

## **The Influence of Financial Ratios on the Profitability of Indonesian Bank Central Asia Syariah (2013-2022)**

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### **ABSTRACT**

According to Forbes, Bank BCA Syariah will be among the top 10 banks in Indonesia by 2022. This study aims to ascertain how financial ratios affect Bank BCA Syariah's profitability in Indonesia. Economic parameters, including the Return on Asset (ROA), Capital Adequacy Ratio (CAR), Non-Performing Financing (NPF), Operating Expenses to Operating Income (BOPO), and Financing to Deposit Ratio (FDR), were utilized in this study. Annual time series data for the years 2013 through 2022 are employed, and they are subjected to multiple linear regression using e-views. According to the findings, CAR, NPF, and only BOPO negatively impact ROA, whereas FDR has no appreciable impact.

*Bank BCA Syariah adalah salah satu dari sepuluh bank terbaik di Indonesia pada tahun ini 2022 versi Forbes. Studi ini bertujuan untuk menentukan bagaimana rasio keuangan berdampak pada profitabilitas Bank BCA Syariah di Indonesia. Dalam penelitian ini, rasio keuangan seperti Financing to Deposit Ratio (FDR), Capital Adequacy Ratio (CAR), Non Performing Financing (NPF), Beban Operasional terhadap Pendapatan Operasional (BOPO), dan Return on Asset (ROA) digunakan. Data yang digunakan adalah data time series annual periode 2013-2022 yang dianalisis dengan regresi linier berganda menggunakan E-Views. Hasil penelitian menunjukkan bahwa variabel CAR, NPF dan FDR tidak mempengaruhi ROA. Hanya variabel BOPO yang berpengaruh negatif terhadap ROA.*

### **Introduction**

Banks play a significant role in the Indonesian economy. In Indonesia, there are both non-sharia banks and Islamic banks that operate in parallel. The principles used by each type of bank differ in determining their selling and buying prices. Islamic banks operate under a system supervised by a Sharia Supervisory Board, while conventional banks generate income from interest.<sup>1</sup>

Indonesian banking, especially Islamic banking, has been growing very rapidly. By 2022, total assets had increased to 296,262 billion IDR, up from 66,090 billion IDR in 2009. This significant growth demonstrates the outstanding and increasing performance of Indonesian banking, particularly at Bank BCA Syariah, which is growing steadily.

Bank BCA Syariah is a subsidiary of BCA Bank and was previously known as Bank UIB. Bank UIB was transformed into Bank Central Asia Syariah after being acquired by Bank

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<sup>1</sup> Apriani Simatupang and Denis Franzlay, "Capital Adequacy Ratio(CAR), Non Performing Financing (NPF), Efisiensi Operasional (BOPO) Dan Financing to Deposit Ratio (FDR) Terhadap Profitabilitas Bank Umum Syariah Di Indonesia," *Jurnal Administrasi Kantor* 4, no. 2 (2018): 466–85.

Central Asia (BCA) in 2009. Bank BCA Syariah was established on April 5, 2010, and currently has assets totaling 12,671.7 billion IDR and 73 branches throughout Indonesia, making banking services more accessible for customers.

According to Forbes, Bank BCA Syariah is included in the list of the ten best banks in Indonesia for 2022.<sup>2</sup> Bank BCA Syariah has maintained its status as one of the best banks in Indonesia, despite operating under sharia law that upholds good values. This Islamic bank has been in operation since 2010 and continues to meet the demand for reliable Islamic banking.

**Table 1. Financial statements of Bank Central Asia Syariah (2021-2022)**

Type	Years	
	2021	2022
ROA	1,1%	1,3%
ROE	3,2%	4,1%
NPF net	0,01%	0,01%
NPF gross	1,13%	1,42%
CAR	41,4%	36,7%
BOPO	84,8%	81,6%
FDR	81,4%	79,9%

Source:, processed by author.

