

The Influence of DPK, CAR, NPF, FDR, and BOPO on the Profitability of Sharia Banks Listed on the Indonesia Stock Exchange in 2018-2022

Mubarokah

Universitas Esa Unggul, Indonesia

Email: mubarokah.oka123@gmail.com

*Correspondence

ABSTRACT

Keywords: third-party funds; capital adequacy ratio; non-performing loans; financing to deposit ratio; profitability.

In the modern era, the banking industry is one of the key sectors that make a significant contribution to the economy of a country, including Indonesia. With the enactment of Law No. 10 of 1998 on banking which was later updated into Law No. 21 of 2008 on Islamic banking, the Indonesian banking industry has received a positive response. This study aims to examine the contribution of several factors to the financial performance of banks. These factors are Third Party Deposits (DPK), Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Financing to Deposit Ratio (FDR), and Operating Expenses Operating Income (BOPO). The descriptive statistical analysis method is used in this study, involving the incorporation of each variable with the average value, minimum value, maximum, and standard deviation. The results of the analysis show that deposits hurt profitability, CAR has a positive and significant impact on profitability, NPF has a positive and significant impact on profitability, FDR has a negative and significant impact on profitability, and BOPO has a negative and significant impact on profitability. Using Signal Theory, this study highlights the importance of management actions in conveying information to investors to reduce information inequality between management and external parties. This study has limitations such as the use of secondary data that has been published with time series data for only five years (2018-2022) and only involves five independent variables.



Introduction

In this modern era, the banking industry is one of the key sectors that make a significant contribution to a country's economy. As a sector, the banking industry also functions as the main supporter of financial services in other sectors. In Indonesia, the form of banking with a dual banking system, which involves two types of businesses since the enactment of Law No. 10 of 1998 concerning banking which was later updated to Law No. 21 of 2008 on Islamic banking, the banking industry has received a positive

response. Technological developments and digitalization that blur the boundaries between the virtual and the real world have affected various aspects of life, including the banking sector. To succeed and be able to transform the economic and business sectors, an effective and safe environment is needed (Rivandi & Gusmariza, 2021). In the last decade, Islamic banking in Indonesia has grown rapidly, both in terms of institutions and the growth of assets, third-party funds, and financing. The increasing public awareness of transacting by Sharia principles encourages sustainable growth in this sector. This condition requires the Islamic banking industry to continue to improve its performance in competing and seizing the market share of Islamic banking in Indonesia (Hanafiah, 2018). According to (Aulia & Prasetyono, 2015), banks that are efficient in managing and distributing funds will experience a positive impact on performance and maximize the use of capital, banks can achieve the expected profits.

The evaluation of the performance of Islamic banks does not only depend on the achievement of profits but also the extent of their compliance with sharia principles, namely Mudharabah, Musyarakah, Wadiah, Al-Murabahah, Salam, Istihna', Ijarah, Qardh, Rahn/Gadai, Hawalah/Hiwalah, Wakalah (Financial Services Authority, 2017). Islamic banks, as business entities that operate based on Sharia principles, do not only focus on achieving maximum profits. As a business institution, Islamic banks must be focused on achieving success in this world and the hereafter. The main purpose of establishing an Islamic bank is to contribute to realizing sharia maqashid (Mardianto & Chintia, 2022). Achieving profits is one of the main goals for banks, which is desired by both management and investors who have invested their capital. By obtaining profits according to the stipulated provisions, banks can improve product quality, create new investments, and improve the welfare of employees and company owners. Significant profits are the measure of the bank's operational success.

ROA is one of the ratios used in evaluating the bank's management capabilities to create profits from assets in its operations. To evaluate the financial performance of a bank, an analysis is carried out on the criteria that must be met by the bank, referring to the financial ratio standards commonly used in the banking industry. Profitability is one of the components that need to be considered. The purpose of evaluating a company's performance is to understand how well the company is making profits, which is its ability to earn profits over a certain period. (Anggari & Dana, 2020). The bank's main mission is to achieve an optimal level of profitability in carrying out its operations. Profitability reflects the company's capacity to create profits by utilizing available resources.

Profitability is a key parameter for investors to evaluate the company's capabilities in creating profits and rates of return for investors. (Alkhairani et al., 2020). Profit income is often an indicator of a company's performance evaluation, where if the profit achieved is high, then the company's performance is considered good, and vice versa. Corporate profit is not only a benchmark of the company's capabilities in completing its obligations to capital providers but also a factor in building the company's value that reflects its prospects. (Suandi et al., 2023).

