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DO ISLAMIC FINANCIAL RESOURCES AFFECT PROFITABILITY OF ISLAMIC BANKING?

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ABSTRACT

This study aims to obtain empirical evidence of the influence of Islamic financial resources on the profitability of Islamic banking. Profitability is measured using several ratios, namely return on assets (ROA) and net profit margin (NPM), while the Islamic financial resources used in this study include temporary syirkah fund (TSF), non-performing financing (NPF), asset turnover ratio (ATR), and debt-to-equity ratio (DER). The population of this study is Islamic banking from some member countries of the Organization of Islamic Cooperation (OIC), such as Indonesia, Saudi Arabia, Kuwait, the United Arab Emirates, and Qatar. The research sample used purposive sampling, while the data analysis technique was multiple linear regression. The selected samples were 25 Islamic banks from 2013-2021, and 213 observation data were produced. The results of this study indicate that TSF, NPF, ATR, and DER simultaneously affect the profitability of Islamic banking. However, for partial testing, TSF, NPF, and DER negatively affect profitability, while ATR positively affects profitability. The implications of this study theoretically can be used to add references related to signaling theory in analyzing the phenomenon of fluctuations in Islamic banking profitability. This study has practical implications for Islamic banking management as a reference for utilizing Islamic financial resources following the characteristics of Islamic banking businesses in Indonesia, Saudi Arabia, Kuwait, Qatar, and the United Arab Emirates.

Keywords: ATR, DER, NPF, TSF, profitability.

INTRODUCTION

Profitability is important information for investors, managers, and bank customers because it describes the stability and performance of the bank. Increased profitability contributes to economic growth due to increased state revenue that can be used for investment, thereby increasing employment opportunities (Surya et al. 2021). Profitability is a company's effort to gain profit, which includes gross and net profit margins, return on capital, and return on assets, reflecting the company's sales growth (Bayaraa 2017). Moreover, profitability also motivates investors to determine their investment portfolios and as a reference in deciding whether to maintain, buy, or sell their investments, including investments in Islamic banking (Sari and Endri 2019). As for customers, profitability helps obtain information about the amount of profit sharing that will be obtained. Likewise, Islamic banks also need profitability to increase their asset growth, which can be used to increase investment and provide additional profit sharing for customers (Jedidia 2020).

Based on information published in the Global Islamic Finance Market Report 2019, Islamic banking has contributed to economic growth of US$1.72 trillion or 71% of the global Islamic finance industry. However, the profitability level of this industry decreased in 2020, with an ROA of 1.5% and an ROE of

13.9%. Profitability decreased due to non-natural disasters (Covid-19), and oil prices increased globally. Meanwhile, in 2021, the profitability level only exceeded the pre-pandemic level, with an ROA of 1.6% and an ROE of 16.7% (IFSB 2022). Furthermore, a report from the Islamic Financial Development Index (IFDI) noted that 11% of Islamic banks in the world experienced fluctuations in profitability, including Indonesia, Kuwait, Saudi Arabia, Kuwait, UAE, and Qatar, which are members of the Organization of Islamic Cooperation (OIC) also experienced fluctuations in profitability (ROA). In 2017, Indonesia stagnated at 0.7% and rose rapidly, namely by 50%, or 1.4% in 2018, and rose again by 1.9% in 2019, but fell by 0.4% in 2020. Then, the ROA of Islamic banking in Indonesia experienced an increase of 1.7%. Then, the ROA of Islamic banks in the four Gulf Cooperation Council (GCC) member countries from 2016-2021 also tended to decline. Qatar's ROA of Islamic banking decreased by 0.2%, namely 1.5%, and was the lowest ROA value in the last five years. Also, the ROA of Islamic banking in Kuwait in 2014 reached 1.5% and continued to decline to 0.9% in 2016. This decline was the lowest ROA value for Islamic banking in Kuwait. Moreover, Islamic banking in the United Arab Emirates in 2019-2020 experienced a sharp decline from 1.2% to 0.8%. Additionally, the ROA of Islamic banking in Saudi Arabia decreased from 2.2% to 1.96% in 2020 and rose to 2.4% at the end of 2021 (IFDI 2022).