The financial performance of Bank BCA Syariah in 2021-2022 is detailed in Table 1. As shown in Table 1, the financial performance of Bank BCA Syariah has changed over this period. First, the Capital Adequacy Ratio (CAR) fell from 41.4% in 2021 to 36.7% in 2022. Second, the net Non-Performing Financing (NPF) remained stable at 0.01% in both years. Third, the Return on Assets (ROA) increased to 1.3% in 2022, up from 1.1% in 2021. Fourth, the BOPO (Operating Expenses to Operating Income) ratio decreased from 84.8% in 2021 to 81.6% in 2022. Fifth, the Financing to Deposit Ratio (FDR) decreased from 81.4% to 79.9%. Based on these changes, the CAR and BOPO ratios have decreased, while the ROA has increased, and the net NPF has remained stable. By examining its financial statements, we can forecast the future growth of BCA Syariah Bank. The ROA ratio is an important indicator for assessing bank performance, as it reflects how effectively a bank generates profits from its assets. A higher ROA indicates better profit generation capability. Therefore, the ROA ratio is crucial for investors and management to evaluate a bank's performance in generating returns on investments relative to its assets. A bank's ROA, calculated as a percentage of total assets, demonstrates its ability to generate profit against its assets.

It is evident that financial ratios fluctuate from year to year, revealing differences in the theoretical correlation among the four variables related to ROA. In 2022, for example, the ROA increased by 0.2%, while the CAR decreased by 4.7%, contradicting previous

<sup>2</sup> Kondirin, "RGEC : Analisis Tingkat Kesehatan Bank BCA Syariah Sebelum Dan Selama Pandemi Covid-19" 8, no. 03 (2022): 3670–75, <https://jurnal.stie-aas.ac.id/index.php/jei/article/view/6821/2897>.

research<sup>3</sup> which suggests that the CAR ratio positively impacts ROA. Additionally, the FDR decreased by 2%, yet the ROA increased by 0.2%. This observation contradicts earlier findings which indicated that the FDR ratio affects the ROA.<sup>4</sup>

Moreover, when the NPF ratio increased by 0.29%, the ROA fell by 0.2%. NPF represents problematic financing; thus, an increase in the NPF ratio typically results in a decrease in ROA. This finding differs from previous research,<sup>5</sup> which also indicated that the NPF ratio negatively impacts the ROA ratio. Lastly, the BOPO ratio decreased by 2.8% from 2021 to 2022, suggesting that a higher BOPO value indicates less operational efficiency, leading to lower income, as supported by other research ROA ratio is not affected by BOPO.<sup>6</sup> With the phenomenon of these differences and strengthened by several research differences in previous studies. This study replicates previous research by Abdul Haris Romdhoni and Bunga Chairunisa Chateradi (2020). The independent variables added in this study are the FDR, CAR, NPF, and BOPO ratios.

Thus, the formulation of this research problem is: “What is the effect of FDR (Financing to Deposit Ratio), CAR (Capital Adequacy Ratio), NPF (Non-Performing Financing), and BOPO (Operating Expenses to Operating Income) on the profitability of BCA Syariah Bank in Indonesia?”.

## Theoretical Review

### A. Return to asset (ROA)

The ratio of net returns to standard assets is a common method for calculating bank profitability, known as Return on Assets (ROA) in the financial world. ROA is a key indicator for assessing a bank's financial performance and health. A higher ROA indicates that the bank is generating more income from its assets, while a lower ROA suggests that the bank is using its assets less efficiently to generate income. The formula for ROA is:<sup>7</sup>

$$\text{ROA} = \frac{\text{Net Income}}{\text{Average asset}} + X 100\%$$

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<sup>3</sup> Novi Lupita, Kartiko Erik, and Kurnaeli, “Analisis Profitabilitas, Solvabilitas, dan Aktivitas Terhadap Penilaian Kinerja Keuangan PT. Astra International Tbk Periode 2014-2019,” *Jurnal Wahana Akuntansi* 06, no. 02 (2021): 052–061.

<sup>4</sup> M. Rahayu, “Analisis Pengaruh Faktor Internal dan Eksternal Terhadap Profitabilitas Bank Umum di Indonesia,” *Jurnal Akuntansi* 23, no. 1 (2019): 53–67.

<sup>5</sup> Idham Masri Ishak and Srie Isnawaty Pakaya, “Pengaruh Non-Performing Financing (NPF) terhadap Return On Asset (ROA) di Perbankan Syariah Indonesia (Studi Kasus pada Bank Umum Syariah yang Terdaftar di OJK Tahun 2013-2020),” *JAMBURA: Jurnal Ilmiah Manajemen dan Bisnis* 5, no. 1 (2022): 66–70, <https://doi.org/10.37479/jimb.v5i1.14235>.

