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# ANALYSIS OF BPKH FUND PLACEMENT AND INTERNAL FACTORS IMPACT ON ISLAMIC BANK PROFITABILITY (2010–2023)

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**ABSTRACT**
This study examines the impact of BPKH (Hajj Fund Management Agency) placements on the profitability of Islamic Commercial Banks in the period of 2010–2023. Profitability is measured using the Return on Assets (ROA) variable, while the independent variables consist of BPKH fund placement (dummy), along with other financial ratios such as Third-Party Funds (DPK), Financing to Deposit Ratio (FDR), Operating Expenses to Operating Income (BOPO), Non-Performing Financing (NPF), and Capital Adequacy Ratio (CAR). Control variables include macroeconomic factors: inflation and the Bank Indonesia interest rate. This research employs a quantitative approach using panel data and finds that the Fixed Effect Model (FEM) is the most appropriate, based on the results of Chow and Hausman tests. The findings show that BPKH fund placements do not have a significant impact on ROA. Similarly, NPF, CAR, inflation, and interest rate variables also show no significant influence. Meanwhile, the variables FDR, DPK, and BOPO have a significant negative impact on ROA. Conversely, total assets have a significant positive effect on ROA. This study concludes that operational efficiency and effective fund management are crucial in enhancing profitability, and that optimization of fund placements including Hajj funds is necessary.

**Keywords:** BPKH, Financial Ratio, ROA, Sharia Bank

## INTRODUCTION

The Indonesian Islamic finance industry has experienced significant growth in recent years. The development of Islamic finance in Indonesia began on November 1, 1991, with the establishment of Bank Muamalat Indonesia as the pioneer of Islamic banking. The founding of Bank Muamalat Indonesia was an initiative by the Indonesian Ulema Council (MUI) to develop the country's economy, especially in the financial sector. Islamic banking advanced further with the enactment of Law No. 10 of 1998, which provided the legal framework for the dual banking system, allowing conventional banks to open Islamic Business Units (Humairoh & Usman, 2016). The development of Islamic banking continued with the passing of Law No. 21 of 2008, which established the legal foundation for Islamic banks in Indonesia.

The enactment of Law No. 21 of 2008 spurred the growth of Islamic Commercial Banks (BUS) from 5 to 11 banks between 2009 and 2011. This development was accompanied by improvements in institutional infrastructure, regulations, and public literacy regarding Islamic finance. Literacy became a key factor influencing the demand for Islamic banking services (Ali et al., 2020), with Third-Party Fund (DPK) growth averaging 13.37% annually over the past decade, and the highest surge occurring between 2016 and 2017. DPK accounted for over 80% of Islamic banking funds (OJK, 2018), while funds managed by the Hajj Financial Management Agency (BPKH) provided an additional source of funding.
Before BPKH, the Ministry of Religious Affairs managed Hajj funds with limited instruments, such as deposits and sukuk. After the transfer to BPKH, investment instruments were expanded to include four categories: Sharia Bonds, Gold, Direct Investments, and Other Investments, along with Savings/Deposits and Sukuk. Since the establishment of BPKH in 2017, data has shown an increase in ROA and total assets of BUS, indicating the potential impact of Hajj fund placements on the profitability of Islamic banks.

Based on the graph in Figure 1.1, a significant increase in ROA and total assets of Islamic banks can be observed in 2018, one year after the establishment of BPKH. One of the factors contributing to this increase is the placement of Hajj funds by BPKH, which enhances liquidity and has a positive impact on profitability (ROA). This finding aligns with

studies by Ben Abdallah & Bahloul (2024) and Hossain & Alam (2019), who stated that liquidity positively influences profitability. Bordeleau & Graham (2010) also found a nonlinear relationship, where additional liquid assets increase profitability. In addition to liquidity, other financial ratios such as CAR, FDR, NPF, and BOPO also affect ROA (Roswinna et al., 2023; Koroleva et al., 2021).

The data shows an increase in ROA alongside a rise in CAR, consistent with the findings of Abbas et al. (2023), which indicate that capital adequacy has a positive effect on profitability. Conversely, NPF has continued to decrease, supporting the increase in ROA due to a reduction in problematic financing (Saif-Alyousfi & Saha, 2021). The FDR ratio shows fluctuations that do not always align with ROA (Wang et al., 2022), while BOPO has tended to decline since 2016, which has a positive impact on profitability. DPK and total assets serve as the main sources of funds that can boost profits when managed efficiently.

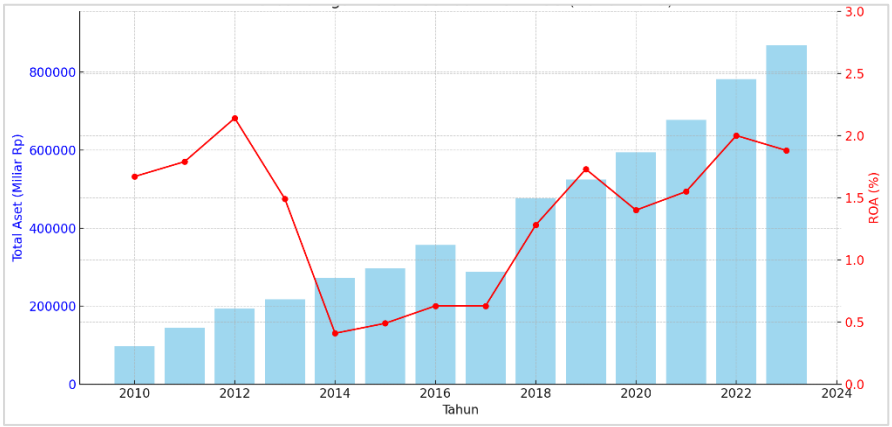


**Figure 1. Growth of Total Assets and ROA of Islamic Banking from 2010 to 2023**
**Source: OJK Sharia Banking Statistics (Processed Data, 2025)**

**Table 1. Comparison of ROA with Other Financial Ratios in Islamic Commercial Banks**

| Year | ROA | FDR | NPF | CAR | BOPO |
|---|---|---|---|---|---|
| **2010** | 1,67 | 89,67 | 3,02 | 16,25 | 80,54 |
| **2011** | 1,79 | 88,94 | 2,52 | 16,63 | 78,41 |
| **2012** | 2,14 | 100,63 | 2,22 | 14,13 | 74,9 |
| **2013** | 2 | 100,32 | 2,62 | 14,42 | 78,21 |
| **2014** | 0,41 | 86,66 | 3,38 | 15,74 | 80,19 |
| **2015** | 0,49 | 88,03 | 3,19 | 15,02 | 83,41 |
| **2016** | 0,63 | 85,99 | 2,17 | 16,63 | 96,22 |
| **2017** | 0,63 | 79,65 | 2,58 | 17,91 | 94,91 |
| **2018** | 1,28 | 78,53 | 1,95 | 20,39 | 85,72 |
| **2019** | 1,73 | 77,91 | 1,88 | 20,59 | 84,45 |
| **2020** | 1,4 | 76,36 | 1,57 | 21,64 | 85,55 |
| **2021** | 1,55 | 70,12 | 0,81 | 25,71 | 84,33 |
| **2022** | 2 | 75,19 | 0,64 | 26,28 | 77,28 |
| **2023** | 1,88 | 79,06 | 0,63 | 25,41 | 78,31 |

