



## **FINANCIAL RATIOS PREDICTORS OF FINANCIAL SUSTAINABILITY OF THE BANKING SECTOR IN INDONESIA**

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### **Abstract**

This study was conducted to predict the effect of financial ratios on the Financial Sustainability Ratio (FSR). The financial ratios used include Non-Performing Loan (NPL), Loan Deposit Ratio (LDR), Net Interest Margin (NIM), Return on Assets (ROA), Capital Adequacy Ratio (CAR), and Operating Expenses to Operating Income (BOPO). Sampling using purposive sampling of as many as 36 Conventional Commercial Bank companies in Indonesia with a research period of 2019-2021 so that 108 observation data were obtained. The analysis method used is multiple linear regression analysis, and the test results show that NPL, LDR, NIM, CAR, and BOPO do not affect FSR. Meanwhile, ROA has a positive influence on FSR. The prediction results of this study estimate that NPL, LDR, NIM, ROA, CAR, and BOPO can influence 6.7% of FSR changes. Meanwhile, 93.3% is influenced by other variables not included in the research model. Therefore, the suggested implication for the company is the company needs to maintain bank performance to increase customer confidence in banks, and banks must have the ability to manage funds to increase ROA.

**Keywords:** FSR, NPL, LDR, NIM, ROA, CAR, BOPO

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## **INTRODUCTION**

The banking sector is a development sector and a driver of the national economy (Ramadhani & Indriani, 2016). The banking sector needs to maintain the financial system's stability as an illustration of the feasibility of banks that become a public judgment. The public relies on banks as issuers that can raise funds from various sources (Ambaroita, 2015). The primary function of banks is to obtain funds from the general population and disperse them via credit or other means (Masodah, 2018). Therefore, the banking sector is the basis of a country's economy that must be resilient and strong in all situations to maintain the country's economic activities (Adeabah & Andoh, 2020).

In recent years, the banking sector in the world, especially in Indonesia, has been going through crisis conditions with the issuance of Law No.2 of 2020 concerning its amendment to Law No.1 of 2020 concerning overcoming the Covid-19 pandemic to overcome risks that are detrimental to the national economy or financial equilibrium into law on financial policy and financial systems. Law No.2 of 2020 discusses the establishment of the Financial System Stability Committee, which is tasked with coordinating the deterrence and overcoming of financial system crises to advance the interests and resilience of the country's economy in the face of the Covid-19 pandemic (Undang-Undang Republik Indonesia, 2020). The Covid-19 pandemic has significantly impacted the Indonesian economy and has significantly disrupted economic activity. Since the pandemic in 2020, Indonesia's economic growth has decreased to 2.97% from 5.02% in 2019 and is at its weakest point (Akhmad, 2022). OJK

issued a policy in 2020 regarding the consolidation of commercial banks to increase capital and support banking consolidation to improve the competence and competitiveness of Indonesian banks. This is a component of an initiative to improve banking issuers, resilience, and competitiveness, which in turn will drive broader national stability and growth and motivate banks to improve economies of scale to be more effective. Following the policy, commercial banks must have IDR 1 trillion in core capital by 2020, IDR 2 trillion by 2021, and IDR 3 trillion by 2022. To increase the scale and competitiveness of banks, the minimum core capital arrangement that initially required a minimum of IDR 100 billion was deemed no longer applicable. As a result of the widespread effects of a pandemic on commercial debtors, who often had trouble meeting their obligations, the banking environment was extremely susceptible during a pandemic. A decrease in bank performance will undoubtedly result from this. Throughout 2020, the banking sector's intermediation performance declined less than it did during the prior time frame. The profitability value, which tends to decline in 2020, serves as a sign of this (Hartadinata & Varihah, 2022). However, the Covid-19 pandemic has also forced banks to adapt to the new normal situation after Covid-19 through the acceleration of banking technology that can ultimately maintain business resilience (Otoritas Jasa Keuangan, 2021).

