Proceeding of International Conference on Multidisciplinary Research for Sustainable Innovation, Vol. 1 No. 1 (2024)
DOI to be assigned soon

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Research Paper

# Internal and External Factors on Profitability of Islamic Banks in Indonesia Mediated by Operating Expenses Operating Income (Period 2013 to 2023)

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| Received : January 29, 2024 | Revised : February 5, 2024 | Accepted : March 9, 2024 | Online : March 13, 2024 |
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**Abstract**

*Lucrativeness is a vital element for evaluating Islamic banks' monetary achievement. It's critical to grasp the determinants that influence Indonesian Islamic banks' lucrativeness. The objective of this examination is to explore the factors—such as problematic financing, financing to store ratio, currency rates, price rises, and operational proceeds as an intermediary variable—that impact the productivity of Islamic banks in Indonesia. This research intends to provide choice makers in the Islamic fiscal industry a more comprehensive discernment of the budgetary operation of Islamic banks by scrutinizing these guidelines.*

*This research methodology uses a panel data approach using secondary data from Islamic banks in Indonesia. Through panel data analysis, this study examines the effect of these variables on the profitability of Islamic banks. The conclusions showed that, in Sub-structural I, Financing to Deposit Proportion (FDR) favorably affects the productivity (ROA) of Indonesian Islamic banks, while Non-Performing Financing (NPF), Currency Ratios, and Rising Prices have no consequence on operational expenses operational proceeds (BOPO). As indicated by sub-structural II, profitability is impacted by inside factors (NPF and BOPO), outer variables (expansion and cash rates) have no significant effect on productivity, and financing to store proportion (FDR) has no impact on productivity. In this examination, the BOPO fills in as a mediating variable that just intercedes the effect of the Financing to Deposit Ratio on Lucrativeness. Concerning the other autonomous factors, it has no bearing. Other than featuring the significance of hazard relief and operational effectiveness in accomplishing positive monetary outcomes, this exploration illuminates the variables influencing the productivity of Islamic banks in Indonesia.*

**Keywords:** *NPF, FDR, Exchange Rates, Inflation, ROA, BOPO, Islamic Banks, Indonesia*

## INTRODUCTION

Islamic finance in Indonesia has attracted considerable notice owing to its distinctive commercial prototype and allegiance to Islamic canons. The Return on Possessions (ROA) of Islamic finance is touched by several influences, encompassing price rises, currency valuations, problematic funding (NPF), and financing to savings correlation. Moreover, the productivity of Islamic depositories is affected by the operational outlay-to-proceeds ratio, or BOPO.

Previous study demonstrated that both internal and external factors have a major influence on ROA in Islamic banking in Indonesia. Furthermore, this study discovered that BOPO serves as a major mediating variable in the association between these factors. These findings give a deeper knowledge of the elements that influence the financial performance of Islamic banks, particularly the role performed by BOPO in this connection (ROA, n.d.; Syah & Kharismasyah, 2018a, 2018b; Yudistira, n.d., Agustin & Rusliati, 2020; Nainggolan, 2023a, 2023b).

Another examination inspected the effect of NPF, FDR, cash valuations, and swelling on ROA in Islamic financial in Indonesia. The discoveries of this review demonstrate that NPF and FDR have


