THE EFFECT OF CAR, ROA, NPF AND BOPO ON NET OPERATING MARGIN (NOM) IN INDONESIAN SHARIAH BANKING

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Abstract

Introduction: The level of the soundness of a bank based on risk must continuously monitor to avoid problems that can arise in the banking system. Problematic conditions in a bank that can eventually end in bankruptcy can identify as a measure of the tendency of a company to experience financial failure and ultimately no longer be able to run its business operations. So analyzing the effect of Capital Adequacy Ratio (CAR), Return on Asset (ROA), Net Performing Financing (NPF), Financing to Deposit Ratio (FDR), and Operating Expenses and Operating Income (BOPO) on NOM (Net operating margin) in Islamic banks is considered very important.

Purpose/Objective Study: This study analyses effect of CAR, ROA, NPF, FDR, and BOPO on NOM. In addition, the authors want to see how the relationship between the supporting variables in Islamic banking on the effect of Net Operating Margin on the research that is being carried out.

Design/Methodology/Approach: The population of this study is Shariah Banks and it took samples of 8 banks in Indonesia in the period 2017-2021, where financial statements were made from the OJK website. The analysis in this study uses panel data which is a combination of time series data and cross-section data.

Findings: The site of each bank Shariah studied. The results showed that significant independent variables in influencing efficiency (NOM) were CAR, ROA, and NPF. The results of this analysis expected to be a guide in the management of Islamic banking. Limitations of this study not carried out on all Islamic banking and Islamic Business Units Indonesia.

Paper Type: Research Article

**Keywords:** CAR; ROA; NPF; FDR; BOPO; NOM.

Introduction

In-Law No. 7 of 1992 concerning banking as amended by Law No. 10 of 1998 stated that banks are business entities that collect funds from the public in the form of deposits and distribute them to the people in the form of credit and or other arrangements to improve the lives of many people. In other words, in carrying out its activities, the bank functions as an intermediary institution (financial intermediary), a financial institution that serves as an intermediary between the party with excess funds and those who lack funds. The function of the bank as an intermediary institution leaves the bank in a position strategic in the economy.

The article, with its activities, i.e., Raising funds and channeling funds to the public need, will increase the flow of funds for investment, working capital, and consumption. Thus, it will be able to improve the national economy.

The existence of Islamic banking in Indonesia is currently increasing since Law No. 21 of 2008 concerning Banking Shariah provides a more transparent operational basis for banks Shariah. Even based on the results of a survey from the Islamic Finance Country Index from the Global Islamic Finance Report, the Islamic financial industry in Indonesia has made achievements by ranking fourth in the world Islamic financial industry, which is judged by specific measures and varying weights, such as the number of Islamic financial institutions, permits Shariah regulation, large industrial volume, education, and culture, as well as infrastructure.

In terms of its role, in the conventional banking system, in addition to acting as a bridge between the owner of the fund and the business world, banking is also still a divider between the two because there is no transferability risk and return, where all success and business risks are distributed directly to the owner of the fund. Not so with the system adopted by Islamic banking, where Islamic banking becomes investment manager, representative, or custodian from the owner of the fund for investment in the real sector to create an atmosphere of harmony (Kharisma & Dea, Institut Manajemen Telkom)