<sup>6</sup> Bernad Hananto dan Sutrisna Amijaya, “Pengaruh Ukuran Perusahaan, Ratio Kecukupan Modal, Dana Syirkah Temporer, dan BOPO terhadap Profitabilitas Bank Syariah di Indonesia,” *Jurnal Ekonomi Syariah Pelita Bangsa* 6, no. 02 (2021): 138–51, <https://doi.org/10.37366/jespb.v6i02.243>.

<sup>7</sup> Eric Gicharu, Evusa Zablou, and Jared Ariemba, “The Effect of Bank Specific Factors on Financial Performance of Commercial Banks in Kenya,” *Research Journal of Finance and Accounting* 4531 (2019): 165–80, <https://doi.org/10.7176/rjfa/10-20-14>.

## B. Fixed Deposit Rate (FDR)

In the banking sector, the Fixed Deposit Ratio (FDR) is used to determine the proportion of a bank's total deposits held in the form of time deposits. FDR is calculated by dividing a bank's total time deposits by its total deposits. This ratio is an important metric for banks as it indicates their liquidity position and ability to meet short-term obligations. A low FDR indicates a higher liquidity position, while a high FDR suggests a lower liquidity position. The formula for FDR is:<sup>8</sup>

$$\text{FDR} = \frac{\text{Total Financing}}{\text{Total Deposit} + \text{Equity}} \times 100\%$$

## C. Capital Adequacy Ratio (CAR)

The Capital Adequacy Ratio (CAR) measures how well bank management manages risks that may affect capital.<sup>9</sup> Bank Indonesia sets the CAR at 8%, which is also used to assess the health of banks in Indonesia.<sup>10</sup> The formula for CAR is:<sup>11</sup>

$$\text{CAR} = \frac{\text{Core Capital Bank}}{\text{Risk Weight by Asset type of the Bank}} \times 100\%$$

## D. Non Performing Financing (NPF)

In Islamic banks, non-performing financing (NPF) refers to financing that cannot be repaid by the client or debtor. NPF can arise from various issues, such as customers being unable to make installments, business failures, or poor economic conditions. An increase in NPF leads to a decline in the quality of bank financing and an increase in financing problems.<sup>12</sup> Consequently, banks must be more cautious in their operations; otherwise, their profitability may decline. The NPF ratio can be used to calculate the percentage of non-performing financing relative to the total financing provided by the bank. Islamic banks face greater risks when their NPF ratio is higher. The formula for NPF is:<sup>13</sup>

$$\text{NPF} = \frac{\text{Amount of Financing}}{\text{Total Financing}} \times 100\%$$

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<sup>8</sup> Indah Rianti et al., "Pengaruh FDR, NPF, dan BOPO terhadap Profitabilitas Perbankan Syariah (Studi Kasus pada Bank Umum Syariah di Indonesia Periode 2015-2019)," *Journal of Public and Business Accounting* 2, no. 1 (2021): 12–18, <https://doi.org/https://doi.org/10.31328/jopba.v2i1.139>.

<sup>9</sup> Ridhlo Ilham Putra Wardana dan Endang Tri Widyarti, "Analisis Pengaruh CAR, FDR, NPF, BOPO, dan Size terhadap profitabilitas pada Bank Umum Syariah di Indonesia (Studi Kasus pada Bank Umum Syariah di Indonesia Periode 2011-2014)," *Diponegoro Journal of Management* 4, no. 4 (2015): 1–11, <http://eprints.undip.ac.id/46570/>.

<sup>10</sup> Cut Ermia et al., "Kinerja Keuangan Bank Umum Syariah di Indonesia Periode 2016-2019," *Jurnal Ilmiah Manajemen Dan Bisnis* 5, no. 2 (2020): 1–10.

<sup>11</sup> Achmad Fauzi et al., "Analisis Capital Adequacy Ratio (CAR) dan Penilaian Tingkat Kesehatan Bank pada PT Bank Syariah Xxx," *JMBI UNSRAT (Jurnal Ilmiah Manajemen Bisnis Dan Inovasi Universitas Sam Ratulangi)*, 7, no. 1 (2020): 114–27, <https://doi.org/10.35794/jmbi.v7i1.28392>.

<sup>12</sup> Kasmir, *Analisis Laporan Keuangan*, Pertama (Jakarta: PT Raja Grafindo Persada, 2014).