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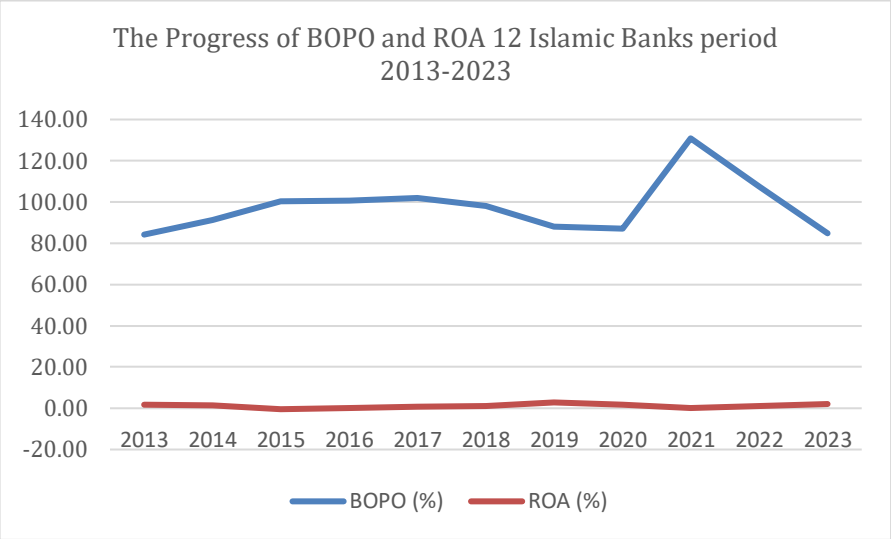
a huge negative impact on ROA, yet conversion standard and expansion have no critical sway. This investigation gives significant bits of knowledge into the components impacting the monetary achievement of Islamic banking in Indonesia.

The objective of this examination is to acquire an enhanced discernment of how innate influences like NPF and FDR, just as outside variables such as cash valuations and swelling, impact ROA interceded by means of BOPO in Indonesian Islamic banking. This investigation is planned to give bits of knowledge for strategy producers, controllers, and partners in the Islamic financial industry to work on the productivity and strength of these establishments (Laksa pratama et al., 2020a; Budianto & Dewi, 2023).

**Tabel 1.** Growth of Indonesia's BOPO and ROA-12 Islamic Banks (2013 - 2023)

| Tahun | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| BOPO (%) | 84.21 | 91.23 | 100.25 | 100.83 | 101.83 | 98.19 | 87.95 | 87.06 | 130.87 | 107.48 | 84.81 |
| ROA (%) | 1.65 | 1.54 | -0.46 | -0.01 | 0.77 | 1.17 | 2.83 | 1.81 | 0.14 | 1.05 | 1.95 |




Source: Data Provessed (2024)

**Figure 1.** Growth of Indonesia's BOPO and ROA-12 Islamic Banks (2013 - 2023)

Figure 1 above illustrates the average growth of BOPO, which rises in 2021 and falls the next year, whereas the average growth of ROA is nearly constant.

## LITERATURE REVIEW

In the banking and finance literature, the performance of Islamic banking institutions has drawn attention and investigation. Numerous studies have examined the effects of variables such as non-performing financing (NPF), financing to deposit ratio (FDR), exchange rates, inflation, and the operational cost-to-revenue ratio (BOPO) on return on assets (ROA) in order to assess and comprehend the factors that influence Islamic bank financial performance.

NPF measures the amount of hazardous financing that may result in defaults and is an important statistic for measuring asset quality. High NPF levels have been linked to detrimental effects on Islamic banks' financial stability and profitability, according to earlier research (Nurhayati et al., 2018) (Akbar et al., 2017; Chua, n.d.; Laksa pratama et al., 2020b; Mukhibad et al., 2018; Priyadi et al., 2021). Controlling and monitoring NPF levels is crucial for banks to maintain

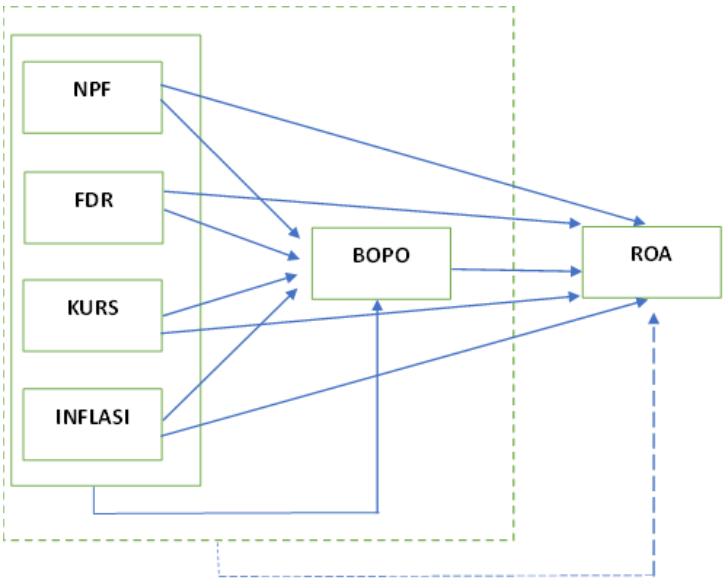
long-term profitability.

