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THE IMPACT OF FINANCIAL INTERNAL FACTORS ON THE PERFORMANCE OF INDONESIA RURAL BANKS: EVIDENCE IN CENTRAL JAVA

Abstract. *This study aims to investigate the impact of internal financial issues on the performance of rural banks in Indonesia, using samples from rural banks in Central Java with reasonable performance growth rates from 2020 to 2022. The data analysis method uses panel data to test the internal financial factor variables; based on the analysis, the variables of banking size and cost efficiency can work optimally in supporting the performance of rural banks, while the variables of capital adequacy, lending, and nonperforming loans although statistically have no effect, can support the factors internal people's rural banks.*

Keywords: *Performance of people's rural banks, internal financial factors of people's rural banks.*

Introduction

Communities need financing or credit loans to help improve their level of welfare. Banking is a party that can provide lending activities to the public. According to Banking Law No. 10 of 1998, a bank gathers money from the public by collecting funds and returns they give to the public as loans and other methods to enhance the general public's quality of life. Rural banks do regular business and adhere to Sharia standards but do not provide services in the flow of payments as part of their operations.(Yaron et al., 1998) examines three current Asian rural banks that have attained

leadership in supplying top-notch financial services to millions of rural consumers and micro businesses.

On the contrary Zaman (2004) thoroughly investigated the significant advancements in financial intermediation achieved by four rural banks in Bangladesh. Zaman (2004) and Yaron et al. (1998) visionary leadership, the ability for management to make practical decisions on its own, sound systems for hiring and paying staff, products that are new and based on technology, flexible transfer systems that do not cost much, close tracking of loan portfolios, and an effective management information system that helps with planning and makes it easier for management to control operational costs are all things that help Rural Banks do well financially. In Article 1 of Law Number 10 of 1998, Bank Indonesia also talks about how vital microeconomic security and a friendly governing environment are. Most of the time, how banks give out their own money is based on how they give out money in loans.

In Indonesia, the MSME group is one of the most significant contributors to the country's economy. Here the role of banking cooperation is needed in terms of lending to Small and Micro Enterprises. Rural banks is one option that can be used to extend credit to small and micro businesses. The primary goal of every banking business is to increase profitability by providing financial services to the general public (Brigham & Houston, 2001). The Indonesian Banking Statistics (SPI) published on 18 November 2022 showed credit growing annually (yoy) by 9.64% from Rp. 114.12 trillion as of August 2021 to Rp. 125.12 trillion as of August 2022. Credit growth was encouraging, although below commercial rural bank growth of 10.13%. However, third-party funds (DPK) grew 8.63% from IDR 129.36 trillion to IDR 140. 52 trillion is far more fertile than the 7.17% growth in commercial bank DPK. Ultimately, the rural banks loan-to-deposit ratio (LDR) thickened from 74.87% to 75.78%.

However, the rural banks LDR is lower than that of commercial banks at 81.56% and at the threshold of 78-92%. This means that rural banks are less aggressive in extending credit, partly due to the onslaught of the pandemic. Profit for the year also rose 7.23% from IDR 161.20 trillion to IDR 175.04 trillion. The increase in profit for the year was much lower than the increase in profit before tax for commercial banks of 43.89%. Return on assets (ROA) increased from 1.75% to 1.77%. In essence, asset quality is getting better above the 1.5% threshold. Central Java is one of the provinces in Indonesia which has the most populous population in Indonesia, with 35 cities and regencies with a population of 36,742,501 people. Rural banks and sharia rural banks in Central Java experienced year-on-year credit growth of 13 percent, with assets also growing by 14% and third-party funds growing by 15.06%. All of these growth rates are above the national rate. In addition, the portion of lending for productive needs is 69.02%. This indicates that the distribution of credit to the public will further contribute to a more significant multiplier effect on the economy. Rural banks and sharia rural banks to MSMEs in central Java also dominated the portion of credit disbursement of 59.13%. This achievement is already above the national target, which sets the figure at 30 percent, so credit for MSMEs continues to be encouraged (Suaramerdeka.Com, October 2022). Profitability or profit indicates banking performance, which shows business effectiveness through financial reports. It is interesting to be able to study research related to Rural banks in Central Java. Moreover, the People's Rural Bank is one of the spearheads in encouraging national economic growth by channeling capital in the form of loans in each region. What are the challenges for BPRs amidst the threat of a recession in 2023 and their performance in the current financial situation? The following is a graph of the growth of BPR variables in Central Java.