<sup>13</sup> Muhammad Fadlillah Fauzukhaq, Devita Sari, dan Suhenda Wiranata, "Pengaruh Inflasi, Bi Rate, Kurs, CAR dan FDR terhadap Non Performing Financing Bank Syariah Mandiri," *Media Ekonomi* 28, no. 2 (2021): 129–40, <https://doi.org/10.25105/me.v28i2.7338>.

### **E. Operating Expenses to Operating Income (BOPO)**

The BOPO (Operating Expenses to Operating Income) ratio assesses a bank's ability to manage its operations effectively. It reflects how well a bank runs its main operations, particularly credit, based on its ability to raise funds. BOPO is one of the components that affect the success rate of Islamic banks, and its performance is negatively correlated with BOPO. The formula for BOPO is:<sup>14</sup>

$$\text{BOPO} = \frac{\text{Operating Expenses}}{\text{Operating Income}}$$

### **F. Influence of FDR on Profitability**

A study has compared the effects of FDR and ROA in both Islamic and conventional banks. The results indicate that FDR strongly and positively affects the profit or ROA of Islamic banks.<sup>15,16</sup> Thus, in Islamic banks, FDR is positively correlated with ROA. However, another study has evaluated the effect of FDR on the ROA of Islamic banks, finding that FDR does not significantly impact Islamic banks' return on assets (ROA).<sup>17</sup>

### **G. Influence of CAR on Profitability**

Research has also examined how CAR impacts the profitability of both Islamic and conventional banks. The findings emphasize that CAR has a favorable and significant effect on the profit or ROA of Islamic banks.<sup>18</sup> Indicating a positive relationship between CAR and profitability. Conversely, other studies suggest that the capital adequacy ratio (CAR) does not significantly impact profits or ROA in Islamic banks.<sup>19</sup>

### **H. Influence of NPF on Profitability**

As the number of NPFs increases, Islamic banks are more likely to experience losses.<sup>20</sup> Several studies have shown that NPF negatively impacts profitability or ROA in Islamic

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<sup>14</sup> Ria Hartati, Rachma Nadhila Sudiyono, dan . Admiral, "Pengaruh NPF, FDR, BOPO dan CAR terhadap Profitabilitas pada Bank Syariah Periode Tahun 2016 – 2021," *Journal Of Communication Education* 16, no. 2 (2022), <https://doi.org/10.58217/joce-ip.v16i2.278>.

<sup>15</sup> Nadi Hernadi Moorcy, Sukimin Sukimin, dan Juwari Juwari, "Pengaruh FDR, BOPO, NPF, dan CAR terhadap ROA Pada PT. Bank Syariah Mandiri Periode 2012-2019," *Jurnal GeoEkonomi* 11, no. 1 (2020): 74–89, <https://doi.org/10.36277/geoekonomi.v11i1.113>.

<sup>16</sup> Intan Sari Budhiarjo and Hadijah Febriana, "Pengaruh FDR (Financing to Deposit Ratio), NPF (Non Performing Financing), dan BOPO (Biaya Operasional Pendapatan Operasional) terhadap Profitabilitas (ROA) pada PT Bank Syariah Mandiri Tbk," *JIMF (Jurnal Ilmiah Manajemen Forkamma)* 5, no. 3 (2022): 255, <https://doi.org/10.32493/frkm.v5i3.20915>.

<sup>17</sup> Andriani and Indah Permatasari, "Analisis Tingkat Kesehatan Bank dengan Metode RGEC pada BCA Syariah dan Panin Dubai Syariah," *Iqtisboduna* 17, no. 1 (2021): 65–80, <https://doi.org/10.18860/iq.v17i1.11521>.

<sup>18</sup> Ghamal Irwana Suteja and Majidah, "The Effect of CAR , FDR , NPF , Gearing Ratio and Corporate Governance on Profitability of Sharia," *Jurnal Ekonomi* 16 (2020): 95.

<sup>19</sup> Azhar Ihsani and Deny Yudiantoro, "Pengaruh CAR, NPF, Dan FDR terhadap Profitabilitas di Bank BNI Syariah Tahun 2013-2020," *JISIP (Jurnal Ilmu Sosial Dan Pendidikan)* 6, no. 3 (2022): 10600–613, <https://doi.org/10.58258/jisip.v6i3.3578>.