The level of performance of Islamic commercial banks, with the measurement of ROA, is influenced by several factors. (Y. Zulvia, 2020). (Mawaddah & Anisah, 2015) Financing, Net Interest Margin (NIM), and Non-Performing Financing (NPF) are some of the factors that affect the ROA of Sharia banks. (Ahmad Khairi et al., 2017) Ubaidillah (2017) investigated various factors that affect ROA, such as CAR, Financing to Deposit Ratio (FDR), Non-Performing Financing (NPF), Operating Costs compared to Operating Income (BOPO), and funding sources. Third-party funds (DPK), NPF, CAR, FDR, and receipt of funds from the public are some of the main sources of bank revenue. Deposits can be used by banks for various investment purposes that generate income, including credit distribution to customers. (F. E. Zulvia et al., 2020). With the increase in funds from third parties, there will be significant credit growth, which in turn will increase the bank's profitability.

According to (Moorcy et al., 2020), Financing to Deposit Ratio is a method used to evaluate the level of bank liquidity. FDR indicates the ability of a bank to provide financing using all its assets. A higher FDR ratio indicates a greater level of disbursement of funds to customers, while a low FDR indicates the ineffectiveness of banks in financing. (R. P. Astuti, 2022). Bank management needs to have the ability to effectively manage its intermediation function. This includes raising funds and redistributing them in the form of financing to the community. Increasing revenue is the main focus of banks, with the hope of generating profit growth for banks in the end. (R. Astuti et al., 2022).

Bank performance is influenced by BOPO is a parameter in assessing the efficiency and performance of banks in managing their operating activities, by comparing operational costs with operating income. A smaller BOPO ratio signals the efficiency of the bank's operating costs, while an increase in operating income can reduce profit before tax, reducing overall profit in the end. A high BOPO ratio signals inefficiencies in operational activities, where high operating costs are required to obtain operating income. (Tarmidi & Widodo, 2021).

Method

In this study, there are four independent variables, namely Third Party Funds, Capital Adequacy Ratio, Non-Performing Loans, Financing to Deposit Ratio, and Operating Expenses on Operating Income, one dependent variable is Profitability. Third-party funds are measured by looking at sales from savings, current accounts, and deposits according to (Harapan et al., 2018). The Capital Adequacy Ratio is measured by looking at the ratio of the number of Capital Banks to risk-weighted assets (ATMR) according to Pujati et al. (2020). Non-performing loans use a measure of the number of non-performing loans compared to total credits looking at the reference Sari et al. (2019). Financing To Deposit Ratio is a comparison between the total amount of loans disbursed to third-party funds according to (Dehghan et al., 2017). Operating Expenses on Operating Income looks at the total operating expenses with operating income according to (Dehghan et al., 2017). As for Profitability, looking at profit after tax compared to total assets refers to Hakiim (2018).

The data source used is secondary data, including the financial statements of Sharia Banks listed on the IDX for the period 2018-2022. The data analysis applied in this study is parametric statistics. The population consists of all Sharia Banks, with a total of 16 companies over five years. The sampling technique is nonprobability sampling with a target sampling approach. This technique selects samples based on certain criteria. (Sekaran & Bougie, 2016), and a sample of 71 companies was obtained.

In this study, a descriptive statistical analysis method was used. This approach includes the incorporation of each variable with an average value, minimum and maximum values, and standard deviation. This method also takes into account conventional assumptions to assess the validity of the research model. To test the hypothesis, statistical tools with multiple regression analysis. Regression equation:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + e \dots\dots\dots (1)$$

Where:

- a: Constant
- Y: Profitability
- B1: Third Party Fund Coefficient
- X1: Third Party Funds
- B2: Capital Adequacy Ratio Coefficient
- X2: Capital Adequacy Ratio
- B3: Non-Performing Credit Coefficient
- X3: Non-Performing Loans
- B4: Financing to Deposit Ratio Coefficient
- X4: Financing To Deposit Ratio
- B5: Operating Expense Coefficient to Operating Revenue
- X5: Operating Expenses on Operating Income

Results and Discussion

Descriptive Analysis

Table 1
Descriptive Statistical Test Results

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Deposit	71	6.020	8.910	7.2778	.659621
CAR	71	.123	3.905	.42701	.671296
NPF	71	.000	4.950	1.0590	1.397867
				4	

