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### **Determinant of Islamic Bank Performance and Bank Risk (study in central java periode 2019-2024)**

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#### **ABSTRACT**

This purposes of study is to analyze the effect of specific factors of Islamic banking on the performance of Islamic Rural Credit Banks (BPRS) in Central Java Province in the period 2019-2023. The factors studied include Capital Adequacy Ratio (CAR), Non Performing Financing (NPF), Operating Costs to Operating Income (BOPO), and Financing to Deposit Ratio (FDR). This study uses secondary data obtained from the annual financial reports of BPRS published by the Financial Services Authority (OJK). The population in this study was BPRS throughout Central Java, totaling 27 BPRS. However, there were 4 BPRS whose financial reports were incomplete, so the final sample in this study was 23 BPRS with a period of 5 years. Thus, the number of observations in this study was 115 observations. The analysis method used was multiple linear regression for hypothesis testing, and a classical assumption test was carried out to ensure that the model formed was not biased. The results of the study indicate that CAR and FDR do not have a significant effect on the profitability of BPRS in Central Java, while NPF and BOPO are proven to have a negative effect on the profitability of BPRS in Central Java. This means that carrying out cost efficiency and carrying out strict control over the level of bad debts is very important for BPRS management in order to record a profit. This study contributes to BPRS management to improve performance by paying attention to these ratios, especially in facing post-Covid-19 pandemic conditions.

**Keywords:** Profitability, Islamic Rural Bank, Capital Adequacy Ratio, Non Performing Financing, Operating Costs to Operating Income, Financing to Deposit Ratio.

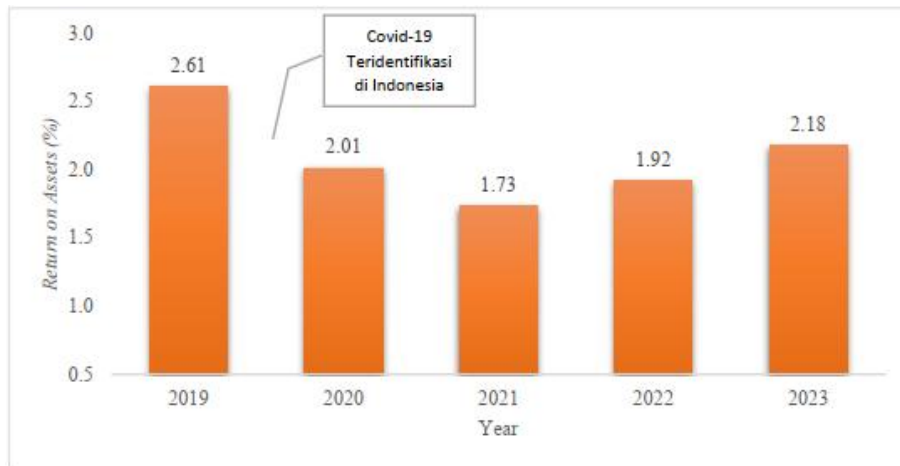
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#### **1. Introduction**

At the end of 2019, industries around the world, including Indonesia, faced serious challenges due to the emergence of a dangerous virus that changed people's lifestyles globally. This virus first appeared in China and quickly spread throughout the world, triggering a pandemic known as Covid-19. Countries around the world responded with lockdown policies to limit the spread of this very easy and fast virus . These measures have had a major impact on people's mobility and various aspects of life, including health, social, and economic.

Like most other countries, the Indonesian government has also taken steps to respond to the Covid- 19 pandemic by implementing a policy of restricting people's mobility, which has had an impact on activities in various sectors. These restrictions have significantly reduced the performance of industrial sectors, including the banking sector, especially Rural Credit Banks.

Data published by the Financial Services Authority (OJK) in the Banking Industry Profile Report (2019-2023) shows the performance trend of Islamic banks from 2019 to 2023, which can be seen in graph 1.



Source: Banking Industry Profile Report, 2019-2023, processed.

Chart 1 Performance Data of Islamic Rural Credit Banks (BPR) 2019-2023.

