

## Internal And External Factors On The Profitability Of Islamic Banks In Indonesia

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**Abstract:** This study aims to determine the determinants of the profitability of Islamic banks in Indonesia. This study uses a quantitative method of secondary data with a purposive sampling technique. The research data is a time series from January 2017 - June 2025 (102 observations), data sources OJK and Bank Indonesia. The multiple regression analysis technique uses Eviews 13 software. The results of the data analysis indicate that the NPF variable has a significant influence on the profitability (ROA) of Islamic banks in Indonesia. Meanwhile, the CAR, interest rates, and inflation variables do not have a significant influence on the profitability (ROA) of Islamic banks in Indonesia. This influence of NPF indicates that Islamic banks in Indonesia are important to pay attention to the level of risk of bad debts from customers who are provided with financing so that banks must have the ability to analyze potential losses arising from business risks, especially financing risks.

**Keywords:** CAR; NPF; Interest Rate; Inflation; Profitability.

**Abstrak:** Penelitian ini bertujuan untuk menentukan faktor-faktor penentu profitabilitas bank syariah di Indonesia. Penelitian ini menggunakan metode kuantitatif data sekunder dengan teknik purposive sampling. Data penelitian time series dari Januari 2017 - Juni 2025 (102 observasi), sumber data OJK dan Bank Indonesia. Teknik analisis regresi berganda menggunakan software Eviews 13. Hasil analisis data menunjukkan bahwa variabel NPF memiliki pengaruh signifikan terhadap profitabilitas (ROA) bank syariah di Indonesia. Sementara itu, variabel CAR, suku bunga, dan inflasi tidak memiliki pengaruh signifikan terhadap profitabilitas (ROA) bank syariah di Indonesia. Pengaruh NPF ini menunjukkan bahwa bank syariah di Indonesia penting untuk memperhatikan risiko piutang tak tertagih dari nasabah yang diberikan pembiayaan sehingga bank harus memiliki kemampuan untuk menganalisis potensi kerugian yang timbul dari risiko bisnis, terutama risiko pembiayaan.

**Kata Kunci:** CAR; NPF; Suku Bunga; Inflasi; Profitabilitas.

## A. Introduction

The development of the Islamic banking industry in Indonesia over the past decade has shown significant growth. However, behind this expansion lies an unresolved structural challenge, namely the issue of profitability, which is vulnerable to dynamic internal factors and external macroeconomic pressures. Internally, asset quality, as measured by Non-Performing Financing (NPF), and capital adequacy based on the Capital Adequacy Ratio (CAR), are crucial variables that directly influence the ability of Islamic banks to generate sustainable profits.

Meanwhile, externally, macroeconomic policies such as fluctuations in inflation rates, changes in Bank Indonesia's benchmark interest rate, and monetary policies set by the relevant authorities contribute to shaping the business climate that determines the profitability of Islamic financial institutions. The interaction between these two dimensions creates unique complexities for Islamic banks, given that their profit-sharing-based operational system and Sharia principles cannot completely isolate them from macroeconomic fluctuations. They are also required to maintain their internal financial health to remain competitive and trusted by the public.

The journey of Islamic banking to date has faced various obstacles, both from political and global economic influences. Various obstacles, both internal and external, significantly impact the profitability of Islamic banks. Since its inception in 1991, Bank Muamalat Indonesia, as a pioneer of Islamic commercial banks in Indonesia, has experienced a series of challenges. Then, in 1991/1998, the Asian monetary crisis occurred; in 2008, the global financial crisis; and in 2020-2021, the COVID-19 pandemic. These global economic challenges have impacted the Indonesian economy. Within the economic sector, the Indonesian banking system is one of the sectors impacted by these global economic challenges, including the financial industry within Islamic banking (Wikantiyoso dkk. 2020).