FDR	71	.000	196.730	76.921	37.529155
				06	
BOPO	71	.813	428.400	90.957	53.258603
				97	
ROA	71	-2.480	7.810	1.2038	1.531474
				7	
Valid	71				
N					
(listwise)					
e)					

Based on the table above regarding the descriptive statistical test, it is explained that the number of observations (N) from this study is 71. The DPK variable (X1) shows an average value of 7,277 of 69,390,887 out of a maximum total of 8.91 or 813,000,000. This means that if funds from third parties increase, then the bank has the potential to get high profits. This is influenced by the company's risk factors where the level of risk faced by the company also affects the availability and cost of third-party funds. Companies with lower risk have easier access to external funding sources at a lower cost.

The CAR variable (X2) shows an average value of 0.4270 or 42.70%, with a maximum value of 3.95. This indicates that the bank has not managed to manage the CAR to exceed the set limit. According to regulations, banks must meet a capital adequacy ratio (CAR) of at least 8% (eight percent) which serves to cover the risk of losses that can occur. The higher the CAR, the better the bank's ability to resolve the risk of loss from each loan disbursed. This also shows that banks have not been able to finance their operations properly, which has implications for the low contribution to the bank's financial performance. Bank Muamalat Indonesia has a minimum value of 0.12 or 12%, which indicates that the bank is not enough to finance its operations. This condition can hurt the bank's financial performance.

The NPF variable (X3) had an average of 1.05% and the maximum value reached 4.95. This means that banks can manage non-performing loans effectively, which has the potential to increase public trust. The larger the amount of non-performing loans, the higher the reserve fund that must be prepared and the costs that must be borne for it. Bank Aladin Syariah recorded a minimum NPF value of 0.00 or 0%, showing its ability to manage financing well thanks to a clear source of payment so that the quality of problematic financing becomes zero.

The FDR variable (X4) has an average value of 76.96% and a maximum value of 196.73%. This means that the disbursement of credit to customers allows the bank to carry out its obligations to depositors who will take the money, which has been used by the bank to distribute credit. Net interest is one of the components of income, and because profit is part of the return on assets, the increase in net interest income will indirectly increase profits, so that financial performance will increase. The minimum value recorded

is 0.00 or 0%. One of the banks that has an FDR with this minimum value is Aladin Syariah. This happened because the bank had not yet distributed financing.

The BOPO variable (X5) with an average value of 90.95% and a maximum value of 428.40%. This shows that the bank can manage BOPO so that the average achieved does not exceed the standard set by the bank, which is 83-90%. Higher BOPO values reflect a lack of efficiency in managing operational costs by management, which can ultimately lead to a decrease in profitability. This factor is influenced by the growth of the quality credit portfolio, where banks provide credit to customers with low risk and high potential returns.

The profitability variable (Y) has an average value of 1.20% and a maximum value of 7.81%. This means that in general, these companies can create quite good profits from the assets they own. However, there are also companies that have a below-average ROA, which is -2.48%. There are several factors that affect this, namely inefficient asset management, high operational costs, or a decrease in sales.

Classical Assumption Analysis

1. Normality Test

Used to verify whether the data follows the normal distribution, concerning the Kolmogorov-Smirnov significance value, the data normality test is carried out:

Table 2
Normality Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		71
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	1.20125791
Most Extreme Differences	Absolute	.085
	Positive	.056
	Negative	-.085
Test Statistic		.085
Asymp. Sig. (2-tailed)		.200 ^{c,d}
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

All variables are normally distributed, as indicated by the Kolmogorov-Smirnov significance value above $\alpha = 0.05$. This means that all variables in this study can be used for regression model analysis.

2. Autocorrelation Test

This test is run to detect autocorrelation with the Durbin-Watson test (DW):

Table 3
Autocorrelation Test Results

Model Summary

Type	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.620a	.385	.337	1.246604	1.908
a. Predictors: (Constant), BOPO, NPF, FDR, DPK, CAR					
b. Dependent Variable: ROA					

The autocorrelation calculation is as follows: Number of Observations (n) = 71, k-1 = 5-1, dL = 1.4987, dU = 1.7358, and d/R2 = 1.908. The results of the Durbin-Watson (DW) test for this table show that this model does not experience autocorrelation symptoms because the DW value of 1.908 is within the autocorrelation-free range. Therefore, this model is declared free of autocorrelation.