The monetary execution of depositories can be influenced by outer financial variables such as swelling and cash conversions. Money valuation vacillations can affect a bank's intensity, especially with respect to import and fare tasks, and swelling can decrease banks' and their customers' obtaining power. Earlier examinations have analyzed the effect of (Abbas & Arizah, n.d.; Aisyah, n.d.; Akbar et al., 2017; Chua, n.d.; Juwita, 2023; Koto, 2020; Laksa pratama et al., 2020b; Marina, 2018; Mukhibad et al., 2018; Noor, 2020; Nursafana, 2023; Priyadi et al., 2021) these factors on Islamic banks' profitability, yielding inconsistent findings.

In addition to the above variables, the ratio of operational costs to revenue (BOPO) plays a significant role in determining the profitability of Islamic banks. Excessive operating expenses have the potential to lower revenue and negatively impact banks' financial performance. Research indicates that BOPO has a detrimental impact on Islamic banks' profitability. (Akbar et al., 2017; Effendi et al., 2017).

The intent of this exploration is to scrutinize the collective impacts of swelling, cash ratios, NPF, and FDR on ROA in Indonesian Islamic financing while pondering BOPO's intervening capacity. By investigating these variables in the setting of Islamic banking in Indonesia from 2013 to 2023, this examination means to add to the collection of information. This will offer perusers a more profound comprehension of the elements influencing the monetary execution of Islamic establishments.

The following frameworks can be created based on the theoretical overview, study findings, and literature review:




Sources: Researcher (2024)

**Figure 2:** Model Proposed

## RESEARCH METHODOLOGY

This study used a quantitative approach and used EViews 12 software as a data analysis tool. Quantitative methods were used to investigate the effect of NPF, FDR, exchange rates, and inflation on ROA in Islamic banks in Indonesia, with BOPO as a mediation variable. This study uses a correlational design that allows analysis of relationships between these variables without performing manipulations. Research samples will be selected purposively based on relevant criteria. Data, such as financial statements and official publications, are collected from secondary data sources www.idx.go.id. The data is imported from Excel into EViews 12 to perform regression

analysis and statistical testing.

The following Indonesian Islamic banking data samples, covering the years 2013–2023, were used in the study:

**Tabel 2.** Indonesian Islamic Banking Data Samples

| No | Code | Bank |
|---|---|---|
| 1. | BSI | PT Bank Syariah Indonesia Tbk |
| 2. | BMI | PT Bank Muamalat Indonesia |
| 3. | BMS | PT Bank Mega Syariah |
| 4. | BANK | PT Bank Aladin Syarah Tbk |
| 5. | BVS | PT Bank Victoria Syariah |
| 6. | BJBS | PT Bank Jabar Banten Syariah |
| 7. | PNBS | PT Bank Panin Dubai Syariah Tbk |
| 8. | BSB | PT Bank Syariah Bukopin |
| 9. | BCAS | PT Bank BCA Syariah |
| 10. | BTPS | PT Bank BTPN Syariah Tbk |
| 11. | BAS | PT Bank Aceh Syariah |
| 12. | BNTBS | PT BPD Nusa Tenggara Barat Syariah |

Source: Stock Exchange of Indonesia and Bank Indonesia (2023)

### Model Engineering for Panel Data Estimation Selection

According to Effendi et al. (2017), there are three tests to determine the proper approach for panel data regression and schematic:

1. Between fixed effect models and basic least squares models, one model was selected using the Chow test.
2. The Hausman Experiment was used. Selecting a random effect model is preferable to a fixed effect model.
3. To choose between the traditional least squares and random effect models, the Lagrange Multiplier Test is utilized.