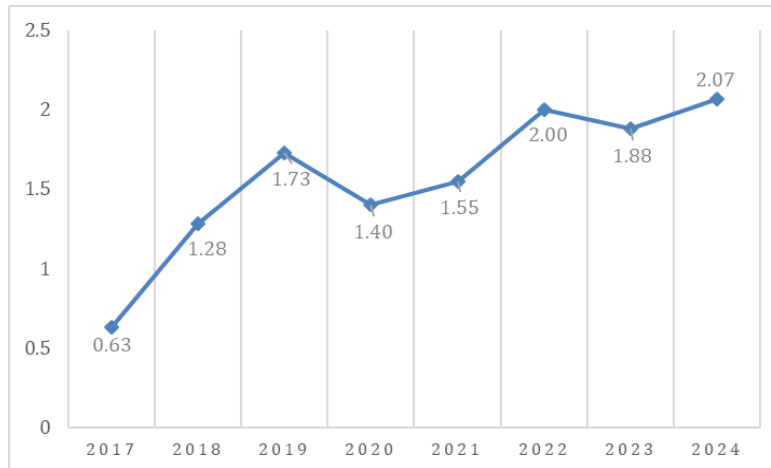
**Table 1.** Islamic Commercial Banks

No	Islamic Commercial Banks	KC	KCP
1	PT. Bank Aceh Syariah	27	134
2	PT BPD Riau Kepri Syariah	24	136
3	PT BPD Nusa Tenggara Barat Syariah	12	28
4	PT. Bank Muamalat Indonesia	80	147
5	PT. Bank Victoria Syariah	2	-
6	PT. Bank Jabar Banten Syariah	11	62
7	PT. Bank Syariah Indonesia, Tbk	155	946
8	PT. Bank Mega Syariah	30	25
9	PT. Bank Panin Dubai Syariah, Tbk	10	-
10	PT. Bank Syariah Bukopin	13	11
11	PT. BCA Syariah	15	63
12	PT. Bank Tabungan Pensiunan Nasional Syariah, Tbk	16	-
13	PT. Bank Aladin Syariah, Tbk	1	-
14	PT Bank Nano Syariah	32	10

Source: Islamic Banking Statistics, 2025 (June)

Since its founding in 1991 and first operating in 1992, Sharia banking has been in existence for 33 years. Bank Muamalat Indonesia was the first Sharia bank established in Indonesia. By 2025, there will be 14 Sharia commercial banks, and the total assets of these commercial banks and Sharia business units are currently at IDR 653 trillion (OJK, 2025).

The increase in total assets of commercial banks and Sharia business units is inseparable from the continuously improving performance of Sharia commercial banks, which is reflected in the health of the bank itself. A bank's health can be assessed from its profitability (Surepno & Minoto, 2018). Therefore, monitoring the profitability of Sharia banks is necessary from year to year. Profitability is considered the most appropriate indicator for assessing a bank's financial performance. Profitability describes a company's ability to generate profits. One indicator that can be used to measure a bank's profitability performance is Return on Assets (ROA). ROA is used to measure the company's efficiency and effectiveness in generating profits by utilizing its assets.



Source: Islamic Banking Statistics, 2025

**Figure 1.** Profitability of Islamic Banks

Based on Chart 1, the development of Sharia bank profitability over the eight years from 2017 to 2024. The highest level of Sharia bank profitability was in 2022, at 2.00%, after which in 2023 the profitability level decreased to 1.88%. From 2017 to 2019, the level of Sharia bank profitability increased from 0.63% to 1.73%. This contrasts with the level of profitability in 2020, which decreased by 1.40%. The decline in Sharia bank profitability in 2020 can be assumed to be due to COVID-19. This is in accordance with Presidential Decree (Keppres) of the Republic of Indonesia Number 12 of 2020 concerning the Determination of the Non-Natural Disaster of the Spread of CORONAVIRUS DISEASE 2019 (COVID-19) as a National Disaster.

Changes in the profitability of Islamic banks can be influenced by both internal and external factors. Internal factors are referred to as internal factors of Islamic banks, while external factors are referred to as external factors of Islamic banks. The internal factors in question are: First, the bank capital factor, often referred to as the Capital Adequacy Ratio (CAR), which is the capital adequacy ratio of Islamic banks. Several previous studies have examined the effect of bank capital reserves on profitability, but there are still differences in the research results found. This difference in the findings of previous researchers between the capital ratio and bank profitability. Masood (2015) examined the influence of CAR on profitability at State Banks that are members of the

Organization of Islamic Cooperation, which found a significant influence; Yosi Maytesa & Asmuni (2023) examined the influence of CAR on profitability at BUS in Indonesia, which found a significant influence. Different from research Saputra & Lina (2020) examined the influence of CAR on the profitability of Islamic banks listed on the IDX; Kumalasari (2025) examined the influence of CAR on the profitability of Islamic banks in Indonesia. Astuti and Kabib (2021) examined the effect of CAR on the profitability of Indonesian and Malaysian Islamic banks. They found no significant effect between CAR and profitability.

