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Measuring Financial Sustainability: The Influence of ROA, BOPO, and NIM on Foreign Exchange National Private Commercial Banks in Indonesia

Muhammad Abdul Muis[1*], M. Nurdin[2]
[1]Business and Capital Markets Polytechnic, Jl. Bangka Raya No.2, RT.2/RW.5, Pela Mampang, Kec. Mampang Prpt., South Jakarta City, Special Capital Region of Jakarta 12720, mam@bcm.ac.id
[2]College of Maritime Science

[*]Corresponding Author: mam@bcm.ac.id

Abstract: This research aims to analyze the influence*Return on Assets*(ROA), Operating Costs to Operating Income (BOPO) and*Net Interest Margin*(NIM) against*Financial Sustainability Ratio*(FSR) at National Private Commercial Banks for Foreign Exchange in Indonesia during the period 2018 to 2022. The population in this research is all National Private Commercial Banks for Foreign Exchange in Indonesia during the period 2018 to 2022. The sample selection technique used purposive sampling and 15 banks were selected as research data. . The data analysis method used is panel data regression analysis using Eviews 10. The research results show that: Return on Assets (ROA) has a positive and significant effect on the Financial Sustainability Ratio (FSR). Operational Costs on Operating Income (BOPO) and Net Interest Margin (NIM) have a negative and significant effect on the Financial Sustainability Ratio (FSR). The R Square value is 0.957730, indicating that the Financial Sustainability Ratio (FSR) is influenced by Return on Assets (ROA), Operational Costs to Operating Income (BOPO) and Net Interest Margin (NIM) of 95.77%.

Keywords: Financial Sustainability Ratio, Return on Assets, Operational Costs to Operational Income, Net Interest Margin (NIM)

INTRODUCTION

The Covid-19 pandemic initially slowed Indonesia's economic growth, especially seen in the decline in economic growth in Quarter I-2020 (2.97%) compared to Quarter I-2019 (5.07%). In March 2020, a spike in Covid-19 cases led to the implementation of Large-Scale Social Restrictions (PSBB), which had a negative impact on the economy, reducing people's income and affecting banking performance in this country.

As a result of the Covid-19 pandemic, the economies of all countries have been disrupted, including Indonesia which has experienced a decline in the business sector. This situation has a negative impact on the banking industry in Indonesia. During Covid-19, the banking sector faced challenges due to the pandemic, so it needed sustainable financial

procedures to ensure the continuity of its business. Sustainability in the banking sector is demonstrated by financial sustainability (Veronica, et all, 2022). Corporate sustainability is related to how a company achieves profits and improves social life.

Indonesia as a developing country must prioritize the banking sector because of its important role in driving economic growth. Banking performance influences a country's economic development, as a financial intermediary between those who have funds and those who need them. Banks are a driver of the national economy, with long-term growth influencing public trust in the banking industry, encouraging diverse transactions through banking services.

Indonesia has two types of banking, conventional and sharia, both of which have a key role in supporting economic growth. Banking plays a role as an intermediary in collecting and distributing community wealth, helping those who need funds, and supporting economic stability through entrepreneurial activities. Therefore, the role of banking is very important in Indonesia.

Banking companies in Indonesia include state-owned banks, national private public banks with foreign exchange, national private non-foreign exchange banks, regional development banks, joint venture banks and foreign banks. The bank used in this research is a foreign exchange bank. A foreign exchange bank is a bank that can carry out transactions overseas or related to foreign currencies as a whole, for example overseas transfers, traveler's checks and other overseas transactions.

The COVID-19 pandemic that has hit Indonesia since 2019 has caused the value of the Rupiah to depreciate against the US Dollar. This shakes the national banking sector and shows the instability of the Indonesian economy. The weak Rupiah reflects global and domestic economic pressures. In July 2022, the Rupiah exchange rate dropped to 15,000/US$, and Indonesia's foreign exchange reserves fell sharply, reaching their lowest position since June 2020, with the largest drop in foreign exchange reserves since the start of the COVID-19 pandemic in March 2020.

The growth of a bank is assessed based on financial ratios including operational efficiency ratio, portfolio quality ratio, sustainable capability ratio (including sustainable operational capability and sustainable financial capability). The sustainable ratio is the main determining ratio, because it influences the level of bank profitability. One of them is the Financial Sustainability Ratio (FSR) which is the minimum additional capital ratio (Yuliawati, et al, 2020). The Financial Sustainability Ratio (FSR) is used to determine the growth level of a bank and whether the bank can continue its financial performance or not.