During a pandemic emergency, efficiency is crucial. They are optimizing the output of resource use to support overall company performance (Awaluddin et al., 2019). The banking sector always prepares an annual report to assess the company's

performance over a year (Notalin et al., 2021). As key middlemen for numerous industrial sectors, banks are one of the financial services sectors that actively support sustainable finance. Financial transactions in almost all industrial sectors must be handled by banks. Banks have the power to finance sustainable businesses through this position. According to the Indonesian Financial System Statistics (SSKI), the banking sector held around 78.4% of all financial assets in Indonesia as of the end of 2020, with the remaining 21.6% being held by non-bank financial institutions such as the capital market, insurance, and pension funds. This indicates that banks play a significant role in the movement of financial assets in Indonesia. Hence, banks can become a driving force in sustainable economic development by implementing sustainable finance (Hartadinata & Varihah, 2022). The annual financial statements can be used to assess the company's health. High and low financial sustainability ratios are used to calculate bank profitability based on various levels. Financial sustainability ratios are important because they can be used to estimate the quality of a bank's expansion and its capacity to maintain its financial performance over short and long periods to continue to achieve its desired financial goals (Arifani, 2020).

The FSR, or financial sustainability ratio, is used in assessing the sustainability of banks from the perspective of their financial performance. By utilizing information or data collection from financial statements, namely income statements and balance sheets. Suppose the percentage value is  $> 100\%$ , which means that the value of all income exceeds the total value of funds released by the bank within a certain period. In that case, financial sustainability is considered good

(Ardilla, 2016). FSR is obtained by comparing all financial income with total expenses (Munandar & Aravik, 2022).

Previous research to examine the effect of NPL, LDR, BOPO, and NIM on FSR in Islamic Commercial Banks in Indonesia has been conducted by (Arifani, 2020). There are several limitations of the study, namely only four internal components of banking performance ratios used to include NPL, LDR, BOPO, and NIM, covering Islamic commercial banks only, and the sample in the study was limited to 13 Islamic Commercial Banks with a study period of only three years. Therefore, researchers are interested in fulfilling this research by adding independent variables, namely ROA and CAR at Conventional Commercial Banks in Indonesia with a research period of 2019 to 2021.

## **LITERATURE REVIEW**

### **Conventional Commercial Banks**

A banking financial institution functions as an intermediary institution for payments and a government agency for setting monetary policy, making it essential to the economy's health (Thayib et al., 2017). The core task of a bank is to collect money from the public and disseminate that money to the public through credit or other means (Masodah, 2018). In terms of its role, there are two models of banks, namely Commercial Banks and Rural Banks (BPR). Commercial Banks are institutions that conduct business activities conventionally, follow established sharia law, and offer payment processing services as a component of their commercial activities. Meanwhile, BPR is a bank that conducts its business activities in a conventional style or in accordance with sharia law but does not offer services in alternative payments as part of its

business activities. In addition, if observed in terms of efforts to set prices, there are two ways: based on sharia principles and conventional principles. Sharia principles apply the norms of authorization based on Islamic law between banks and other parties in terms of saving and commercial funding or other financial activities.

Meanwhile, this conventional principle is predominantly used by banks that have developed in Indonesia. In conventional principles, banks use two techniques to seek profit and set prices for customers: paying fees at a particular nominal or percentage level by using interest as a selling price (Hardianti, 2018). There are several business activities of conventional commercial banks, namely (1) collecting money from the people in the form of savings, current accounts, deposits, and other types of deposits, (2) transferring funds by mail, telephone, draft, check, or other means into another bank, withdraw funds from another bank, or lend funds to another bank, (3) providing credit, (4) purchase, sale or provision of loans at personal risk for the benefit of and at the request of the customer, (5) raising funds from the debit of securities and executing details with or among third parties, (6) issuing debt acknowledgment letters, (7) transferring funds either for personal benefit or customer benefit, (8) carry out additional duties related to banking, provided that they comply with all valid laws and regulations, spelled out in the banking law, (9) prepare a place to secure securities, and (10) fulfill currency exchange following Bank Indonesia regulations (Bank Indonesia, 2017).

### **Financial Sustainability Ratio (FSR)**

Financial Sustainability Ratio is applied to assess the bank's sustainability from the perspective of its financial

performance. Banks should try to undertake activities that will increase expansion to increase revenue. FSR can be used to evaluate a company's potential to manifest and develop returns to realize and maintain existence over a long period. It can also be said that financial sustainability is crucial to determine the likelihood that the bank will continue to operate in the future (Widyaningsih, 2012). Data from financial statements, especially income statements and balance sheets, can be used to calculate FSR. Suppose the percentage value is  $> 100\%$ , which means that the total value of income exceeds the total value of funds issued by the bank within a certain period. In that case, financial sustainability is considered good. FSR is obtained by comparing all financial income with total expenses (Munandar & Aravik, 2022).