Second, the financing risk factor, often known as Net Performance Finance (NPF), is a ratio that measures non-performing financing in Islamic banks. There are several differences in research results from previous researchers. Sanusi & Zulaikha (2019) examined the effect of NPF on profitability at Islamic rural banks (BPRS) in Indonesia; Astuti and Kabib (2021) examined the effect of NPF on profitability at Indonesian and Malaysian banks; Kumalasari (2025) examined the effect of NPF on profitability at Indonesian Islamic banks. They found a significant effect between NPF and bank profitability. Meanwhile, research by Maytesa & Asmuni, (2023) found that NPF had no significant effect on ROA in Islamic banks in Indonesia.

Meanwhile, the external factors referred to are: First, the BI Interest Rate is a regulation or policy of Bank Indonesia in monetary matters that applies to conventional banks. Several previous studies have shown different results from various banks in several countries. Michael and Osamwonyi (2014) studied profitability in commercial banks in Nigeria; Abel and Leroux (2016) meneliti determinan profitabilitas pada bank di Zimbabwe; and Amzal (2016) studied the determinants of profitability in banks in Zimbabwe; Kurniawan et al., (2025) studied the factors that influence the profitability of Indonesian Islamic banks. It was found that interest rates have a significant influence on bank profitability. Meanwhile, research conducted by Hidayati, (2014) stated that the BI Interest Rate has no influence on Profitability (ROA).

Second, inflation is a general and continuous increase in prices over a certain period. External factors can influence the profitability of Islamic banks because they are policies regulated by Bank Indonesia, so they impact not only conventional banks but also Islamic banks. There are differences in the findings of previous researchers. Michael and Osamwonyi (2014) examined the profitability of commercial banks in Nigeria; Ali et al., (2018) studied Bank Islam Brunei Darussalam and found that inflation had a significant positive effect on the ROA of Bank Islam Brunei Darussalam; Kurniawan et al., (2025) studied Indonesian Islamic commercial banks. Inflation significantly affected bank profitability. This contrasts with research conducted by Masood (2015) on Bank Negara, a member of the OIC. Sanusi & Zulaikha (2019) on Sharia Rural Banks in Indonesia. Kumalasari (2025) examined the determinants of profitability of Indonesian Islamic banks. Inflation did not significantly affect bank profitability.

This research offers novelty in terms of variable integration and a more comprehensive analysis compared to previous studies. Most previous studies only partially examined the influence of internal factors such as the Capital Adequacy Ratio (CAR) and Non-Performing Financing (NPF) on Islamic bank profitability, as conducted by Masood (2015), Yosi Maytesa & Asmuni (2023), and Astuti and Kabib (2021), without simultaneously considering their interaction with external macroeconomic factors. Similarly, studies focusing on external variables such as the BI Rate and inflation including Michael and Osamwonyi (2014), Abel and Leroux (2016), and Kurniawan et al. (2025) are generally conducted separately from the dynamics of the internal conditions of Islamic banking. Therefore, this study comes with a more holistic approach, namely simultaneously integrating internal variables (CAR and NPF) and external variables (BI Rate and inflation) in one integrated analytical framework, so as to produce a more complete understanding of the determinants of Islamic bank profitability.

This research is a follow-up to several studies conducted by other researchers. It focuses on internal factors (capital adequacy ratio and non-performing loan) and external factors (interest rates and inflation) that influence Indonesian Islamic banks.

## B. Research Method

The method used in this study is quantitative secondary time series data, which is data collected sequentially over a specific time period. This study uses a purposive sampling technique because it is based on certain characteristics that are considered relevant to the research objectives. The sample in this study is monthly data on Return on Assets, Capital Adequacy Ratio, and Non-Performing Financing, interest rates, and inflation from January 2017 to June 2025. The total data in this study is 102 observations. The data source in this study is by accessing the Financial Services Authority (OJK) website to obtain data on Return on Assets, Capital Adequacy Ratio, and Non-Performing Financing, while data on interest rates and inflation are obtained from Bank Indonesia.

