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The Effect of Implementing OJK-BOX (OBOX) Application in The Relationship Among NPL, BOPO, and Cash Ratio on The Profitability of Rural Bank (BPR) in East Java

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ABSTRACT

This research aims at empirically prove the effect of financial ratios (including NPL, BOPO, and cash ratios) on ROA and, determine the effect of OJK-BOX application on the relationship between the independent and dependent variables. This research includes 868 samples from 124 Rural Banks (BPR) in East Java and employs multiple regression analysis to test hypotheses 1, 2, and 3, and categorical moderation analysis to test hypothesis 4. The results of the hypothesis testing proved that NPL and BOPO had a negative effect on ROA; cash ratio had no effect on ROA; and the OJK-BOX application affected the relationship between NPL and BOPO on ROA. From these findings, it is proven that the OJK-BOX application program can control the financial risks faced by banks and this research can be used as a reference to assist companies in managing financial risks.

Keywords : OJK-BOX Application Program; Credit Risk; Operational Risk; Liquidity Risk; Financial Ratios

ABSTRAK

Penelitian ini dilakukan untuk menguji pengaruh rasio keuangan (NPL, BOPO, dan cash ratio) terhadap ROA dan melihat apakah aplikasi OJK-BOX memengaruhi hubungan antar variabel independen-dependen. Rasio yang digunakan dalam penelitian ini adalah NPL, BOPO, dan cash ratio dengan total 868 sampel dari 124 BPR konvensional Jawa Timur. Analisis yang digunakan dalam penelitian ini adalah analisis regresi berganda untuk menguji hipotesis 1,2, dan 3 dan analisis moderasi sub-grup atau moderasi kategori untuk menguji hipotesis 4. Hasil pengujian hipotesis dalam penelitian ini membuktikan bahwa NPL dan BOPO memiliki pengaruh negatif terhadap ROA, cash ratio tidak memiliki pengaruh terhadap ROA, dan program aplikasi OJK-BOX mempengaruhi hubungan antara variabel NPL dan BOPO terhadap ROA. Dari hasil temuan ini dibuktikan bahwa program aplikasi OJK-BOX dapat mengontrol risiko keuangan yang dihadapi oleh bank dan penellitian ini dapat menjadi referensi untuk membantu perusahaan dalam pengelolaan risiko keuangan.

Kata Kunci : Program Aplikasi OJK-BOX; Risiko Kredit; Risiko Operasional; Risiko Likuiditas; Rasio Keuangan

INTRODUCTION

OJK-BOX Application Program is an initiation program for the Financial Services Authority which is part of the supervisory Business Process Reengineering in order to improve supervision of potential risks that arise earlier and affect the health of the banking system. The OJK-BOX (OBOX) application is a company financial transactional reporting application system to the OJK, which is done digitally. Through this reporting system, Rural Banks (BPR and BPRS) can share transactional data and information. In measuring the impact of the OJK-BOX application program, empirical testing is needed whether this application can control banks in managing the financial risks faced by banks.

Based on SP 63/DHMS/OJK/XI/2021 the OJK-BOX application program for Rural Banks (BPR and BPRS) was officially realized on November 2 2021. Before OJK-BOX was implemented in Rural Banks (BPR), this application program was implemented in Commercial Banks in 2019.

The OJK-BOX application program is one of the systems that enables the Financial Services Authority to carry out supervisory duties on banking sector financial service activities and can detect potential risks that arise in Rural Banks (BPR and BPRS) activities. As stated in the Law of the Republic of Indonesia Number 21 of 2011 concerning financial services authorities, OJK aims to ensure that all activities in the financial services sector are carried out in an orderly, fair, transparent, accountable manner, capable of creating a financial a system that grows sustainably and stably and is able to protect the interests of consumers and society.

Regulation of the Financial Services Authority Number 13/POJK.03/2015 concerning the implementation of risk management for Rural Banks explains the importance of the needs of banks in implementing risk management. Risk management that allows banks to issue operational policies that are used to control risk factors for the entire range of company operational activities. The importance of this risk management can be monitored by the Financial Services Authority through the OJK-BOX Application system which requires Rural Banks (BPR) to assess 3 risks namely, liquidity risk, credit risk and operational risk.