### **Non-Performing Loan (NPL)**

Following SAK No.31 amended 2000, NPLs are loans for which the main installment or interest payment has been overdue for 90 days or more (Juliani, 2022). NPLs are bad debts or uncollectible receivables because the debtor cannot fulfill the initial agreement. If the NPL ratio rises, it can be said that the credit quality is low because the bank's capital will decrease due to having to set aside more money for reserve funds. Bank Indonesia has made provisions for banks to keep the NPL percentage below 5% (Mada, 2015). The bank's ability to manage loans properly, including monitoring measures after the loan is disbursed and control measures. The high NPL rate will be significantly impacted if there are signs of credit irregularities or indicators of default (Firdaus, 2017).

### **Loan-to-Deposit Ratio (LDR)**

LDR measures the likelihood of a customer or borrower being able to withdraw funds from the bank. Each liquidity has a different level of withdrawal risk because demand deposits have higher liquidity, which is highly volatile and can be withdrawn at any time. Therefore, banks must be able to predict their liquidity needs to fulfill depositors' demand deposits. In other words, LDR measures a bank's ability to meet the demand of people who withdraw money from savings, current accounts, and deposits (Panjaitan, 2017). As the LDR increases, the bank is less likely to be liquid, and the bank will make more money or earn more profit. This is due to the number of total funds needed to handle loans. Based on Bank Indonesia (BI) regulations, the LDR level is 78% - 92% (Arifani, 2020; Hardianti, 2018; Saputra et al., 2018).

### **Net Interest Margin (NIM)**

NIM is the measure of net interest margin to average earning assets. Interest income and costs, including commission fees, are included in the annual net interest income. The difference between interest and interest expenses is net interest income. Meanwhile, the earning assets used are interest-bearing assets. The NIM ratio is used to gauge a bank's operational effectiveness and profitability, which is then examined to determine the bank's profitability. The larger the NIM percentage, the better the bank performs in generating interest income. Assuming that interest income must also be reinvested to preserve the bank's capital, it is crucial to ensure that this is not the result of significant intermediation costs (Moorey, 2020; Oktavianingsih, 2016).

### **Return on Assets (ROA)**

A company's ability to bring in money with all of its current assets is measured using a profitability ratio known as ROA, which subtracts expenses related to asset financing (Jufrizen & Al Fatin, 2020). The ROA threshold is above 1.5%, as stipulated by Bank Indonesia (BI). The bank's ROA increases if the amount of profit realized by the bank and the efficiency of the bank in using its assets (Hardianti, 2018). Bank efficiency measured by income from assets utilization and corporate effectiveness measured by ROA can show the effectiveness of the company. Therefore, ROA is an essential component of the company (Setiawan, 2017).

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

CAR, or capital adequacy ratio, is one of the factors considered in assessing the quality of a bank's prosperity. CAR measures how much capital a bank should have concerning its loans. The existence of a high CAR in a bank also indicates that profits are increasing and the bank's healthy financial position. CAR measures a bank's ability to maintain adequate capital and its management's capacity to recognize, assess, and manage risks that may impact capital levels. CAR is also related to loans provided by banks to their customers. Banks always need capital or funds to distribute loans. Therefore, banks receive capital from various sources: stockholders, government agencies, central banks, and domestic and international investors. In addition to channeling loans, these funds can be used for other profit-seeking purposes, such as carrying out interbank loans for one day to one week (Fajari & Sunarto, 2017).

### **Effect of Operating Expenses on Operating Income (BOPO)**

Evaluation of the efficiency and performance of bank operations is done by using the BOPO ratio. Operating expenses are costs incurred when carrying out its primary business operations. Examples of operating costs include employee, interest, marketing, and other costs. The bank's primary source of income is operating income, which includes additional operating income and income from the allocation of funds as credit. Interest expenses and interest returns dominate operating expenses and operating income because the core role of a bank is to act as a conduit, collector, and distributor of funds. According to Bank Indonesia (BI), the BOPO threshold is less than 92%. The bank's efficiency in containing operating costs will increase as the BOPO ratio decreases (Arifani, 2020; Suwandi & Oetomo, 2017; Wibisono & Wahyuni, 2017).