As shown in graph 1, the performance of Islamic BPRs proxied by the Return on Asset (ROA) value in 2019 was able to record an ROA of 2.61 percent, but decreased significantly in 2020 to 2.01 percent. The data in graph 1 shows a fairly interesting phenomenon, namely that in the initial conditions and during the Covid-19 pandemic in Indonesia (2019-2021), the profitability of Islamic BPRs decreased consecutively. However, in the recovery phase and the end of Covid-19 in Indonesia (2022-2023), the profitability conditions of Islamic BPRs showed a positive trend, where Islamic BPRs in 2022 and 2023 experienced a consistent increase in ROA, namely by being able to record an ROA in 2022 of 1.92 percent and being able to increase again in 2023 to 2.18 percent.

The existence of this phenomenon encourages researchers to conduct a study of factors that influence the profitability of Islamic Rural Credit Banks. Previous studies that conducted research related to factors that influence the profitability of Islamic BPRs were conducted by Istiqomaha et al., (2021); Sudarsono et al., (2021); Sari et al., (2021). This study attempts to conduct research on the relationship between banking financial ratios which generally consist of the variables Capital Adequacy Ratio (CAR), Non Performing Financing (NPF), banking efficiency or which is often measured by the ratio of Operating Costs to Operating Income (BOPO) and Financing to Deposit Ratio (FDR) with the profitability of Islamic BPRs.

This research will be conducted on sharia in Central Java province. The selection of Central Java is based on data released by the Indonesian Banking Statistics (2023) (see table 1) which states that Central Java is the province with the highest BPR asset development in Indonesia compared to other provinces. In addition, if referring to the table of BPR asset development in Central Java, it shows a positive trend over the past four years. It can be seen that BPR assets in Central Java in 2020 were recorded at 37.67 trillion, in 2023 it became 47.22 trillion. This means that there has been a significant increase of around 10 trillion in four years. This condition provides

relevance for this research to make Central Java the research location and in addition, with a relatively large population, it is expected to provide a representative data picture.

Table 1. Development of BPR Assets by Province (Billion Rp)

No	Province	2020	2021	2022	2023
1	West Java	20,370	21,788	23,098	23,447
2	Banten	5,152	6,121	6,940	7,711
3	Jakarta	3,459	3,993	5,011	5,557
4	In Yogyakarta	7,607	8,244	8,675	8,787
5	<b>Central Java</b>	<b>37,675</b>	<b>41,006</b>	<b>45,856</b>	<b>47,224</b>
6	East Java	16,242	17,629	19,021	22,629
7	Bengkulu	106	118	135	177
8	Jambi	1,091	1,197	1,261	1,386
9	Aceh	242	91	93	49
10	North Sumatra	1,901	2,076	2,225	2,430
11	West Sumatra	1,902	1,985	2,041	2,030
12	Riau	1,473	1,828	1,963	2,136
13	Riau islands	7,453	7,667	8,519	9,912
14	South Sumatra	1,826	1,899	1,964	2,126
15	Bangka Belitung	190	208	195	214
16	Lampung	12,851	13,901	14,322	14,933
17	South Kalimantan	761	809	908	1,487
18	West Kalimantan	1,470	1,716	1,894	2,026
19	East Kalimantan	400	473	542	705
20	Central Kalimantan	694	1,187	1,930	2,305
21	North Kalimantan	86	89	115	144
22	Central Sulawesi	2,677	2,732	2,602	327
23	South Sulawesi	2,843	2,898	3,007	3,151
24	North Sulawesi	1,798	2,091	2,166	2,184
25	Southeast Sulawesi	334	376	438	498
26	West Sulawesi	9	121	143	149
27	Gorontalo	54	32	41	59
28	West Nusa Tenggara	1,617	1,707	1,843	2,056
29	Bali	17,074	18,528	19,245	20,650
30	East Nusa Tenggara	867	906	898	832
31	Maluku	2,177	2,348	2,416	6,986
32	Papua	1,429	1,678	1,773	339
33	North Maluku	252	282	307	155

Source: Indonesian Banking Statistics, 2023

The results of previous research on the influence of banking financial ratios on BPR profitability provided diverse findings, thus indicating a gap in research results. A review of previous studies on the influence of CAR on the profitability of Islamic BPRs provides varying conclusions. Studies conducted by Dewi & Zulkipli (2021) state that capital measured by CAR has a positive effect on the profitability of Islamic BPRs. Dodi et al., (2018) states that CAR has a negative effect on the ROA of Islamic banking. (Sari et al., 2021) states that CAR has no effect on the profitability of Islamic banking.