Previous studies have examined the determinants of Islamic bank's performance, including investment account holders (Lahrech, Lahrech, and Boulaksil 2014; Bukair and Rahman 2015), asset quality (Zarrouk, Jedidia, and Moualhi 2016; Jallali and Zoghlami 2022; Khan 2022), asset management, and capital structure (Alarussi and Alhaderi 2018; Ali and Saudi 2019). Research by Lahrech, Lahrech, and Boulaksil (2014); Bukair and Rahman (2015); Yusuf and Mahriana (2016); Sondakh, Tulung, and Karamoy (2021), which tested the influence of Investment Account Holders (IAH) on the profitability of Islamic banking in GCC countries for the period 2008-2011, stated that IAH had a positive effect on profitability, while the findings of research by Sudarsono, Afriadi, and Suciningtias (2021) stated that deposit structure negatively affects profitability. Then, Zarrouk, Jedidia, and Moualhi (2016) studied the determinants of the profitability of Islamic banking in the Middle East and North Africa (MENA) region for the period 1994-2012, stating that asset quality and capital structure had a positive effect on profitability. However, research by Jallali and Zoghlami (2022); Usman and Lestari (2019) who researched Islamic Rural Bank in Indonesia, stated that the quality of assets and capital structure negatively affects profitability. Furthermore, Khan (2022) researched the determinants of Islamic banking profitability in the GCC countries for 2011-2017, stating that asset management positively affects profitability. In line with this research, Alarussi and Alhaderi (2018); Ali and Saudi (2019); Usman and Lestari (2019) also stated that asset management has a positive effect on profitability. Conversely, the research results by Ahmad et al. (2023) stated that asset management negatively affects profitability. Based on facts from previous research, it appears that the research results were inconsistent. This opens up a gap for future research.

Some of the novelties of this research are: first, the use of specific proxies relevant to Islamic banking, which are still rarely found in previous research,

especially in several countries that are part of the OIC. Second, this study uses control variables in both microeconomics, namely firm size and firm age, as well as macroeconomics (Inflation, GDP, and population of Muslims), the figures of which can vary for each country, especially the countries where the population in this study, where studies by Lahrech, Lahrech, and Boulaksil (2014); Bukair and Rahman (2015); Zarrouk, Jedidia, and Moualhi (2016); Ali and Saudi (2019); Usman and Lestari (2019); Sondakh, Tulung, and Karamoy (2021); Jallali and Zoghlami (2022); Khan (2022) do not use this control variable. This study is important because these variables are the primary sources of funding that Islamic banking practitioners can use to optimize profitability and increase profit sharing for investors and customers. Therefore, this study aims to test the effect of temporary syirkah fund (TSF), non-performing financing (NPF), asset turnover ratio (ATR), and debt-to-equity ratio (DER) on profitability in Islamic banking. This research is expected to contribute to Islamic banking by increasing their TSF, reducing non-performing financing, and increasing their income and profitability. Besides that, the regulators are expected to focus on policies that support efforts to achieve sustainable financial growth for Islamic banks.

LITERATURE REVIEW

Signaling theory states that managers must disclose all relevant information from financial statements to investors and potential investors (Hughes 1986). Besides, this signaling theory also states that information conveyed to stakeholders signals to outside parties that the firm is performing well, reducing information asymmetry (Álvarez, Sánchez, and Domínguez 2008). This positive information disclosure is carried out to show the company's good reputation and strong competitive ability. This study uses signaling theory because Islamic banking must also inform stakeholders, especially investors and customers, about the internal conditions of Islamic banks in their financial statements. Investors will then respond to positive information or signals from Islamic banks, so it is expected to increase investment, which will ultimately have the potential to increase the profitability of Islamic banks (Álvarez, Sánchez, and Domínguez 2008; Zarrouk, Jedidia, and Moualhi 2016; Jallali and Zoghlami 2022; Khan 2022).