## FINDINGS AND DISCUSSION

### Sub-Structural I (Determinants of BOPO Model) and Sub-Structural II (Implications ROA) in the Selection of Panel Data Regression Model

Subsequently, the parameters impacting the internal BOPO of 12 Islamic banks throughout the 2013–2023 sample period were estimated and assessed using the random effect model. Table 4 shows the pairwise testing results for both the Research for Determinants BOPO and the Implications ROA.

**Table 4.** Conclusion Model Sub-Structural I and Sub-Structural II

| No | Method | Testing | Result |
|---|---|---|---|
| **1** | Chow Examination | Universal Consequence vs Stationary Influence | Motionless Consequence |
| **2** | Hausman Test | Stable Sway vs Accidental Effect | Haphazard Sway |
| **3** | Test of Lagrange Multiplier | Collective Outcome vs Random Impact | Undecided Influence |

Source: Data Processed (2024)

**Panel Data Analysis Estimating Regression: Random Effect Model**

Regression analysis for panel data that addresses heterogeneity and unit correlation is known as the random effect model. To take into consideration differences between individual units, the model incorporates random effects. The random effect model produces efficient and reliable estimates. When there is variance amongst individual units and the independent variable is not correlated with random effects, this model is frequently applied.

**Panel Data Regression Model Sub-Structure I Estimation**

As indicated by the t-test results (Table 5), the Operational Expenditure of Operational Viewpoint (BOPO) is essentially affected by one of the four autonomous factors utilized in this examination. Given that the F-Stat value is 2.093180 and the prob. sig worth is 0.085493, which is more prominent than $\alpha = 0.05$, it isn't feasible to dismiss H0

**Tabel 5.** Determinants BOPO

| | | | | |
|---|---|---|---|---|
| **Dependent Variable: Z (BOPO)** | | | | |
| **Method: Panel EGLS (Cross-section random effects)** | | | | |
| **Date: 02/14/24 Time: 17:48** | | | | |
| **Sample: 2013 2023** | | | | |
| **Periods included: 11** | | | | |
| **Cross-sections included: 12** | | | | |
| **Total panel (balanced) observations: 132** | | | | |
| **Swamy and Arora estimator of component variances** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | -8.547.446 | 5.328.912 | -1.603.976 | 0,772222222 |
| **X1 (NPF)** | 3.055.032 | 2.530.929 | 1.207.079 | 1,594444444 |
| **X2 (FDR)** | 0.437738 | 0.187121 | 2.339.333 | 0,145138889 |
| **X3 (Rates)** | 9.510.622 | 5.516.911 | 1.723.904 | 0,605555556 |
| **X4 (Inflation)** | -1.633.163 | 4.855.227 | -0.336372 | 5,11875 |
| **Effects Specification** | | | | |
| | | | **S.D.** | **Rho** |
| **Cross-portion arbitrary** | | | 1.738.325 | 1,095833333 |
| **Idiosyncratic haphazard** | | | 4.015.549 | 5,848611111 |
| **Weighted Statistics** | | | | |
| **Root MSE** | 3.950.125 | R-squared | | 0.061849 |
| **Mean dependent var** | 5.583.937 | Adjusted R-squared | | 0.032301 |
| **S.D. dependent var** | 4.093.793 | S.E. of regression | | 4.027.132 |
| **Sum squared resid** | 205966.0 | F-statistic | | 2.093.180 |
| **Durbin-Watson stat** | 1.692.005 | Prob(F-statistic) | | 0.085493 |
| **Unweighted Statistics** | | | | |
| **R-squared** | 0.111243 | Mean dependent var | | 9.770.152 |

| | | | |
|---|---|---|---|
| **Sum squared resid** | 243013.2 | Durbin-Watson stat | 1.434.060 |

Source: outcome EViews 12

Taking into account the degrees of freedom of the random effects model utilized, the corrected coefficient of determination (adjusted R2), a gauge of model fit, produced a value of 0.032301. This signifies that all the independent factors in this analysis were capable of clarifying 3.23% of the change in BOPO.