### **Hypothesis Development**

NPL is considered as indicator of financial sustainability for banking sector (Zheng et al., 2020). NPL is a metric used to evaluate a bank's financial performance. NPL reflects the credit risk of bank. The smaller NPL indicates the lower credit risk of the bank and improved performance, it can increase the FSR (Zheng et al., 2020). If the NPL value exceeds the threshold, the bank will be considered problematic, where NPL is the consideration between non-performing loans and total loans from the bank. An increase in the NPL value indicates that more non-performing loans will make it difficult for the bank to disburse the funds it has issued (Rianasari & Pangestuti, 2016; Saputra et al., 2018). Study (Agustiningrum,

2013) states NPL has a negative effect and significant on profitability and it will effect to the sustainability of bank. Study of (Notoatmojo & Rahmawaty, 2016; A. Santoso & Sofiatun, 2022) results, NPL has a negative effect on FSR. NPLs significantly affect the proportion of funding channeled by banks. High NPLs will have an unfavorable effect where the bank will experience bankruptcy, and low NPLs reflect that the bank can continue its business with a larger FSR.

H1: NPL has a negative and significant effect on FSR.

LDR is the consideration between loans distributed and third-party funds used to determine bank liquidity. The bank will benefit if it can distribute all the funds received, but it will be dangerous if the owner decides to withdraw funds. On the other hand, if the bank does not manifest its money, then the bank will also be threatened to have the opportunity to make a profit (Fajari & Sunarto, 2017). Study of (Permatasari et al., 2017) show that LDR has a negative effect on company performance. The company's performance will affect financial sustainability. The result of the (Irianto, 2021; Oktavianingsih, 2016; Rianasari & Pangestuti, 2016) study, LDR positively affects FSR. Therefore, it can be stated that every loan issued is not always a loan that is categorized as current. There are still loans categorized as inadequate, substandard, and dubiety.

H2: LDR has a positive and significant effect on FSR.

NIM reflects the bank's ability to place profitable assets and generate net interest income. The ability of a bank to earn significant profits depends on its level of

profitability, so the higher the NIM, the more likely the bank can survive. The explanation provided by (Arifani, 2020; Irianto, 2021) leads to the conclusion that NIM has a favorable impact on FSR. A bank's sustainable financial performance is more dependable the more net interest revenue it can produce from earning assets.

H3: Net Interest Margin has a positive and significant effect on FSR.

The ratio of a bank's profit before taxes to its total assets is known as its ROA. A bank's capacity to continue operating sustainably increases in line with a high ROA because it generates more funds and can better utilize its assets. A bank will experience difficulties if it has a low ROA. According to the results of (Irianto, 2021; Notoatmojo & Rahmawaty, 2016; Nurhikmah & Rahim, 2021; Wahyuni & Fakruddin, 2014) analysis, ROA positively affects FSR. ROA reflects that the bank can generate profits directly proportional to the FSR. If ROA increases, then FSR will also increase.

H4: ROA has a positive and significant effect on FSR.

CAR reflects the total capital required to offset the risk of loss associated with investments in risky assets and to fund all fixed assets and inventories of the bank. The bank performs better and takes on less risk the more significant the profit it generates. According to (Abbas et al., 2020; Munandar & Aravik, 2022; Oktavianingsih, 2016) review, CAR has a negative impact on FSR. The greater the CAR, the greater the bank's idle funds. This situation has implications for the bank's performance which is less effective because there are many idle funds.

H5: CAR has a negative and significant effect on FSR.

BOPO measures a company's financial performance from an efficiency perspective. Specifically, the bank's capacity to control costs implies that the healthier a bank is, the fewer operating expenses are incurred for operating income. BOPO is a ratio used to measure the effectiveness of bank operations or the number of bank costs paid to acquire productive assets. By considering operating expenses with operating income, this ratio will assess the effectiveness of a bank's operational cost management. Study of According to (Munandar & Aravik, 2022; Notoatmojo & Rahmawaty, 2016; Yuliawati et al., 2020) interpretation, it is concluded that BOPO has a negative and significant impact on FSR. This means that an increase in BOPO will cause a decrease in FSR, and a decrease in BOPO will cause an increase in FSR. To increase profits and be able to maintain operating costs, banks must be able to reduce BOPO.