**Source: Processed Data (2025)**

This study aims to thoroughly examine the impact of the placement of Hajj funds by BPKH, in the form of savings or deposits, on the profitability of Islamic Commercial Banks during the 2010-2023 period, measured through the ROA ratio. A similar study was previously conducted by Rizqi Zainul et al. (2019), which found that the management of Hajj funds could be utilized by Bank Aceh Syariah as a source of DPK for use in various financing segments due to its general-purpose nature. Unlike the previous study, which focused solely on the impact of BPKH fund placement at Bank Aceh Syariah, this research will explore the broader effects on Islamic Commercial Banks as a whole. A key point of this study is the observed increase in the trend of ROA growth in Islamic Commercial Banks over the last 5 years. The research results are expected to provide empirical contributions to the development of Islamic financing strategies and serve as input for policymakers in optimizing the management of Hajj funds.

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## LITERATURE REVIEW

### Financial Intermediation Theory

The theory of financial intermediation by John Gurley and Edward Shaw was introduced in the year (1956) through an article entitled "Financial Intermediaries and the Saving-Investment Process". One of the things described in the article is about the function of financial institutions in bridging those who have excess funds (surplus) with those who need funds (deficit). John Gurley and Edward Shaw divided the main mechanism in distribution of funds into 2 concepts namely direct finance and indirect finance. Direct finance occur when the surplus and the deficit transact directly without a third party or financial institution. Whereas Indirect Finance means the existence of a third party or financial institution that functions as an intermediary by creating indirect securities to connect the surplus with the deficit. In this case the concept of Indirect Finance is implemented through the role of BPKH that collects Hajj funds and distributes them to Islamic financial institutions such as Islamic banks. The main purpose of the placement carried out by BPKH is to obtain the value of benefits or benefits used in the implementation of the Hajj and BPKH operations.

### Liquidity Theory

Bank liquidity theory was put forward by Diamond and Dybvig (1983) in his writings entitled "Bank Runs, Deposite Insurance and Liquidity". This theory focuses on the role of banking in providing liquidity and managing mismatch between the short term (depositors) and long-term (financing). This means that the bank must be able to maintain a balance between the needs of liquid funds for withdrawing customer funds and lending to generate profits. The implementation of bank liquidity theory by Diamond to this study to explain how banks manage additional liquidity sourced from the placement of BPKH and distribute them through financing measured using FDR proxies. That is because the FDR illustrates how much liquid funds are channeled into productive financing. If the bank liquidity is good, the more efficient the funds are managed and have implications for increasing the benefits.

### X- Efficiency Theory

X-efficiency theory by Leibenstein was introduced in the year (1966) through an article entitled "Allocative Efficiency vs X-Efficiency" and published in The American Economic Review. According to Leibenstein the company is not always in maximum efficiency conditions even though it is in a competitive market situation. Leibenstein discovers that often optimal efficiency deviations occur due to lack of efficient internal factors or what is called X-Ineffeciency. This happens because of the inability of the institution in utilizing input to the maxim um due to various factors such as weak supervision, low motivation, the complexity of the bur eaucracy, including managerial failures in managing resources. The implementation of X-efficiency theory by Leibenstein in this study is to explain the effect of the level of operational efficiency of sharia commercial banks on the profitability measured using ROA proxy. Where operational efficiency is measured using the BOPO ratio. The ratio that explains that the lower the BOPO value shows the higher the bank's internal efficiency in carrying out its operational activities.

**Bank Profitability Theory**

Profitability is the ability to generate profits measured through equity, sales and total assets owned by banks. Not only that, bank profitability also shows the ability of banks to generate greater income than costs. This also concerns the basis of bank capital where the better this sector produces profits, the more capable of this sector in holding negative shocks and contributing positively to the stability of the financial system (Suliman Alshatti, 2014). Bank Indonesia, who served as a banking supervisor and coach, prioritizes profitability in measuring the ability of banks and seen through total assets whose funds are sourced from most of the public de posit funds (Mainata & Ardiani, 2018). One of the proxies that can be used in measuring banking profitability is the ROA ratio. ROA is a ratio that compares the net profit with the total assets owned.

## HYPOTHESIS

Dummy BPKH against ROA One form of BPKH investment in managing hajj funds is to place it into an Islamic banking instrument in the form of deposits and tabunagn. This refers to Law No. 34 of 2014 which regulates Hajj finances where Islamic banking instruments are one of the options in investment diversification made by BPKH. Placement of Hajj funds is an additional liquidity and is an important aspect for Islamic banking, especially in an effort to increase profitability. Increased profitability is influenced by many factors and one of them through the liquidity possessed by the company. This is in accordance with research conducted by Lim & Rokhim (2020); Terzoudis et al. (2024) where liquidity variables have a significant positive effect on increasing profitability. Through the placement of BPKH funds, banks are expected to have more capital reserves and additional liquidity in increasing financing or making other investments that will have an impact on increasing profitability performance. The relationship between liquidity to profitability has been. H1: BPKH Placement has a significant positive effect on ROA

Non Performing Finance Or NPF is a ratio that shows a comparison between problem financing with the amount of financing channeled by Islamic banks. The NPF ratio has a negative relationship with the growth of ROA, that is because the bank that is able to manage finances well will produce high ROA and low NPF because banks must bear the potential loss due to unpaid loans. Especially for Islamic banking that get the greatest profit through margin income and profit sharing from financing calculated by taking income from financing activities reduced by margin and profit sharing paid on deposits and savings. The amount of NPF will affect banks in combining all income generated from financing (Supriani & Sudarsono, 2018). This is what makes NPF chosen to be one of the independent variables in this study. Researchers want to see the influence caused by problematic financing in evaluating Profitability Performance of Sharia Commercial Bank During the period 2010-2023. The relationship between NPF and ROA was explained in previous studies conducted by Handayani et al. (2021) and found that a decrease in the NPF ratio could increase the profitability measured through the ROA ratio. H2: NPF has a significant negative effect on ROA

FDR is a ratio that compares the amount of financing funds compared to third party fu nds in the form of savings. FDR is also used in seeing the capacity of Islamic banks to use the funds owned to finance. According to the theory of financial intermediation, the high level of FDR is also followed by the high rate of return which has an impact on increasing profitability. This was proven through research Windriya (2019) which found that FDR affected ROA both Islamic banks in Indonesia as well as Islamic banks in Malaysia. The same thing was found in research conducted by Permatasari Najib et al., (2024) where the FDR level has a positive relationship with the ROA level. This variable was chosen to see whether the additional liquidity given by BPKH affects the level of Islamic banking FDR that can affect the level of profitability. H3: FDR has a significant positive effect on ROA