Figure 1.0: Development of Islamic Banking Institutions
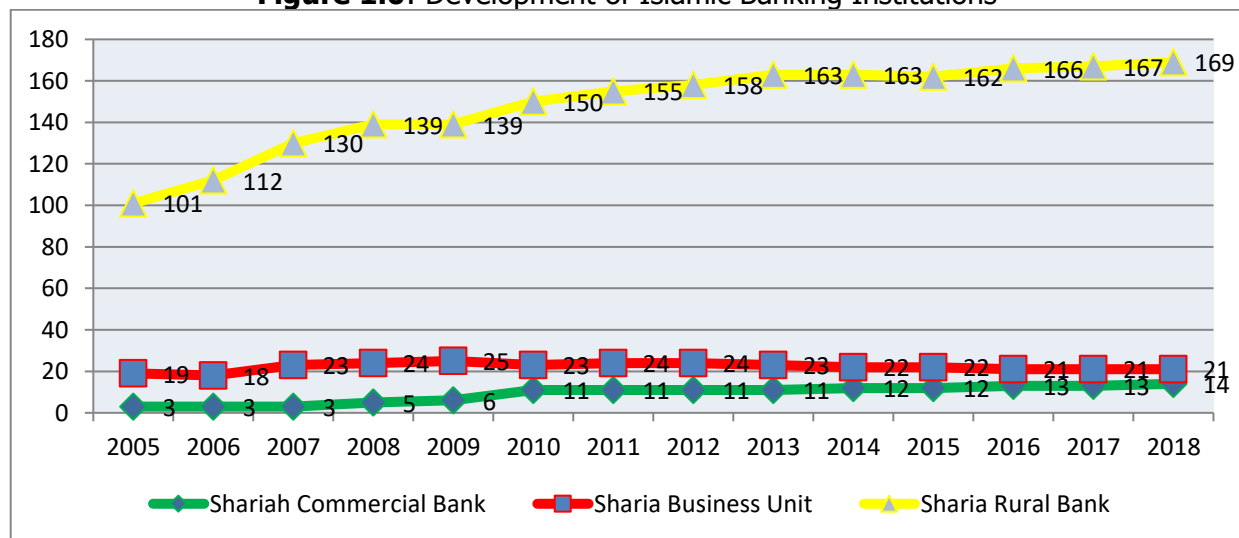
In figure 1, it can be seen that the development of the banking office Shariah in Indonesia has increased, where the number of BUS, UUS, BPRS, and the number of offices is rising every year. Seen from 2005, the number of Shariah Commercial Banks numbered three and became 14 in 2018. And the Shariah Business Unit until 2018 amounted to 21, and Shariah Rural Bank in 2018 amounted to 169. Thus, it can be concluded that the Indonesian people have high confidence in Islamic banking as a financial institution that helps the public expedite their economic problems.
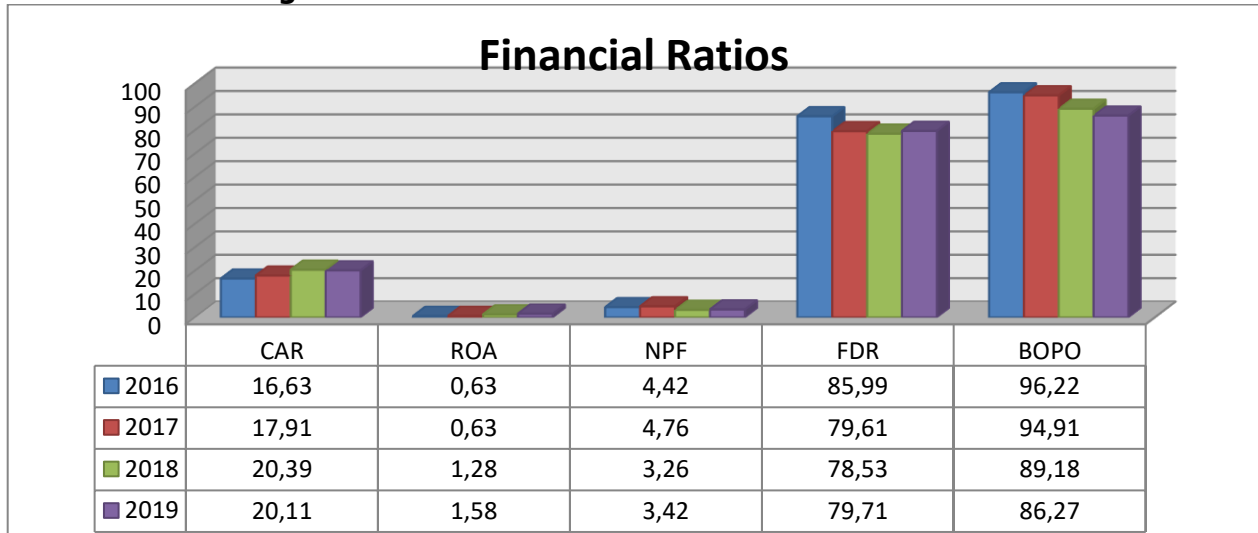
The increase in the existence of Islamic banks in Indonesia is also driven by the high interest of the community to place their funds in Islamic banks and has developed into a trend. In the Shariah Banking Development Report (2021), it is mentioned that the development of the direction is due to the Islamic banking fund products having an attractiveness for depositors considering the profit-sharing ratio and the product margins are still competitive compared to conventional bank interest rates. Also, Shariah's banking performance showed a significant increase reflected in the capital and increasing profitability. Bank performance is substantial because the banking business is a business trust. The bank must establish its credibility so that more people will transact at the bank, one of which is through increasing profitability.

Ratios commonly used to measure profitability or profitability performance are Return On Equity (ROE) and Return On Assets (ROA). ROE shows the ability of bank management in managing available capital to obtain net income, while ROA shows the strength of bank management to generate revenue from managing assets owned (Pengaruh Keberadaan Wanita Dalam Manajemen Puncak dan Kepemilikan Manajerial Terhadap Kinerja Keuangan Perbankan (Studi pada bank BUMN dan Swasta Nasional Devisa di Indonesia), 2017). The reason for choosing Return on Assets (ROA) as a measure of performance is because ROA is used to measure the ability of bank management to obtain overall benefits. In B.I. Circular Letter No. 9/24 / DPbs stated that the rating of bank soundness is influenced by CAMELS factors (Capital, Asset Quality, Management, Earnings, Liquidity, Sensitivity to Market Risk). Capital aspects include the Minimum Capital Adequacy Ratio (CAR), Asset Quality aspects including Non-Performing Financing (NPF), Earnings aspects including Return On Equity, Return On Asset, and Operational Efficiency Ratio (BOPO), and aspects of Liquidity includes Financing to Deposit Ratio (FDR). Capital Adequacy Ratio (CAR) is a ratio related to bank capital factors to measure banks' capital adequacy to support assets that contain risk. At present, the CAR is at least 8% of the Risk-Weighted Assets (ATMR) or supplemented with Market Risk and Operational Risk. This depends on the condition of the bank concerned (Saerang, Tulung, & Ogi, 2018)