The data analysis technique used in this study is multiple regression analysis. According to Dougherty (2007) in multiple regression analysis, it is important to discuss several assumptions. Given that the regression coefficient based on sample data is an estimate of the true regression parameter for the population from which the sample is drawn, there are three very important properties for a multiple regression statistical estimator. (1) Unbiased: An estimator is unbiased if its expected value (mean) is equal to the true value of the parameter in the population. (2) Consistent: An estimator of a parameter is consistent if its estimate converges to the true value of the parameter as the sample size increases. (3) Efficient: Efficiency refers to the accuracy of the estimates produced by the estimator. An estimator can be called efficient if it is the most accurate estimator (i.e., its variance is the smallest) of all unbiased estimators for a given parameter (Williams et al., 2002).

The formulation of multiple linear regression must meet the BLUE (Best, Linear, Unbiased, Estimator) requirements, namely decision making through the F test and t test

must not be biased, to obtain BLUE results, classical assumption testing must be carried out. According to Gujarati (2003) classical assumption testing aims to ensure that the research results are valid with the data used in theory being unbiased, consistent and the estimation of the regression coefficients is efficient. Therefore, the classical assumption tests carried out are normality, linearity, multicollinearity and heteroscedasticity tests.

The data analysis techniques used in this study were classical assumption testing and multiple regression analysis. The basic model of multiple linear regression in this study can be formulated as follows:

$$ROA_t = \beta_0 + \beta_1 CAR_t + \beta_2 NPF_t + \beta_3 Intr_t + \beta_4 Infl_t + \varepsilon_t$$

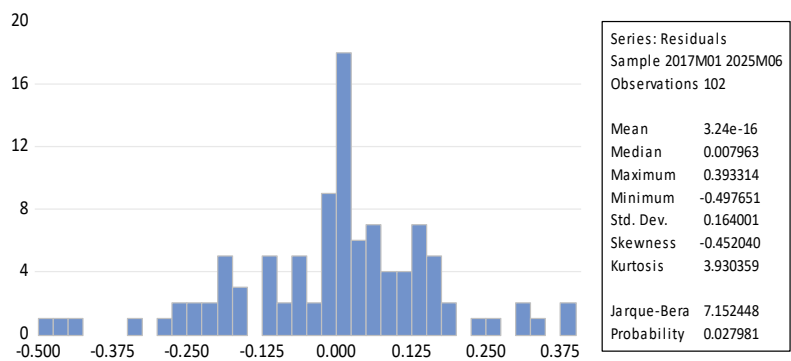
**Note:**

- ROA<sub>t</sub> = Return on Asset in the period t
- CAR<sub>t</sub> = *Capital adequacy ratio* in the period t
- NPF<sub>t</sub> = Non-performing Financing in the period t
- Intr<sub>t</sub> = Interest rate in the period t
- INFL<sub>t</sub> = Inflation in the period t
- β<sub>0</sub> = *Intercept*
- β<sub>1</sub> – β<sub>6</sub> = The coefficient value of each variable
- ε<sub>t</sub> = *Error* in the period t

**C. Results and Discussions**

**1. Results**

Data normality was tested using the Jarque-Bera test to determine whether the data were normally distributed. The significance level set for this normality test was 5% (0.05). The following are the results of the Jarque-Bera normality test and the significance values.



**Figure 2.** Normality test

Based on the image above, the Jarque-Bera value is 7.152448 and the probability value is 0.027. Therefore, it can be concluded that this research data is not normally distributed, because the probability value of  $0.027 < 0.05$ . Even though the data has been transformed to the first difference, the data still shows results that are not normally distributed. Because the data in the sample is large ( $N > 30$ ), the data testing is continued to determine the influence between variables.

The use of first differences also plays a crucial role in reducing autocorrelation because, with the disappearance of the trend, the pattern of intertemporal dependence becomes weaker. Differencing is widely used to eliminate the trend component and allow for analysis of more stable variance and autocovariance structures in time series data (McElroy & Jach, 2022). However, several studies also warn that differencing should be used with caution because it can lead to the loss of long-term information if used excessively (Busetti, 2009). Therefore, the application of first differences is an important step in time series analysis to ensure that classical assumptions, particularly the absence of autocorrelation, are met, so that the model estimation results are more valid and can be interpreted scientifically.