Multicollinearity Test

The results of this test are used to assess whether or not there is a significant relationship between independent variables (X). If multicollinearity occurs, then variable X is not feasible to determine the contribution together.

Table 4
Multicolonnalarity Test Results

		Coefficients				Collinearity Statistics	
		Unstandardized Coefficients		Standardized Coefficients			
Type		B	Std. Error	Beta	t	Sig.	Tolerance VIF
1	(Constant)	4.162	1.998		2.083	.041	
	Deposit	-.384	.251	-.166	-1.529	.131	.808 1.237
	CAR	1.078	.303	.472	3.553	.001	.535 1.868
	NPF	-.331	.117	-.302	-2.838	.006	.834 1.198
	FDR	-.002	.004	-.058	-.542	.590	.833 1.200
	BOPO	-.001	.004	-.034	-.253	.801	.522 1.917

So, in Table 5 it can be concluded that there is no multicollinearity between the free variable X in regression. This can be seen in Statistics, where the tolerance value is close to 1 and the VIF value is less than 10 for all independent variables X. Therefore, the regression between the independent variable X does not indicate the existence of multicollinearity, so the research variable can be used for regression model analysis.

3. Heteroscedasticity Test

The results of this test aim to detect whether the error variant of some X values is not constant by looking at the graph between Y and residue. Based on calculations using the SPSS application and scatter chart analysis:

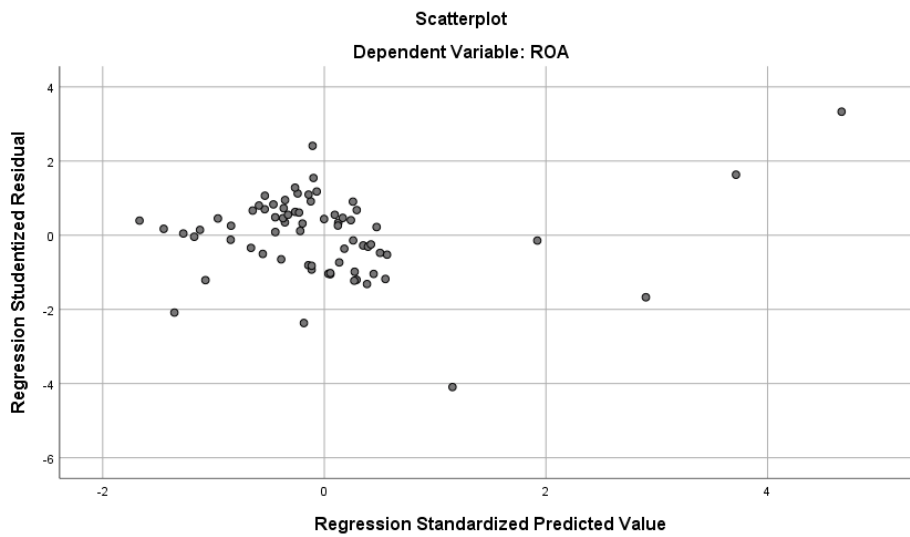


Figure 2. Scatterplot Test Results

There is no heteroscedasticity in the regression between the free variable X. This is indicated by the scatterplot, where the dots are scattered above and below the Y axis without showing a specific pattern. Regression between variables X indicates that the research variable is feasible to use for regression model analysis.

Multiple Linear Regression Analysis

The first stage of regression analysis is carried out to evaluate the influence of X on variable Y. The results of this analysis use the SPSS application and are based on the Standardization Beta coefficient.

**Table 5
Multiple Linear Regression Results**

Coefficients						
Type		Unstandardized Coefficients		Standardize d Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.162	1.998		2.083	.041
	Deposit	-.384	.251	-.166	-1.529	.131
	CAR	1.078	.303	.472	3.553	.001
	NPF	-.331	.117	-.302	-2.838	.006
	FDR	-.002	.004	-.058	-.542	.590
	BOPO	-.001	.004	-.034	-.253	.801

a. Dependent Variable: ROA

The values β_1 , β_3 , β_4 , and β_5 are -0.384, -0.331, -0.002, and -0.001 with negative regression coefficients, indicating an inverse relationship between the variables DPK, NPF, FDR, and BOPO with profitability (Y). This means that if the variables of DPK, NPF, FDR, and BOPO are reduced by one unit, profitability will increase. In contrast, a value β_2 of 1,078 with a positive regression coefficient, indicates a direct relationship between the CAR variable and profitability, which means that an increase in CAR per unit will increase the profitability of one unit.