Operational costs to operating income are indicators that measure how efficient a bank is in managing operational costs as a proportion of operating income. The higher the level of

BOPO, the more inefficient the bank's operational operations are finally suppressing the level of profitability. Efficiency is one of the critical elements especially in the banking industry where all banking activities depend on optimal cost management, especially for Islamic banking that do not use interest, but rather profit-sharing schemes and margins. Based on this, Bopo has a negative relationship with the growth of ROA. This was previously explained in a study conducted by Emilia et al. (2025); Putri et al., (2025); Symbolon et al. N.D.; Wibowo et al., (2025) where they found that BOPO indicators have a significant negative influence on the growth of ROA. H4: BOPO has a significant negative effect on ROA

Capital Adequacy Ratio (CAR) is a ratio that measures the financial health of the bank based on the adequacy of the capital owned. Capital is quite important for banks because it will help determine financial services costs and maximize profits from banking activities (Alnajjar & Abdullah Othman, 2021). The CAR ratio was chosen to measure how strong the capital ratio of Islamic banks and its impact in increasing profits. In theory, an increase in the CAR ratio will be directly proportional to the increase in banking profitability. This is because banks have sufficient capital reserves in financing, and reduce exposure to liquidity risk. Additional liquidity given by BPKH can increase bank capital reserves in avoiding the risk of loss. The relationship between CAR and ROA has been previously studied by Alnajjar & Abdullah Othman (2021) and found that there was a significant negative influence on 18 banks in the selected State. The same thing was found by Hawaldar et al. (2022) in his research that tested the effects of capital adequacy, credit losses and the ratio of efficiency to the return of assets and the return of the Bank India during COVID 19. H5: CAR has a significant positive effect on ROA

Third party funds describe the number of depositors or customers owned by a bank because DPK is the main source of bank liquidity. DPK aims to increase working capital for banks, where DPK will assist banks in increasing liquidity to increase profits. If the DPK is not distributed optimally and productively, this can reduce the level of efficiency and reduce banking profitability. The DPK ratio was chosen to see whether the Hajj Fund from BPKH could be more effective than the public funds incorporated in the DPK in increasing bus profitability. H6: DPK has a significant effect on ROA

Total assets are one of the indicators in the financial statements of a company and show how much assets owned by a company, including in banking. Bank assets in general will reflect the ability of banks in managing funds, providing credit, as well as investing that has implications for increasing profits. This is in accordance with the theory expressed by (Gurley & S haw, 1956) in his theory. Where he argues that a large total asset shows the role of the bank a s a strong financial intermediary that has the ability to change this into a source of income that will increase ROA. Previous research conducted by Hassan & Bashir (2012) found that relationships. Total assets with ROA are significantly positive. Where banks will be more profitable along with the growth of their total assets. H7: Total assets have a significant positive effect on ROA.

This study uses inflation and interest rates as a control variable to control ROA. Inflation has a negative correlation with ROA growth. That is because high inflation will increase bank operational costs, besides that the tendency of the community with high inflation will reduce the level of consumption so that demand for financing or credit will decrease. The negative correlation between the inflation rate and the growth of ROA has been discussed earlier in rese arch (Yaser Almansour et al., 2021). However, in research conducted by (Maria & Hussain, 2024) regarding how inflation expectations affect the performance of commercial banks listed in India between 2005 and 2021 found that inflation expectations have a significant positive influence on ROA.

Interest rates have a negative correlation with ROA growth, this is because interest rat es affect the amount of interest rates set by the bank in providing financing to its customers. The higher the amount of interest set by the banking, the demand for financing submitted

by the customer also decreases. Customers have a tendency to apply for a loan if the interest rate is l ow. This is inseparable from the amount of installments that will be felt by the customer.

## METHODS

### Variable and Data Sources

This study uses a quantitative approach, focusing on numerical data analysis. The researcher aims to examine the impact of BPKH placement, FDR, CAR, and NPF on the profitability of sharia commercial banks, measured using ROA, over the period of 2010-2023. The population consists of sharia commercial banks that reported their financial statements during this period. Using purposive sampling, the sample includes 6 banks that meet specific criteria: they reported financial statements for 2010-2023 and were BPKH partners in managing Hajj finances from 2018-2023. The selected banks are Bank Muamalat, BJB Syariah Bank, Mega Syariah Bank, Panin Dubai Syariah Bank, Bukopin Syariah Bank, and BCA Syariah Bank.

**Table 2. Operational Definition**

| Variable | Operational Definition | Measurement | Source |
|---|---|---|---|
| Dummy BPKH | Hajj funds managed by BPKH and placed in Islamic Banks in the form of savings/deposits | Trillions of Rupiah (0 = Before BPKH formation, 1 = After BPKH formation) | BPKH Financial Statements |
| Non Performing Finance (NPF) | Ratio measuring the total problematic financing compared to total financing distributed | Percentage (%) | OJK Sharia Banking Statistics |
| Financing to Deposit Ratio (FDR) | Ratio used to measure a bank's ability to repay its customers' investment obligations | Percentage (%) | OJK Sharia Banking Statistics |
| Capital Adequacy Ratio (CAR) | Ratio used to measure a bank's capital adequacy to absorb potential losses | Percentage (%) | OJK Sharia Banking Statistics |
| Return On Asset (ROA) | Ratio showing a bank's ability to manage assets to generate profits | Percentage (%) | OJK Sharia Banking Statistics |
| Third Party Funds | The amount of deposit funds submitted by banking customers | Trillions of Rupiah | OJK Sharia Banking Statistics |
| Operational Expenses | The ratio of operational income measured by operational expenses | Percentage (%) | OJK Sharia Banking Statistics |

| | | | |
|---|---|---|---|
| Inflation | The cumulative increase in the prices of goods within a specified time period | Percentage (%) | Bank Indonesia |
| Interest Rate | The interest rate set by Bank Indonesia within a specific period | Percentage (%) | Bank Indonesia |

**Source: Processed Data (2025)**

## RESULTS

### Analysis Result

In the selection of the best models based on the test conducted it can be seen that the results ob tained in the Chow test have a probability value of 0.0141 which is smaller when compared to a si gnificance level of 5% or 0.05. Then the results of the Chow test suggest the Fixed Effect Model is superior compared to the Common Effect Model. In the next test using the hausman test and produ ces a probability value of 0.0188 where the number is smaller when compared to 0.05. Based on the results of the hausman test, it can be concluded that the fixed effect model is more appropriate when compared to the random effect model. Furthermore, the last test using the multiplier or LM lagrange test and shows the probablitas value of 1,0000. This test shows different results where th e random effect model is better when compared to the fixed effect model. By considering the three models selection tests that have been previously carried out, the fixed effect model was chosen bas ed on more dominant results in the hausman test.