Previous research results on the influence of NPF on the profitability of Islamic BPRs also provide varied results. Research conducted by Istiqomaha et al., (2021) in the conclusion of the research results explains that NPF has a negative effect on the profitability of Islamic BPRs in Indonesia. In contrast to the study Dewi & Zulkipli (2021) in his research stating that NPF has a positive effect on the profitability of Islamic BPRs in the Special Region of Yogyakarta. Another study provides different results, namely Sari et al., (2021) that in its findings it states that NPF does not have a significant effect on the ROA of Islamic BPRs.

Previous research results on the effect of BOPO on the profitability of Islamic BPRs also provide varying conclusions. Previous research conducted by Sudarsono et al., (2021); Sari et al., (2021) stated that BOPO has a negative effect on the profitability of Islamic BPRs. The results of previous studies on the influence of LDR on the profitability of Islamic BPRs also provide varying conclusions. The results of the study conducted by Dewi & Zulkipli (2021)., Sudarsono et al., (2021) states that liquidity measured by FDR has a positive effect on the profitability of BPR Syariah. Sari et al., (2021) states that FDR does not have a significant effect on the profitability of Islamic banking.

Based on the gap research that has been described, this study will attempt to test the effect of banking ratios on the profitability of Islamic BPRs. In this study, the scope of the research population is wider, by taking the population of Islamic BPRs in Central Java Province, so that this study is expected to provide stronger generalizations. This study also takes a more up-to-date period of 2019-2023, so that it is expected to be able to capture the performance of Islamic BPRs in Central Java Province during Covid-19 conditions and after Covid-19 was declared over in Indonesia.

## **2. Literature Review and Hypothesis Formulation**

### ***2.1 Profitability***

Profitability according to Munawir (2014) is the company's ability to generate profit during a certain period. According to (Fahmi, 2017) profitability measures the effectiveness of overall management as indicated by the size of the level of profit obtained in relation to sales or investment. The profitability of a company can be known by comparing the profit obtained in a certain period with the amount of assets or the amount of capital of the company. The majority of previous profitability studies usually use two main proxies to measure profitability, namely ROA and ROE (Al-Homaidi et al., 2020; Almaqtari et al., 2019; Batten & Vo, 2019). ROA shows the percentage of net profit to total assets, while ROE shows the percentage of net profit to equity. This study only uses one proxy, namely ROA, because ROA represents all company assets including debt and capital, while ROE only represents capital ownership by investors, namely only equity excluding debt (Al-Homaidi et al., 2018).

### ***2.2 Capital Adequacy Ratio (CAR)***

Capital adequacy ratio is a bank performance ratio to measure the adequacy of capital owned by the bank to support assets that contain or generate risk. CAR is a capital adequacy ratio that functions to accommodate the risk of loss that may be faced by the bank. The higher the CAR, the better the bank's ability to bear the risk of each credit/productive asset that is risky (Ramadhanti et al., 2019). The higher the CAR, the stronger the bank's ability to bear the risk of credit or risky productive assets. Or in other words, the higher the capital adequacy to bear the risk of bad credit, so that the bank's performance is getting better, and can increase public trust in the bank concerned which leads to increased profits (ROA). High CAR can be an indication that the company has good capital adequacy, so that the banking operational process will run well. Dewi & Zulkipli (2021) states that capital measured by CAR has a positive effect on the

profitability of Islamic BPRs. Other research conducted by (Abdillah et al., 2016) states that CAR has a positive effect on the profitability of Islamic BPRs in Indonesia. In other words, CAR is positively related to company profits (Hanifa et al., 2019). Based on this explanation, the following hypothesis is formulated.

H1: CAR has a positive effect on the profitability of Islamic BPR in Central Java for the period 2019-2023

### *2.3 Non Performing Financing (NPF)*

Non Performing Financing is a ratio used to assess the high or low level of bad debts in Islamic banks, which is one of the indicators in measuring the bank's financial capability (Setiadi, 2017), and is the bank's performance in maintaining the risk of failure to repay debtor financing. The NPF ratio shows the ability of bank management to manage non-performing loans provided by the bank. High NPF will increase costs, thus potentially causing bank losses. The higher this ratio, the worse the quality of bank credit which causes the number of non-performing loans to increase, so that the bank must bear losses in its operational activities which has an impact on the decline in profit (ROA) obtained by the bank. (Dendawijaya, 2017). Istiqomaha et al., (2021) in the conclusion of the research results explained that NPF has a negative effect on the profitability of BPR Syariah in Indonesia. Based on this explanation, the following hypothesis is formulated.