<sup>20</sup> Medina Almunawwaroh and Rina Marlina, "Pengaruh CAR,NPF dan FDR terhadap Profitabilitas Bank Syariah di Indonesia," *Amwaluna: Jurnal Ekonomi Dan Keuangan Syariah* 2, no. 1 (2018): 1–17, <https://doi.org/10.29313/amwaluna.v2i1.3156>.

banks.<sup>2122</sup> Highlighting a correlation between higher NPF levels and lower profitability. However, other studies indicate that NPF has no significant impact on the profitability (ROA) of Islamic banks.<sup>2324</sup>

## I. Influence of BOPO on Profitability

A bank's ability to manage operating costs and achieve profitability tends to be associated with lower BOPO values.<sup>25</sup> Regarding the effect of BOPO on the ROA of Islamic banks, many studies have reported differing results. Some studies suggest that BOPO has a non-positive and significant impact on profits or ROA in Islamic banks.<sup>2627</sup> Implying that higher BOPO levels are associated with lower profitability. However, other research indicates that BOPO does not affect the profitability of Islamic banks.<sup>282930</sup>

Overall, the effects of FDR, CAR, NPF, and BOPO on ROA in banks may vary depending on specific conditions and factors.

## Research Method

Quantitative methods are employed in this study, which is descriptive in nature. The aim is to test hypotheses to demonstrate how selected variables correlate with each other. Comparative causal research investigates the relationships between two or more variables.

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<sup>21</sup> Fira Prasilia Dwintama et al., "Pengaruh NPF, CAR, dan FDR terhadap Profitabilitas pada Bank Umum Syariah di Indonesia Periode 2016-2020," *Jurnal Ilmiah Akuntansi, Manajemen & Ekonomi Islam (JAM-EKIS)* 4, no. 2 (2021): 408–17, <https://doi.org/https://doi.org/10.36085/jam-ekis.v4i2.3121>.

<sup>22</sup> Hartati, Sudyono, and ., "PENGARUH NPF, FDR, BOPO dan CAR terhadap Profitabilitas pada Bank Syariah Periode Tahun 2016 – 2021."

<sup>23</sup> Ihsani and Yudiantoro, "Pengaruh CAR, NPF, Dan FDR terhadap Profitabilitas di Bank BNI Syariah Tahun 2013-2020."

<sup>24</sup> hutomo Mandala Putra, "Pengaruh CAR, NPF,BOPO dan LDR terhadap ROA Bank Umum Syariah yang Terdaftar di Bank Indonesia," *Jurnal Ilmu Manajemen* 5 (2020): 23–30, <https://doi.org/10.33474/JIMMU.V5I1.6724>.

<sup>25</sup> Chavia Gilrandy La Difa, Diharpi Herli Setyowati, dan Ruhadi, "Pengaruh FDR, NPF, CAR, Dan BOPO terhadap Profitabilitas Bank Umum Syariah di Indonesia," *Journal of Applied Islamic Economics and Finance* 2, no. 2 (2022): 333–41, <https://doi.org/10.35313/jaief.v2i2.2972>.

<sup>26</sup> Suteja and Majidah, "The Effect of CAR , FDR , NPF , Gearing Ratio and Corporate Governance on Profitability of Sharia."

<sup>27</sup> Adhalia Pratiwi and Nana Diana, "Pengaruh CAR, NPF, dan BOPO terhadap Profitabilitas pada Bank Umum Syariah di Indonesia Tahun 2015-2019," *JLAI (Jurnal Ilmiah Akuntansi Indonesia)* 6, no. 1 (2021): 55–72, <https://doi.org/10.32528/jjai.v6i1.5065>.

<sup>28</sup> Putra, "Pengaruh CAR, NPF,BOPO dan LDR terhadap ROA Bank Umum Syariah yang Terdaftar di Bank Indonesia."

<sup>29</sup> Muhammad Tamin et al., "Pengaruh Biaya Operasional Pendapatan Operasional (BOPO) dan Financing To Deposit Ratio (FDR) terhadap Profitabilitas pada Bank Umum Syariah di Indonesia Tahun 2016-2020," *Jurnal Akuntansi Malikussaleh (JAM)* 1, no. 1 (2022): 124, <https://doi.org/10.29103/jam.v1i1.7447>.

<sup>30</sup> Dina Amalia et al., "Pengaruh Biaya Operasional Terhadap Pendapatan Operasional (BOPO), Capital Adequacy Ratio (CAR), Dan Financing to Deposit Ratio (FDR) terhadap Profitabilitas (ROA) pada Bank Bukopin Syariah Periode 2013-2020," *Jurnal Ilmiah Ekonomi Islam* 8, no. 01 (2022): 1095–1102, <http://dx.doi.org/10.29040/jiei.v8i1.4166>.