H6: BOPO has a negative and significant effect on FSR.

Based on the development of the hypothesis that has been explained, the research model in Figure 1 is produced.

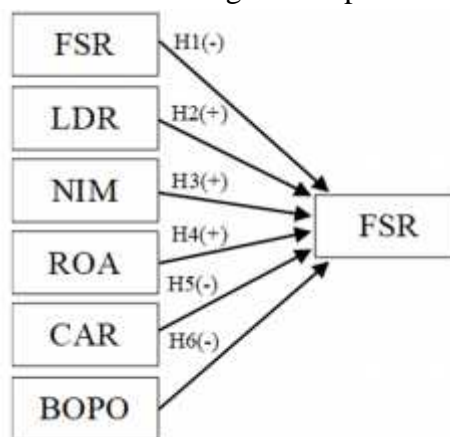


Figure 1. Research Model

## RESEARCH METHODS

This study uses descriptive quantitative research by analyzing numerical data and testing hypotheses with multiple linear regression analysis after the classical assumption test is met. The population of this study is Conventional Commercial Banks in Indonesia in 2019-2021 listed on the Indonesia Stock Exchange with sample restrictions applying purposive sampling techniques, namely Conventional Commercial Banks in Indonesia in 2019-2021 listed on the IDX and presenting annual finance reports sourced from [www.idx.co.id](http://www.idx.co.id) in the 2019-2021 period. There are 36 banks with a period of three years, so the sample in this study amounted to 108 samples.

### Operational Definition of Variables

#### Dependent Variable

The dependent variable in this study is FSR. FSR is used to assess the level of bank sustainability from the perspective of its financial performance. FSR can be formulated as follows (Oktavianingsih, 2016)

$$FSR = \frac{\text{Total Financial Income}}{\text{Total Financial Expenses}} \times 100\%$$

#### Independent Variable

##### NPL

NPLs are loans where the main installment or interest payment has exceeded the due date by 90 days or more. NPL can be formulated as follows (Setyarini, 2020) :

$$NPL = \frac{\text{Non - Performing Loans}}{\text{Total Credit}} \times 100$$

##### LDR

LDR measures the bank's ability to meet the demand of people who withdraw money from savings, current accounts, and

deposits. LDR can be formulated as follows (Setyarini, 2020) :

$$LDR = \frac{\text{Credit Granted}}{\text{Third Party Funds}} \times 100\%$$

##### NIM

NIM is used to assess the amount of operational effectiveness and profitability achieved by the bank, which is analyzed to show a bank's profitability. NIM can be formulated as follows (Setyarini, 2020) :

$$NIM = \frac{\text{Net Interest Income}}{\text{Earning Assets}} \times 100\%$$

##### ROA

ROA measures the company's ability to profit from all its current assets that reduce expenses related to asset financing. ROA can be formulated as follows (Setyarini, 2020) :

$$ROA = \frac{\text{Profit Before Tax}}{\text{Total Assets}} \times 100\%$$

##### CAR

CAR, or capital adequacy ratio, is one of the elements considered in assessing the quality of bank prosperity. CAR can be formulated as follows (Setyarini, 2020) :

$$CAR = \frac{\text{Total Capital}}{\text{Total ATMR}} \times 100\%$$

##### BOPO

BOPO is used to evaluate the efficiency and performance of bank operations. BOPO can be formulated as follows (Setyarini, 2020) :

$$BOPO = \frac{\text{Operating Costs}}{\text{Operating Income}} \times 100\%$$



**RESULTS AND DISCUSSION**

**Descriptive Statistical Analysis**

The descriptive statistical analysis explains or describes data based on mean, variance, maximum, minimum, range, standard deviation, sum, skewness, and kurtosis. The NPL variable has a mean value of 1.630 with a standard deviation of 1.291, a minimum of 0.00, and a maximum of 4.96. The LDR variable has a mean value of 87.022 with a standard deviation of 32.717, a minimum of 12.35, and a maximum of 241.98. The NIM variable has a mean value of 4.174 with a standard deviation of 1.902, a minimum of -3.52, and a maximum of 8.30. The ROA variable has a mean value of 0.481 with a standard deviation of 3.283, a minimum of -15.89, and a maximum of 5.16. The CAR variable has a mean value of 31.087 with a standard deviation of 28.264, a minimum of 11.59, and a maximum of 201.57. The BOPO variable has a mean value of 93.784, a standard deviation of 39.158, a minimum of 28.30, and a maximum of 287.86. And the FSR variable has a mean value of 135.048 with a standard deviation of 44.609, a minimum of 24.20, and a maximum of 311.10.