Multicollinearity test (Table 4) results show an average value of 2.86 with the highest VIF value on the DPK variable (7.67) and the lowest VIF value on the BOPO variable (1.18). The entire VIF value in the research variable is below 10 which indicates that there is no founding multicolineatitas bet ween independent variables in the regression model. It also shows that the independent variable in this study has no strong link between one another. Based on the results of the heteroscedasticity test (Table 5) using a modified wild test for the fixed effec t model obtained a p-value value of 0.0000. This result shows the presence of heteroscedasticity in this study where the p-value value is smaller than the significance level of 0.05.

**Table 3. Model Test Result**

| Test | Probability | Selected Model |
|---|---|---|
| **Chow Test** | 0.0141 | Fixed Effect |
| **Hausman Test** | 0.0188 | Fixed Effect |
| **Lagrange Multiplier Test** | 1.0000 | Random Effect |

**Source: Processed Data (2025)**

**Table 4. Multicollinearity Test Results**

| Variable | VIF |
|---|---|
| Third Party Funds | 7.67 |
| Total Asset | 7.10 |
| Inflation | 1.84 |
| NPF | 1.78 |
| Interest Rate | 1.66 |
| Dummy BPKH | 1.54 |
| CAR | 1.52 |
| FDR | 1.43 |
| BOPO | 1.18 |
| Mean VIF | 2.86 |

**Source: Processed Data (2025)**

**Table 5. Heteroscedasticity**

| | Prob > F |
|---|---|
| Heteroscedasticity | 0.000 |

**Source: Processed Data (2025)**

**Table 6. Autocorrelation**

| | Prob > F |
|---|---|
| Autocorrelation | 0.000 |

**Source: Processed Data (2025)**

The autocorrelation test results using the Wooldrige Test for the Fixed Effect model showed th e P-Value value of 0.0000. Where the p-value value is smaller than the significance level of 0.05 i t can be concluded that there is an autocorrelation in the model being run. The existence of autocorrelation in this study illustrates that there is a relationship between residuals (error) in one period with the previous period. In dealing with autocorrelation problems, it is necessary to use the Generalized Least Square (GLS) model to make the results of the regression analysis more valid. Based on the test results above, it is known that the R Squared (Table 7) value obtained is 0.7535. This value represents that 75.35% of the ROA variable can be explained by the NPF, FDR, CAR, BOP O, DPK, total asset, interest rates, inflation. Based on the test results (Table 8), it is known that the F test value is prob (0.0000) < 0.05 which shows that the overall regression model means that there is at least one independent variable that a affects ROA.

The T-Statistic test (Table 9) is used in testing the significance between independent variables of the dep endent variable. The t test results above show that there are 4 variables that have a significant effect with the prob value below 0.05 namely FDR, BOPO, Total Assets and also DPK. FDR shows th e prob value of 0.001 < 0.005 with a T -statistic value of -3.19 which means an increase in the rati o of financing to third party funds can reduce the financial performance of the bank. Bopo shows the prob value of 0,000 < 0.005 with t statistical -21.00 which means the BOPO variable has a sign ificant negative effect on ROA. Where the higher the operational costs, the profitability obtained will decrease significantly. The total asset shows the prob value of 0.019 < 0.05 with T statistical 2.34 which means the greater the total assets managed, the greater the profitability potential that will be obtained. DPK shows a value of 0.000 < 0.005 with T statistical -4.31. This shows that an increase in third party funds has a significant negative effect on increasing ROA. While other variab les such as NPF, CAR, interest rates, inflation, Dummy BPKH do not have a significant effect on increasing ROA

**Analysis using Generalize Least Square (GLS)**

The use of the GLS model is carried out to eliminate the violation of the classic assumption test in the form of heteroscedasticity and autocorrelation in the panel model regression. Heteroscedasticity can occur in the results of the regression test when the residual variance between observation s is not constant, while autocorrelation appears when residuals in one. The analysis unit has a correlation with time. The GLS model is used because it has the advantage in handling these two problems simultaneously. Where GLS works by changing the structure of the error model as described by (The McGraw-Hill Series Economics, N.D.) that GLS eliminates the correlation of variance and heterogeneity to produce estimates that are truly efficient and close to the blue unbaced estimator).

**Discussion of the Effect of Dummy BPKH on ROA**

The results of the statistical analysis in this study showed that there was a positive but insignificant relationship between the placement carried out by BPKH to the ROA profitability ratio. The fixe d effect regression results show that the BPKH dummy variable has a positive coefficient of 0.307 6, but it is not statistically significant in P-Value = 0.322. The fixed effect regression results show that the BPKH dummy variable has a positive coefficient of 0.3076, but it is not statistically significant in P-value = 0.322. The regression

results show that the variable placement of BPKH funds in Islamic banks has a positive relationship with profitability, but is not statistically significant. This indicates that even though the direction of the relationship is in line with the hypothesis, the effect is not strong enough to be said to have a significant effect on increasing ROA. This identification can be caused by several factors, such as the relatively sm all volume of funds to the total assets of the bank, or the external factors that are more dominant affect profitability.

The period 2018 - 2023 is still relatively short to observe the long -term impact of the placeme nt of BPKH Hajj funds. Besides a short period of time, the financial statements of sharia commerc ial banks available during this period are also classified as small. What makes the selection of sam ples in this study only amounts to 6 sharia commercial banks. The purpose of BPKH to place hajj f unds in Islamic banking specifically is to manage Hajj finances not merely can be optimized as a s ource of profit for banks. BPKH was hit by PBPKH regulation No. 3 of 2021 which said that the maximum placement portion of 30% with an average profitable level below market yield. Therefor e banks tend to manage hajj funds conservatively, namely by placing these funds on low -risk instr uments such as sharia savings, mudharabah deposits, or other short -term liquid instruments. This conservative approach is intended to maintain the security and availability of hajj funds in accorda nce with the principle of caution, but on the other hand limits the bank space to manage these funds in instruments with higher potential yields, thus influencing the limitations of the contribution of hajj funds to increasing bank profitability. By racing to regulations that limit them in increasing th eir profitability potential. Therefore banks tend to manage hajj funds conservatively, namely by pl acing these funds on low -risk instruments such as sharia savings, mudharabah deposits, or others hort -term liquid instruments. This conservative approach is intended to maintain the security and availability of hajj funds in accordance with the principle of caution, but on the other hand.

