) GWM (Coefficient = 0.1531, p = 0.0005); Interestingly, the reserve requirement shows a significant positive influence on ROE. This could mean that compliance with minimum liquidity does not hinder profitability, perhaps because banks are able to manage their liquidity optimally.

This model is very strong in explaining the factors that affect ROE in the DKI Jakarta BPD. Operational efficiency (BOPO) and credit quality (NPL) were the dominant negative factors, while LDR and reserve requirements contributed positively. These findings emphasize the importance of credit cost and risk management in increasing the profitability of regional banks.



Source: Data processed 2025

Figure 1. Normality Test

The Jarque-Bera test is used to test whether the regression model is normally distributed (Thadewald & Büning, 2007), which is one of the important assumptions in classical linear regression. With p-value = 0.0832 > 0.05, then there is not enough evidence to reject H_0 at a significance level of 5%. The residual model is normally distributed, although it is only close to a significant limit. This means that the regression model meets the assumption of normality, so that the estimated coefficients and statistical tests (t and F) are still valid and reliable.

Table 3. Uni Multicollinearity

Variance Inflation Factors			
Variable	Coefficient Variance	Uncentered VIF	Centered VIF
BOPO	0.000231	589.1344	1.14854
NPL	0.023716	81.40892	4.255161
LDR	6.68E-05	189.8511	1.791837
GWM	0.001508	29.31292	3.491542
C	1.771073	725.9771	NA

Source: Data processed 2025

VIF is used to detect multicollinearity (Shrestha, 2020), which is a condition when two or more independent variables in a model are highly correlated with each other. A high VIF (generally > 10) indicates the presence of serious multicollinearity. VIF between 5–10 can be considered an early symptom to look out for. And VIF < 5 is generally considered safe and shows no intrusive multicollinearity. Uncentered VIF is not usually used to assess multicollinearity because it includes a constant variable (intercept). The results of table 3 show that there is no variable that has a VIF > 5, let alone > 10, so it can be concluded that

there is no interfering multicollinearity in this model. NPLs have the highest VIF value (4.26), meaning they can have a moderate correlation with one or more other variables, but they have not interfered with the model's estimation.

Table 4. Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.281841	Prob. F (4,27)	0.8871
Obs*R-squared	1.282584	Prob. Chi-Square (4)	0.8643
Scaled explained SS	1.192256	Prob. Chi-Square (4)	0.8794

Source: Data processed 2025

Heteroscedasticity occurs when the error variant (residual) is not constant throughout the data (Rosopa, et al., 2013). This violates one of the classic regression assumptions (BLUE: Best Linear Unbiased Estimator), and if left unchecked, can make statistical tests invalid (standard error bias). Table 4 results show that all p-values > 0.05, even close to 0.90, meaning that there is not enough evidence to reject H_0. In other words, the model does not contain significant heteroscedasticity.

Table 5. Multicollineariras Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.223455	Prob. F (2,25)	0.8013
Obs*R-squared	0.561999	Prob. Chi-Square (2)	0.755

Source: Data processed 2025

Autocorrelation (serial correlation) occurs when residual regression models are intercorrelated between times (e.g., an error at time t is affected by an error at time t−1) (Gruzdev, 2019). This often appears in time series data and can make standard errors biased, leading to errors in the interpretation of variable significance. Table 5 shows that the P-value of both statistics > 0.05, i.e. 0.8013 and 0.755. That is, there is not enough evidence to reject H_0. In other words, residual does not show symptoms of autocorrelation. Your regression model is free of autocorrelation, which is critical to the validity of the time series model. This reinforces the previous results of the Durbin-Watson statistic (2.22) which also indicated no autocorrelation.

The regression results showed that the BOPO variable (Operating Costs to Operating Income) had a significant negative influence on ROE (Return on Equity), with a coefficient of -0.3581 and a significance level of 0.0000. These findings indicate that any increase in operational efficiency (decrease in BOPO) will directly increase the bank's profitability.

Theoretically, this negative relationship corresponds to the concept of efficiency in banking financial management. According to the concept of efficiency X (Leibenstein, 1966), a company that operates efficiently will produce maximum output with minimum inputs. In the context of banking, BOPO reflects how efficient a bank is in managing operational costs to generate operational revenue. High BOPO indicates inefficiency, which ultimately lowers profitability (ROE).

Previous research is consistent with these results. A study by Karamoy & Tulung (2020) concluded that BOPO has a significant negative influence on ROE in regional development banks in Indonesia. Similarly, the results of a study by Jusni, et al (2019) found that BOPO is the most dominant indicator of operational efficiency affecting bank profitability. The regression results of the DKI Jakarta BPD confirm that cost efficiency is the

key to sustainable profitability, considering the characteristics of BPDs that tend to face scale limitations compared to national banks.

The NPL (Non-Performing Loans) variable also showed a significant negative influence on ROE, with a coefficient of -0.6109 and a probability value of 0.0005. This means that an increase in the ratio of non-performing loans directly contributes to a decrease in the rate of return on equity.