Examining the financial performance of rural banks will provide solutions and insight into the circumstances behind the business's financial problems and certain Rural banks. Essential factors must be considered as lessons learned to restore the public's faith after the failure of rural banks, microfinance organizations, and central commercial banks to operate as expected (Awo & Akotey, 2019). Strong liquidity management, rural development, and enhanced intermediation for families and micro businesses are the main drivers of the successful performance of rural banks, in particular, enabling them to outperform the industry average. Financial ratios and indicators, which are impacted by both internal or bank-specific elements and external ones, are inextricably linked to

the success of rural banks. Local macroeconomic and socioeconomic situations might be reclassified for rural banks as external factors. Findings Mushonga et al. (2017) support this by demonstrating that internal rather than external variables significantly affect small banks' success.
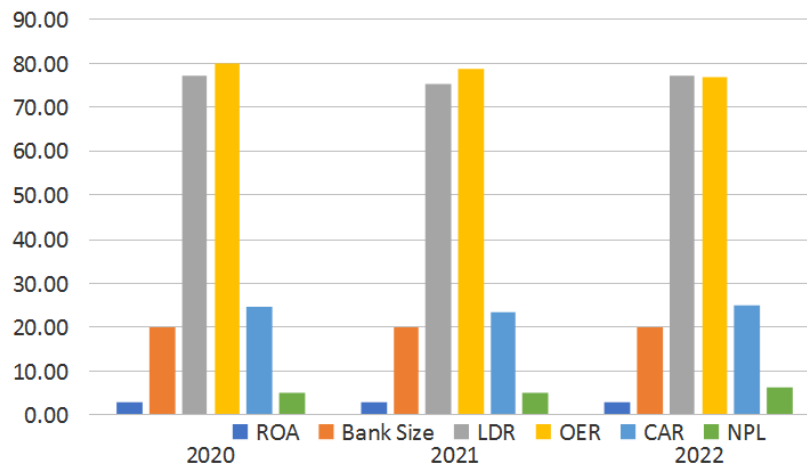

Figure 1. Graph of ROA Growth, Bank Size, LDR, OER, CAR, and NPL of Central Java BPRs

They say technological advancements, societal and cultural changes, and environmental legislation will all be crucial for the industry's future success in South Africa. Study (Chinna, 2013) on assessing the financial performance of regional rural banks (RRB) in the rural banking sector in India. This analysis concludes that regional rural banks financial performance has improved due to bank consolidation. As a result, the branch network has expanded, the underperforming regional rural banks has been closed, the number of districts covered by the regional rural banks has risen, and the total capital fund has significantly increased since the merger in 2005–2006. Additionally, it was found that the credit-deposit ratio has increased over time, demonstrating the RRB's amazing expansion of lending facilities in rural regions.

Literature Review
1. Definition of Rural Bank (BPR)
Law No. 10 of 1998 of the Banking Act in Indonesia defines rural banks as banks that traditionally do business business sharia based, but does not provide payment traffic services. Businesses Conducted by rural banks The main business or activity of rural banks is to collect and distribute funds to obtain profits in the form of interest income. Several limitations on RB's business activities distinguish them from Commercial Banks, including:
1) Participate in payment traffic and demand deposits as a form of payment.
2) Engaging in business transactions in a foreign currency
3) Make participation fair
4) Conducting insurance business
5) Conducting business outside of the above-described business activities

2. Banking Financial Internal Factors
Banks play their role as financial intermediaries between borrowers and savers. Therefore, it requires more explanation of bank-specific factors such as liquidity, credit, funding, bank size, and other essential factors. According to (Ali & Puah, 2019), these factors are like credit risk, and bank size needs extra attention to get more profit. Similarly, bank managers can analyze borrowers' creditworthiness before lending to them. This will require collateral guarantees from the borrower providing a protective shield for the bank to avoid the risk of default. In addition, the bank can protect the credit amount and the added advantage of collateral security. Analysis of the bank's

stability too (Ali & Puah, 2019) recommends being used efficiently in its operations Prudent banking practices aim to mitigate the adverse impact of bank size on stability.

3. Bank Size Factor Against Profitability

Total assets serve as a proxy for bank profitability, which is a metric influenced by earlier empirical investigations. The research that is currently available, however, indicates that there is no definitive link between the number of total assets and bank profitability (Shaffer, 1985). In particular, it demonstrates that large economies of scale are attained as bank size grows, improving financial performance (Berger et al., 1993), who assert that banks can reduce costs as they grow and that banks can do the same (Shaffer, 1985). However, research by Naceur (2003) showed that there is a link between the size of a bank and how well it does financially, with big banks, for instance, having lower profit levels due to inefficiencies brought on by various diseconomies of scale, Buyinza et al. (2010) have confirmed what was found Naceur (2003) by demonstrating that larger banks are less profitable than smaller ones. Delis & Papanikolaou (2009) used a semi-parametric model to determine how macroeconomics, industry-specific variables, and bank-specific factors affect how well banks work and do their jobs. They find that the size of the bank statistically correlates with how well it works and does.