**Table 7. R Squared**

| | ROA |
|---|---|
| **R Squared** | **0.7535** |

**Source: Processed Data (2025)**

**Table 8. Prob F-statistic**

| | ROA |
|---|---|
| **Prob F-statistic** | **0.0000** |

**Source: Processed Data (2025)**

**Table 9. T-statistic**

| Variabel | Coefficient | t-statistic | Prob |
|---|---|---|---|
| **NPF** | 0.0709666 | 1.39 | 0.165 |
| **FDR** | -0.0140816 | -3.19 | 0.001 |
| **BOPO** | -0.0632362 | -21.00 | 0.000 |
| **CAR** | 0.0049913 | 1.52 | 0.129 |
| **Total Assets** | 1.87e-08 | 2.34 | 0.019 |
| **DPK** | -5.05e-08 | -4.31 | 0.000 |
| **Interst Rate** | 0.0747705 | 1.81 | 0.070 |
| **Inflation** | -0.0074906 | -0.32 | 0.746 |
| **Dummy BPKH** | 0.0691249 | 0.64 | 0.519 |
| **Number of Obsevation** | | 84 | |

**Source: Processed Data (2025)**

Limiting the bank space to manage these funds in instruments with higher yield potential, so that it also influences the limitations of the contribution of hajj funds to the increase in bank profitability. Because the financial performance of Islamic banks had decreased after the entry of the pilgrimage funds. However, hajj funds are still needed by Islamic banks considering that the Hajj funds are c heap funds and the amount of profit sharing is only around 6% with a long placement period. Refe rring to the financial intermediation theory by John Gurley and Edward Shaw (1956), the placeme nt of hajj funds carried out by BPKH should be able to strengthen the bank's intemediation function because of its ability to provide more liquidity that can be channeled in productive financing

**The Effect of NPF on ROA**

The results of the statistical analysis in this study showed that there was a negative but not signific ant relationship between the NPF variables to the increase in profitability measured using ROA. The fixed effect regression results show that the NPF variable produces a coefficient value of -0.170 1 and P -Value of 0.182. The results of the regression analysis indicate that the NPF variable has n o significant effect on ROA. This indicates that the level of problem financing (NPF) is not statist ically strong enough to explain the variation of the profitability of Islamic banks. This identification can be caused by several factors, among others, because the NPF ratio is still in the healthy category (< 5%) in most sharia commercial banks during the study period, so that the fluctuations are n ot large enough to significantly affect ROA. In addition, bank profitability can also be further influenced by other factors such as operational efficiency, productive financing volume, or non-financing income. Sharia commercial banks in Indonesia have a fairly good risk management mechanism. This is evidenced by the better Islamic banking in reducing the NPF level in recent years. Sharia commercial banks in Indonesia have a fairly good risk management mechanism.

This is evidenced by the better Islamic banking in reducing the NPF level in recent years

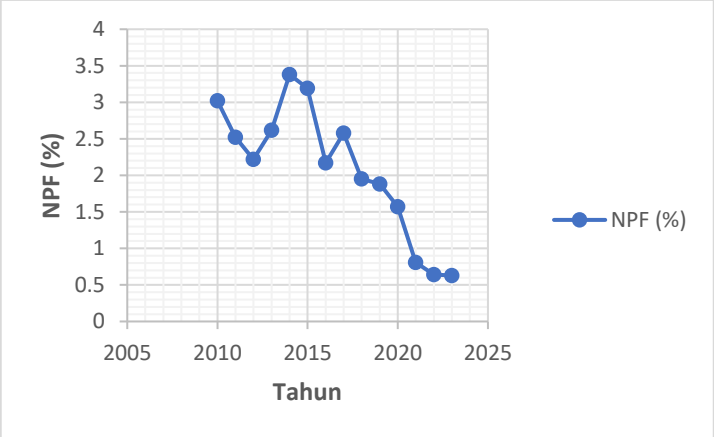


**Figure 2. NPF**
**Source: Autor (2025)**

Based on the graph of the NPF level of Sharia Commercial Bank in Indonesia in the period 20 10-2023, it shows that the highest NPF level occurred in 2014 with an NPF level of 3.38% and co ntinued to decline until 2023. The figure is quite safe because it is still below the safe threshold of the NPF level for banks determined by the OJK, which is < 5%. The low NPF level does not direct ly affect the overall ROA. The decline in the NPF ratio in the 2014-2023 period was also influence d by the improvement of risk management in the internal bank and the conditions of economic sta bility which was the external factor of the bank. POJK Regulation No. 65/2016 concerning the A pplication of Risk Management for Sharia Commercial Banks and Sharia Business Units also enco urages a decrease in NPF

levels, where OJK encourages banks to be more careful, especially in channeling financing. Besides that, the profit sharing mechanism set by the Islamic bank also has an influence on the ROA level. The insignificant effect of NPF on ROA in this study is in line with p revious studies that have been conducted by (Handayani et al., 2021) where in his research he foun d that although the NPF had a negative impact on profitability, the influence given would not always be significant. This depends on how the efficiency of internal risk management. These results can also be associated with X-efficiency theory (Leibenstein, 1966), which states that companies, in cluding banks, can maintain profitability despite internal inefficiencies, including increasing probl em financing (NPF). In the context of Islamic banks, handling of problem financing is carried out through several mechanisms, such as rescheduling, reconditioning, restructuring) restructuring, collateral confiscation, and the completion process through arbitration or religious court if needed. In addition, Islamic banks also apply disciplined impairment loss (CKPN) reserves as a form of risk mitigation. Thus, the bank's ability to manage and minimize the impact of NPF on earnings can ex plain why the regression results show that the effect of NPF on ROA is not statistically significant. That is, despite the increase in NPF in the data, this is not strong enough.

Statistically to reduce profitability because it has been paidigated by risk management strategies and bank internal efficiency. So, although in theory negative relationships remain logical, empirical data in this study is unable to show a significant effect

**The Effect of FDR on ROA**

The results of the statistical analysis in this study showed that there was a significant negative relationship between the FDR variable to the increase in profitability measured using ROA. The fixed effect regression results show that the FDR variable produces a coefficient value of -0.01408 with a p -value of 0.001. The results of the analysis show that the higher FDR level actually provides th e potential for a decrease in the profitability of sharia commercial banks. Where this is contrary to the first hypothesis where FDR has a significant positive effect on ROA.

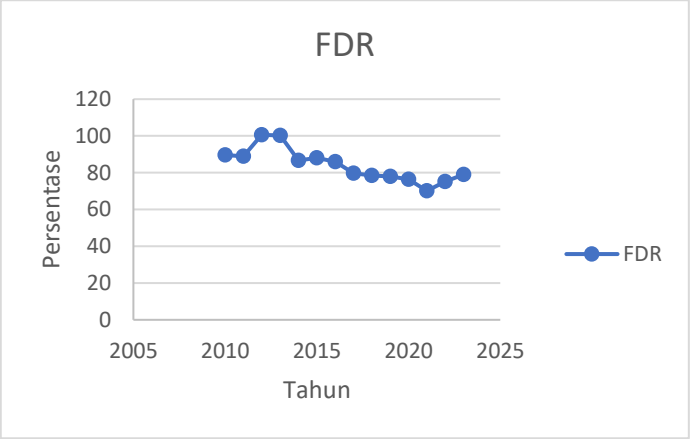


**Figure 3. FDR**
**Source: Autor (2025)**

Based on the graph above, the FDR level of Sharia Commercial Bank in the period 2010-2023 it can be seen that the FDR level has experienced a decline trend since 2014 and has increased agai n in 2022. The decline trend occurred due to various things such as the global crisis, Pandemi Covid 19 and there was an interesting phenomenon that was a significant increase in DPK. The increas e in DPK is supported by an increase in the level of public confidence and there is support for fina ncial literacy by OJK and BI. The trend in this DPK increase becomes good news as well as bad n ews if the proportion of financing values does not increase. This can be a factor for decreasing FD R. Previously the OJK

had made a regulation by setting a liquidity assessment with FDR to be on e of its indicators.