Several studies on the influence of financial ratios on profitability ratios of ROA have previously been carried out with different research objects, but some of the results obtained were inconsistent. Research by Fanny et.al (2020) tested four variables that affect profitability including NPL, NIM, LDR, and CAR. Testing this effect was carried out at 24 Conventional Government Banks listed on the IDX in accordance with criteria determined by the researcher. Ardiansyah (2020) research tested the effect of the NIM, BOPO and NPL ratios on bank profitability on the Indonesia Stock Exchange until 2019, with fourteen sample companies that met the specified criteria. Nadhifa (2017) tested the effect of the current ratio, quick ratio, and cash ratio on profitability. This test was carried out on property companies listed on the Indonesia Stock Exchange until 2016, with 10 companies that met the researcher's criteria. And other tests with different research objects and research results. The results of the previous different tests could be due to external factors that influence the relationship between the variables studied, the company sector, different analytical tools, government policies, and others. In this study, researchers consider the variable OJK-BOX application program as a variable that influences the relationship between the independent variable and the dependent variable (ROA).

Stakeholders have a role in managing good corporate governance and contributing to company performance, especially the supervisory board that oversees corporate governance in a moral manner that does not harm interested parties. Freeman et.al (2010)

revealed that boards which are mostly composed of independent directors (non-employees) are expected to be better monitors of executive actions.

The financial ratios chosen by the researchers are considered based on three risk assessments on the OBOX application reporting system. In this study, researchers tried to answer whether third party control could affect the relationship between variables. In this study, 2 studies were carried out, the effect of NPL, BOPO, and cash ratio on the profitability ratio without the variable OJK digital-based supervision program (OBOX) or before implementing the OJK-BOX application program and the effect of NPL, BOPO, and cash ratio on the profitability ratio with there is an OJK digital-based supervision program (OBOX) or after the implementation of the OJK-BOX application program.

Kasmir (2015) revealed that the larger the loan given by the bank to the customer, the greater the bank's profit. Therefore, if the Bank is unable to extend credit, while the funds collected from large deposits, it will cause losses. To minimize losses, the Bank is required to manage non-performing loans.

The ratio of operating expenses to operating income according to Rivai et.al (Kurniasari, 2017) defines the BOPO ratio to estimate the level of efficiency and capability of a bank in carrying out its operational activities.

Brigham and Houston (2001) state that financing with debt or loans will increase the expected rate of return for an investment, but financing with loans will also increase investment risk. In terms of short-term liabilities, companies can take advantage of debt to get the returns expected by the company. So, in this research hypothesis, a higher cash ratio (large liquid assets) indicates that companies do not use liquid assets (cash and cash equivalents) to get returns to the company.

The purpose of monitoring according to Juliana (2021) is used to identify various inhibiting factors that affect various company operational activities, and take corrective actions needed so that goals can be achieved. Wilkinson and Cerullo (2020) explain that the use of technology can meet the information needs in business activities in a fast, timely, relevant and accurate manner. So that by utilizing information technology under OJK supervision, risk factors that impede company activities can be resolved in a timely manner, with relevant and accurate handlers so that company performance can run optimally. With OJK supervision in the form of the OJK-BOX (OBOX) application program, which allows OJK to carry out supervision, it will minimize the risks that arise and weaken the direction of the relationship between NPL, BOPO ratio and cash ratio to ROA.

Based on the theory and study of the results of previous studies, the research hypothesis can be formulated as follows, [H1] NPL has a negative effect on ROA; [H2] BOPO has a negative effect on ROA; [H3] Cash Ratio has a negative effect on ROA; and [H4] Variables of the OJK-BOX Application program (OBOX) moderate the relationship between NPL, BOPO, and Cash Ratio to East Java BPR ROA.

RESEARCH METHOD

The research sample is a particular item (object or information) taken from a much larger data set or we call it the population (Mendenhall & Beaver, 1992). The object in the sample being measured or studied is called the experimental unit or sample element. Based on the sampling process that has been carried out, the number of Rural Banks (BPR) that comply with predetermined criteria is 1260 samples. The observation period was carried out from December 2020 to June 2022 with financial reports published quarterly during March, June, September and December as shown in Table 1.

Table 1. Sampling Criteria

Number	Sampling Criteria	Total
1.	Conventional BPR have been registered on the OJK website in June 2021	278
2.	Rural Banks (BPR) that do not issue published reports in a row in the 4th quarter of 2020 to the 2nd quarter of 2022	27
3.	Rural Banks (BPR) that experienced losses during the sampling period (Q4 2020 to Q2 2022)	71
Number of Rural Banks (BPR) that meet the criteria		180
Number of observation periods		7
Total Sample		1.260

Source: data processed from conventional BPR published financial reports on the ojk.go.id website, 2023

Based on the Table 1., this study uses secondary data from textbooks, literature, reading materials, web searches and scientific journals about Rural Bank companies, statutory policies and published financial reports on the Financial Services Authority website with the website address ojk.go.id.