Table 1. Descriptive Statistic  
On the IDX for the 2019-2021 period

	N	Minimum	Maximum	Mean	Std. Deviation
NPL	108	0,00	4,96	1,630	1,291
LDR	108	12,35	241,98	87,022	32,717
NIM	108	-3,52	8,30	4,174	1,902
ROA	108	-15,89	5,16	0,481	3,283
CAR	108	11,59	201,57	31,087	28,264
BOPO	108	28,30	287,86	93,784	39,158
FSR	108	24,20	311,10	135,048	44,609
Valid N (listwise)	108				

Source: SPSS Processing Results (2022)

**Classical Assumption Test**

**Normality Test**

The Normality Test determines whether or not the regression model's residual variables are regularly distributed. If the Kolmogrov-Smirnov statistic is significant ( $p > 0.05$ ), the variable is said to be regularly distributed. Based on the normality test with the One-sample Kolmogrov-Smirnov Test, the sig is  $0.064 > 0.05$ , so it can be said that the data is usually distributed.

Table 2. Normality Test Results  
One-sampe Kolmogrov-Smirnov

N		91
Test Statistic		0,090
Asymp. Sig. (2-tailed)		.064 <sup>c</sup>

Source: SPSS Processing Results (2022)

**Multicollinearity Test**

A multicollinearity test is conducted to prove that the independent variables must be free from multicollinearity symptoms. All independent variables have a tolerance value  $> 0.10$  and a VIF  $< 10$  when examined from the results of the multicollinearity test. It might be said that there are no signs of variable multicollinearity.

Table 3. Multicollinearity Test Results

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
LNNPL	0,731	1,368
LNLDR	0,894	1,118
LNNIM	0,661	1,513
LNROA	0,477	2,097
LNCAR	0,747	1,340
LNBOPO	0,604	1,655

Source: SPSS Processing Results (2022)

**Autocorrelation Test**

The autocorrelation test looks for the relationship between confounding errors in period t-1 (previous) and confounding errors in period t. Based on the results of the autocorrelation test, the DW value is 2.109. Significance of 5%, a total sample of 91 (n=91), and the number of independent variables 6 (k=6), then the dU value = 1.802, so the 4-dU value = 2.198. Based on these results, it can be concluded that  $dU < DW < 4-dU$  ( $1.802 < 2.109 < 2.198$ ) in this study does not have autocorrelation symptoms.

Table 4. Autocorrelation Test Result

Model	Durbin-Watson
1	2.109

Source: SPSS Processing Results (2022)

**Heteroscedasticity Test**

The heteroscedasticity test is used to examine whether there are consistent differences in variance between regression models when comparing one observation's residuals to another's residuals. It might be claimed that there are no signs of heteroscedasticity since all independent variables have sig values above 0.05, according to the findings of the heteroscedasticity test.

Table 5. Heteroscedasticity Test Result

Model	Sig.
1 (Constant)	0.289
LNNPL	0.229
LNLDR	0.234
LNNIM	0.750
LNROA	0.829
LNCAR	0.269
LNBOP	0.781

Source: SPSS Processing Results (2022)

**Hypothesis Test**

**Multiple Linear Regression Analysis**

Analyzing the effects of numerous independent variables on numerous dependent variables is done using multiple linear regression analysis. The results of the analysis obtained the equation:

$$Y = 6.326 - 0.057X_1 - 0.097X_2 + 0.080X_3 + 0.085X_4 - 0.064X_5 - 0.196X_6 + e$$

Information:

a: 6.326. The constant value of 6.326 means that if NPL, LDR, NIM, ROA, CAR, and BOPO are zero, then FSR will increase by 6.326%. The positive sign means that there is a one-way relationship between the independent variable and the dependent variable.

b1: -0.057. The NPL regression coefficient is -0.057, meaning that FSR will decrease by 0.057% if NPL increases by 1% and other factors are constant.

b2: -0.097. The LDR regression coefficient is -0.097, meaning that FSR will decrease by 0.097% if LDR increase by 1% and other factors are constant.

b3: 0.080. The NIM regression coefficient is 0.080, meaning that FSR will increase by 0.080% if NIM increases by 1% and other factors are constant.

b4: 0.085. The ROA regression coefficient is 0.085, meaning that FSR will increase by 0.085% if ROA increases by 1% and other factors are constant.

b5: -0.064. The CAR regression coefficient is -0.064, meaning that FSR will decrease by 0.064% if CAR increases by 1% and other factors are constant.

b6: -0.196. The BOPO regression coefficient is -0.196, meaning that FSR will decrease by 0.196% if BOPO increases by 1% and other factors are constant.