Non-Performing Financing (NPF) is a financial ratio related to credit risk. Non Performing Financing is a comparison between total non-performing financing and total financing is given to debtors. The rate of non-performing funding is analogous to non-performing loans (NPLs) in conventional banks. Because Islamic banks do not recognize loans but use the term financing. The NPL reflects credit risk. The smaller the NPL, the more there is also little credit risk borne by the bank Financing to Deposit Ratio (FDR) analogous to Loan to Deposit Ratio (LDR) in conventional banks, is a ratio used to measure the level of bank liquidity that shows the ability of banks to meet credit demand using the total assets owned by banks.

The dynamics of the movement of Islamic banking financial ratios the period 2016 to 2019 is shown in Table 2.0 as follows:

Figure 2.0: Financial Ratios of Shariah Commercial Bank

Financial Ratios

|	CAR	ROA	NPF	FDR	BOPO
2016	16,63	0,63	4,42	85,99	96,22
2017	17,91	0,63	4,76	79,61	94,91
2018	20,39	1,28	3,26	78,53	89,18
2019	20,11	1,58	3,42	79,71	86,27

Seeing what happens empirically, it appears that ratios finance changes from year to year, and there are deviations from the theory that state the relationship of CAR, BOPO, NPF, and FDR to ROA. In 2018, when ROA rose 1.28%, CAR would decrease by 0.28% 2018. This is in contradiction with the theory, which states that CAR has a positive effect on ROA.

The same thing happened with the BOPO ratio, which is 2017. When the BOPO ratio rose by 1.31%, the ROA ratio remained unchanged—thus giving the impression that the BOPO ratio had no positive effect on ROA though it said before that BOPO harms ROA.

From the gap phenomenon above, it can conclude that no every empirical event is following existing theories. This is confirmed by the existence of a research gap in previous studies.

Figure 3.0: Net Operating Margin

Net Operating Margin
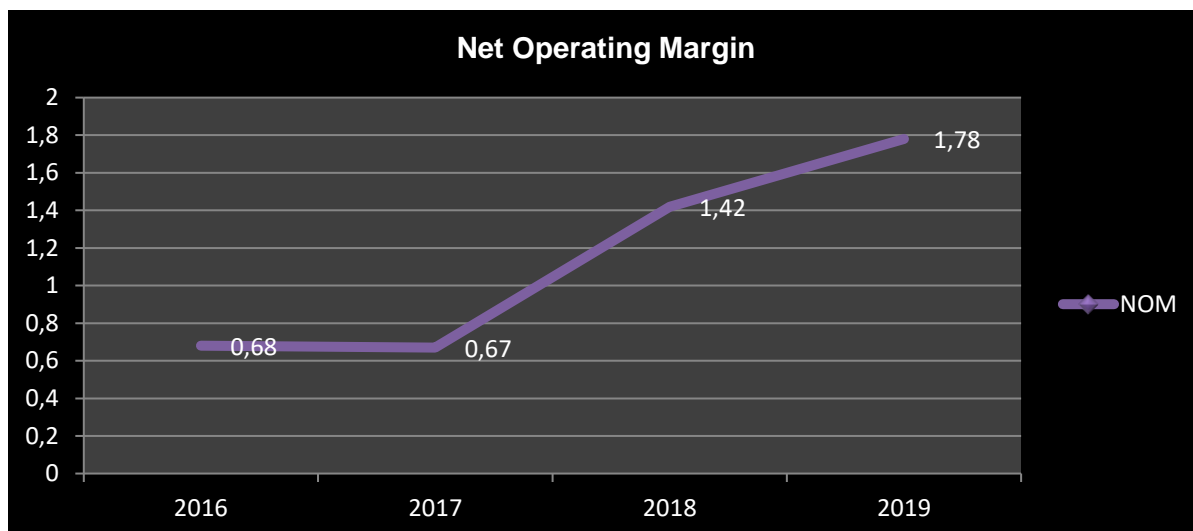
In the Shariah Banking Development Report (2006), it is mentioned that 2006 was a dynamic year for the Islamic banking industry. As part of the national economy, the dynamics of the developing economy, especially in the real sector, affect the development of Islamic banking. In early 2006, economic conditions were still strongly influenced by the continued impact of the fuel price hike at the end of 2005, reflected in high inflation and interest rates, including commercial bank rates. As a result, for the banking sector, at the beginning of the first quarter of 2006, the Non-Performing Financing ratio increased from 2.81% in 2005 to 4.27%. But overall, the NPF ratio rose to 4.75% in 2006. This indicates that the amount of financing has stalled. While in terms of lending, an increase in Financing to Deposit Ratio increased from 97.75% in 2005 to 98.90% in 2006, followed by an increase in Return on Assets from 1.35% in 2005 to 1.55% in 2006 and an increase in operational efficiency of Islamic banking as reflected in the efficiency ratio (BOPO) which decreased to 76.77%. While in terms of capital, the capital adequacy ratio (CAR) has also increased from 12.41% in 2005 to 13.42% in 2006.