**Testing Hypothesis**

Sub-Structural I (Determinant of BOPO) based on Table 5 above, with significance level 0.05 as follows:

1. Influence of NPF Against BOPO
   Prob sig 0.2296 > 0.05: BOPO is unaffected by NPF.
2. Influence of FDR Against BOPO
   Prob sig 0.0209 < 0.05: BOPO is impacted by FDR.
3. Influence of Rates Against BOPO
   Prob sig 0.0872 > 0.05: Exchange rate has no effect on BOPO
4. Influence of Inflations Against BOPO
   Prob sig 0.7371 > 0.05: Inflation has no effect on BOPO.
5. Influences of NPF, FDR, Rates and Inflation Against BOPO
   Prob. sig value is 0.085493, which is more than α = 0.05: this indicates that the combined effects of all independent variables (NPF ratio, FDR, exchange rate, and inflation) do not significantly affect BOPO.

**Estimation of Panel Data Regression Model Sub-Structure II (Implication on ROA)**

**Table 6.** Estimation of Factors Affecting ROA

| | | | | |
|---|---|---|---|---|
| **Dependent Variable: ROA** | | | | |
| **Method: Panel EGLS (Cross-section random effects)** | | | | |
| **Date: 02/14/24 Time: 17:56** | | | | |
| **Sample: 2013 2023** | | | | |
| **Periods included: 11** | | | | |
| **Cross-sections included: 12** | | | | |
| **Total panel (unbalanced) observations: 131** | | | | |
| **Swamy and Arora estimator of component variances** | | | | |
| **Variable** | **Coefficient** | **Std. Error** | **t-Statistic** | **Prob.** |
| **C** | 1.943.811 | 3.101.434 | 0.626746 | 3,694444444 |
| **X1 (NPF)** | -0.697299 | 0.151496 | -4.602.767 | 0.0000 |
| **X2 (FDR)** | 0.007431 | 0.011385 | 0.652657 | 3,577777778 |
| **X3 (Rates)** | -1.248.576 | 3.212.945 | -0.388608 | 4,848611111 |
| **X4 (Inflation)** | -0.282829 | 0.276263 | -1.023.766 | 2,138194444 |
| **Z (BOPO)** | -0.059718 | 0.005112 | -1.168.234 | 0.0000 |
| **Effects Specification** | | | | |
| | | | **S.D.** | **Rho** |

| | | | |
|---|---|---|---|
| **Cross-section random** | | 1.412.295 | 1,929861111 |
| **Idiosyncratic random** | | 2.276.659 | 5,014583333 |
| **Weighted Statistics** | | | |
| **Root MSE** | 2.273.883 | R-squared | 0.570105 |
| **Mean dependent var** | 0.494925 | Adjusted R-squared | 0.552909 |
| **S.D. dependent var** | 3.480.647 | S.E. of regression | 2.327.817 |
| **Sum squared resid** | 6.773.415 | F-statistic | 3.315.369 |
| **Durbin-Watson stat** | 1.631.509 | Prob(F-statistic) | 0.000000 |
| **Unweighted Statistics** | | | |
| **R-squared** | 0.556465 | Mean dependent var | 1.140.153 |
| **Sum squared resid** | 1.037.475 | Durbin-Watson stat | 1.065.171 |

Source: outcome EViews 12

In summary: Two of the five independent variables in this study had an influence on the ROA of Islamic banking at α = 0.05, according to the t-test results (Table 7). The F test findings show that H0 may be rejected with an F-Stat value of 33.15369 and a prob value of 0.00, which are less than α = 0.05.