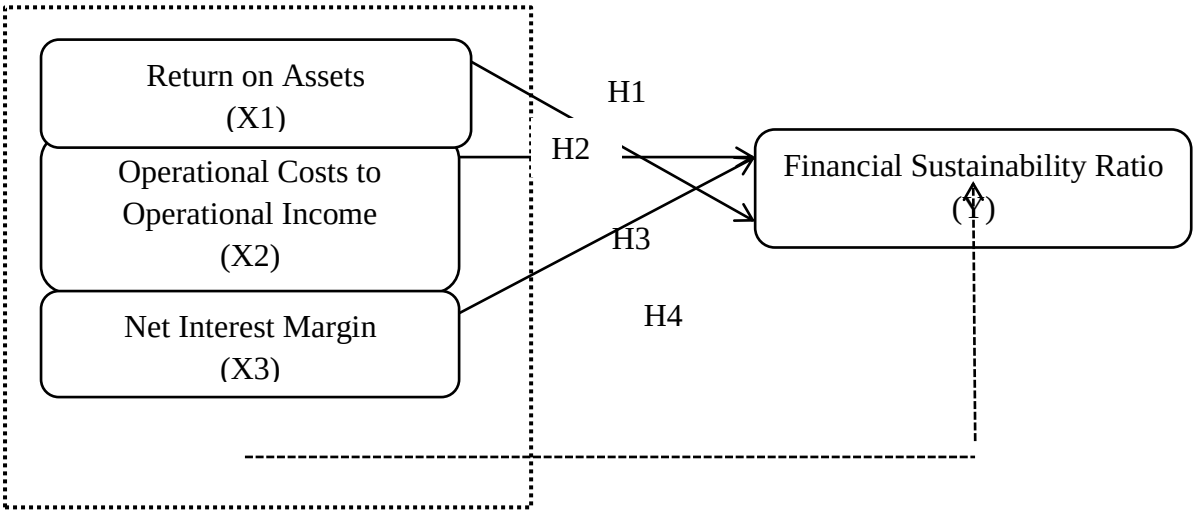
Financial sustainability is increasingly recognized as a key element in maintaining cash flow and ensuring long-term sustainability. In the banking context, financial sustainability plays an important role in influencing bank performance and reducing the risk of long-term bankruptcy. This is measured through financial ratios such as the Financial Sustainability Ratio (FSR), which uses a number of financial ratios, such as liquidity, profitability, operational efficiency, portfolio quality and sustainable capability. This factor is crucial for assessing the likelihood of a bank's future sustainability.

Financial Sustainability is the ability of an organization to compare all costs (financial costs, for example interest charges on loans, and operating costs, for example employee salaries, equipment, supplies) with the money or income received from activities carried out (for example interest income and income from deposits bank). Financial Sustainability consists of two components, namely expenses (expenses) and income (income). Financial sustainability is said to be good if the value is greater than 100%, meaning that the total income must be greater than the total costs incurred (Alim & Sina, 2020).

Financial ratios play an important role in assessing the ability of banking companies to support sustainable finance. A company's financial health, including liquidity, solvency, profitability, and efficiency, can impact their ability to support sustainable projects. Research

on the impact of financial ratios on financial sustainability in Indonesian banking companies can provide valuable insights for the financial industry in developing effective sustainability strategies.

Framework



Hypothesis Formulation

Based on problem identification, theoretical studies and previous research results, the research hypothesis can be formulated as follows:

H1 : There is an influence of Return on Assets (ROA) on the Financial Sustainability Ratio (FSR) in Foreign Exchange National Private Commercial Banks in Indonesia in 2018-2022.

H2 : There is an influence of Operational Costs on Operational Income (BOPO) on the Financial Sustainability Ratio (FSR) at National Private Commercial Banks for Foreign Exchange in Indonesia in 2018-2022.

H3 : There is an influence of Net Interest Margin (NIM) on the Financial Sustainability Ratio (FSR) in National Private Commercial Banks for Foreign Exchange in Indonesia in 2018-2022.

H4 : There is a simultaneous influence of Return on Assets (ROA), Operational Costs on Operating Income (BOPO) and Net Interest Margin (NIM) on the Financial Sustainability Ratio (FSR) at National Private Commercial Banks for Foreign Exchange in Indonesia in 2018-2022.

METHOD

In this research, the data used is quantitative data, while the data source for this research is secondary data. Secondary data means data obtained or collected by previous researchers from existing sources. The secondary data used in this research comes from the Indonesia Stock Exchange website via the websitewww.idx.co.idand www.idnfinancials.com. The data source used in this research is secondary data obtained from the official website of the Indonesian Stock Exchange.