The type of research data uses panel data (a combination of time series data and cross section). Mendenhall & Beaver (1992) states that time series are variables observed at certain points in time (usually equidistant), and usually time series can be graphed and analyzed so that economists and business managers can predict their respective economic and business conditions in the future. Gujarati (2012) reveals cross section data as data consisting of one or more variables collected at the same time.

The testing phase begins with conducting a descriptive statistical analysis of the NPL, BOPO, cash ratio, and ROA variables. In terms of being able to provide an overview and sample description of the independent variables- dependent variables (samples collected by researchers). Ghozali (2018) states that descriptive statistics provide an overview through the average value (mean), standard deviation, variance, maximum, minimum, sum, range, kurtosis and skewness.

Determining the accuracy of the model needs to be done by testing several classical assumptions (Ghozali, 2018). In testing the classical assumptions for all parameter estimates or all regression equations that were formulated in this study were the normality test, heteroscedasticity test, and multicollinearity test, however, the autocorrelation test in this study was not required. Gujarati & Porter (2012) stated that if by chance the correlation occurs unit cross section then it is referred to as spatial autocorrelation.

Multiple linear regression testing was carried out for testing with the formulation, multiple linear analysis of independent variables on the dependent variable for all categories, multiple linear analysis of independent variables on the dependent variable for category 0 (before the OJK-BOX application program) and multiple linear analysis of independent variables on the dependent variable for category 1 (after the OJK-BOX application program).

The coefficient of determination in this test is indicated by R Square. The coefficient of determination will show how well the regression equation model explains the effect of the independent variables on the dependent variable.

The sub-group moderation method is used to prove whether the variable that is hypothesized to be a moderating variable is a moderating variable that affects the independent-dependent variable relationship. Moderation regression analysis of the sub-group method was carried out by dividing the sample of the moderating variable into 2 groups (Suliyanto, 2011). To determine the test results, the provisions are used if the value of $f_{count} > f_{table}$, then the moderating variable used is expressed as a moderating variable (Suliyanto, 2011).

With the formula the calculated F_{count} shown in formula 1.

$$F = \frac{(SSRT - SSRG)/k}{(SSRG)/(n1+n2-2k)} \textbf{(1)}$$

Based on the formula 1, where SSRT is the Sum Square Residual for all categories, SSRG is the Sum of Square Residual combined for category 0 (before the OJK-BOX application program) and for category 1 (after the OJK-BOX application program), n1 is the number of samples for category 0 (before application program OJK-BOX), n2 is the number of samples for category 1 (after the application program OJK-BOX), k is the number of research variables including dependent and independent variables.

RESULT AND DISCUSSION

Descriptive Statistical Analysis

In Table 2. is the Results of Descriptive Statistical Analysis.

Table 2. Results of Descriptive Statistical Analysis

	N	Range	Minimum	Maximum	Sum	Mean	Std. Deviation
NPL	1260	47.90	.00	47.90	8786.32	6.9733	6.78570
BOPO	1260	126.77	.00	126.77	99298.30	78.8082	12.20835
Cash Ratio	1260	4830.96	.00	4830.96	57083.33	45.3042	175.22840
ROA	1260	59.00	.00	59.00	5419.58	4.3013	3.51770
Valid N (listwise)	1260						

Source: Data processed using SPSS statistics 25, 2023

Based on the Table 2., the results of the descriptive statistical test, the maximum value of the dependent variable (ROA) is 59.00 which is the value of PT. BPR Wijaya Prima Kab. Jombang in the December 2021 published financial reports and a minimum value of 0 that occurred in 19 samples at 5 East Java Conventional Rural Banks (BPR) including PT. BPR Pandaan Arta Jaya, PT. BPR Elbaghraf Madura Independent, KOP. BPR Eka Usaha, PT. BPR Kertosono Saranaartha and PT BPR Putra Arta Dewata. The mean value of 4.3013 is higher than the standard deviation of 3.5177, indicating that the variable has a small distribution of data or data that is homogeneous.