Table 6. Regression Analysis Results

Model		Unstandardized Coefficients
		B
1	(Constant)	6.326
	LNNPL	-0.057
	LNLDR	-0.097
	LNNIM	0.080
	LNROA	0.085
	LNCAR	-0.064
	LNBOPO	-0.196

Source: SPSS Processing Results (2022)

### Individual Parameter Significance Test (t Statistical Test)

The t-statistical test is used to determine whether or not the independent variable affects the dependent variable. NPL with a t value of -1.864 and a sig value of 0.05 ( $0.066 > 0.05$ ), it can be stated that NPL has a negative and insignificant effect on FSR. LDR with a t value of -1.468 and a sig value of 0.05 ( $0.146 > 0.05$ ), it can be stated that LDR has a negative and insignificant effect on FSR. NIM with a t value of 1.523 and a sig value of 0.05 ( $0.132 > 0.05$ ), it can be stated that NIM has a positive and insignificant effect on FSR. ROA with a t value of 3.023 and a sig value of 0.05 ( $0.003 < 0.05$ ), it can be stated that ROA has a positive and significant effect on FSR. CAR with a t value of -1.262 and a sig value of 0.05 ( $0.210 > 0.05$ ), it can be stated that CAR has a negative and insignificant effect on FSR. BOPO with a t value of -1.929 and a sig value of 0.05 ( $0.057 > 0.05$ ), it can be stated that BOPO has a negative and insignificant effect on FSR.

Table 7. Statistical Test Results t

Model	t	Sig.
1 (Constant)	11.116	0.000
LNNPL	-1.864	0.066
LNLDR	-1.468	0.146
LNNIM	1.523	0.132

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LNROA	3.023	0.003
LNCAR	-1.262	0.210
LNBOPO	-1.929	0.057

Source: SPSS Processing Results (2022)

### Coefficient of Determination

The coefficient of determination measures the impact of the independent variable on the dependent variable. Based on the calculation results, the R square value or the coefficient of determination is 0.067. Then 6.7% of FSR can be influenced by NPL, LDR, NIM, ROA, CAR, and BOPO. Meanwhile, other variables not considered in calculations, such as ROE, DAR, DER, and others, have an effect of 93.3%, such as size, Return on Equity (ROE), and inflation.

Table 8. Determination Coefficient Analysis

Adjusted R <sup>2</sup>
0.067

Source: SPSS Processing Results (2022)

## Discussion

### Effect of NPL on FSR

Tests to analyze NPLs on FSR in this study resulted in a negative and insignificant effect on FSR. The conclusion of this study is in line with research conducted by (Arifani, 2020; Nurhikmah & Rahim, 2021; J. Santoso et al., 2017) which prove that NPL has no impact on FSR. NPL does not affect FSR because each bank has a level of interest rate control that is lowered in the financing gait, where banks will compete to provide effective interest rates to gain depositors' interest to seek credit from the bank. Therefore, it can be stated that if the bank lends to sectors not affected by the crisis, it can successfully cut the number of bad loans.

### Effect of LDR on FSR

Tests to analyze LDR on FSR in this study resulted in the negative and

insignificant effect of LDR on FSR. The conclusion of this study is the same as the research conducted by (Arifani, 2020; Nurhikmah & Rahim, 2021; Widyaningsih, 2012) Arifani (2020), Widyaningsih (2012), which explains that LDR has no impact on FSR. This is because the total credit issued from third-party fund revenue does not determine the high and low sustainability of a bank's financial performance. The high LDR does not guarantee to indicate that the FSR will increase. The lower the LDR, the less effective a bank is in channeling credit so that the bank generates declining profits.