H2: NPF has a negative effect on the profitability of BPR Syariah in Central Java for the period 2019-2023

### *2.4 Operating Costs to Operating Income (BOPO)*

The BOPO ratio is also often referred to as the operational efficiency ratio, because it measures the bank's ability to manage operational costs compared to its operational income (Al-Homaidi et al., 2018). A high BOPO indicates that the bank's ability to manage costs is poor, or it could be the company's ability to earn income from operational activities is low. Any increase in operational costs will result in a decrease in profit before tax which will ultimately reduce the bank's profitability (Dahlan et al., 2020). A higher BOPO indicates high operational costs. High operational costs will reduce the company's operational profit level, decreasing company profits means that the company's profitability level also decreases (Natalia, 2017). Sudarsono et al., (2021) and Sari et al., (2021) stated that BOPO has a negative effect on the profitability of Islamic BPR. Based on this explanation, the following hypothesis is formulated.

H3: BOPO has a negative effect on the profitability of BPR Syariah in Central Java for the 2019-2023 period.

### *2.5 Financing to Deposit Ratio (FDR)*

Financing to Deposit Ratio (FDR) is a comparison between the amount of credit or financing provided by the bank with the funds received by the Islamic bank. FDR states how far the ability of the Islamic bank to return the withdrawal of funds made by depositors by relying on credit or financing provided as a source of liquidity (Dendawijaya, 2017). An increase in FDR means that the distribution of funds to loans is greater so that profits will increase. Increased profits result in



higher bank performance as measured by ROA. The higher the FDR indicates the riskier the bank's liquidity condition, conversely the lower the FDR indicates the bank's ineffectiveness in distributing credit. The higher the FDR, the higher the funds distributed to third party funds. With the distribution of large third party funds, the bank's income (ROA) will increase. Thus, FDR has a positive effect on ROA (Nusantara, 2009). (Dewi & Zulkipli, 2021); (Sudarsono et al., 2021)states that Liquidity measured by FDR has a positive effect on the profitability of BPR Syariah. (Sari et al., 2021)states that FDR does not have a significant effect on the profitability of Islamic banking. Based on this explanation, the following hypothesis is formulated.

H4: FDR has a positive effect on the profitability of Islamic BPR in Central Java for the period 2019-2023.

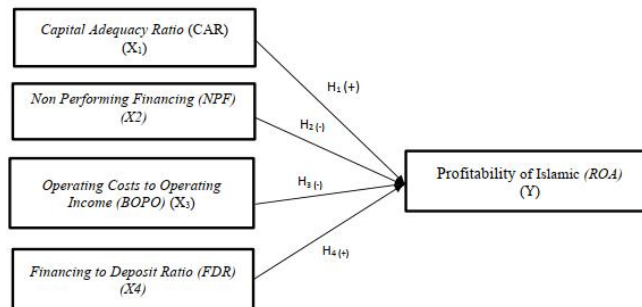


Figure 1 Research Model

### 3. Research methods

This type of research is quantitative, namely a research method based on positivity (concrete data), research data in the form of numbers that will be measured using statistics as a calculation test tool, related to the problem being researched to produce a conclusion (Sugiyono, 2018). The population in this study was 27 Islamic Rural Credit Banks in Java in the period 2019-2023. 5 research periods were used to see the consistency of the influence of each independent variable on the dependent variable. The sample in this study was taken using purposive sampling, namely sampling with certain criteria desired by the researcher. The considerations determined by the researcher in taking the sample were the availability of data needed to be processed in the study with the following criteria: (1) Islamic Rural Credit Banks in Central Java Province (2) The financial report of Islamic Rural Credit Banks presents a complete report from 2019-2023.

This study uses secondary data, namely data that is not obtained directly from the source but is obtained from other parties. The source of secondary data in this study is the financial report of Islamic BPRs in Central Java for the period 2019-2023 obtained from the official website of the Financial Services Authority (OJK), namely [www.ojk.co.id](http://www.ojk.co.id). The data analysis method uses multiple linear regression, and a classical assumption test is also carried out to ensure that the model formed is free from bias. The classical assumption test consists of a normality test whose statistical testing technique uses the Kolmogorov Smirnov method, a multicollinearity test uses the VIF method, a heteroscedasticity test uses the Park method and an autocorrelation test uses the Durbin Watson method.