The credit risk variable is shown through the NPL. This variable has a maximum value of 47.9 which comes from PT. BPR Lestari Nusantara Indonesia Sidoarjo Regency in the published financial reports for December 2020 and 0 which occurred in 14 samples at 6 conventional Rural Banks (BPR) in East Java including PT. BPR Pandaan Arta Jaya, PT BPR Sili Corp Bank, PT BPR Putra Arta Dewata, PT BPR Guna Yatra, PT. BPR Kertosono Saranaartha and PT. BPR Taman Dhana. The mean value of 6.9733 is higher than the standard deviation of 6.78570, which indicates that this variable has a small data distribution or data that is homogeneous.

The operational risk variable is shown through BOPO, with a maximum value of 126.77 coming from PT. BPR Persada Guna in December 2021 and a minimum value of 0 that occurred in 2 samples of conventional Rural Banks (BPR) in East Java, including PT. BPR Pandaan Arta Jaya and PT BPR Putra Arta Dewata. The mean value is 78.80 which is higher than the standard deviation of the variable.

The liquidity variable is shown through the cash ratio, which is the ratio of liquid assets (cash and cash equivalents) to short-term debt. In the descriptive statistical test, the

variable has a maximum value of 4830.96 which comes from PT. BPR Kertosono Saranaartha Kab. Nganjuk in June 2022 and the minimum value of 0 that occurred in 3 samples of conventional East Java Rural Banks (BPR) including (1) PT. BPR Pandaan Arta Jaya, (2) PT BPR Putra Arta Dewata, and (3) PT. BPR Dharma Raga. The mean value is 45.30 which is lower than the standard deviation, which indicates that the data distribution is not normal

Multiple Linear Regression Testing Using the Sub-Group Method
Regressing the Independent Variables (NPL, BOPO, and Cash Ratio) to the Dependent Variable (ROA) for All Categories
Classic assumption test

The tests that must be fulfilled are the normality test using the Kolmogorov-Smirnov test method, the heteroscedasticity test using the Park method, and the multicollinearity test with TOL and VIF values.

The normality test using 1,260 shows the value of Sig. (2-tailed) 0.000 <0.05, which means that the standardized residual values are declared to be spread abnormally. Suliyanto (2011) said that if the assumption of normality is not met, then one of the procedures for dealing with abnormal distributions is to remove data that is considered to be the cause of abnormal data or eliminate outlier data (outlier data). In this test, there are outlier data from 56 conventional rural banks in East Java or 392 outlier data samples which are eliminated so that the data is normally distributed. The resulting output after eliminating the Sig value outlier data. (2-tailed) is 0.200 > 0.05, so the normality assumption is fulfilled.

In testing the heteroscedasticity test using the Park method, the results of the coefficient value are sig. NPL 0.217 > 0.05, sig. BOPO > 0.586, and sig cash ratio 0.780 > 0.05, and it can be concluded that all independent variables do not experience symptoms of heteroscedasticity, and the assumption of heteroscedasticity is met.

Based on the multicollinearity test with the TOL value and the VIF value on the coefficient, it can be seen that the VIF on the NPL variable is 1.031, BOPO is 1.65 and the cash ratio is 1.034. The value of this variable is less than 10, so the regression model does not have multicollinear symptoms. In addition to using the VIF value, collinearity symptoms can also be seen from the TOL output value in the test. The TOL NPL value is 0.970, BOPO is 0.939 and the cash ratio is 0.967. The TOL results show that the value is close to 1, so that there is greater evidence if there is no collinearity.

Parameter Estimation and Parameter Testing
In Table 3., is Regression Test Results for Entire Category**.**

Table 3. Regression Test Results for Entire Category

Coefficients[a]						
	Model	Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	20.480	.252		81.325	.000
	NPL	-.017	.005	-.043	-3.217	.001
	BOPO	-.208	.003	-.910	-67.548	.000
	CASH RATIO	.002	.001	.026	1.945	.052
a. Dependent Variable: ROA						

Source: Data processed using SPSS statistics 25, 2023

The test results in Table 3. obtained the regression equation model shown in formula 2.

$$Y = 20,48 - 0.017X1 - 0,208X2 + 0,002X3 + \varepsilon \quad (2)$$

Based on the formula 2, where Y is ROA, X1 is NPL Ratio, X2 is BOPO Ratio, X3 is Cash Ratio, and ε is standard error

Coefficient of Determination

The test results show that the R Square value or the coefficient of determination of the regression model equation is 0.853, so that the ROA regression equation model can be explained by the NPL, BOPO, and cash ratio variables of 85.3% and the rest is explained by other variables.