The Indonesian economy in 2007 recorded a number the main achievement was encouraging despite pressure, especially from the outer side. For the first time since the crisis, Indonesia's economic growth is above 6%, with stability that is well maintained. Although several factors incised challenges and tests on the Indonesian economy in 2007, such as high international commodity prices, especially crude oil prices, and the slowing down of the subprime mortgage crisis, however, in the face of the series of tests.

Indonesia's economy shows better resilience in supporting economic growth (Indonesian Economic Report, 2007). Economic growth has a real impact on the increase in Shariah banking business activities. This was reflected in a decrease in problem financing that caused a decline in the Islamic banking NPF from 4.76% in 2006 to 4.05%. Also, the FDR ratio increased from 98.90% in 2006 to 99.76%. In the same period, operating costs also showed a growth of 31.8% so that at the end of 2007 it had reached Rp2.1 trillion. Amid the increase in prices, the efficiency of Islamic banking operational activities in 2007 was still relatively

adequate, reflected in comparing operating costs with net operating income recorded at 76.54% (in 2006 amounting to 76.77%).

Along with a decrease in the BOPO ratio, the ROA ratio had increased from 1.55% to 2.07% in 2007. But on the contrary, the capital adequacy ratio (CAR) decreased from 13.42% in 2006 to 10.67%. At the same time, Islamic banks must face the consequences of increasing risk in line with productivity optimization assets. (Shariah Banking Development Report, 2007).

2009 is still a year full of dynamics for the industry. National Islamic banking is particularly concerned about the impact of the 2008 global crisis. Economic growth during the year is still positive, mainly supported by movements in the trade, manufacturing, and consumer sectors. In 2009 the development of Islamic banking assets, although overall experienced positive growth, but slowed. The performance of Islamic banks in the distribution of financing in the intermediation function is still well maintained with an FDR ratio of 89.70% and non-current funding that can hold in the range of under 5%, namely 4.01%. Islamic banking can also show a very encouraging ROA profitability performance compared to the previous year, which increased to 1.48%. However, there was an increase in the BOPO ratio due to the rise in overhead costs due to an increase in the number of networks during 2009. However, banks' increase in these costs can still be managed efficiently, with average BOPO levels in 2009 that range 84.39%. Under these conditions, national Islamic banking can even generate profits, as reflected in the increase in ROA mentioned above. While in terms of capital adequacy, the CAR ratio of Shariah banks declined from 12.81% in 2008 to 10.77% (Shariah Banking Development Report, 2009)

Literature Review

The bank's performance or the bank's ability to increase its business value increases profits, assets, and prospects. However, the focus of its evaluation is still based on earnings or profitability and risk. The profitability aspect in this study is proxied by ROA, while the risk aspect can be proxy by credit risk, liquidity risk, interest risk, and operational risk capital. To evaluate the financial condition and performance of a company, financial analysis requires a measure. The measure used is the ratio that connects several financial data.

According to Mudradjat Kuncoro and Suhardjono (2021), the rate used to measure and compare bank profitability performance is Return on Equity (ROE) and Return on Assets (ROA). Return on Equity (ROE) shows the ability of bank management to manage available capital to obtain net income. The higher the performance, the better because it means dividends distributed or reinvested as retained earnings will also be even more significant. In contrast, ROA shows the ability of bank management to produce income from managing assets owned. According to Agnes Sawir (2005), the Rentability Ratio aims to determine the strength of banks to generate profits during a specific period and measure the effectiveness of management in carrying out the company's operations. One of the ratios in it is Return on Assets (ROA), which is a ratio to measure bank management's ability in managing the assets under their control to generate various income. Return on Assets indicates the bank's ability to

generate profits using its assets. The higher this ratio suggests, the better the bank's performance. Return on Assets (ROA) was chosen as an indicator of measuring the financial performance of banks because the ROA increased, the portability of the company also increased, so it can say that the bank's financial performance succeeded under the wishes and objectives of shareholders and the company is increasing profitability.

CAR is the capital ratio that shows the ability of banks to provide funds for use business development and accommodate the possibility of risk losses caused by operational banks. More and more, the more significant the ratio, the better the capital position. According to Bank Indonesia Regulation Number 10/15 / PBI / 2008 article 2, paragraph 1 states that banks must provide a minimum capital of 8% of risk-weighted assets (RWA). CAR is a ratio that shows how much the total assets of banks contain risks (loans, investments, securities, bills at other banks financed from their capital and obtaining funds from sources outside the bank. The higher the CAR, the stronger the bank's ability to bear the risk of any noisy credit or productive assets. Or in other words, the higher the capital adequacy to take the risk of bad credit, so that bank performance increases.