#### **Effect of NIM on FSR**

In this study, tests to analyze NIM on FSR resulted in a positive and insignificant effect of NIM on FSR. The conclusion of this study is in line with research conducted by (Fadhila, 2011; Idolianny & Wiryono, 2014; Oktavianingsih, 2016), which concluded that NIM has no impact on FSR. The poor and ineffective distribution of loan funds can be the root cause of the nominal value of NIM on FSR. Reduced pre-tax income will be the effect of poor credit distribution. Banks have to spend higher funds to mitigate the risks associated with dispersed loans. As a result, the net profit cannot be reinvested as capital or retained earnings.

#### **Effect of ROA on FSR**

In this study, tests to analyze ROA on FSR resulted in ROA having a positive and significant effect on FSR. The conclusion of this study is the same as the research conducted by (Irianto, 2021; Notoatmojo & Rahmawaty, 2016; Nurhikmah & Rahim, 2021; Rianasari & Pangestuti, 2016; Rosianti, 2020) which say that ROA has a positive impact on FSR. In this study, only the ROA variable influences FSR. ROA as a

ratio that shows the ability of company to get profit from total asset and the bank's performance in making profits during the study period has a direct effect on its performance in terms of the bank's financial sustainability. ROA value will increase significantly with FSR.

#### **Effect of CAR on FSR**

In this study, tests to analyze CAR on FSR resulted in a negative and insignificant effect of CAR on FSR. The conclusions of this study are in line with research conducted by (Arief et al., 2019; Fadhila, 2011; Notoatmojo & Rahmawaty, 2016; Nurhikmah & Rahim, 2021; Yuliawati et al., 2020) which proves that CAR has no impact on FSR. This means that high capital adequacy does not guarantee an increase in FSR. High CAR does not increase bank performance proportionally and bank is more prepared to face losses in its operations. (Nurhikmah & Rahim, 2021). CAR is a ratio that determines the percentage of risky bank assets financed with the bank's capital and shows the bank's ability to accept losses that result in a decrease in risk-related assets. A high CAR is expected to be a reserve for the bank to offset losses on hazardous assets.

#### **Effect of Operating Expenses on Operating Income (BOPO) on FSR**

In this study, tests to analyze BOPO on FSR resulted in BOPO having a negative and insignificant effect on FSR. The conclusion of this study follows research conducted by (Abbas et al., 2020; Arief et al., 2019; Arifani, 2020; Nurhikmah & Rahim, 2021) which indicate that BOPO has no impact on FSR. This situation results because a decrease in BOPO does not guarantee an increase in FSR. Banks with large BOPO values indicate that operating cost

management is ineffective. In contrast, a bank can reduce operational expenses and boost revenue if its BOPO value is low. An increase in the BOPO value of a bank indicates that the bank cannot optimize greater profits to cover its operating costs.

## CONCLUSION AND SUGGESTIONS

### Conclusion

This study tests the financial ratios that predict the Financial Sustainability Ratio (FSR). The financial ratios used include Non-Performing Loan (NPL), Loan Deposit Ratio (LDR), Net Interest Margin (NIM), Return on Assets (ROA), Capital Adequacy Ratio (CAR), and Operating Expenses to Operating Income (BOPO). The empirical study results of data analysis show that NPL, LDR, NIM, CAR, and BOPO do not affect FSR where these variables have a sig value  $> 0.05$ . Meanwhile, the ROA variable positively affects FSR, which has a sig value  $< 0.05$ .

### Suggestions

Based on these conclusions, researchers provide suggestions for companies expected to be able to maintain bank performance to increase customer confidence in banks. Banks must also have the ability to manage funds, including depositor funds and funds provided as loans. This will reduce the possibility of bank losses. In addition, banks also need to maintain the value of ROA. The higher the ROA, the better the financial sustainability of the company. Customers and investors are also encouraged to understand every company publishes its information, especially annual financial reports which can be the primary basis for making decisions regarding the funding to be carried out.

In this study, several limitations were found, namely banking companies that

became research samples only included Conventional Commercial Banks with a limited research period that only used the period 2019 to 2021 and limited financial ratios, namely NPL, LDR, NIM, ROA, CAR, and BOPO which were used as predictors of FSR. With these limitations, it is hoped that future researchers can expand the research sample's scope and extend the study's duration, and include more variables to see their effect on FSR, such as size, Return on Equity (ROE), and inflation.

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