**Implications Return on Assets (Sub-Structural II)**

Influence of NPF Against ROA

6. Prob sig 0.0000 > 0.05: NPF affects ROA.
   NPF significantly affects Indonesian Islamic banks' return on assets (ROA).
7. Influence of FDR Against ROA
   Prob sig 0.5152 > 0.05: indicates that FDR has no bearing on ROA.
8. Rates' Impact Against ROA
   Prob sig 0.3079 > 0.05: Inflation has no effect on ROA.
9. Impact of Inflations on ROA
   Prob sig 0.2296 > 0.05: BOPO is unaffected by NPF.
10. Influence of BOPO Against ROA
    Prob sig 0.0000 > 0.05: BOPO: BOPO has an effect on ROA.
11. Influences of NPF, FDR, Rates, Inflation and BOPO Against ROA
    Prob sig 0.000000 > 0.05: NPF, FDR, Exchange Rate, Inflation and BOPO affect ROA

**Estimation of Panel Data Regression Model: BOPO as Intervening Variable (SOBEL TESTING)**

Rumus Uji Sobel

$$\text{t-test} = \frac{ab}{\sqrt{b^2SEa^2+a^2SEb^2}}$$

a = Independent variable path to intervening variable (BOPO)
b = Path of intervening variable to dependent variable (ROA)
SE = Standar erro

**Table 7.** Independent Variable towards Intervening Variable (BOPO)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| **C** | -8.547.446 | 5.328.912 | -1.603.976 | 0,77222222 |

| | | | | |
|---|---|---|---|---|
| **X1 (NPF)** | 3.055.032 | 2.530.929 | 1.207.079 | 1,59444444 |
| **X2 (FDR)** | 0.437738 | 0.187121 | 2.339.333 | 0,14513889 |
| **X3 (Rates)** | 9.510.622 | 5.516.911 | 1.723.904 | 0,60555556 |
| **X4 (Inlations)** | -1.633.163 | 4.855.227 | -0.336372 | 5,11875 |

**Table 8.** Intervening Variable towards Dependent Variable (ROA)

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| Z (BOPO) | -0.059718 | 0.005112 | -1.168.234 | 0.0000 |

**t-table** value is 1.978971 (with significance level 0.05 and degree of freedom 126)

12. The effect of NPL on ROA mediated by BOPO

    t-test = $\frac{3.055032\ X - 0.059718}{\sqrt{-0.059718^2\ X\ 2.530929^2 + 3.055032^2\ X\ 0.005112^2}}$ = -1.20069

    t-test (-1.20069) < t-table (1.978971): BOPO does not act as a mediator between NPL and ROA.

13. FDR's impact on ROA, which BOPO mediates

    t-test = $\frac{0.437738\ X - 0.059718}{\sqrt{-0.059718^2\ X\ 0.187121^2 + 0.437738^2\ X\ 0.005112^2}}$ = -2.2937

    t-test (-2.2937) > t-table (1.978971): BOPO mediates the effect of FDR on ROA

14. BOPO acts as a mediator between exchange rates and ROA.

    t-test = $\frac{95.10622\ X - 0.059718}{\sqrt{-0.059718^2\ X\ 55.16911^2 + 95.10622^2\ X\ 0.005112^2}}$ = -1.70543

    t-test (-1.70543) < t-table (1.978971): BOPO does not mediate the effect of exchange rates on ROA.

15. The way BOPO mediates the impact of inflation on ROA.

    t-test = $\frac{-1.633163\ X - 0.059718}{\sqrt{-0.059718^2\ X\ 4.855227^2 + -1.633163^2\ X\ 0.005112^2}}$ = 0.336233

    t-test (0.336233) < t-table (1.978971): BOPO does not mediate the effect of Inflation on ROA.

**CONCLUSIONS AND FURTHER RESEARCG**

Intrinsic and outside factors were utilized in this examination to evaluate the bank's rating, which incorporated the accompanying proportions: NPF, FDR, Cash Exchanges, Swelling, Operational Costs on Operational Pay (BOPO), and ROA. This investigation analyzed a sample of 12 Islamic financial ventures in Indonesia from 2013 to 2023.