#### 4. Research Results and Discussion

##### 4.1 Descriptive Statistics

Table 2. Summary of descriptive statistical output

Variables	Minimum	Maximum	Mean	Std. Deviation
Capital Adequacy Ratio (CAR)	11.21	53.10	24.95	8.37
Non Performing Financing (NPF)	0.00	26.79	5.26	4.37
Operating Costs to Operating Income (BOPO)	48.73	234.89	83.76	21.32
Financing to Deposit Ratio (FDR)	37.55	216.24	98.93	26.55
Return on Assets (ROA)	-5.83	8.64	2.02	1.92

Based on table 1. it is known that the CAR value for Islamic BPR in Central Java ranges from 11.21 to 53.10 percent with an average of 24.9481 percent. The average CAR for Islamic BPR in Central Java is 24.95 percent, this figure shows that in general the capital level of Islamic BPR in Central Java is in a healthy condition in accordance with Bank Indonesia Regulation Number 6/10/PBI/2004 recommended by Bank Indonesia, which is greater than 8 percent. Based on table 1. it is known that the non-performing value of Islamic BPR in Central Java ranges from 0.00 to 26.79 percent with an average of 5.26 percent. The average NPF for Islamic BPR in Central Java is 5.26 percent, this figure shows that in general the NPF level of Islamic BPR in Central Java is included in a fairly high condition, this figure is still slightly higher than the recommendation of Bank Indonesia (Bank Indonesia Regulation Number 6/10/PBI/2004) that the ideal NPL is not more than 5 percent.

Based on table 1. it is known that the ratio of operating costs to operating income of Islamic BPR ranges from 48.73 to 234.89 percent with an average of 83.76 percent. The average BOPO for Islamic BPR in Central Java is 83.76 percent, the average BOPO value of Islamic BPR is not too far away, which is more than 80 percent, this figure is still in accordance with Bank Indonesia's recommendations, which are below 94-96 percent, meaning that the efficiency of Islamic BPR in Central Java is included in the good category. Based on table 1. it is known that the financing to deposit ratio value of Islamic BPR ranges from 37.55 to 216.24 percent with an average of 98.93 percent. The average FDR for Islamic BPR in Central Java is 98.93 percent, this figure is slightly higher than the recommendation of Bank Indonesia (Bank Indonesia Regulation Number 6/10/PBI/2004) that the ideal LDR is in the range of 78-92 percent. This means that the FDR for Islamic BPR in Central Java is still in the good category.

Based on table 1. it is known that the return on assets of Islamic BPR ranges from -5.83 to 8.64 percent with an average of 2.02 percent. The average ROA for Islamic BPR in Central Java is 2.02 percent, this figure shows that in general Islamic BPR in Central Java has a good level of profitability, because this figure is in accordance with the recommendations of Bank Indonesia (Bank Indonesia Regulation Number 6/10/PBI/2004 that the ideal ROA is at least more than or equal to 1.5 percent.

##### 4.2 Classical Assumption Test

###### 4.2.1 Normality Test

Table 3. Summary of normality test output.

One-Sample Kolmogrov-Smirnov Test	Standardized Residual
Kolmogrov-Smirnov Z	1,082

Asymp. Sig. (2-tailed)

0.192

The normality test in this study uses Kolmogorov-Smirnov. The results of the normality test analysis show that the value of asymp. Sig. is 0.192. This value is greater than alpha 0.05 which concludes that the residual data is normally distributed.

#### 4.2.2 Multicollinearity Test

Table 4. Summary of multicollinearity test output.

	Variables	Tolerance	VIF
1	Capital Adequacy Ratio (CAR)	.965	1,036
	Non Performing Financing (NPF)	.722	1.385
	Operating Costs to Operating Income (BOPO)	.704	1,421
	Financing to Deposit Ratio (FDR)	.928	1,078

The multicollinearity test in this study uses the VIF method, with the criteria that if the VIF value is below 10, then it is stated that there is no multicollinearity in the research model. Based on the results of the analysis, it is known that the VIF value for all independent variables is not greater than 10, meaning that the research model is free from multicollinearity interference.

#### 4.2.3 Heteroscedasticity Test

Table 5. Summary of heteroscedasticity test output.