In the financial literature, the NPL ratio is used as an indicator of the quality of a bank's assets. According to credit risk theory, the increase in non-performing loans indicates management's failure to distribute sound credit and indicates a high potential for loss. Non-performing loans affect interest income, increase the burden of credit loss provision, and directly lower net profit (Msomi, 2022). This finding is strengthened by empirical research conducted by Ozili (2019), which shows that the increase in NPLs is inversely proportional to the bank's financial performance, including ROE. In addition, a study by Al-Tamimi and Mohammed (2010) in the banking sector of the United Arab Emirates stated that the NPL ratio has a significant negative correlation to profitability as it burdens losses reserves and affects market confidence in banks.

In the Jakarta BPD, which has a regional development mandate and often distributes credit to the public sector and MSMEs, credit risk is higher than that of commercial banks. Therefore, strengthening the credit risk management system is essential to maintain the stability of financial performance.

The Loan to Deposit Ratio (LDR) showed a significant positive influence on ROE, with a coefficient of 0.0179 and a p-value of 0.0373. These results show that the larger the portion of loans disbursed from third-party funds (DPK), the higher the bank's profitability.

According to the financial intermediation theory, banks function as institutions that transfer funds from savers to parties who need funds (borrowers). The bank's ability to distribute funds productively reflects the effectiveness of the intermediation function. A high LDR within the safe limit indicates that the bank makes optimal use of funds to generate interest income, which in turn increases profits (Diamond, 1984).

Research by Paleni, et al (2017) supports this finding by stating that LDR has a positive influence on profitability, because the greater the credit provided, the greater the potential for net interest income. However, it is important to note that the coefficient of influence of LDR in this model is relatively small compared to BOPO and NPL. This means that even if intermediation goes well, its effect on ROE is not as great as efficiency or credit risk.

For the DKI Jakarta BPD, these results emphasize the importance of maintaining LDR at an optimal level. Credit disbursement must consider the quality of the debtor so as not to trigger an increase in NPLs, which in turn reduces profitability.

The Minimum Mandatory Current Account (GWM) has a positive coefficient of 0.1531 and a high significance level ($p = 0.0005$). This result is somewhat surprising because theoretically reserve requirements are often considered a liquidity burden that reduces a bank's ability to distribute funds productively.

However, these results can be explained in several contexts. First, compliance with the provisions of the reserve requirement reflects good liquidity conditions and disciplined fund management. Banks that can meet the reserve requirement well usually also have a strong and healthy fund structure. Second, an increase in reserve requirements in the long term can be an indication that banks have excess liquid funds that have not been disbursed but are still able to maintain profitability.

According to liquidity management theory, banks that can manage cash reserves efficiently can maximize the use of funds without lowering the level of regulatory compliance. Research by Were & Wambua (2014) shows that reserve requirements do not

always have a negative influence on profitability if banks have an efficient fund cost structure and well-managed cash reserves.

In the context of the Jakarta BPD, the reserve requirement may play a role as a signal of liquidity health. Regional banks that have an institutional customer base (for example, local governments and BUMDs) tend to have high and stable fund reserves. Therefore, the increase in reserve requirements in this case may reflect the bank's fundamental strength, not an obstacle to profitability.

Based on the results of regression and analysis per variable, it can be concluded that the BOPO and NPL variables have a significant negative effect on ROE, while LDR and reserve requirement have a positive effect. These findings confirm that cost efficiency and credit risk management are crucial factors in maintaining profitability, especially in regional development banks such as BPD DKI Jakarta. Meanwhile, the intermediation and liquidity compliance functions also contribute to healthy financial performance.

Overall, this model is in line with empirical theories and findings in the banking literature and provides a strong strategic foundation for regional bank managerial and policy decision-making.

CONCLUSION

Based on the results of multiple regression analysis of Return on Equity (ROE) at the Jakarta Regional Development Bank (BPD), it was found that the variables BOPO (Operating Costs to Operating Income) and NPL (Non-Performing Loan) had a significant negative influence on ROE, while LDR (Loan to Deposit Ratio) and Reserve Requirement (Minimum Mandatory Current Account) showed a significant positive influence. These findings confirm that operational efficiency and credit portfolio quality are key factors in increasing bank profitability. In particular, the lower the ratio of BOPO and NPLs, the higher the ROE that a bank can achieve. On the other hand, good liquidity management through reserve requirements and selective LDR enhancement made a positive contribution to profitability, although the effect was smaller compared to the variables of efficiency and credit risk. Overall, this regression model shows that BPD DKI Jakarta must focus on operational efficiency and credit risk management to maintain stability and growth in financial performance in the long term.

Based on these findings, several recommendations can be given to improve the performance of the DKI Jakarta BPD. First, it is important for banks to improve operational efficiency by optimizing the use of technology and reducing unproductive costs. This effort can be done through the digitization of processes and the use of information systems to speed up services and reduce operational costs. Second, banks need to strengthen credit risk management, especially in conducting stricter credit selection and increasing monitoring of non-performing loans. Improving the quality of the credit portfolio can reduce the potential of NPLs and increase profitability. Third, credit distribution needs to be carried out selectively while still paying attention to credit quality so that LDR can be improved optimally without increasing risk. Finally, good liquidity management should be maintained, even if the reserve requirement shows a positive influence on ROE, to ensure a balance between liquidity and profitability. By following these recommendations, BPD DKI Jakarta can improve operational efficiency, reduce credit risk, and maximize revenue potential, which will ultimately improve the bank's financial performance and competitiveness.

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