Linear Regression on Independent Variables (NPL, BOPO, and cash ratio) to Dependent Variable (ROA) for Category 0 (before the OJK-BOX application program) Classic assumption test

The normality test on the samples before the OJK-BOX application program which had been eliminated previously showed a Sig. (2-tailed) 0.200 > 0.05, indicating that the standardized residual values are spread normally, and the assumption of normality is met. From the results of the coefficient value of sig. NPL 0.702 > 0.05, sig. BOPO 0.735 > 0.586, and sig cash ratio 0.708 > 0.05, so the heteroscedasticity assumption is met.

The test results on the coefficient value show that the VIF value on the NPL variable is 1.028, BOPO is 1.056 and the cash ratio is 1.029. The value of this variable is less than 10, so the regression model does not have multicollinear symptoms. Symptoms of collinearity can also be seen from the TOL output value in the test. The TOL NPL value is 0.972, BOPO is 0.947 and the cash ratio is 0.972. The TOL results show that the value is close to 1, so that there is greater evidence if there is no collinearity.

Parameter Estimation and Parameter Testing

In Table 4., is Regression Test Results.

Table 4. Regression Test Results for Category 0 (before implementing the OJK-BOX application program)

Coefficients[a,b]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	20.822	.331		62.829	.000
	NPL	-.017	.007	-.041	-2.385	.017
	BOPO	-.211	.004	-.911	-52.197	.000
	CASH RATIO	.003	.001	.044	2.530	.012

a. Dependent Variable: ROA

b. Selecting only cases for which Z = SEBELUM PROGRAM

Source: Data processed using SPSS statistics 25, 2023

The results of the multiple linear regression test in Table 4. obtained the regression equation model shown in formula 3.

$$Y_0 = 20,822 - 0.017X1 - 0,211X2 + 0,003X3 + \varepsilon \quad (3)$$

Base on the formula 3, where Y_0 is ROA for category (0) before implementing the

OJK-BOX (OBOX) application program, X1 is the NPL Ratio, X2 is the BOPO Ratio, X3 is the Cash Ratio, ε is the standard error.

Coefficient of Determination

The coefficient of determination of the regression model equation is 0.858, indicating that ROA can be explained by the NPL, BOPO, and cash ratio variables of 85.8%. While the remaining 14.2% is caused by other variables not analyzed

Linear Regression on Independent Variables (NPL, BOPO, and cash ratio) against Dependent Variables for Category 1 (after the OJK-BOX application program)

Classic assumption test

The normality test on the samples after the previously eliminated OJK-BOX application program showed a Sig. (2-tailed) 0.152 > 0.05, indicating that the standardized residual values are normally distributed, so that the assumption of normality is met.

From the results of the coefficient shows the value of sig. NPL of 0.937 > 0.05, sig. BOPO 0.098 > 0.05, and a sig cash ratio of 0.708 > 0.200. The results above show that the regression model does not experience symptoms of heteroscedasticity, so that the assumption of heteroscedasticity is fulfilled

The test results on the coefficient value show that the NPL VIF value is 1.036, BOPO is 1.078 and the cash ratio is 1.041. The value of this variable is less than 10, so the regression model does not have multicollinear symptoms.

Symptoms of collinearity can also be seen from the TOL output value in the test. The TOL NPL value is 0.965, BOPO is 0.928 and the cash ratio is 0.972, the TOL results show that the value is close to 1, so that the greater the evidence if there are no collinearity symptoms

Parameter Estimation and Parameter Testing

In Table 5., is Regression Test Results Regression for Category 1 (After implementing the OJK-BOX application program).

Table 5. Regression Test Results Regression for Category 1 (After implementing the OJK-BOX application program)

Coefficients[a,b]

Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	20.055	.378		53.066	.000
	NPL	-.014	.007	-.041	-1.994	.047
	BOPO	-.204	.005	-.915	-44.103	.000
	CASH RATIO	5.167E-5	.001	.001	.041	.967

a. Dependent Variable: ROA

b. Selecting only cases for which Z = SESUDAH PROGRAM

Source: Data processed using SPSS statistics 25, 2023

Based on the Table 5., the results of the multiple regression test above obtained the regression equation model, shown in formula 4.

$$Y_1 = 20,055 - 0.014X1 - 0,204X2 + 5,16X3 + \varepsilon \quad (4)$$

Where Y_1 is ROA for category (1) After implementing the OJK-BOX (OBOX) application program, X1 is the NPL Ratio, X2 is the BOPO Ratio, X3 is the Cash Ratio and ε is the standard error

Coefficient of Determination

From the output above, the R Square value or the coefficient of determination from the regression model equation is 0.858, so ROA can be explained by the NPL, BOPO, and cash ratio variables of 85.3%. While the remaining 14.7% is caused by other variables.