**Table 10. Liquidity Assesment**

| FDR (%) | Liquidiy Assesment |
|---|---|
| < 80% | Very Likuid (but can be over liquid) |
| 80% – 100% | Optimal/healthy |
| > 100% | Potential liquidity risk |

**Source: Processed Data (2025)**

In the initial period of sharia commercial banks had experienced potential liquidity risk, this was b ecause the FDR level had been above 100%. But this did not last long because in 2014 the FDR le vel decreased to 86.6%. This level is in the optimal/healthy category and lasts for 3 years until 20 16. After that the FDR level has decreased and the FDR level is below 80% which means very liquid.

The theory of financial intermediation by (Gurley & Shaw, 1956) discusses the main role of b anking, namely raising funds and distributing them to those in need with various banking products , one of which is through financing. Excess liquidity that is not channeled optimally by Gurley & Shaw is referred to as intermediation inefficiency, which can produce a lower aggregate economy than its potential. Gurley & Shaw provides solutions related to this problem by improving interme diation efficiency through various financial innovations as well as the expansion of productive pe mbilaan. Not only that Gurley & Shaw also hopes for support from the government by providing supporting regulations. The idle funds phenomenon is also a real challenge in the Islamic bankin g industry, mainly due to the limitations of short -term funding instruments in accordance with sha ria principles. Based on the Indonesian Islamic Financial Development Report (OJK, 2022), it was stated that the limitations of the Sharia Money Market Instrument both in terms of the type and vol ume of transactions, were the main obstacles in managing Islamic bank liquidity. As a result, some third party funds (DPK) that have not been channeled through productive financing are detained as liquid assets, which are reflected in the FDR ratio of Sharia Commercial Bank as of December 202 2 of 79.59%, below the optimal range (80%-100%). In addition, this finding is also in line with th e report (IMF, 2017) entitled Ensuring Financial Stability in Islamic Banking Systems, which note s that the idle funds phenomenon in Islamic banks is a structural problem due to limited sharia -ba sed money market instruments that are safe, liquid, and have competitive returns. This shows that idle funds are not only domestic problems, but also global challenges in the developing Islamic fin ancial system.

High FDR shows that banks use more funds for financing, which has the potential to increase ROA. In this study, a higher FDR bank is related to a higher ROA, because more profitable financ ing is produced. As explained by Hassan & Syed (2018), a high FDR creates a greater profitabilit y potential for banks.

**The Effect of BOPO on ROA**

The results of the statistical analysis in this study showed that there was a significant negative relat ionship between the BOPO variable to the increase in profitability measured using ROA. The fixe d effect regression results show that the BOPO variable produces a coefficient value of -0.0706 and P -Value of 0,000. These results support the first hypo thesis where Bopo has a significant negative influence on ROA. This finding is in accordance with the principle of efficiency that exists in banking, where the lower operational costs it will support t he increasing profitability obtained.

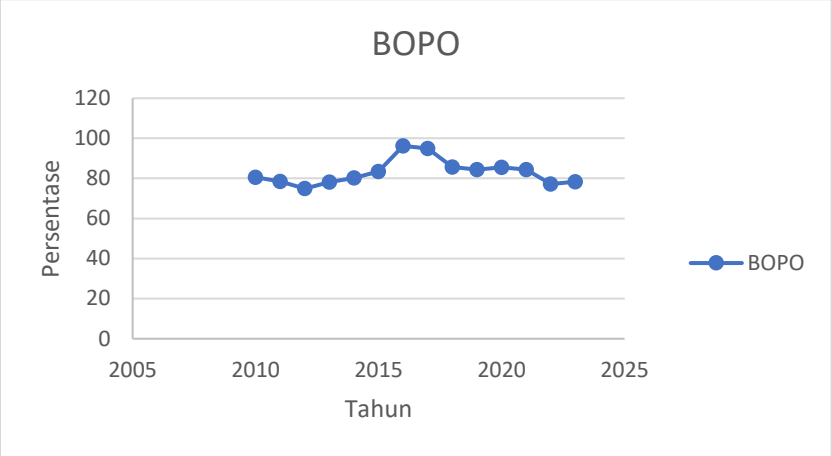


**Figure 4. BOPO**
**Source: Autor (2025)**

Based on the graph above, the BOPO level of sharia commercial banks experienced a fairly sh arp fluctuation with an increase trend that shows that sharia commercial banks experience pressure on operational efficiency, both from the high factors of operational costs and income stagnation. This did not last long because in 2015 the Bopo level experienced a trend of decline along with the expansion of assets and income growth. OJK through POJK No. 8/POJK.03/2014 concerning Assessment of Bus and UUS Health Lev el, and SEOJK No. 10/SEOJK.03/2014 which describes that BOPO is a major indicator in the aspe ct of profitability (earnings) in the framework of bank rating risk-based assessment (RBBR). Base d on these regulations the BOPO level of sharia commercial banks is considered efficient and healt hy if it is < 80% and is considered less efficient if the BOPO level > 90%. These results are also in accordance with the theory developed by (Leibenstein, 1966) which e xplains the difference between actual output and maximum output can be achieved based on certai n inputs caused by managerial inefficiency, organization or motivational. In the context of Islamic banking, a high BOPO ratio illustrates the potential of Slack, namely the improvement space in bank operations which includes business structures, information system s, and labor efficiency. Slack here means that there are resources or operational capacity that have not been utilized optimally. This is in accordance with the concept of financial slack described by (Siregar & Haryono, 2023), where excess financial resources that are not used effectively can refle ct inefficiency. Data from OJK (2022) shows that the average Bopo of Sharia Commercial Bank r eaches 83.5%, shows that most of the income.

Bank operations are absorbed to cover operational expenses. This finding strengthens the negative relationship between Bopo and Roa. Previous studies by (Hasan & Dridi, 2010) also emphasized t hat the ratio of efficiency such as BOPO greatly determines the resilience of bank profitability, esp ecially during the global financial crisis. Bopo, which shows the operational efficiency of the bank, is inversely related to ROA. The hi gher the BOPO, the lower the ROA, because high operational costs reduce the potential of bank pr ofits. As revealed by Arifin & Sutrisno (2020), efficient BOPO management is very important to i mprove bank roa.