BOPO includes profitability ratio (earnings)." Martono (2010). This ratio measures cost comparisons operating or intermediation costs to operating income obtained by the bank. The more BOPO ratio, the more good condition of the bank. The bank's success is based on a quantitative assessment of bank profitability measured using the rate of operating costs to operating income. The percentage of operational expenses used to measure the level of efficiency and the ability of banks to carry out functional activities. The price of operating costs to operating income (BOPO) is often called the efficiency ratio used to measure the ability of bank management to control operational costs to operating profit. The smaller this ratio means the more efficient operational costs incurred by the bank concerned. The efficiency ratio, in this case, BOPO, aims to measure the ability of bank management to control operating costs. The smaller this ratio means, the more efficient the bank's operational costs are in carrying out day-to-day operations, so the possibility of a bank in a problematic condition is getting smaller. If the bank's operating performance can be more efficient, the bank will get higher profits. Therefore, it is indispensable to pay attention to the BOPO ratio to achieve maximum efficiency. If operational costs are high, it will reduce the profitability obtained by banks, then BOPO harms profitability. Financial performance is the bank's financial condition in a certain period, where information on the financial position and financial performance in the past is often used as a basis for predicting financial situation and future performance.

Binden, Mziu, and Suhaimi (2014) in Gamal and Soemantri (2017) "The Balanced Scorecard is used as a measurement tool to measure the performance of public organizations and the private sector to achieve key business strategic objectives. Assessment of bank financial performance can be assessed using the financial ratio analysis approach of all financial reports reported in the future—Bank financial performance regarding financial statements. Measurement of financial performance can be done using financial ratios. Performance measurement is used by using company profits in the form of profitability. For

investors, information about the company's profitability can be used to see whether to maintain investment in the company or find other alternatives. One measurement of profitability is the financial ratio used to measure the company's financial performance is the profitability ratio. The profitability ratio aims to measure the efficiency of the company's activities and the company's ability to earn profits.

According to Karya and Rakhman, the Return on Assets (ROA) level is used to measure bank profitability because Bank Indonesia as a banking supervisor and supervisor, prioritizes the value of a bank's profitability as measured by assets whose funds come from the majority of public savings funds. The higher the ROA of a bank, the greater the level of profit achieved by the bank and the better the bank's position in terms of use assets (Dendawijaya 2009, p.118). The banking industry chose because it is indispensable for the smooth running of economic activity in the real sector. And more devoted to Islamic banking because research on the profitability of Islamic banks is still rarely done.

Furthermore, the CAR variable can affect the level of profitability of Islamic banks. The higher CAR, the better the bank's ability to bear the risk of any risky productive assets. If the CAR value is high, the bank can finance activities operational and make a sizeable contribution to profitability. High capital ratios can protect depositors, increase public confidence in banks, and ultimately increase bank earnings. According to (Saerang, Tulung, & Ogi, 2018) (Yuliani, 2020), (Puspitasari, 2020) and Stiawan (2019), CAR has a positive effect on ROA. Another case with Utomo (2020) states that CAR has a significant negative effect, whereas Mawardi (2019) says that CAR does not affect ROA.

However, External factors can also affect the performance of banks, such as the economic crisis that occurred banks in 1998. According to Oktavia (2009), the SBI interest rate variable affects bank profitability. Simultaneously, between all independent variables (SBI interest rates, rupiah exchange rates, and inflation) significantly positively impacted the company's financial performance variable (ROA). Meanwhile, Puspitasari (2019) shows that the SBI Interest Rate variable has no effect on Return on Assets (ROA). This indicates that the increase in SBI interest rates does not affect Return on Assets (ROA), whereas Naceur (2018) sees a significant negative relationship between interest rates and bank profitability. Non-Performing Financing (NPF) is a term used for financing ratios problematic in Islamic banking. NPF is better known as the Non-Performing Loan (NPL) in conventional banks. According to Bahtiar Usman (2020), Non-Performing Loans (NPL), no significant effect on bank profits (EAT), which is the forming of ROA, whereas Zainudin and Jogiyanto (2020) showed a considerable influence on negative NPL for ROA. The research was supported by Stiawan (2019), which states that NPF has a significant effect on ROA.

In another research according to Andri Priyo Utomo (2020) that there are six variables studied, namely: Primary Ratio, Capital Ratio, CAR, Net Profit Margin, ROE, and ROA show a correlation to NPL at a significant level with the direction of a negative relationship. According to Nugraheni (2020), there is a positive and considerable influence of CAR variables on

banking performance. The results of the second hypothesis indicate a positive and significant impact of NPL variables on banking performance. And other results show a significant negative effect of inflation variables on the financial performance of banks. At the same time, Azwir's (2019) CAR variable significantly affects ROA variables. NPL variable does not influence substantially ROA. Based on the different results from previous studies, further research is needed on inflation, interest rates, CAR, BOPO, NPF on profitability.