Chow Test with Sub-Group Moderation Method

From multiple linear regression analysis, the sum of square residuals for all categories obtained an SSRT value of 635.628 then for the sum of square residuals category (0) the SSR1 value was 363.506 and for the sum of square residuals category (1) the SSR2 value was 255.847, the sum of square residual value combined (SSRG) of 619,353 Using the sub-group moderation method, the calculated F value formula is shown in formula 5.

$$F = \frac{(SSRT - SSRG)/k}{(SSRG)/(n1+n2-2k)} \qquad (5)$$

Based on the formula 5, where F is Fcount, SSRT is Sum Square Residual for all categories, SSRG is Sum Square Residual combined for category 0 (before the OJK-BOX application program) and for category 1 (after the OJK-BOX application program), n1 is the number of samples for the category 0 (before the OJK-BOX application program), n2 is the number of samples for category 1 (after the OJK-BOX application program), and k is the number of research variables including dependent and independent variables.

$$F = \frac{(635{,}628 - (363{,}506 + 255{,}847))/4}{(363{,}506 + 255{,}847)/(496 + 372 - 8)}$$

$$F = \frac{16{,}275/4}{619{,}353/860}$$

$$F = \frac{4{,}06875}{0{,}720178}$$

$$F = 5{,}649646 \qquad (6)$$

Then F_{count} that obtained is F_{count} = 5,6949646

With $F_{table\ (0,05;\ k;\ n1+n2-2k)}$ or $F_{table\ (0,05;4;860)}$ = 2,3822831

In this test, the results obtained from Fcount are greater than Ftable, so it can be concluded that the OJK-BOX application program moderates the relationship between NPL, BOPO and cash ratio variables to ROA.

Interpretation and Analysis of Research Results

Effect of NPL Ratio on Return on Assets (ROA)

To define credit risk, the NPL ratio is used to test ROA. NPL is a comparison scale between non-performing loans and total loans distributed by the company to customers. The NPL ratio describes how well a company is managing credit. In theory, good corporate governance regulations are structured to support good corporate governance and improve the success of BPR businesses, so that credit risk governance can support companies to increase business success by taking into account other stakeholders.

The results of testing the hypothesis show that credit risk, which is proxied by the NPL ratio, has a negative effect on ROA. In testing using multiple regression analysis, the results show a significant value of 0.047 <0.05 with a negative coefficient value. It can be said that the greater the credit risk, the greater the probability that the ROA value decreases and vice versa, the lower the company's credit risk indicates that the greater the probability of the value ROA goes up. The results of this study support the research of Fanny et.al (2020) and Alfianda & Widianto (2020), stating that NPL has a negative effect

on ROA, which is different from the Ardiansyah test (2020) which states that NPL has no significant effect on ROA.

Effect of BOPO Ratio on Return on Assets (ROA)

To define operational risk, the BOPO ratio is used to test ROA. Rivai et.al (2017) define the BOPO ratio as a measure of the level of efficiency and ability of a bank to carry out its operational activities.

The test results of the hypothesis show that operational risk proxied by NPL has a negative effect on ROA, so the second hypothesis is accepted. The test results show that the greater the operational risk, the greater the probability that ROA will decrease and vice versa, the lower the company's operational risk indicates that the greater the probability that the value of ROA will increase. The results of this study support the research o f Adyani (2011) testing that partially BOPO has a significant negative effect on ROA, which is different from Eng (2013) research which states that BOPO has no significant effect on ROA.

Effect of Cash Ratio on Return on Assets (ROA)

Liquidity risk is indicated by the cash ratio is used to test the effect on ROA. In preparing the previous hypothesis, the cash ratio is hypothesized as a variable that negatively affects ROA. However, in the tests conducted, the cash ratio did not have a significant effect on ROA, and even had a positive coefficient value, which is different from the expected hypothesis.