This research aims to analyzethe influence of the independent variables, namely Return on Assets (ROA), Operational Costs on Operating Income (BOPO) and Net Interest Margin (NIM) on the dependent variable, namely the Financial Sustainability Ratio (FSR).

The population in this research is all national private commercial bank companies listed on the Indonesia Stock Exchange during the 2018-2022 period. The number of companies in the

sample is 15 national private commercial bank companies with foreign exchange. Sample selection in this researchusing the purposive sampling method, namely a technique for determining samples using certain criteria.

The sample selection criteria used are:The data in this research are as follows:

a. National Private Commercial Bank listed on the Indonesia Stock Exchange (BEI) from 2018 to 2022 continuously.
b. National Private Commercial Bank with foreign exchange listed on the Indonesian Stock Exchange from 2018 to 2022 continuously.
c. Foreign Exchange National Private Commercial Bank which has a net profit for 5 years from 2018 to 2022.
d. Foreign Exchange National Private Commercial Bank which publishes financial reports on the Indonesia Stock Exchange until the end of March 2022

Operational Variables

1. *Financial Sustainability Ratio*(FSR)

   Financial Sustainability Ratio (FSR) is a ratio used to measure the level of sustainability of a bank seen from the aspect of a bank's financial performance (Munandar & Aravik, 2022). The Financial Sustainability Ratio (FSR) value is obtained from the total value of financial income compared or divided by the total value of financial expenses contained in the income statement. The formula for this ratio is:

   $$\text{FSR} = \frac{Total\ Pendapatan\ Finansial}{Total\ Beban\ Finansial}$$

2. *Return On Assets*(ROA)

   Return on Assets(ROA) is a ratio used to assess the efficiency of the total use of all company resources used for company operations to generate profits. Based on research by Debby Christine et al. (2019), return on assets (ROA) is calculated as follows:

   $$\text{ROA} = \frac{Laba\ Setelah\ Pajak}{Total\ Asset}$$

3. Operational Costs to RevenueOperational (BOPO)

   Operational Costs to Operational Income (BOPO) is a financial performance ratio from the efficiency aspect or Cost Efficiency Ratio. Namely the bank's ability to control operational costs, so that the smaller the expenditure of operational funds on operational income, the healthier a bank is (Yuliawati, et al, 2020). The purpose of the BOPO ratio is to determine the efficiency of managing operational expenses. The formula used to calculate this ratio is:

   $$\text{BOPO} = \frac{Total\ Beban\ Operasional}{Total\ Pendapatan\ Operasional}$$

4. *Net Interest Margin*(NIM)

   Net Interest Margin (NIM) is the ratio between interest income divided by average productive assets where income comes from interest on loans provided minus interest costs from sources of funds collected (Rahmi, 2014 cit Wibowo, et al, 2020). The formula used to calculate this ratio is:

   $$\text{NIM} = \frac{Pendapatan\ Bunga\ Bersih}{Rata{-}rata\ Aktiva\ Produktif}$$

Data analysis technique

The analytical method carried out in this research is to carry out quantitative descriptive analysis and panel data regression analysis to measure the influence of independent variables and dependent variables which are expressed in numbers which in the calculations use statistical methods assisted by a statistical data processing program known as eviews (eviews). Alim & Sina 2020). Panel data is a type of data that is a combination of time series and cross section data.

The analysis technique used in this research is descriptive statistical analysis and

RESULTS AND DISCUSSION

Research Instrument Test Results

Based on the analysis carried out, it can be seen below:

Table 1. Descriptive Statistics Test Results

	FSR	ROA	BOPO	NIM
Mean	1.262800	1.581783	80.60683	4.713056
Median	1.210000	1.470000	82.44000	4.450000
Maximum	2.120000	4.220000	98.07000	11.30000
Minimum	1.020000	0.150000	46.50000	1.400000
Std. Dev.	0.212676	0.937801	11.40353	1.471457
Skewness	1.763735	0.655257	-0.863820	1.742493
Kurtosis	6.272022	2.939526	3.333696	8.122447
Jarque-Bera	72.34116	5.378457	9.675283	119.9519
Probability	0.000000	0.067933	0.007926	0.000000
Sum	94.71000	118.6337	6045.512	353.4792
Sum Sq. Dev.	3.347112	65.08085	9622.991	160.2237
Observations	75	75	75	75

Source: Eviews 10 data processing results

Selection of Panel Data Regression Models

Based on pairwise testing of the three panel data regression models, it can be concluded that the Fixed Effect Model (FEM) in panel data regression can be used further to analyze simultaneously and partially whether ROA, BOPO and NIM have an effect on FSR in companies in the Foreign Exchange National Private Bank sector.