**The effect of CAR on ROA**

The results of the statistical analysis in this study showed that there was a positive but insignifican t relationship between the CAR variable to the increase in profitability measured using ROA. The fixed effect regression results show that the CAR variable produces a coefficient value of 0.0049 a nd P-Value of 0.129. This finding supports the first hypothesis where the CAR has a negative infl uence on ROA even though the results of the data analysis show that the influence given is not significant.

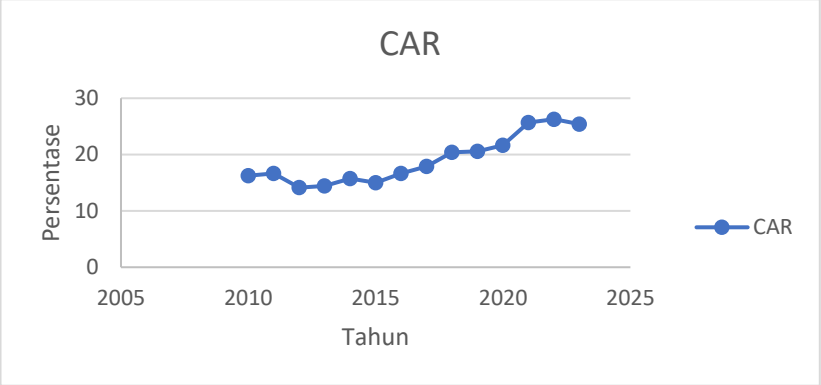


**Figure 5. CAR**
**Source: Autor (2025)**

Based on the graph above, the CAR level experiences quite normal fluctuations. The increase t rend occurred in 2016 amounting to 16.63% until 2022 of 26.28%. The increase in CAR gives a si gn that Islamic banking in Indonesia has further strengthened its capital structure. The tightening o f the regulations carried out by OJK and BI in 2016 became one of the factors of increasing the C AR ratio in Islamic banking. Through POJK 11/POJK.03/2016 the regulator applies a buffer on co mpulsory capital and risk -based minimum capital. Capital is getting stronger with the presence of BPKH which places Hajj funds in Islamic banking, especially Islamic commercial banks. Howeve r, the increase in CAR does not always have a direct impact.

Against banking profitability. This is because banks with high CAR tend to channel financing con servatively, namely with a careful approach, selective, and avoiding high credit risk. The purpose of this approach is to maintain capital health and avoid potential financing losses that can erode co re capital. Although this strategy strengthens the capital position, it can limit the potential profit d ue to minimal financing expansion (Budianto & Dewi, 2023). In the theory of bank profitability it is stated that high capital provides stability. This will have an impact on Aopbila's profitability su pported by the efficiency of the use of assets and proper financing strategies (Sulieman Alshatti, 2 014). Similar results were found in research conducted (Abbas et al., 2023) in the Journal of Econo mic and Administrative Sciences explained in his research that developing countries experience a phenomenon where the increase in CAR is often not balanced with an increase in ROA because of its lack of efficient in utilizing capital.

**The Effect of DPK on ROA**

The DPK variable in the previous statistical analysis has a coefficient value = -5.05E-08 with P-V alue = 0,000. This means that each increase in 1% DPK will cause an increase at the ROA level of-0.0000000505. These results indicate that the DPK variable has a negative and significant effect on the increase in ROA. This finding is interesting because it is contrary to the basic assumptions of banking which says that the DPK is the main source as well as a fund to carry out the intermedi ation function, namely channeling funds to those who need financing. This is also explained in th e theory put forward by (Gurley & Shaw, 1956) where the bank has the duties and functions as a fi nancial intermediary that connects the surplus with the deficit. Therefore, the greater the third part y funds owned by banks, the greater the ability of the bank to channel it in the form of financing w hich will ultimately encourage an increase in ROA. But in practice, not all banks with large third party funds managed to record large profitability as well. This incident can occur due to inefficient management in channeling financing to those in ne ed. The phenomenon that occurs is similar to research conducted by (Buchory & Widyawati, 202 2) who analyzed the performance of Bank BJB in the 2014-2020 period. It was found that the incr ease in DPK was not accompanied by an increase in banking profitability. This is explained in the X-efficiency theory by (Leibenstein, 1966) who predicts the infection in the management and

distr ibution of funds. In the Islamic banking industry, the increase in DPK and public trust does not ha ve a direct impact on increasing profitability. This is possible because Islamic banking does not c hannel financing into a productive sector that has a high profit potential. Although the third party f und (DPK) of Islamic banking grew significantly from Rp 257.6 trillion (2018) to Rp 606.1 Trillion (2022), Financing Allocation is still dominated by consumer contracts such as murabaha (~ 47%).

While the productive contract (mudharabah + musyarakah) is still below 4%, which shows that the majority of funds are not distributed to the productive sector with high profit potential. This condition supports the analysis that DPK growth does not have a direct impact on profitability, because it is not yet optimal used for financing with higher margin. This finding see ms to strengthen the findings of the previous FDR variables where the funds in the banking bank a re quite large but have not been optimized as profit. Research by (Hossain & Alam, 2019) in the Jo urnal of Finance and Accounting in Researchgate shows that liquidity that is not distributed produ ctively reduce profitability. The same thing was confirmed by (Bordeleau & Graham, 2010) that e xcess liquidity decreases efficiency if not used actively.

DPK functions as the main source of funds used for financing. In this study, the portion of the Ba nk DPK contributed 70% of the total obligations, which showed a strong bank liquidity. Increased DPK is directly related to an increase in FDR, because banks with larger DPK have more funds to be distributed to financing. Based on the findings of Sari (2021), banks with large portions of DPK have better profitability, because more funds can be invested in profitable financing.

**The effect of Total Asset on ROA**

The results of the statistical analysis in this study showed that there was a significant positive relat ionship between the total asset variables to increase the profitability of sharia commercial banks m easured using ROA. The fixed effect regression results show that the total asset variable produces t he coefficient value of = 1.87E-08 with a p-value value of 0.019. This supports the initial hypothe sis where total assets have a significant positive effect on ROA. In this period Islamic banking experienced a pretty good development. Research conducted by (Kasri, 2012) found that the development that occurred was seen through the increase in bank bran ches, third party funds and increasing financing distribution accompanied by the growth of asset a nd economic performance expansion. OJK data shows that in December 2017 the number of bus o ffices, UUS, and BPRS reached 1,825 units, then in December 2020 a total of more than 2,032 uni ts, and in May 2022 reached nearly 2,941 units.