Some aspects are usually used in calculating the company's size, such as total assets, sales, or capital. This study uses total assets as the basis for calculating bank size. The natural logarithm of the bank's total assets for a certain period is used to determine this bank size ratio (Khamisah et al., 2020). If the level of asset capitalization is high, it will be more likely for the bank to make sales, which in this case, will undoubtedly affect profitability (ROA). Banks with a high level of asset capitalization will also experience relatively large growth, so, likely, the rate of return will also be significant (Sakti & Yulianto, 2013). Several studies have proven the effect of bank size on ROA. According to Kusmayadi (2018) and Limbong (2020), the effect is significantly negative. Meanwhile, according to Khamisah et al. (2020), the positive effect is insignificant. There are still disagreements in studies on the influence of bank size on profitability; the hypothesis is as follows.

H1: Bank size has a significant negative effect on the Profitability of Rural Banks

4. Credit Channeling Factors on Profitability

Robison & Barry (1977) showed that low deposit rates, loan defaults, and arrears were the primary causes of liquidity. The quality of the assets and the availability of liquidity may assist in lowering the risk of rural banks. (Denis et al., 2020) because they believe that rural banks need revenue from lending and fiduciary activities or services to cover operating and financing costs and re-acquire retained earnings to fund future operations, they may conclude that liquidity improves bank profitability and loans improve profitability significantly. This may lead them to the conclusion that loans have a significant positive effect on profitability. That is, bank loans bring in money from interest, which is supposed to help banks make money. This will enhance the viability of Rural banks and their growth and profitability. The research conducted is different from the research of Buyinza et al. (2010), who argue that liquidity has a significant negative relationship with profitability. Lending is one of the main activities of banks that can increase bank profitability. The amount and amount disbursed will affect bank profits through the amount of credit disbursed. Therefore the bank needs to increase the amount of credit in order to increase profit (Siamat, 2005:83). LDR is a ratio that shows the comparison between the amount of credit disbursed and the number of third-party funds received by the bank (Kasmir, 2014:103).

Several studies have proven the effect of LDR on ROA. According to Limbong (2020) states that the effect is positive and significant. Meanwhile, Adhim (2019) and Alazis (2020) state that the effect is significantly negative. Therefore, the following hypothesis may be stated:

H2: Lending has a significant positive effect on the profitability of Rural Banks

3. Factors of Operational Efficiency Ratio (OER) on Profitability

There has been research on bank cost efficiency to measure how well a business is doing in growth and development in the banking industry (Košak et al., 2009). Finding they are consistent with Delis & Papanikolaou (2009). But different from Marwa & Aziakpono (2016), many contend

that larger size may be detrimental to rural banks since smaller size does not promote economies of scale, but larger size can also be detrimental if it beyond a certain point. They discover a unique link between financial progress and banks' cost-effectiveness. Compared to what was done by Wong et al. (2007), it highlights the importance of how profitable a bank depends on how well banks work together, how well they use their money, and how well they can take on more risk. However, it was discovered that market structure, as evidenced by market concentration and market scale, was detrimental to financial success. However, on the other hand, Okazaki et al. (2011) have a somewhat different viewpoint since their research demonstrates that policy-oriented consolidation increases deposits while potentially decreasing bank profitability.

It is considered efficient if a bank can use the least amount of input to achieve the most significant output. The input orientation is discussed in the first process, and the output orientation is discussed in the second. Efficiency evaluation is one of the finest methods for enhancing bank productivity through more effective resource allocation and distribution (Mahmoudabadi & Emrouznejad, 2019). The operating expenditure to operating income ratio (OER) compares operating costs and income. This ratio assesses the effectiveness of an organization's performance. A lower OER suggests that banks are more effective in controlling operating expenses (Priyadi et al., 2021). If OER increases, the bank's ability to generate income has decreased, and this decrease in income will also affect the bank's income-to-asset ratio (Sudarsono, 2017).