In the test, the test results were obtained with a significant 0.967 > 0.05, so the high or low cash ratio did not have a significant effect on ROA.

There are differences in the effect of the relationship between NPL, BOPO and cash ratio on ROA before and after the OJK-BOX (OBOX) application program

The OJK-BOX Application Program (OBOX) is a digital risk monitoring program for BPR activities with a reporting period every 2 weeks. This supervision seeks to minimize risks (credit risk, operational risk and liquidity risk) that will arise in BPR activities, with regular OJK supervision of BPR. By utilizing information technology under OJK supervision, risk factors that impede company activities can be resolved in a timely manner, with relevant and accurate handlers so that the company's performance can run optimally. In the theory of good corporate governance, regulations are structured to support good corporate governance and improve the success of BPR businesses, so that with governance in risk profile management, companies can increase the success of business continuity.

Testing of this hypothesis shows that the variable OJK-BOX application program moderates the relationship between the independent variables and the dependent variable, so that the fourth hypothesis is accepted. The results of this test are indicated by the value of Fcount > Ftable.

The purpose of monitoring according to Juliana (2021) is used to identify various inhibiting factors that affect various company operational activities, and take corrective actions needed so that goals can be achieved. Wilkinson and Cerullo (2020) explain that the use of technology can meet the information needs in business activities in a fast, timely, relevant and accurate manner. So that by utilizing information technology under OJK supervision, risk factors that impede company activities can be resolved in a timely manner, with relevant and accurate handlers so that company performance can run optimally. With OJK supervision in the form of the OJK-BOX (OBOX) program, which allows OJK to carry out supervision, it will minimize the risks that arise and weaken the direction

of the relationship between NPL, BOPO ratio and cash ratio to ROA.

Hypotheses 1 to 3 explain that the NPL, BOPO ratio and cash ratio have a negative effect on the profitability ratio (ROA). So, with the existence of OJK-BOX (OBOX) supervision, it is hoped that supervision will minimize risks that arise and weaken the direction of the relationship between NPL, BOPO ratio and cash ratio to ROA. However, based on test results, this supervision can only weaken the direction of the relationship between NPL and BOPO and ROA. The following is a comparison of the regression equation model in the test results for category (0) before the OJK-BOX application program and for category (1) after the OJK-BOX application program

$$Y_0 = 20,822 - 0.017X1 - 0,211X2 + 0,003X3 + \varepsilon \quad (7)$$
$$Y_1 = 20,055 - 0.014X1 - 0,204X2 + 5,16X3 + \varepsilon \quad (8)$$

The results of testing hypotheses 1, 2 and 3 previously, the third hypothesis with the variable cash ratio (X3) was rejected, so that in this comparison the only variables that can be compared are NPL (X1) and BOPO (X2). Based on the regression model equation above, it can be seen that the moderating variable (OJK-BOX supervision program) moderates (weakens) the relationship between the independent variables (NPL & BOPO) on ROA.

CONCLUSION

NPL has a negative and significant effect on ROA, which means that the greater the credit risk proxied by the NPL ratio, the greater the probability that the ROA value will decrease and vice versa, the lower the company's credit risk indicates that the greater the probability that the ROA value will increase.

The BOPO variable has a significant negative effect on ROA, which indicates that the greater the operational risk proxied by the BOPO ratio, the greater the probability that the ROA value decreases and vice versa, the lower the company's operational risk indicates that the greater the probability that the ROA value increases.

The cash ratio has no significant effect on ROA, meaning that the high or low value of the cash ratio does not have a significant effect on ROA.

The OJK-BOX application program affects the relationship between independent-dependent variables. From the comparison of the previous regression model equations, it can be seen that the moderating variable (OJK-BOX supervision program) influences the relationship between the independent variables on ROA, and the OJK-BOX program as a form of OJK oversight is able to minimize the risks that arise and weaken the relationship between NPL, BOPO ratio and cash ratio to ROA.

RECOMMENDATION

The addition of the observation period is needed to describe trends in the implementation of the OJK-BOX program. Observations from another perspective are needed, besides the financial performance of the East Java Conventional BPR, so that the impact of the OJK-BOX application program can be more empirically described. More in-depth testing is needed on how the OJK-BOX (OBOX) application program variables moderate the relationship between independent-per-variables. In further research, Rural Banks (BPR) with losses in the current year can also be tested, so that the impact of the digital-based OJK supervision program can be more clearly explained, especially for Rural Banks (BPR) with less than optimal performance.

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