Inherent Influences Non-performing financing has no consequence on the BOPO, nonetheless financing to store ratio has a confident effect on the BOPO. Outside impacts, such as cash ratios and swelling, are positive and have no bearing on the BOPO. The examination's experimental discoveries are reliable with its hypothesis. The BOPO proportion has no impact on any of banks' inside or outer viewpoints, including NPF, FDR, cash rates, or expansion. The investigation's discoveries don't uphold the idea. As indicated by testing, goodness-of-fit is set up by an $R^2$ changed of 0.032301, proposing that the variation in the ascent and fall of the BOPO Ratio

can be clarified by the variable proportions NPF, FDR, Rates, and Swelling after representing the 3.23 percent level of opportunity.

Internal factors NPF and BOPO negatively affect the Islamic banking profitability. But Financing to

Deposit Ratio positively unaffected the Islamic banking ROA. External factors namely exchange rates and inflation negatively unaffected the Islamic bank profitability. All independent variables comprising: NPF, FDR, Rates, Inflations and BOPO are jointly affect the ROA.

Goodness-of-fit experimenting, as surveyed by the coefficient killed ($R^2$ aligned), produces various 0.552909, showing that subsequent to representing the degrees of opportunity irregular impacts models were used, every one of the free factors utilized in this investigation could clarify the change in ROA by 55.29%.

BOPO, as an intervening variable, does not reduce the impact of NPL on ROA. It does, however, mitigate FDR's action on ROA. Meanwhile, BOPO does not act as a buffer against external variables (exchange rates and inflation) that influence ROA.

**For Further Research:**

1. Risk Analysis: More investigation into the connection between certain risk variables and the financial success of Indonesia's Islamic banks can be accomplished in the future.
2. Operational Efficiency: Future studies can examine the connection between Islamic banks' profita-bility and operational efficiency.
3. Islamic Financial Innovation: Additional study can concentrate on how innovations in Islamic finance affect Indonesia's Islamic banks' bottom lines.
4. Effect of Macroeconomic Elements: Prospective inquisition could entail scrutinizing the collision of macroeconomic constituents, such as financial augmentation, interest percentages, and economic constancy on the productivity of Islamic depositories in Indonesia.
5. Regional Comparative Analysis: The study examines how profitable Islamic banks in Indonesia are in comparison to those in other countries or other regions.
6. Localized Relative Exploration: The revision surveys how lucrative Islamic financiers in Indonesia are by comparison with those in other countries or quadrants.

It is anticipated that carrying out more research in this area would deepen our knowledge of the variables influencing Indonesia's Islamic banks' profitability and provide a more thorough picture of the Islamic banks' financial performance.

**REFERENCES**

Abbas, A., & Arizah, A. (n.d.). Marketability, profitability, and profit-loss sharing: evidence from sharia banking in Indonesia. https://doi.org/10.1108/AJAR-08-2019-0065

Agustin, C., & Rusliati, E. (2020). Systematic risk, deposit, efficiency, and interest rate on banking's performance. *Jurnal Riset Bisnis Dan Manajemen*. https://www.journal.unpas.ac.id/index.php/jrbm/article/view/3214

Aisyah, M. P. (n.d.). Pengaruh faktor makro, CAR, FDR dan BOPO terhadap kinerja keuangan Perbankan Syariah di Indonesia periode 2010-2014. *Repository.Uinjkt.Ac.Id*. https://repository.uinjkt.ac.id/dspace/handle/123456789/42314

Akbar, D. A., Lidyah, R., & Africano, F. (2017). Pengujian kausalitas NPF, FDR, BOPO, CAR, inflasi, dan nilai tukar terhadap return on asset bank umum syariah. In *Seminar Nasional Teknologi Informasi* (Vol. 12).

Budianto, E. W. H., & Dewi, N. D. T. (2023). Pemetaan penelitian rasio Biaya Operasional terhadap Pendapatan Operasional (BOPO) pada perbankan syariah dan konvensional: studi

bibliometrik VOSviewer. *JAF-Journal of Accounting.* http://repository.uin-malang.ac.id/15320/

Chua, S. Z. M. Z. (n.d.). Determinants of islamic banks' profitability in Malaysia.