Table 2. Model Conclusion

No	Method	Testing	Results
1	Test Chow	*Common Effects*vs Fixed Effects	*Fixed Effects*
2	Hausman test	*Random Effects*vs Fixed Effects	*Fixed Effects*
3	Test *Lagrange Multipliers* (LM)	*Common Effects*vs Random Effects	*Comoon Effect*

Hypothesis testing

T Test (Partial influence of variables)

Table 3. T Test Results

Variables	Coefficient	Std. Error	t-Statistics	Prob.
C	1.879910	0.119027	15.79398	0.0000
ROA	0.087906	0.020188	4.354303	0.0001
BOPO	-0.008402	0.001264	-6.647105	0.0000
NIM	-0.016748	0.006473	-2.587394	0.0122

The variable Return on Assets (ROA) has a probability of 0.0001 < 0.05, according to the decision making criteria, H1 is accepted, which means that Return on Assets (ROA) has a significant influence on the financial sustainability ratio partially.

The variable Operational Costs to Operational Income (BOPO) has a probability of 0.0000 < 0.05, according to the decision making criteria, H2 is accepted, which means that Operational Costs to Operational Income (BOPO) has a significant influence on the financial sustainability ratio partially.

The Net Interest Margin (NIM) variable has a probability of 0.0122 < 0.05, according to the decision making criteria, H3 is accepted, which means Net Interest Margin (NIM) has a significant influence on the financial sustainability ratio partially.

F test (Simultaneous influence of variables)

Table 4. F Test Results

F-statistic	75.96995
Prob(F-statistic)	0.000000

From the calculation results above, it can be seen that the F-count test result is 75.96995 with a probability of 0.000000. By using the decision basis as above, it is known that based on the F-table with df = (k-1; nk) = (4-1; 75-4) = 3.71, with α = 5% the F-table value is 2.73. So it can be concluded that F-count (75.96995) > F-table (2.73) which states that there is a joint influence of Return on Assets (ROA), Operational Costs on Operating Income (BOPO) and Net Interest Margin (NIM) on Financial Sustainability Ratio (FSR) in Foreign Exchange National Private Commercial Bank (BUSN) Companies listed on the Indonesia Stock Exchange (BEI) 2018-2022.

Coefficient of Determination

Table 5. Coefficient of Determination

R-squared	0.957730
Adjusted R-squared	0.945124

Based on tests that have been carried out on the previously proposed hypothesis, it has been concluded that simultaneously all variables have a significant effect on the financial sustainability ratio with a coefficient of determination value of 95.77% while the remaining 4.23% is explained by other factors not included in this panel regression model.

Discussion

The Effect of Return on Assets (ROA) on the Financial Sustainability Ratio (FSR)

Return on Assets (ROA) has a positive and statistically significant impact on the Financial Sustainability Ratio (FSR). This shows that the higher the company's Return on Assets (ROA), the potential for sustainable bank financial performance will increase. Or vice versa, the lower the Return on Assets (ROA) value, the smaller the potential for sustainable bank financial performance. The greater the ROA of a bank, the greater the level of profit achieved by the bank and the better the position of the bank from the use of its assets in obtaining maximum profits. An increase in ROA explains an increase in profits and income, so it will have an impact on an increase in the FSR ratio, which means the company shows an improved value. The Financial Sustainability Ratio (FSR) is said to be positive because it is related to credit distribution which will later generate interest income. This means that the greater the ROA value achieved, the greater the profit, the profit will increase bank funds to be used in lending.

InfluenceOperational Costs to Operating Income (BOPO)on the Financial Sustainability Ratio (FSR)

Operational Costs to Operating Income (BOPO) has a negative and statistically significant impact on the Financial Sustainability Ratio (FSR). This shows that the lower the company's Operational Costs to Operating Income (BOPO), the potential for the sustainability of the bank's financial performance will increase. Or vice versa, the higher the value of Operational Costs to Operational Income (BOPO), the smaller the potential for sustainability of the bank's financial performance. Operational Costs to Operational Income (BOPO) is generated from the comparison of operational expenses to operational income, the greater the value generated from BOPO, the less efficient the bank is in managing its assets (Sujarweni, 2019 cit. Nurhikmah and Rahim (2021). Operational Costs to Operational Income (BOPO) is a bank's ability to control operational costs, so that the smaller the expenditure of operational funds on operational income, the healthier a bank is.