Variables	Sig.
Capital Adequacy Ratio (CAR)	.789
Non Performing Financing (NPF)	.136
Operating Costs to Operating Income (BOPO)	.184
Financing to Deposit Ratio (FDR)	.523

The heteroscedasticity test in this study uses the Park method, namely by regressing the independent variables with the Natural Logarithm value of the squared residual value. The significance value of each independent variable greater than 0.05 indicates that there is no heteroscedasticity in the research model. Based on the results of the analysis, it is known that the significance value for the CAR, NPF, BOPO, and FDR variables is more than 0.05, so it is concluded that the research model is free from heteroscedasticity interference.

#### 4.2.4 Autocorrelation Test

Table 6. Summary of autocorrelation test output.

Model	R	R Square	Adjusted R Square	Durbin-Watson
1	0.870 <sup>a</sup>	0.757	.749	1.121

The autocorrelation test in this study uses the Durbin-Watson method, with the criteria that if the DW value is less than  $\pm 2$ , it indicates that there is no autocorrelation in the research model. Based on the results of the analysis, it is known that the DW value is greater than -2 and less than 2, thus concluding that this research model is free from autocorrelation interference.

#### 4.2.5 Regression Analysis

Table 7. Summary of multilinearity test output.



Variable	Unstandardized Coefficient		Standardized Coefficients	t	Sig
	Tolerance	Std. Error	Beta		
Capital Adequacy Ratio (CAR)	0.000	0.011	0.002	0.032	0.975
Non Performing Financing (NPF)	-0.059	0.024	-0.134	-2.427	0.017
Operating Costs to Operating Income (BOPO)	-0.071	0.005	-0.789	-14.091	0.000
Financing to Deposit Ratio (FDR)	-0.001	0.004	-0.018	-0.369	0.713

Based on the results of the analysis, it is known that the significance value for the Capital Adequacy Ratio (CAR) variable is 0.975. Because the significance value is greater than 0.05, it can be concluded that CAR does not have a significant effect on the ROA of Islamic BPRS in Central Java. This study found that CAR does not have a significant effect on the profitability of BPRS in Central Java. This shows that the level of capital adequacy owned by BPRS does not directly contribute to increasing profitability. Although CAR is important for maintaining the stability and financial security of banks, in the context of BPRS in Central Java, high capital is not always followed by high profits.

Based on the analysis results, it is known that the regression coefficient value for the Non Performing Financing (NPF) variable is -0.059 with a significance value of 0.017. Because the regression coefficient value is negative and the significance value is less than 0.05, it can be concluded that NPF has a negative effect on the ROA of Islamic BPRS in Central Java. This means that the increase in bad debts in Islamic BPRS will have an impact on decreasing net income on assets. Or it could also mean that the decrease in the level of bad debts in Islamic BPRS will increase net income on assets in Islamic BPRS.

Based on the analysis results, it is known that the regression coefficient value for the variable Operating Costs to Operating Income (BOPO) is -0.071 with a significance value of 0.000. Because the regression coefficient value is negative and the significance value is less than 0.05, it can be concluded that BOPO has a negative effect on the ROA of Islamic BPRS in Central Java. This means that the lower the BOPO, the higher the net profit on assets obtained by Islamic BPRS.

Based on the analysis results, it is known that the significance value for the Financing to Deposit Ratio (FDR) variable is 0.713. Because the significance value is greater than 0.05, it can be concluded that FDR does not have a significant effect on the ROA of Islamic BPRS in Central Java. FDR, which measures bank liquidity by comparing the amount of financing provided to the funds collected, does not show a significant effect on profitability. Although FDR is important in ensuring adequate liquidity, this ratio does not directly affect the ability of BPRS to generate profits.

## 6. Conclusion

This study concludes that to improve profitability, BPRS management in Central Java needs to focus on managing operational efficiency and controlling bad debts. While CAR and FDR do not show significant effects, it is important for banks to maintain adequate capital adequacy and liquidity. NPF and BOPO which are proven to have significant negative effects indicate that credit risk management and cost efficiency are the main keys to improving profitability. Thus, BPRS management needs to strengthen credit control strategies and

improve operational efficiency, especially in facing fluctuating economic conditions after the Covid-19 pandemic. Effective policy implementation in this area will help BPRS not only survive but also thrive in the long term.

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