Methodology

This type of research is explanatory research and aims to test a theory or hypothesis to strengthen or even reject the argument or explanation of existing research results and examine the relationship or relationship between variables, two or more variables. According to Sugiyono, analytical research intends to explain the position of the variables studied and the relationship between one variable and another.

According to Singarimbun and Effendi, systematic research (analytical research) is descriptive research that highlights the causal relationship between research variables and tests the hypotheses that have been formulated previously. This study uses quantitative research methods because in analyzing using calculations based on nominal data. The data used are secondary data taken from the Financial Services Authority (OJK) statistics data. The data used are time-series data from 2017 to 2021, while the variables used in this study include CAR, ROA, NPF, FDR, and BOPO.

The data used in this research is secondary data. Secondary data is a source that does not directly provide data to data collectors, for example, through other people or documents. Secondary data used are CAR (Capital Adequacy Ratio), NPF (Net Performing Financing), Return on Equity (ROE), ROA (Return on Assets), FDR (Financing to Deposit Ratio), and BOPO (Operating Costs to Operating Income). The data are in the form of Balance Sheet Reports, Profit-Loss Reports, KAP Reports, Financial Ratio Reports, and other reports in the publication of quarterly financial statements for each Shariah Commercial Bank reported to the Financial Services Authority (OJK) or Bank Indonesia (B.I.).

The analysis in this study uses panel data which is a combination of time series data and cross-section data. There are two types of panel data, namely panel balance data and unbalance panel data. Panel balance data is a condition where the cross-sectional unit has the same number of time-series observations. In contrast, disturb panel data is when cross-sectional groups have an odd number of time-series observations. This study using panel balance panel data. The stages or steps are by conducting quantitative analysis consisting of:

a. Estimation of the regression model using panel data

b. Selection of panel data regression models

c. Test assumptions

d. Hypothesis Testing

Panel data modeling combines the formation of models that are formed based on time series and based on cross-sections:

Mode with time series data $Y_t = \alpha + \beta X_t + \varepsilon$; $t = 1,2, ..., T$; N: the amount of time series data $\hspace{2cm}$ (1)

Models with cross section data $Y_i = \alpha + \beta X_i + \varepsilon$; $i = 1,2, ..., N$; N: the number of cross section data $\hspace{2cm}$ (2)

So generally in the panel data model can be written as following:

$$Y_{it} = \alpha + \beta X_{it} + \varepsilon_{it}; \quad i = 1,2, ... N; \text{ and } t = 1,2, ..., T$$

Where :

Y $\quad$ = $\quad$ dependent variable

X $\quad$ = $\quad$ independent variable is a time-series data

N $\quad$ = $\quad$ number of dependent variables in cross-sectional data (number of observations)

T $\quad$ = $\quad$ amount of time

N x T $\quad$ = $\quad$ number of panel data

This regression analysis conducted to see the effect of CAR (Capital Assets Ratio), NPF (Net Performing Financing), Return on Equity (ROE), ROA (Return on Assets), FDR (Financing to Deposit Ratio), and BOPO (Operational Costs) towards Operating Income). So in this study, the regression analysis was carried out using the panel data regression analysis method with the equation model as follows:

$$Y_{it} = \alpha + \beta_1 X_{it} + \beta_2 X_{it} + \beta_3 X_{it} + \beta_4 X_{it} + \beta_5 X_{it} + \beta_6 X_{it} + \varepsilon_{it}$$

Information:

Y_{it} $\quad$ = $\quad$ Net Operating Margin (NOM)

α $\quad$ = $\quad$ Constant

$X1_{it}$ $\quad$ = $\quad$ Capital Adequacy Ratio (CAR)

$X2_{it}$ $\quad$ = $\quad$ Return On Total Assets (ROA)

$X3_{it}$ $\quad$ = $\quad$ Non Performing Financing (NPF)

$X4_{it}$ $\quad$ = $\quad$ Financing to Deposit Ratio (FDR)

$X5_{it}$ $\quad$ = $\quad$ Operating Costs to Operating Income (BOPO)

$\beta1 ... \beta6$ $\quad$ = $\quad$ Regression coefficient

ε $\quad$ = $\quad$ standard error

Findings

Chow Test

In this test of the model selection, where the estimation model will use between the common effect or fixed effect. The hypotheses to be tested are as follows:

H0: Choose to use the common effect estimation model.

H1: Choose to use the fixed effect estimation model.

Tabel 1. Chow Test Results

Redundant Fixed Effects Tests				
Equation: Untitled				
Test cross-section fixed effects				
Effects Test		Statistic	d.f.	Prob.
Cross-section F		1.502961	(7,27)	0.2084
Cross-section Chi-square		13.162263	7	**0.0683**
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	366.4982	207.0622	1.769991	0.0857
CAR	0.557227	2.073250	0.268770	0.7897
ROA	52.01795	15.66818	3.319975	0.0022
NPF	18.34107	7.474230	2.453908	0.0194
FDR	-0.449975	1.524404	-0.295181	0.7697
BOPO	-4.921210	1.556770	-3.161167	0.0033

If the probability value F and Chi-square> α = 5%, then the panel data regression test uses the Common Effect model.