Hypothesis Testing

1. Test F

This research is aimed at assessing the simultaneous impact of the variables DPK, CAR, NPF, FDR, and BOPO on profitability (ROA).

Table 6
Test Results F

ANOVAa						
Type		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	63.167	5	12.633	8.130	.000b
	Residual	101.011	65	1.554		
	Total	164.179	70			

a. Dependent Variable: ROA
b. Predictors: (Constant), BOPO, NPF, FDR, DPK, CAR

Table 6 shows that the variables DPK, CAR, NPF, FDR, and BOPO simultaneously affect profitability, with a significance value of $0.000 < 0.05$, which means the hypothesis is accepted.

2. Partial hypothesis test (T-test)

The t-test was conducted to evaluate the impact of the variables DPK, CAR, NPF, FDR, and BOPO individually on profitability. This t-test was carried out using the SPSS application by considering the t-column and the Significance (Sig) values obtained were:

Table 7
T Test Results

Coefficients					
Type		Unstandardized Coefficients	Standardized Coefficients	t	Sig.
		B	Std. Error	Beta	
1	(Constant)	4.162	1.998		.041
				2.083	

	-0.384	.251	-.166	-	.131
Deposit				1.5	
				29	
CAR	1.078	.303	.472	3.5	.001
				53	
NPF	-.331	.117	-.302	-	.006
				2.8	
				38	
FDR	-.002	.004	-.058	-	.590
				.54	
				2	
BOPO	-.001	.004	-.034	-	.801
				.25	
				3	

a. Dependent Variable: ROA

The conclusions that can be drawn are as follows:

H1: The deposit variable has a significance value of $0.131 > 0.05$, meaning that the deposit variable does not have a significant impact on profitability (ROA). Therefore, the H1 hypothesis was rejected.

H2: The CAR variable has a significance value of $0.001 < 0.05$, meaning that the CAR variable has a significant impact on profitability (ROA). Therefore, the H2 hypothesis is accepted.

H3: The NPF variable has a significance value of $0.006 < 0.05$, meaning that the NPF variable has a significant impact on profitability (ROA). Therefore, the H3 hypothesis is accepted.

H4: The FDR variable has a significance value of $0.590 > 0.05$, meaning that the FDR variable does not have a significant impact on profitability (ROA). Therefore, the H4 hypothesis is rejected.

H5: The BOPO variable has a significance value of $0.801 > 0.05$, meaning that the BOPO variable does not have a significant impact on profitability (ROA). Therefore, the H5 hypothesis was rejected.

The analysis of the results of this study was carried out using inferential statistical methods and hypothesis tests. This discussion also involves a comparison with the theory used in this study as well as the results of previous research that serve as a reference. The entire discussion is presented in detail in the specified sections.

Table 8
Summary of Hypothesis Test Results

Hypothesis	Information	Prob Value	Result
H2	Deposits negatively impacted by partial profitability	0.131	Accepted
H3	CAR has a positive impact on partial profitability	0.001	Accepted
H4	NPF has a positive impact on partial profitability	0.006	Accepted
H5	FDR negatively impacted profitability partially	0.590	Rejected
H6	BOPO hurts profitability partially	0.801	Rejected

Based on the hypothesis testing table above, it can be discussed as follows:

Deposits on Profitability

The results of the hypothesis analysis show that Third Party Deposits (DPK) hurt profitability. Funds from third parties do not have a significant impact on ROA due to a mismatch between the funds received and the amount of credit disbursed. This causes a decrease in ROA or efficiency of banks in generating profits, where the interest income obtained from credit distribution is not sufficient to offset the interest costs given to depositors, Katuuk et al. (2018). A large amount of third-party funds should ideally be followed by increased financing by banks. If this does not happen, banks could face a decrease in profitability because the interest income earned from loans is insufficient to compensate for the interest costs that must be given to depositors. This situation results in a decrease in the ROA or efficiency of banks in generating profits, where the interest income from credit disbursement is not enough to cover the interest costs that must be given to depositors. (Sari and Murni, 2016). Not in line with Taswan's (2008) theory, the more deposits that become the main source of banks, the more banks will place their funds in the form of productive assets such as financing. The placement of funds in the form of financing will contribute to the bank's interest income which affects profitability. This finding is in line with Katuuk et al. (2018), that deposits hurt profitability.