The independent variables in this study are the Deposit Funding Ratio (X1), Capital Adequacy Ratio (X2), Non-Performing Financing Ratio (X3), and Operating Expenses to Operating Income Ratio (X4). The dependent variable for BCA Syariah Bank is profitability, measured by Return on Assets (ROA).

The population refers to a general area comprising subjects or objects that researchers select to study due to specific characteristics. This study investigates BCA Syariah Bank from 2013 to December 2022. The researcher utilized a sample of annual reports from Bank BCA Syariah during the period of 2013-2022 to collect data. The source of this data is the official website of Bank BCA Syariah.

This study uses E-Views to assist in conducting multiple regression analysis to determine how one or more independent variables affect the dependent variable. The known values of the independent variables are considered, and the purpose of this analysis is to estimate or calculate the average values of these variables. Additionally, a classical assumption test is performed, which includes tests for normality, heteroscedasticity, multicollinearity, and autocorrelation. Hypothesis testing is also conducted, encompassing simultaneous, partial, and coefficient of determination checks.<sup>31</sup>

**Results and Discussion**

The Jarque-Bera normality test calculates the skewness and kurtosis of the data to determine whether the residuals are normally distributed. For a normal distribution, both skewness and kurtosis should be close to zero. However, if the data is not normally distributed, skewness and kurtosis will differ from these values. The test provides a statistical value along with a p-value. If the p-value is less than alpha (usually 0.05), it suggests that the data may not be normally distributed. Conversely, if the p-value is greater than alpha, the data can be considered normally distributed.

**Table 2. Normality Test with Jarque-bera**

Component	Jarque-Bera	Obs.	Prob.
1	0.412090	10	0.813796

Source: Eviews processed results

In this study, the normality histogram test shows a probability of 0.81, as illustrated in the figure. Since this probability is higher than 0.05, it indicates that the residuals are normally distributed.

The Breusch-Pagan-Godfrey test calculates the squared residual values of the regression model to determine whether there is a correlation between these values and the independent variables. The statistical value and p-value are provided in the results of the Breusch-Pagan-Godfrey test. Heteroscedasticity is present in the data if the p-value is lower than alpha (usually 0.05); otherwise, it indicates the absence of heteroscedasticity.

<sup>31</sup> Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif dan R & D / Sugiyono* (Bandung: Alfabeta, 2014).

**Table 3. Heteroscedasticity Test with Breusch-Pagan-Godfrey**

Obs* R-squared	Prob. F(4,5)
6.983557	0.1372

In this study, the Prob. F(4,5) value is 0.1372, which is higher than the significance level  $\alpha$  of 0.05. This indicates that heteroscedasticity is not present in this study.

When a regression model has two independent variables that show a strong relationship with each other, this is referred to as multicollinearity. This condition can lead to inaccurate and unreliable analysis results. The Variance Inflation Factor (VIF) test calculates the variance ratio of the regression model based on the combined variance of all independent variables. VIF values above 10 indicate the presence of multicollinearity, while values below 10 suggest that there is no multicollinearity.

**Table 4. Multicollinearity Test with Value of Inflation Factor**

Variable	Tolerance	VIF	Multicollinearity
FDR	0.536910	4.322718	Not Occurring
CAR	0.000115	1.203299	Not Occurring
NPF	1.17E-06	2.512911	Not Occurring
BOPO	0.052364	2.364261	Not Occurring

In this study, each variable has a VIF value of less than 10, indicating that no multicollinearity was found.

The run test is a method used to evaluate autocorrelation, which occurs when data values are correlated across different time periods in a given time series. The run test counts the number of runs in the data—consecutive groups of data with the same sign—and compares this count to the number of runs expected in a random distribution. If the number of runs is smaller than expected (less than 0.05), it suggests the presence of autocorrelation. The run test results show that the  $R^2$  value is 0.502, which is greater than  $\alpha$  (0.05).

**Table 5. Autocorrelation Test with Run Test**

Run Test	Autocorrelation
0.502334954360502	Not Occurring

The run test results show that the  $R^2$  value is 0.502, which is greater than  $\alpha$  (0.05). Therefore, the data in this study does not exhibit autocorrelation.