If the probability value of F and Chi-square <α = 5%, then the panel data regression test uses the Fixed Effect model.

From the results of table 1, the Chi-square value generated based on the processing of the calculated results using Eviews is equal to 13.162263 with the probability caused 0.0683, which means that H0 is accepted and H1 rejected. Thus based on the results of the model used appropriately is the expected effect estimation model. If the significance value of t < 0.05, then H0 is rejected, meaning a significant influence between one independent variable one dependent variable. If the significance value of t > 0.05, then H0 is accepted, suggesting no substantial effect exists between one independent variable on the dependent variable.

Hausman Test

To find out whether Random Effect is more appropriate than Fixed effect, the Hausman test carried out with the following hypothesis:

H0: Choose to use the Random Effect estimation model.

H1: Choose to use the Fixed Effect estimation model.

Tabel 2. Hausman Test Results

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		9.230847	5	**0.1002**
Variable	Fixed	Random	Var(Diff.)	Prob.
CAR	-1.553940	0.557227	4.919661	0.3412
ROA	50.587405	52.017953	321.681922	0.9364
NPF	10.833175	18.341070	47.532208	0.2762
FDR	-1.110386	-0.449975	0.907106	0.4881
BOPO	-4.541340	-4.921210	1.916038	0.7838

Sources: Eviews (the data is processed by the author)

If the probability value F and Chi-square> α = 5%, test Panel data regression using the Random Effect model.

If the probability value F and Chi-square <α = 5%, then test panel data regression using the Fixed Effect model.

From the above table results, the Chi-square value generated based on the processing of the calculated results using Eviews amounts to 9.230847 with the probability created 0.1002, which means that H0 is accepted and H1 rejected. Thus based on these results, the model used precisely is the random effect estimation model. If the significance value of t < 0.05, then H0 is rejected, meaning a significant influence between one independent variable one dependent variable. If the significance value of t > 0.05, then H0 is accepted, suggesting no substantial effect exists between one independent variable on the dependent variable.

Lagrange Multiplier (LM) Test

The hypothesis to be tested is as follows:

H0: Choose to use the random effect estimation model.

H1: Choose to use the common effect estimation model.

The random effect significance test is based on the Pagan Breunsh statistical value. If the value of L.M. statistics is higher than the critical importance of statistical chi-squares, it rejects the null hypothesis. Or at the p-value, if the results obtained are less than 5% (significant), then the estimation model that will use is the fixed effect. Still, if the p-value

exceeds 5% (not substantial), thus the estimated model used is the standard model effect. Here are the results of the significance test between common effects and random effects or what called the Lagrange Multiplier (L.M.) test:

Tabel 3. Lagrange Multiplier (L.M.) Test Results

Lagrange Multiplier Tests for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided			
(all others) alternatives			
	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	**0.315058**	0.059921	0.374979
	(0.5746)	(0.8066)	(0.5403)
Honda	0.561300	-0.244788	0.223808
	(0.2873)	(0.5967)	(0.4115)
King-Wu	0.561300	-0.244788	0.143203
	(0.2873)	(0.5967)	(0.4431)
Standardized Honda	1.329183	0.176179	-2.295921
	(0.0919)	(0.4301)	(0.9892)
Standardized King-Wu	1.329183	0.176179	-2.314947
	(0.0919)	(0.4301)	(0.9897)
Gourieroux, et al.*	--	--	0.315058
			(0.5009)

The test results show the L.M. statistical < L.M. is critical, so accept the null hypothesis. This means that the correct estimate for the panel data regression model is the usual effect method.

Evaluate the Regression Model for R Square panel data

This value aims to measure the percentage of the total variation of the dependent variable that the regression model can explain.

Table 4. Determination Coefficient Results Based on Common Effect Estimates

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	366.4982	207.0622	1.769991	0.0857
CAR	0.557227	2.073250	0.268770	0.7897

ROA	52.01795	15.66818	3.319975	0.0022
NPF	18.34107	7.474230	2.453908	0.0194
FDR	-0.449975	1.524404	-0.295181	0.7697
BOPO	-4.921210	1.556770	-3.161167	0.0033
Root MSE	50.97555	R-squared		**0.920479**
Mean dependent var	-28.11950	Adjusted R-squared		0.908785
S.D. dependent var	183.0705	S.E. of regression		55.29074
Akaike info criterion	11.00057	Sum squared resid		103940.2
Schwarz criterion	11.25390	Log-likelihood		-214.0114
Hannan-Quinn criteria.	11.09217	F-statistic		78.71190
Durbin-Watson stat	1.960708	Prob(F-statistic)		**0.000000**

The estimation results: R-squared = 0.920479 This means that the independent variable was able to explain the dependent variable by 92.05% while other variables outside the model explain the remaining 7.95%. Another interpretation is that if the R square value is more than 0.5, then the ability of the predictor variable is strong in explaining the variable response. On the other hand, if the value is less than 0.5, the strength of the predictor variable is not reliable in explaining the response variable. In this panel data regression example, the R Square value is 0.920479, which means that the predictor variable is influential in defining the response variable.