**Table 2.** Breusch-Godfrey Serial Correlation LM Test

Before data transformation	F-statistic	43.26990	Prob. F (2,94)	0.000
	Obs*R-squared	48.520107	Prob. Chi-Square (2)	0.0000
After data transformation **	F-statistic	0.41326	Prob. F (2,94)	0.7845
	Obs*R-squared	0.520107	Prob. Chi-Square (2)	0.7710

\* Null hypothesis: No serial correlation at up to 2 lags

\*\* First difference

Based on the results of the autocorrelation test above, after converting the data to first differences, the Chi-square probability value is  $0.7710 > 0.05$ . This means that there is no autocorrelation in the regression model used.

The heteroscedasticity test aims to determine whether there is inequality in the variance of residuals from one observation to another in the regression model. This test is performed using the Breusch-Pagan-Godfrey test to regress the absolute value of the

residuals against the independent variable. If the Breusch-Pagan-Godfrey test confidence level is  $>0.05$ , it means that the data does not exhibit heteroscedasticity.

**Table 3.. Heteroskedasticity Test: Breusch-Pagan-Godfrey**

Before data transformation	<b>F-statistic</b>	5.970548	Prob. F(4,96)	0.0002
	<b>Obs*R-squared</b>	20.12060	Prob. Chi-Square (4)	0.0005
	<b>Scaled explained SS</b>	26.28867	Prob. Chi-Square (4)	0.0000
After data transformation**	<b>F-statistic</b>	0.669531	Prob. F(4,96)	0.6147
	<b>Obs*R-squared</b>	2.741140	Prob. Chi-Square (4)	0.6020
	<b>Scaled explained SS</b>	7.004244	Prob. Chi-Square (4)	0.1357

*Source: Processed data from Eviews 13 (2026)*

Based on the table above, the Chi-square probability value of Obs\*RSquared is  $0.6020 > 0.05$ . Therefore, it can be concluded that there is no heteroscedasticity in this model.

The multicollinearity test aims to determine whether there is a correlation between independent variables in the regression model. In this study, the multicollinearity test using the VIF (Variance Inflation Factors) criterion can be declared free from the multicollinearity test if the VIF value is not greater than 10. Based on the results of the multicollinearity test in the table above, the Variance Inflation Factors (VIF) values of all CAR, NPF, Interest Rate and Inflation variables are not  $> 10$ , so it can be said that there is no multicollinearity in all of these independent variables.

**Table 4. Multicollinearity Test Results**

Data	Variable	Coefficient Variance	Uncentered VIF	Centered VIF
Before data transformation	C	1.191745	4253.668	NA
	CAR	0.088839	3032.166	6.493452
	NPF	0.002362	91.88115	6.840946
	INTR	0.000374	33.38255	1.227026
	INFL	0.000238	8.258188	1.104154
After data transformation	C	0.000158	1.031832	NA
	D(CAR)	0.192772	1.097920	1.079152
	D(NPF)	0.004831	1.125326	1.105532
	D(INTR)	0.006133	1.065585	1.063377
	D(INFL)	0.001142	1.018783	1.016865

*Source: Processed data from Eviews 13 (2026)*

Based on the results of the multiple regression test table 5 which has been carried out in the test as follows: First, the CAR variable shows a value of  $0.5760 > 0.05$  significance probability. This result proves that  $H_0$  is accepted and  $H_1$  is rejected, meaning that the CAR variable does not have a significant effect on ROA. Second, the NPF variable shows a value of  $0.0290 < 0.05$  significance probability. This result proves that  $H_0$  is rejected and  $H_2$  is accepted, meaning that the NPF variable has a significant effect on ROA.

**Tabel 5.. Multiple Regression Results**

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.008158	0.012571	0.648959	0.5179
D(CAR)	-0.246400	0.439058	-0.561200	0.5760
D(NPF)	-0.154058	0.069507	-2.216447	0.0290
D(INTR)	-0.035153	0.078315	-0.448866	0.6545
D(INFL)	0.043992	0.033786	1.302072	0.1960
R-squared	0.066577	Mean dependent var		0.010099
Adjusted R-squared	0.027684	S.D. dependent var		0.126131
F-statistic	1.711818	Durbin-Watson stat		1.953701
Prob(F-statistic)	0.153663			

Note: Dependent Variable: D(ROA), Method: Least Squares; Sample: 2017M02 2025M06; Included observations: 101 after adjustments

Source: Processed data from Eviews 13 (2026)

Third, the interest variable shows a significance value of  $0.6545 > 0.05$ . This result proves that  $H_0$  is accepted and  $H_3$  is rejected, meaning that the interest variable does not significantly affect ROA. Fourth, the inflation variable shows a significance value of  $0.1960 > 0.05$ . This result proves that  $H_0$  is accepted and  $H_4$  is rejected, meaning that the inflation variable does not significantly affect ROA.