The multiple regression model is a way of statistical analysis to find out how one fixed variable and two or more independent variables correlate with each other. The ones used are:

$$Y_i = a + \beta_0 X_{1i} + \beta_0 X_{2i} + \beta_0 X_{3i} + \beta_4 X_{4i} + e_1$$

$Y_i$  = ROA

$\alpha$  = Constant



$\beta$  = Regression Coefficient

$X_1$  = FDR

$X_2$  = CAR

$X_3$  = NPF

$X_4$  = BOPO

Dependent Variable: Y

Method: Least Squares

Date: 04/30/23 Time: 12:47

Sample: 2013 2022

Included observations: 10

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.376399	0.732741	5.972638	0.0019
X1	0.003316	0.010737	0.308840	0.7699
X2	0.002099	0.001081	1.941117	0.1099
X3	0.354094	0.228832	1.547396	0.1824
X4	-0.042014	0.010060	-4.176337	0.0087

$$Y = 4,376 + 0,003 X_1 + 0,002 X_2 + 0,354 X_3 - 0,042 X_4$$

1. By considering the constant value of 4.376, we can conclude that the dependent variable will increase by 4.376 if the average independent variable increases by a unit.
2. The regression coefficient of variable  $X_1$  has a positive value of 0.003, which means that variable Y will also increase by 0.003 if variable  $X_1$  increases, and vice versa.
3. The regression coefficient for variable  $X_2$  is positive at 0.002, indicating that variable Y will also increase by 0.002 if variable  $X_2$  increases, and vice versa.
4. The regression coefficient for variable  $X_3$  is positive at 0.354, which means that variable Y will also increase by 0.354 if variable  $X_3$  increases, and vice versa.
5. The regression coefficient for variable  $X_4$  is negative at -0.042, which means that if variable  $X_4$  increases, variable Y will decrease by 0.042, and vice versa.

T-test analysis is conducted to determine how one dependent variable relates to two three or more independent variables. With the assumptions, as shown below:

If the calculated t-value is positive:

1. If the calculated t value is higher than the t value in the HO table at the specified significance level, the alternative hypothesis is accepted, and the null hypothesis is rejected.
2. If the calculated t value in the HO table is lower than the t value in the HO table at the specified significance level, the alternative hypothesis is rejected, and the null hypothesis is accepted.

If the calculated t value is negative, then:

1. At a certain level of significance, the HO table t value is smaller than the negative calculated t value. The alternative hypothesis is accepted, while the null hypothesis is not.
2. At a certain level of significance, the null hypothesis is accepted. If the negative calculated t value is higher than the negative HO table t value, the alternative hypothesis is rejected.

Variable	Koefisien	Prob.	T-Test
FDR	0.003316	0.7699	No impact
CAR	0.002099	0.1099	No impact
NPF	0.354094	0.1824	No impact
BOPO	-0.042014	0.0087	Negative

The results of the analysis conducted with t-statistic values, 5% independent degree, and 5% significance level are presented as follows:

“The null hypothesis is accepted and the alternative hypothesis is rejected because the effect of FDR on ROA is not significant; the effect of CAR on ROA is not significant; and, since NPF has no significant effect on ROA, the null hypothesis is accepted and the alternative hypothesis is rejected and BOPO has a significant negative impact on ROA, the null hypothesis is rejected, and the alternative hypothesis is accepted.”

If the regression coefficients affect the independent variables as a whole or simultaneously, the F test will determine this. If the calculated F is greater than the critical F, H0 is rejected; conversely, if the calculated F is less than the critical F, H0 is rejected.

F-statistic	Prob (F-statistic)
7.419597	0.024782

Variable X affects variable Y simultaneously or simultaneously, according to the F-statistic value of 7.419 and the probability value with the F-statistic of 0.024 (<0.05).

The coefficient of determination, or R-squared, is a statistical value for measuring the quality of a regression model. It ranges from 0-1 and indicates how much difference the independent variables in the regression model can explain to the dependent variable. A higher value indicates a more perfect regression model. It is possible that the independent variables in the regression model are responsible for all the variation in the dependent variable if the coefficient of determination value is 1. However, it can be concluded that the independent variables cannot cause the variation caused by the dependent variable with

the form of the regression model, if the coefficient of determination value is zero. For this coefficient test, the Adjusted R-squared is used.<sup>32</sup>

**Table 8. Determination Coefficient Test**

<b>R-squared</b>	0.855818
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The table shows that the R-squared value is 0.7404, which indicates that the equation model with independent variables can explain 74.0% variation in ROA at BCA Syariah Bank. Other factors influence 26.0%.