Several studies have proven the effect of OER on ROA. Research Achi (2021) demonstrates that the size and age of the bank have a beneficial impact on deposit generation efficiency. Furthermore, bank size and age harm revenue efficiency, whereas ROA has a beneficial impact. Other findings in the research included greater ROA for small, new, and domestic banks, and increasing ROA leads to improved revenue-generating efficiency. Limbong (2020) stated that the effect of OER on ROA was significantly negative. Meanwhile, Sudarsono (2017) states that the effect is positively significant. From this, the hypothesis can be formulated as follows:

H3: Operational Efficiency Ratio (OER) have a significant negative effect on the profitability of Rural Banks

4. Capital Adequacy Factor on Profitability

The bank's total capital must cover risks associated with its assets, off-balance sheet transactions, transaction operations, and other business aspects. Before Basel 1, when the concept of capital adequacy was codified, capital adequacy was managed in diverse and inconsistent ways by banks. According to Demirguc-Kunt et al. (2017), financial institutions with sufficient resources may carry out essential corporate growth. High-class banks will be encouraged by this situation to upgrade technology and develop novel financial product ideas to be competitive, as more resources will be available to them to build the ability to compete better in a democracy.

Research (Al-Kattan, 2015) in another context, asserts that banks that have adequate capital will have the following advantages over banks that are underfinanced or inadequately financed: better network coverage, competitive product pricing, and the ability to fund a wide variety of transactions in various industries. However, other academics contend that the capital requirements came at a high cost to banks, forcing several to close or merge forcefully against their choice. Due to competition for loans, deposits, sources of debt, and investment equity, more significant capital requirements reduce the competitive pressures on banks (Bolt & Tieman, 2004). The capital adequacy ratio (CAR) is a statistic that illustrates risk bank performance by calculating a percentage of all bank assets that include risks in addition to the bank receiving cash from sources outside the bank, such as customers.

A bank with substantial capital may attain substantial profitability. A high CAR will make the bank more capable of assuming the risk associated with any hazardous-producing assets. It may finance bank activities to increase profitability (Mudrajat & Suhardjono, 2002:110).

Several studies have proven the effect of CAR on ROA. Limbong (2020) stated that a favorable but insignificant impact was reported, whereas according to Aditya (2020) declared that

the outcome was favorable and substantial. Fauziah (2021) declares that the impact is adverse but insignificant. From the previous statement, the following is a description of the hypothesis:

H3: Operational Efficiency Ratio (OER) have a significant negative effect on the profitability of Rural Banks.

5. Capital Adequacy Factor on Profitability

Nonperforming Loans (NPL) represent a complex issue for banks to handle Endut et al., (2013). Traditional banks ' credit risk and Non-performing loans (NPL) are crucial to a healthy economy. Nonperforming loans contribute to the market meltdown and Asian financial crisis of 2007 Endut et al. (2013); understanding credit risk fundamentally will result in a more stable financial system (Adebola et al., 2011). Numerous internal and external issues and nonperforming loans (NPL) and nonperforming financing (NPF) may impact Islamic banking. Financial ratios and bank characteristics are examples of internal variables that affect credit risk in the banking sector, notably NPL (Suryanto, 2015; Effendi et al., 2017) and outside variables, like interest rates, inflation rates, and GDP (Adebola et al., 2011; Endut et al., 2013; Mudrajat & Suhardjono, 2002). High amounts of NPL at banks will hurt their income and ability to stay in business (Haniifah, 2015). Because credit risk is a crucial component of the banking sector and is used to assess financial performance, high NPL levels affect specific banks and the stability of the national economy. According to Rahman et al. (2017), poor NPL management "will lead to banking failures and national financial vulnerability" (p. 181). St. Clair (2004) states that reasonable cost, credit quality, and lending activity management improve banks' financial performance. The research also reveals that nonperforming loans (NPL) will reduce profitability and that interest rates might significantly negatively affect capital and liquidity.

The Nonperforming Loan Ratio (NPL) measures a bank's efficiency in dealing with defaulting loans. Nonperforming loans as a percentage of total loans granted constitute this ratio.

The higher this ratio indicates that the credit quality is worsening, so it has the potential for bank losses. Because if there is a problem, the bank needs funds to overcome these problems, ultimately affecting the bank's performance. The higher this ratio indicates, the more credit problems in the end. The bank's income is disrupted and also affects ROA (Kasmir, 2014:78).

Several studies have proven the effect of NPL on ROA. According to Yudha (2017) And Fauziah (2021) State that the effect is negatively significant, while according to toFajari & Sunarto (2017) state that the effect is positively significant. Therefore, the following hypothesis may be stated:

H4: Capital Adequacy Has a significant positive effect on the Profitability of Rural Banks