## 2. Discussions

### 2.1. Impact Capital Adequacy Ratio on the Profitability of Islamic Banks in Indonesia

Based on multiple regression testing, it can be seen that the CAR variable has no significant partial effect on ROA. This finding aligns with research by Saputra & Lina (2020) which found that CAR has no effect on profitability. However, it is inconsistent

with research by Masood (2015) and OKI; Yosi Maytesa & Asmuni (2023) which found a significant relationship between CAR and profitability.

This insignificant effect indicates that CAR is a minimum capital requirement for commercial banks to conduct their business activities. The CAR requirement, as regulated by the Financial Services Authority (OJK), is intended to anticipate potential losses, necessitating banks with greater capital. Therefore, the impact does not directly impact bank profitability. In practice, Islamic banks with high CAR levels generally demonstrate a strong and healthy financial position, making them better able to handle economic fluctuations and the risk of customer default.

## **2.2. Impact of Non-Performing Financing on the Profitability of Islamic Banks in Indonesia**

Based on multiple regression testing, it can be seen that the NPF variable has a partial effect on the profitability of Islamic banks in Indonesia. This study aligns with the research of Sanusi & Zulaikha (2019) which found an effect of NPF on the profitability of Islamic banks. However, it is inconsistent with the research Astuti and Kabib (2021); Kumalasari (2025); and Maytesa & Asmuni, (2023) which found no significant effect of NPF on profitability at Islamic banks in Indonesia. The NPF variable shows a significant effect on profitability because Islamic banks tend not to have sufficiently strong financing risk mitigation. This is reinforced by the impact of COVID-19 during the study period, which significantly impacted not only health but also economic activities of the community (Wikantiyoso et al., 2020).

## **2.3. Impact of Interest Rates on the Profitability of Islamic Banks in Indonesia**

The interest rate variable did not show a significant effect on profitability. This research is supported by Hidayati (2014) that interest rates have no effect on bank profitability. However, this is inconsistent with the findings of Michael and Osamwonyi (2014); Abel and Leroux (2016); Amzal (2016); and Kurniawan et al., (2025) found that interest rates affect bank profitability. The interest rate variable does not significantly influence profitability because in the Islamic financial system, Islamic banks do not use

the concept of interest (riba) in their operational activities. Instead, Islamic banks use contracts based on profit-sharing principles (such as mudharabah and musyarakah), buying and selling (murabahah), and leasing (ijarah).

#### **2.4. Impact of Inflation on the Profitability of Islamic Banks in Indonesia**

Inflation shows an insignificant effect on bank profitability. The results of this study are supported by Masood (2015) and Sanusi & Zulaikha (2019) found that inflation has an insignificant effect on bank profitability. However, this is inconsistent with research by Ali et al., (2018); Michael and Osamwonyi (2014); Kurniawan et al., (2025); and Masood (2015) found that inflation has a significant positive effect on bank profitability. The inflation variable does not significantly affect profitability. This can be seen from the inflation data in Indonesia, which is still in the mild category, averaging below 10%. This is still within the normal range and can still provide opportunities for Indonesian economic actors to increase their income. The mild inflation rate also does not affect people's purchasing power, which is a factor in people preferring to hold their money rather than deposit it in the bank.

#### **D. Conclusion**

Based on the results of the data analysis and discussion that have been described, the following conclusions can be drawn: NPF has a significant influence on the profitability of Islamic banks in Indonesia. This influence indicates that the profitability of Islamic banks in Indonesia is important to pay attention to the risk of bad debts from customers who are given financing so that banks have the ability to absorb potential losses arising from business risks, especially financing risks. Internal and external variables such as CAR, interest rates and inflation do not show a significant influence on the profitability of Islamic banks in Indonesia. These internal and external variables are not the dominant factors that influence the profitability performance of Islamic banks in Indonesia. The inflation variable does not have a direct impact on bank profitability because Islamic banks this is because the inflation rate in Indonesia is still relatively mild, ranging below 10%.

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