Model Feasibility Test (F Test)

F test is done to find out whether or not the independent variables are dependent on the dependent variable as a whole / simultaneously. Hypothesis:

H0: $\beta_0 = \beta_1 = \beta_2 = \beta_3 = 0$; independent variable has no effect

H1: $\beta_0 \neq \beta_1 \neq \beta_2 \neq \beta_3 \neq 0$; influential independent variable.

Based on table 4, the F statistic produces a p-value or probability value $<\alpha$ (0.000 <0.05) with the conclusion rejecting H0. The model is feasible so that the independent variables jointly influence the dependent variable.

Significance Test of Independent Variables (t-Test)

The T-test was performed to determine whether or not the independent variables are dependent on individual or partial dependent variables. Based on table 4, the probability value $<\alpha$ is the variable ROA, NPF, and BOPO, which means the ROA, NPF, and BOPO variables are individually significant in influencing NOM.

Panel Data Regression Estimation Results

The Panel Data Model Estimation Results based on the model specification tests that have been conducted and the best value comparison; then the panel data regression model

used is the Common Effect. The following table shows the results of estimation data with the number of observations of 8 Islamic banks during the 2013-2017 period.

Table 5. Estimated data with a total of 8 observations of Islamic banks during the period 2013 - 2017.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	366.4982	207.0622	1.769991	0.0857
CAR	0.557227	2.073250	0.268770	0.7897
ROA	52.01795	15.66818	3.319975	0.0022
NPF	18.34107	7.474230	2.453908	0.0194
FDR	-0.449975	1.524404	-0.295181	0.7697
BOPO	-4.921210	1.556770	-3.161167	0.0033

Based on the estimation results of the panel data regression coefficient with the Common Effect model approach, the equation obtained as follows:

$$NOM_i = \beta0 + \beta_1\, CAR + \beta_2\, ROA + \beta_3\, NPF + \beta_4\, FDR + \beta_5\, BOPO + e_i$$

$$NOM_i = 366.5 + 0.56\, CAR + 52.02\, ROA + 18.34\, NPF - 0.45\, FDR - 4.92\, BOPO + e_i$$

Interpretation of panel data regression coefficients:

If the CAR ratio increases by 1 per cent, the average NOM will increase by 0.56 per cent.

If ROA increases by 1 percent, the average NOM will increase by 52.02 percent.

If the NPF increases by 1 percent, the average NOM will increase by 18.34 percent.

If FDR increases by 1 percent, on average, NOM will decrease by 0.45 percent.

If BOPO increases by 1 percent, on average, NOM will decrease by 4.92 percent.

Conclusion

Based on the results and discussion previously discussed regarding the performance evaluation component of Islamic banking, it can conclude that:

CAR significantly influences the NOM, which means that the results apply to all Islamic banks in general. But specifically (for the bank that was the object of this study), the results data processing shows a significant positive relationship if there is an increase in CAR. The implication is that NOM will also increase, and vice versa. ROA has a substantial effect on NOM which means that the result applies to all Islamic banks in general. But accurately (for the bank that was the object of this study), the results data processing shows a significant positive relationship if there is an increase in ROM. The implication is that NOM will increase as well, and vice versa.

NPF has a significant effect on NOM which means that the result applies to all Islamic banks in general. But precisely (for the bank that was the object of this study), the results data processing shows a significant positive relationship if an NPF increases. The implication is that NOM will increase as well, and vice versa. FDR does not significantly influence NOM, which means that the results do not apply to all Islamic banks in general. But specifically (for banks that are the object of research this), data processing results show that there is a significant negative relationship if an increase in FDR occurs. The implication is that the NOM will decrease, and the reverse also applies.

BOPO does not significantly influence NOM, which means that the results do not apply to all Islamic banks in general. But specifically (for banks that are the object of research this), data processing results show that there is a significant negative relationship if an increase in BOPO occurs. The implication is that NOM will decrease, and vice versa.

Recommendations

The performance of Islamic banking is one of the essential things in seeing whether Islamic banks can maintain financial stability. To see the return of Shariah banking, you can look at it from financial statements, such as looking at CAR, ROA, NPF, FDR, and BOPO. This ratio is the primary ratio in looking at Shariah's banking performance. Financial ratios in Islamic banking can play a significant role in management decisions in the future to see the potential for financing to carry out. Islamic banking in Indonesia has had a reasonably good impact on the national economy and can compete with conventional banking. Islamic banking in Indonesia must strengthen banking performance to compete with traditional banks that have a sizeable market share in Indonesia. The Shariah Supervisory Board must also use an excellent platform to oversee all transactions in Shariah banking to maintain consistency in spreading goodness to the Ummah. This will increase awareness among people and accelerate the growth of the sector. Finally, for Islamic banking to reach its potential in Indonesia, it is necessary to prepare human resources capable of running the Islamic banking system that can compete with conventional banking.

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