CAR to Profitability

The results of the hypothesis test show that CAR has a significant impact on profitability. When CAR increases, the ROA value will also increase, and vice versa (Amalia and Diana, 2022). This is due to the function of CAR which aims to assess whether the bank's capital is sufficient to support the bank's operations efficiently, can cover unavoidable losses, and whether the bank's assets can be maintained in larger or smaller amounts (Sari and Murni, 2016). Generally, banks try to maintain CAR by Bank Indonesia's minimum provisions, which is 8%. Thus, banks demonstrate a better ability to manage risks that may arise from risky credit or productive assets. In line with Olatayo et al. (2019) who also found that CAR has a positive and significant impact on

profitability in the banking sector. This finding is in line with Putri & Dewi (2017), Agbeja et al. (2015), and Sari & Murni (2017) that CAR has an impact on profitability.

NPF on Profitability

The results of the hypothesis analysis indicate that NPF has a significant positive impact on profitability. The NPF ratio describes the level of financing risk faced by Sharia Commercial Banks. The higher this ratio, the worse the bank's credit quality is due to the larger the amount of non-performing financing, which indicates an increase in potential problems for banks. These findings suggest that both high and low NPF will affect the ROA level in question. This happens because banks have provided adequate reserves and analyzed risks effectively so the problem will have an impact on the level of distribution of bank profits to related parties (Yusuf 2017). This finding is in line with Syafrizal et al. (2023) who also found that NPF has a positive and significant impact on profitability.

FDR on Profitability

The test results show that FDR has a significant negative impact on profitability. The FDR variable partially affects profitability negatively. The distribution of financing to prospective customers is carried out by applying the 5C principles, which include Character, Capacity, Collateral, Capital, and Condition (Hakiim, 2018). If savings increase but are not followed by an increase in financing, profitability will decrease. The research of Muliawati & Khoiruddin (2015) also supports this finding, that the FDR variable has a negative and insignificant impact on profitability. According to OJK regulation Number 21/12/PBI/2019, FDR which indicates healthy bank liquidity is in the range of 84% to 94%. If the FDR of an Islamic bank is below 84% or above 94%, the bank does not function properly as an intermediary institution, which can jeopardize the bank's continuity and threaten customer deposits (Anam & Khairunnisah, 2019).

BOPO on Profitability

The results of the analysis found that BOPO had a significant negative impact on profitability. This study highlights that the higher the BOPO, the more inefficient the management of operational costs is, which has the potential to reduce bank profitability (Amalia & Diana, 2022). The study stated that the main operation of banks, namely collecting and distributing public funds, causes banks' operating costs and income to be greatly influenced by interest costs and interest receipts. Therefore, any increase in operating costs can reduce profit before tax, which directly impacts the bank's profitability.

According to Bank Indonesia regulations, banks are considered efficient if their BOPO ratio is below 90%. Banks that meet health standards according to BI must have a BOPO of $\leq 93.52\%$ (Bank Indonesia Circular Letter No.6/23/DPNP dated May 31, 2004). If BOPO exceeds this threshold, banks can be categorized as unhealthy and inefficient (Capriani & Dana, 2016). In line with Sofyan (2022) and Wardoyo et al. (2022), BOPO hurts profitability.

Conclusion

Based on the findings and analysis, the conclusion is that CAR and NPF have a significant positive impact on profitability. Meanwhile, deposits, FDR, and BOPO have a significant negative impact on profitability. This study has limitations that need to be improved, including that the data used is only secondary data that has been published, with a time series data of only 5 years, namely 2018-2022. In this study, there are only five independent variables, namely DPK, CAR, NPF, FDR, and BOPO. It is hoped that further research will add other variables to provide a better picture of profitability such as increasing market share and profit-sharing financing.

From the results of this study, the managerial implications that must be carried out are that companies must implement consistent accounting policies for their DPK, CAR, NPF, FDR, and BOPO. It is important to ensure that the values of DPK, CAR, NPF, FDR, and BOPO recorded in the financial statements reflect the true value and can be accounted for. Consistent accounting policies are accounting principles in which companies must apply the same methods of measuring, acknowledging, and reporting similar transactions from period to period. By implementing consistent accounting policies, companies can ensure that the financial statements presented reflect the actual financial condition and can be compared consistently from one period to another.

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