The success of the Foreign Exchange National Private Commercial Bank (BUSN) is mainly related to the performance of management within the bank. Good performance will create greater opportunities for bank sustainability. The performance of National Private Commercial Banks (BUSN) for foreign exchange is closely related to the bank's operational efficiency. The more efficient and better the bank's performance, the greater the value of the bank's financial sustainability ratio. Thus, National Private Commercial Banks (BUSN) Foreign Exchange are required to carry out efficiency with their operational activities by paying attention to and comparing the amount of operational costs that have been incurred against the operational income received. Carrying out efficiency by paying attention to BOPO and comparing it with operating income is an important step in maintaining the financial health and sustainability of Foreign Exchange National Private Commercial Banks (BUSN). By optimizing operational efficiency, Foreign Exchange National Private Commercial Banks (BUSN) can increase profitability, strengthen their financial position, and achieve a better Financial Sustainability Ratio (FSR).

Influence*Net Interest Margin*(NIM)on the Financial Sustainability Ratio (FSR)

Net Interest Margin (NIM) has a negative and statistically significant impact on the Financial Sustainability Ratio (FSR). This shows that the lower the company's Net Interest Margin (NIM), the potential for sustainable bank financial performance will increase. Or vice versa, the higher the Net Interest Margin (NIM) value, the smaller the potential for sustainable bank financial performance. The research results show that NIM has a significant negative effect on FSR. This shows that NIM is not always directly proportional to FSR. Net Interest Margin (NIM) is obtained from the value of net interest income (interest income - interest expense) divided by the average productive assets that produce interest. An increase in net interest income occurs when the company's interest expense decreases, which will affect the increase in NIM. The increase in net interest income occurs when the interest expense on banks decreases, which will affect the increase in NIM. The value of productive assets in a bank company is also an important factor in the amount of NIM. If net interest income increases but productive assets decrease, this could cause a small NIM ratio to be obtained.

During the pandemic, the downward trend in deposit interest rates and savings interest rates caused an increase in net interest income. According to the LPS report, this decline began in January 2019 until the third quarter of 2021. The average deposit interest in October 2021 was 3.14 compared to before the decline in October 2018, around 6%. However, funds obtained from third parties actually increased under conditions of decreasing deposit interest. Funds received from third parties are actually placed in financial instruments that have low risk, such as government bonds and short-term instruments at Bank Indonesia. The increase in placements in financial instruments increases interest income from securities placements.

CONCLUSION

This research aims to find out how much influence the current ratio (CR), return on assets (ROA), and debt to asset ratio (DAR) have on predicting financial distress in property and real estate companies on the Indonesia Stock Exchange for the research years 2017 to 2021. So based on the results of the logistic regression of this research, conclusions can be drawn:

1. The Return on Assets (ROA) ratio influences the Financial Sustainability Ratio (FSR) of National Private Foreign Exchange Commercial Banks. This is indicated by the regression coefficient value of 0.087906 which shows a positive direction. Then tcount is 4.354303 with a probability value of 0.0001 which is smaller than the specified significance level (0.0001 < 0.05). This means that the Return on Assets (ROA) variable has a positive and significant effect on the Financial Sustainability Ratio (FSR), so that the first hypothesis can be accepted.
2. The ratio of operational costs to operating income (BOPO) influences the Financial Sustainability Ratio (FSR) of National Private Foreign Exchange Commercial Banks. This is indicated by the regression coefficient value of -0.008402 which shows a negative direction. Then tcount is -6.647105 with a probability value of 0.0000 which is smaller than the specified significance level (0.0000 < 0.05). This means that the variable Operational Costs on Operational Income (BOPO) has a negative and significant effect on the Financial Sustainability Ratio (FSR), so that the second hypothesis can be accepted.
3. The Net Interest Margin (NIM) ratio influences the Financial Sustainability Ratio (FSR) of National Private Commercial Banks for Foreign Exchange. This is indicated by the regression coefficient value of -0.016748 which shows a negative direction. Then tcount is -2.587394 with a probability value of 0.0122 which is smaller than the specified significance level (0.0122 < 0.05). This means that the Net Interest Margin (NIM) variable has a negative and significant effect on the Financial Sustainability Ratio (FSR), so that the third hypothesis can be accepted.
4. From the F test, the calculated F value is 75.96995 with a significance value of 0.000000. This shows that Return on Assets (ROA), Operational Costs to Operating Income (BOPO), and Net Interest Margin (NIM) together have an influence on the Financial Sustainability Ratio (FSR), so that the fourth hypothesis can be accepted.
5. The coefficient of determination (R2) is 0.957730, which means that the three variables, namely Return on Assets (ROA), Operational Costs to Operational Income (BOPO), and Net Interest Margin (NIM) have an influence on the Financial Sustainability Ratio (FSR) of 95.77%, while the rest 4.23% is explained by other variables outside the model.

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