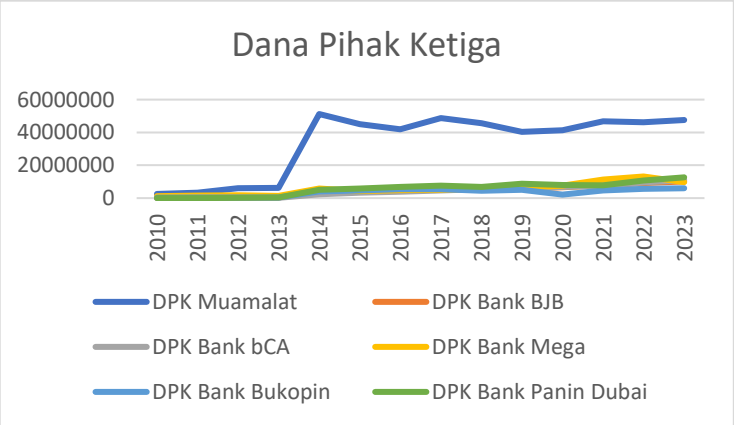


**Figure 6. Third Party Fund**
**Source: Autor (2025)**

Besides that, the entry of the Hajj funds managed by BPKH also supports the development of Islamic banking. This was explained in the theory of financial intermediation by (Gurley & Shaw, 1956) who said that the greater the assets owned by financial institutions, the greater their chances of increasing profits based on the distribution of effective financing and optimal investment portfo lio management. This is also in line with research conducted by (Koroleva et al., 2021) in the jour nal Risks which states that the size of the bank is one of the main factors of profitability. That is d ue to the ability of banks in risk diversification and operational efficiency. The total portion of bank assets that reaches 80% of total resources allows banks to fund more financing and increase income from the financing. Total assets are directly related to ROA, becau se banks with larger assets can usually generate more income from financing. The findings from Mardiasmo & Syafruddin (2020) show that a larger total asset can increase the profitability reflect ed in ROA.

**The Effect of Control Variable on ROA**

The results of the statistical analysis in this study showed that there was a positive but insignifi cant relationship between the interest rate variables to increase the profitability of sharia commerci al banks measured using ROA. The fixed effect regression results show that the interest rate varia ble produces a coefficient value of 0.0747705 with a p-value value of 0.070. These results indicat e that although the direction of the relationship between the BI benchmark interest rate and profita bility (ROA) is positive, the effect is not statistically significant. Thus, changes in the benchmark interest rate have not been proven to have a significant influence on the profitability of sharia com mercial banks during the study period. This identification can be caused by the characteristics of I slamic banks that do not use the interest scheme in their operations. Even so, the bank Sharia remains indirectly affected by conventional interest rates through third -party fund competit ions and the placement of interbank funds. However, this influence is not strong enough to be refl ected in statistical profitability performance.

Islamic banking may not feel the direct impact of changes in interest rates, which are different from other conventional banks. The financing carried out by Islamic banking is more based on the level of profit sharing or margin that has been agreed upon. Nevertheless interest rates remain a ref erence for Islamic banks in determining the ratio of its customers. Not only that, the benchmark int erest rate can also affect the demand for sharia commercial banks. When the benchmark interest r ate is high, customers tend to hold back to submit financing. Where it will affect the volume of the Sharia Commercial Bank's business. This is supported by research (Mebarki & Mohamed, 2022) and (Nounum et al., 2022) who say that exposure from interest rates to profitability remains. But i t depends on the context and methodology used. This was also explained by (Maria & Hussain, 20 24) in the Journal of Economic and Administrative Sciences which said that interest rate expectati ons had an effect on ROA positively in the medium term.

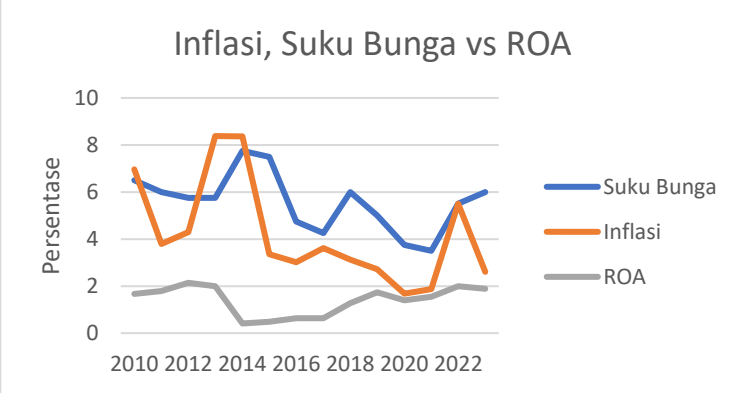


**Table 7. Inflation, Interest Rate vs ROA**
**Source: Autor (2025)**

Based on the graph above it can be seen that the movement of interest rates and inflation tends to have movements in the same direction. Interest rates often move to respond to the amount of inf lation that occurs. This is what makes interest rate movements tend to follow inflation. From the g raph above it can also be seen that the comparison of movement between interest rates and inflatio n is not in the direction of the ROA movement. Pandemi Covid-19 also influenced economic cond itions in this study period. During Pandemi Bank Indonesia reduced the benchmark interest rate ev en though inflation in Indonesia was relatively low. This aims to stimulate credit and consumption demand.

The results of the statistical analysis in this study showed that there was a significant negative relationship between the inflation variable to the increase in the profitability of sharia commercial banks measured using ROA. The fixed effect regression results show that the interest rate variable produces a coefficient value of -0.0074906 with a p -value value of 0.746. The inflation variable i s one of the important macroeconomic variables that affects the performance of financial institutio ns including Islamic banks. This is because when the inflation rate is high, people tend to reduce t he submission of financing. The insignificant negative effect of inflation on ROA can also be seen from the structure of Islamic banking financing. The existence of a hedging instrument and the pri nciple of care of hearts is proven to be able to protect Islamic banking from the macroeconomic tu rmoil that occurs. This is in accordance with previous research conducted by (Miera Albania et al. , 2025) which shows that inflation does not significantly effect on ROA. This is caused by funding and financing structures that are not too elastic to changes in inflation.

## CONCLUSION

This research was conducted to test the effect of the placement of the Hajj funds managed by BPKH on the profitability of sharia commercial banks which were also measured using the financial ratios of other banks. The results in the study showed that not all variables used had a significant positive impact on bank financial performans. Placement of Hajj Funds conducted by BPKH from 2018 to 2023 has not had an optimal impact on increasing the ROA of Sharia Commercial Banks. Hajj funds placed in Islamic banking provide additional liquidity, but this does not have a direct impact on the financial performance of Islamic banks (Marwan et al., 2021). Another result in this study is BOPO which is the most significant negative variable on ROA performance. The negative relationship that occurs indicates that Islamic commercial banks are still less efficient in running operational banking. Efficiency in carrying out banking operations is important because banks are profit -oriented institutions. Another variable that also supports this finding is the influence of the FDR and DPK variables on ROA. Where these two variables have a significant negative effect on the increase in ROA. Through existing data it can be seen that third party funds of Sharia Commercial Banks continue to increase in the study period. At the same time the amount of the DPK was also balanced by the low level of FDR which indicated that the bank could not channel financing efficiently and optimally. This is what ultimately causes the bank to not get the profit as it should. This also resulted in sharia commercial banks often in a very liquid stage by the amount of funds owned. The next variable that has a significant effect is total assets. But the influence given by this variable is significant positive which proves that banks with larger assets tend to have better abilit y to create profits. It also supports.

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