**A. The Effect of FDR on ROA**

The significance level of 0.109 (higher than 0.05) indicates that there is no statistically significant differentiation between the two groups. This is because both null hypotheses (H0 and H1) cannot be accepted because the value in the p-value is higher than 0.05, meaning 0.109. The second method is used to evaluate the similarity between the t-count and t-table results. It can be emphasized that variable X has an effect on variable Y, if the t-count is greater than the t-table. For the FDR variable, the t-table value in this study is 2.015. However, the t-count value is lower at 1.941. So the results of statistical analysis emphasize that from 2013 to 2022, FDR has no significant effect on profit or ROA at BCA Syariah bank. These results are consistent with the research of Andriani and Indah Permatasari (2022).

**B. The Effect of CAR on ROA**

The observed value of 0.769 indicates statistical significance at the 0.05 level. This means that both the alternative hypothesis (H1) and the null hypothesis (H0) are accepted. Additionally, comparing the t-table value and t-calculated value shows the impact of variable X on variable Y. The t-table value is 2.015, which exceeds the CAR value of 0.308, a typical scenario where the t-calculated value is higher. From 2013 to 2022, CAR does not have a statistically significant effect on the profitability or ROA of Bank BCA Syariah. This finding is consistent with the research of Azhar Ihsani and Deny Yudiantoro (2022).

**C. The Effect of NPF on ROA**

The significance value of 0.108 (which is higher than 0.05) emphasizes the lack of statistical significance. Since the p-value for H0 is less than 0.05 and for H3 it is 0.108, we accept H0 and reject H3. The t-table and calculated values are compared using different methods. If the t-calculated value is higher than the t-table value, variable X influences variable Y. In this study, the t-table value is 2.015. The NPF variable has a t-calculated value of 1.547, which is lower than the critical value of 2.015. Statistically, it can be stated that NPF does not influence net profit from 2013 to 2022 for Bank BCA Syariah. Hutomo Mandala Putra (2020) and Azhar Ihsani and Deny Yudiantoro (2022) found results consistent with this hypothesis.

**D. The Effect of BOPO on ROA**

The t-test result for BOPO is 0.0087, emphasizing that the statistical significance is not significant because the p-value for H0 is less than 0.05 (0.05). Therefore, the alternative

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<sup>32</sup> Agus Widarjono, *Ekonometrika Pengantar dan Aplikasinya Disertai Panduan Eviews*, Kelima (Yogyakarta: UPP STIM YKPN, 2018).

hypothesis (H4) is accepted while the null hypothesis (H0) is rejected. A second technique was also used to compare the t-calculated and t-table values. Variable X influences variable Y if the t-calculated value is higher than the t-table value. The t-table value for the BOPO variable is 2.015, while the t-calculated value is -4.176. From 2013 to 2022, the profitability of Bank BCA Syariah was negatively affected by BOPO, as indicated by these figures. This finding is consistent with the research of Adhalia Pratiwi and Nana Diana (2021) as well as Suteja and Majidah (2020).

#### **E. The Effect of FDR, CAR, NPF, and BOPO on ROA**

The findings indicate that FDR, CAR, NPF, and BOPO play a role in determining profitability or ROA at Bank BCA Syariah. Based on the coefficient of determination, these four factors contribute nearly 74% to the profitability or ROA. However, other factors outside the scope of this research account for 26.0% of the ROA.

#### **Conclusion**

The analysis shows that the Return on Assets (ROA) is not influenced by CAR, indicating that an increase in CAR does not have a significant impact on ROA. Additionally, NPF (Non-Performing Financing) also does not have a partial effect on ROA, suggesting that NPF does not play a significant role in determining ROA. FDR (Loan to Deposit Ratio) similarly does not have a partial effect on ROA, indicating that FDR is not significant to ROA. Lastly, BOPO was found to have a negative impact on ROA.

While CAR, NPF, FDR, and BOPO all influence ROA simultaneously, the data analysis indicates that only BOPO has a negative effect on ROA. At the same time, CAR, NPF, and FDR do not affect ROA. From 2013 to 2022, ROA was also influenced by the interaction among these four components.

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