Effendi, M. S., Hady, H., Rismayadi, B., & Maemunah, M. (2017). The determinants of banking credit disbursment and its implications on the return on assets (ROA) the determinants of banking credit disbursment and its implications on the Return on Assets (ROA): *Empirical Study to the Banks Listed on Indonesian Stock Exchange*. *15*. https://www.serialsjournals.com

Juwita, V. (2023). Determinan pembiayaan bermasalah bank syariah di sektor UMKM. dspace.uii.ac.id. https://dspace.uii.ac.id/handle/123456789/43218

Koto, D. A. A. (2020). *Inflasi, Non Performing Finance (NPF), Return On Asset (ROA) Terhadap Pertumbuhan Asset BPRS Di Indonesia (Studi Kasus Di Bank Pembiayaan Syariah/BPRS.* repository.uinsu.ac.id. http://repository.uinsu.ac.id/id/eprint/9464.

Laksa Pratama, G. B., Kusnendi, K., & Utami, S. A. (2020a). The influence of inflation, exchange rates, car and NPF to stability of islamic banks in Indonesia period 2015-2019. *Iqtishoduna: Jurnal Ekonomi Islam*, *9*(1), 29. https://doi.org/10.36835/iqtishoduna.v9i1.468.

Marina, N. I. M. (2018). Non performing financing (Npf) dan Net Interest Margin (Nim) terhadap pertumbuhan laba pada bank syariah mandiri periode 2010. http://eprints.radenfatah.ac.id/3152/

Mukhibad, H., Khafid, M., Semarang, N., Raya, J. S., & Pati, G. (2018). Financial performance determinant of islamic banking in Indonesia. *Jurnal Keuangan Dan Perbankan*, *22*(3), 506–517. https://doi.org/10.26905/JKDP.V22I3.2061

Nainggolan, M. (2023a). The effect of roa, inflation, bi rate on total financing in sharia banks in Indonesia. *Alhamdulillah: Jurnal Agama Islam*. https://journal.cdfpublisher.org/index.php/Islam/article/view/109

Noor, K. (2020). Pengaruh spread bagi hasil, fee based income, NPF, FDR, DPK dan BOPO terhadap profitabilitas pada bank syariah mandiri periode 2015-2019. https://eprints.uinsaizu.ac.id/8882/2/COVER_BAB%20I_BAB%20V_Daftar%20Pustaka.pdf

Nursafana, F. H. (2023). Pengaruh LDR, CAR, ukuran bank, dan BOPO terhadap kinerja keuangan perbankan. http://eprints.perbanas.ac.id/10312/

Priyadi, U., Sultan, U., Tirtayasa, A., Muhammad, R., & Muhammadiyah Yogyakarta, U. (2021). Determinants of credit risk of Indonesian Sharīʿah rural banks. *ISRA International Journal of Islamic Finance*, *13*(3), 284–301. https://doi.org/10.1108/IJIF-09-2019-0134

ROA, B. I. (n.d.). The effect of CAR, ROA, Bi 7-day rate, and inflation on non-performing home financing in sharia general banks for 2016-2018. https://scholar.archive.org/work/xs2jpjpmnzdszmggfxbdk6t22e/access/wayback/https://e-journal.unair.ac.id/JESTT/article/download/17989/pdf

Syah, T. A., & Kharismasyah, A. Y. (2018a). The effect of inflation, bank Indonesia rate, non performing financing, and costs of operating expenses to operating revenues on profitability of sharia commercial. http://journal.islamicateinstitute.co.id/index.php/joes/article/view/469

Syah, T. A., & Kharismasyah, A. Y. (2018b). The effect of inflation, bank Indonesia rate, non performing financing, and costs of operating expenses to operating revenues on profitability of sharia commercial. http://journal.islamicateinstitute.co.id/index.php/joes/article/view/469

Yudistira, N. (n.d.). The effect of capital adequacy ratio, non-performing financing, bank size and financing to deposit ratio on sharia banks performance in Indonesia. Retrieved February 6, 2024, from www.ojk.go.id