6. Problem Credit Factor Topredictability

Nonperforming Loans (NPL) represent a complex issue for banks to handle Endut et al., (2013). Traditional banks ' credit risk and Non-performing loans (NPL) are crucial to a healthy economy. Nonperforming loans contribute to the market meltdown and Asian financial crisis of 2007 Endut et al. (2013); understanding credit risk fundamentally will result in a more stable financial system (Adebola et al., 2011). Numerous internal and external issues and nonperforming loans (NPL) and nonperforming financing (NPF) may impact Islamic banking. Financial ratios and bank characteristics are examples of internal variables that affect credit risk in the banking sector, notably NPL (Suryanto, 2015; Effendi et al., 2017) and outside variables, like interest rates, inflation rates, and GDP (Adebola et al., 2011; Endut et al., 2013; Mudrajat & Suhardjono, 2002). High amounts of NPL at banks will hurt their income and ability to stay in business (Haniifah, 2015). Because credit risk is a crucial component of the banking sector and is used to assess financial performance, high NPL levels affect specific banks and the stability of the national economy. According to Rahman et al. (2017), poor NPL management "will lead to banking failures and national financial vulnerability" (p. 181). St. Clair (2004) states that reasonable cost, credit quality, and lending activity management improve banks' financial performance. The research also reveals that nonperforming loans (NPL) will reduce profitability and that interest rates might significantly negatively affect capital and liquidity.

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Several studies have proven the effect of NPL on ROA. According to Yudha (2017) and Fauziah (2021) state that the effect is negatively significant, while according to toFajari & Sunarto (2017) state that the effect is positively significant. Therefore, the following hypothesis may be stated:

H5: Nonperforming loans have a significant adverse effect on the profitability of Rural Banks.

Methods

This study falls under the quantitative research category due to its nature. The data type employed is numeric or numeric (Suliyanto, 2018). Quantitative research techniques are founded on the positivist school of thinking to investigate a specific population or sample. According to positivist theory, reality, symptoms, and phenomena are categorized, as fixed, tangible, observable, and measurably related, with a causal link between them. A particular representative group or sample is often utilized in quantitative investigations. Deductive research involves solving mathematical problems using ideas or hypotheses to generate a hypothesis. The theory is subsequently put to the test by gathering data. The selected hypothesis is next evaluated quantitatively to see if it is supported or not by the data using descriptive or inferential statistics. Quantitative research is often conducted on random samples to enable the generalization of the research findings to the study's sample population. Relationship because the connection between variables in quantitative research explores the relationship of variables to the object researched, namely causation (causal), the study contains independent and dependent variables. Then, we seek the effect of the link between these components from these variables.

The research data was obtained from the annual Rural Bank financial publication reports published by the Indonesian Financial Services Authority from 2020 to 2022. The samples selected in this study were rural banks in the Central Java region, including the Regional Company (PERSERODA) in 2020-2022, having a minimum asset of 250 billion and presenting complete financial data for 2020-2022 research. The following is Table 1 which contains list of research samples of Central Java Rural Banks as follow.

Table 1	
List of Research Samples of Central Java Rural Banks	
No	**Rural Bank Name**
1	PT BPR BKK Ungaran (Perseroda)
2	PT BPR BKK Kendal (Perseroda)
3	PT BPR BKK Demak (Perseroda)
4	PT BPR BKK Purwodadi (Perseroda)
5	PT BPR BKK Kab. Pekalongan (Perseroda)
6	PT BPR BKK Pati (Perseroda)
7	PT BPR Regional Bank Pati (Perseroda)
8	PT BPR Bank Jepara Artha (Perseroda)
9	PT BPR BKK Jepara (Perseroda)
10	PT BPR BKK Lasem (Perseroda)
11	PT BPR BKK Blora (Perseroda)
12	PT BPR BKK Purwokerto (Perseroda)
13	PT BPR BKK Cilacap (Perseroda)
14	PT BPR BKK Purbalingga (Perseroda)
15	PT BPR BKK Mandiraja (Perseroda)
16	PT BPR Bank Bapas 69 (Perseroda)
17	PT BPR BKK Temanggung (Perseroda)

18	PT BPR Bank Wonosobo (Perseroda)
19	PT BPR BKK Kebumen (Perseroda)
20	PT BPR Bank Boyolali (Perseroda)
21	PT BPR BKK Boyolali (Perseroda)
22	PT BPR Bank Djoko Tingkir (Perseroda)
23	PT BPR BKK Karangmalang (Perseroda)
24	PT BPR Regional Bank Karanganyar (Perseroda)
25	PT BPR BKK Tasikmadu (Perseroda)
26	PT BPR BKK Wonogiri (Perseroda)

Source: OJK secondary data processed by the author, 2023

Table 2 contains the operational variables used in the research as follows:

Table 2
Research variable

Variable	Proxies	Description	Source
Profitability	ROA	$\dfrac{Profit\ before\ tax}{Average\ total\ assets}$	Bank Indonesia Regulation No.13/01/PBI/2011
Size	Total	$\ln Total\ Assets$	Hartono (2017)
Bank	Asset	$\dfrac{Operating\ costs}{Operating\ income}$	Bank Indonesia Regulation No.13/01/PBI/2011
Cost Efficiency	OER	$\dfrac{Total\ credits\ awarded}{Third\ Party\ Funds}$	Bank Indonesia Regulation No.13/01/PBI/2011
Distribution	LDR	$\dfrac{Capital}{Risk-weighted\ assets\ (ATMR)}$	Bank Indonesia Regulation No.13/01/PBI/2011
Credit	CAR	$\dfrac{Total\ non-performing\ loans}{Total\ credit}$	Bank Indonesia Regulation No.13/01/PBI/2011

The analytical software was applied for the quantitative data analysis in this research EViews 10. The chosen analytical method is a panel data model. Panel data by Gujarati (2004) are gathered via event history analysis, longitudinal studies of variables or groups of participants, micro panel data, combined data from time-series and cross-sectional studies, and data gathered from such studies individually. These designations imply movement over a unit cross-section period, despite slight variations. Studies are collected from time to time from variables or groups of variables, namely People's rural bank in Central Java. Panel data selection is carried out using three method selection types: We weighed the expected effect, the fixed effect, and the random effect prior to selecting the fixed effect model and the standard effect model, respectively, when applying the Chow test. If the fixed effect model was initially selected, one might choose between the fixed and random effect models using the Hausman Test. After testing the model twice, it is optional to go on to the Lagrange multiplier test if the model has a fixed effect. Suppose the Hausman test chooses the random effect model. In that case, the model selection requires the Lagrange Multiplier test in selecting random effect and standard effect models, making it easier to analyze quantitative data.

In this study, there are independent variables which are internal rural banks financial variables proxied by Bank Size Loan Deposit Ratio (LDR), Operational Income Operational Costs (OER), Capital Adequacy Ratio (CAR), and Nonperforming Loans (NPLs), and variables dependent, namely rural banks performance proxied by Return on Assets (ROA). Suppose the random effect model is selected in the Hausman test. In that case, the model selection requires the Lagrange Multiplier test to select random effect and standard effect models, making it easier to analyze quantitative data. In this study, there are independent variables which are internal rural banks financial variables proxied by Bank Size Loan Deposit Ratio (LDR), Operational Income Operational Costs (OER), Capital Adequacy Ratio (CAR), and Nonperforming Loans (NPLs), and variables dependent, namely rural banks performance proxied by Return on Assets (ROA)'.

Results

The results of the analysis using EViews show for

3.1. Output Pooled Least Square Or Common Effect

The pooled least square output is as follows: with the dependent variable ROA, samples from 2020 to 2022, the cross-section rate is 26, and the total observations are 78; the following is a breakdown of the results. Table 3 show the result of common effects output as follows:

Table 3
Common Effects

Dependent Variable: ROA				
Method: Panel Least Squares				
Sample: 2020 2022				
The period included: 3				
Cross-sections included: 26				
Total panel (balanced) observations: 78				
Variables	**coefficient**	**std. Error**	**t-Statistics**	**Prob.**
C	19.07135	3.832906	4.975689	0.0000
BANK_SIZE	-0.337688	0.168943	-1.998825	0.0494
LDR	-0.010284	0.008438	-1.218761	0.2269
OER	-0.115163	0.011432	-10.07377	0.0000
CAR	0.020149	0.014017	1.437451	0.1549
NPLs	-0.030201	0.017136	-1.762410	0.0822
R-squared	0.708075	Mean dependent var		2.818718
Adjusted R-squared	0.687802	SD dependent var		0.999292
SE of regression	0.558351	Akaike info criterion		1.746146
Sum squared residue	22.44644	Schwarz criterion		1.927432
Likelihood logs	-62.09970	Hannan-Quinn criteria.		1.818718
F-statistics	34.92772	Durbin-Watson stat		1.246181
Prob(F-statistic)	0.000000			

Following testing with the Common Effect, which presumes that the intercept and slope are constant throughout time and between company, we test once more with the Fixed Effect test, which allows for variables to exist that are not all included in the model equation. Alternately, this intercept may vary depending on the person and the moment. Table 4 show the result of fixed effect test output as follows:

Table 4
Fixed Effect Test Results

Dependent Variable: ROA				
Method: Panel Least Squares				
Sample: 2020 2022				
The period included: 3				
Cross-sections included: 26				
Total panel (balanced) observations: 78				
Variables	**coefficient**	**std. Error**	**t-Statistics**	**Prob.**
C	-9.843804	12.16340	-0.809297	0.4224
BANK_SIZE	0.577126	0.555434	1.039055	0.3041
LDR	0.030498	0.017634	1.729492	0.0903
OER	-0.019662	0.012256	-1.604327	0.1153
CAR	0.015335	0.019711	0.777962	0.4405
NPLs	-0.003709	0.019834	-0.187011	0.8525
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.956552	Mean dependent var		2.818718
Adjusted R-squared	0.928820	SD dependent var		0.999292
SE of regression	0.266607	Akaike info criterion		0.482232
Sum squared residue	3.340737	Schwarz criterion		1.418872
Likelihood logs	12.19297	Hannan-Quinn criteria.		0.857186
F-statistics	34.49204	Durbin-Watson stat		2.738271
Prob(F-statistic)	0.000000			

3.2. Chow test

Models with known effects or fixed effects are prioritized using the Chow test. Table 5 show the result of chow test output as follows (Teble 5).

The Chow test results show that the probability value ($p < 0.05$) because the value is smaller than 0.05, is selected as the fixed effect of the common effect. However, this step still needs to be tested again with the Hausman test, which aims to determine the best model between the random and fixed effect approaches, which should be done in panel data modeling.

Table 5
Chow test output

Redundant Fixed Effects Tests
Equation: Untitled
Test cross-section fixed effects

Effect Test	Statistics	df	Prob.
Cross-section F	10.751732	(25,47)	0.0000
Chi-square cross-sections	148.585343	25	0.0000

Cross-section fixed effects test equation:
Dependent Variable: ROA
Method: Panel Least Squares

Sample: 2020 2022
The period included: 3
Cross-sections included: 26
Total panel (balanced) observations: 78

Variables	coefficient	std. Error	t-Statistics	Prob.
C	19.07135	3.832906	4.975689	0.0000
BANK_SIZE	-0.337688	0.168943	-1.998825	0.0494
LDR	-0.010284	0.008438	-1.218761	0.2269
OER	-0.115163	0.011432	-10.07377	0.0000
CAR	0.020149	0.014017	1.437451	0.1549
NPLs	-0.030201	0.017136	-1.762410	0.0822

Effects Specification				
Cross-section fixed (dummy variables)				

R-squared	0.708075	Mean dependent var	2.818718
Adjusted R-squared	0.687802	SD dependent var	0.999292
SE of regression	0.558351	Akaike info criterion	1.746146
Sum squared residue	22.44644	Schwarz criterion	1.927432
Likelihood logs	-62.09970	Hannan-Quinn criteria.	1.818718
F-statistics	34.92772	Durbin-Watson stat	1.246181
Prob(F-statistic)	0.000000		

3.3. Hausman test

Table 6 show the result of hausman test output as follows:

Table 6
Hausman test output

Correlated Random Effects - Hausman Test
Equation: Untitled
Test cross-section random effects

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Random cross-sections	39.654939	5	0.0000

Cross-section random effects test comparisons:

Variables	Fixed	Random	Var(Diff.)	Prob.
BANK_SIZE	0.577126	-0.028563	0.266248	0.2405
LDR	0.030498	-0.013871	0.000242	0.0044
OER	-0.019662	-0.062994	0.000065	0.0000
CAR	0.015335	0.026108	0.000194	0.4388
NPLs	-0.003709	-0.004333	0.000181	0.9631

The results of the Hausman test show The P value for the Hausman test is less than 0.05, so the fixed effect model (FEM) is utilized.

3.4. Classic assumption test
-    The classic assumption test carried out is:
3.4.1. Multicollinearity Test
Table 7 show the result of multicollinearity test output as follows:

Table 7 Multicollinearity test					
	BANK_SIZE	**LDR**	**OER**	**CAR**	**NPLs**
BANK_SIZE	1.000000	0.018496	-0.332873	0.066442	-0.166218
LDR	0.018496	1.000000	0.360965	-0.419550	-0.274202
OER	-0.332873	0.360965	1.000000	-0.425085	0.012110
CAR	0.066442	-0.419550	-0.425085	1.000000	0.040845
NPLs	-0.166218	-0.274202	0.012110	0.040845	1.000000

- The results of the classical assumption test show no correlation between variable are BANK_SIZE, LDR, OER, CAR and NPLs in the study because the results are below 0.9.
- The selected multiple regression results are from the results of the following:
Table 8 show the result of multiple regression output as follows:

Table 8 Multiple Regression				
Dependent Variable: ROA				
Method: Panel Least Squares				
Sample: 2020 2022 The period included: 3 Cross-sections included: 26 Total panel (balanced) observations: 78				
Variables	**coefficient**	**std. Error**	**t-Statistics**	**Prob.**
C	19.07135	3.832906	4.975689	0.0000
BANK_SIZE	-0.337688	0.168943	-1.998825	***0.0494
LDR	-0.010284	0.008438	-1.218761	0.2269
OER	-0.115163	0.011432	-10.07377	***0.0000
CAR	0.020149	0.014017	1.437451	0.1549
NPLs	-0.030201	0.017136	-1.762410	0.0822
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.708075	Mean dependent var		2.818718
Adjusted R-squared	0.687802	SD dependent var		0.999292
SE of regression	0.558351	Akaike info criterion		1.746146
Sum squared residue	22.44644	Schwarz criterion		1.927432
Likelihood logs	-62.09970	Hannan-Quinn criteria		1.818718
F-statistics	34.92772	Durbin-Watson stat		1.246181
Prob(F-statistic)	0.000000			

Notes: *** Significant less than 0.05

The regression outcomes of bank size panel data for the loan deposit ratio (LDR), Operational Efficiency Ratio (OER), capital adequacy ratio (CAR), and nonperforming loans (NPL), as well as the regression model equation and output results, are as follows:
- The research model equation is:

$$ROA_{I,t} = \alpha + \beta BANK\_SIZE\ BANK\_SIZE_{I,t} + \beta LDR\ LDR_{I,t} + \beta OER\ OER_{I,t} + \beta CAR\ CAR_{I,t} + \beta NPLs\ NPLs_{it} + \varepsilon_{I,t} \tag{1}$$

- The output results of the Regression equation are:

ROA = 19.071 − 0.338 BANK_SIZE − 0.010 LDR − 0.115 OER + 0.020 CAR − 0.030 NPLs

3.5. Simultaneous F Test
Simultaneous F test after testing, data from the Table of Statistical Probabilities show less than 0.05, namely 0.0000, so it is said that there is an effect.

3.6. Partial T-test

Based on the data we have thus far, we may draw the following conclusions:

1) The probability of BANK_SIZE is 0.0494. There is a significant negative effect of BANK _SIZE on the profitability of Rural Banks (0.05), and the direction of the regression coefficient is negative (-0.337688). These findings confirm the *H1* theory.

2) LDR does not affect rural bank profitability since its probability value is 0.2269, which is more than 0.05, and its regression coefficient is -0.010284. The findings contradict the *H2* theory.

3) The likelihood of OER occurring is 0.0000, less than 0.05, and the regression coefficient for OER is -0.115163, indicating that OER Rural banks' profitability suffers. In light of these facts, we may accept *H3*.

4) The chance of CAR is 0.1549. Since this number is more than 0.05 and the direction of the regression coefficient is positive (0.020149), we can conclude that CAR does not affect the profitability of Rural Banks. These data do not support the *H4* theory.

5) The chance of NPLs being more than 0.05 is 0.0822. The regression coefficient for NPLs is -0.030201, demonstrating that it has no beneficial influence on the profitability of rural institutions. The data does not support the *H5* concept.

Table 9 show the conclusion from testing the hypothesis according to the t-test findings analysis is as follows:

Table 9
Conclusion from testing hypothesis

Variables	coefficient	coefficient	Probability	Conclusion	hypothesis
C	19.07135	4.975689	0.0000		
BANK_SIZE	-0.337688	-1.998825	0.0494	Significant and negative	Proven to support the H1 hypothesis
LDR	-0.010284	-1.218761	0.2269	Not significant	Does not support the H2 hypothesis
OER	-0.115163	-10.07377	0.0000	Negative significant	Proven to support the H3 hypothesis
CAR	0.020149	1.437451	0.1549	Not significant	Does not support the H4 hypothesis
NPLs	-0.030201	-1.762410	0.0822	Not significant	Does not support the H5 hypothesis

Conclusion

Overall this research can be a reference for further research. From the results obtained, the internal factor variables in banking finance significantly influence the execution of rural banks. Like the variable size of bank assets and cost efficiency, this variable can significantly influence banking performance. Other variables such as credit distribution, capital adequacy, and nonperforming loans from the test results have no effect but also have a supportive impact on the performance of people's banks. Moreover, people's rural banks are microfinance institutions whose existence is very much needed by rural communities to help support the economy by providing loans for their small businesses to improve the family's economy. This research still has limitations, namely that it has yet to include other financial variables regarding bank interest income, which will increase if the credit extension increases. The greater the credit disbursement by the bank, the likelihood of nonperforming loans increasing; this will affect NPLs. Likewise, with the bank liability management factor, the liability at the bank is identical to the funds from the bank itself.

Conflicts of Interest: The authors declare that no potential conflicts of interest in publishing this work. Furthermore, the authors have witnessed ethical issues such as plagiarism, informed consent, misconduct, data fabrication, double publication or submission, and redundancy.

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