Temporary Syirkah Fund (TSF)

A temporary syirkah fund (TSF) is an investment based on the *Mudharabah Muthlaqah* contract; in this case, the fund owner (*Rabbul Maal*) gives authority to the entrepreneur (*Mudharib*) to develop his investment, and the Islamic bank will provide profit-sharing according to the ratio agreed between the *Rabbul Maal* and *Mudharib*. TSF is a syirkah contract that uses ratios as the basis for profit sharing. Islamic banks and fund owners share the profits and risks of financing (Guermazi 2020). TSF is a fund the bank receives from customers through deposits (investments) as part of the funding sources of Islamic banking (AlShattarat and Atmeh 2016). Islamic banks use equity-based investment contracts (*Mudharabah* contracts). Thus, TSF is not an obligation with risks because TSF is also part of a tied investment. However, TSF owners do not have the opportunity to monitor the management of funds, so they are prone to moral

hazards and conflicts of interest. On the other hand, Islamic banks are responsible for all disclosures of information (full disclosure), both financial and non-financial, to all stakeholders. Likewise, the disclosure of relevant, fair, and timely information related to investments in the form of TSF to protect the rights of investors and customers. TSF is calculated with the final value in the financial statements transformed in log form (Hananto and Amijaya 2021).

Non-Performing Financing (NPF)

Islamic Banking must have a strategy to manage assets and third-party funds to maximize income from financing disbursed by minimizing problematic financing (default) (Al-Najjar and Assous 2021). Islamic banks must also have a strategy in asset management so that there is timeliness in fulfilling contractual obligations to investors and customers (Alhassan, Kyereboah-Coleman, and Andoh 2014). Furthermore, non-performing financing (NPF) is a financial ratio that describes the amount of financing that has failed to be paid. Problematic financing can reduce profitability and become a barrier for Islamic banks to provide more financing in the future (Hernawati et al. 2021).

Asset Management

Asset management is the process of utilizing assets, thus generating income that is useful for increasing the company's economic value (Al-Najjar and Assous 2021). Asset management, also called allocation, is the process of distributing funds available to banks to several elements of use and investment to align liquidity and profitability (Musthaq 2021). Resources are allocated to cash elements, investments in securities, loans, and other assets. There are four ratios for calculating a company's asset management, namely: asset-turnover-ratio, accounts-receivable turnover-ratio, fixed-asset-turnover-ratio, accounts-receivable-turnover-ratio, and inventory-turnover-ratio (Lubyanaya et al. 2016). Asset-turnover ratio (ATR) is a firm's efficiency ratio when using assets to generate revenue.

Capital Structure

A combination of funding sources originating from long-term debt and equity is capital structure (Khan 2022). The company's capital structure can be optimal by weighing the ratio between costs and benefits that can be taken from debt. Leverage is one component of a company's capital structure (Alarussi and Alhaderi 2018). Companies with high leverage ratios indicate that the company uses less equity and increases debt. This condition indicates an aggressive company capital structure. The debt-to-equity ratio (DER) is used to measure the effectiveness of the capital structure.

Hypothesis Development

Management must disclose financial and non-financial information to provide a positive signal to all stakeholders (Álvarez, Sánchez, and Domínguez 2008). Signaling theory describes information disclosed by companies and whether positive information can be used to measure the effect of the temporary syirkah fund (TSF) on profitability. The higher number of TSFs indicates that many third parties trust the Islamic bank. Research by Bukair and Rahman (2015)

tested the effect of IAH on Islamic banking profitability in the GCC region and found that IAH can improve Islamic banking performance. Other research by Lahrech, Lahrech, and Boulaksil (2014); Yusuf and Mahriana (2016); Kustina et al. (2019); Sondakh, Tulung, and Karamoy (2021); Prasojo et al. (2022) also stated that there is an influence of IAH and profitability. The profitability of Islamic banks can be maximized by managing TSF account holder funds. Thus, the hypothesis is:

H_1: Temporary syirkah fund (TSF) positively affects profitability.

Signaling theory mentioned that managers have more expansive information regarding firms' real value than stakeholders (Hughes 1986). Hence, additional information disclosure from managers will benefit stakeholders, while additional information on good asset management will improve firms' performance. Research by Jallali and Zoghlami (2022) examined the effect of risk management on Islamic banks' profitability in MENA, GCC, and Southeast Asian countries and found the negative influence of asset quality on the profitability of Islamic banks. Other research by Said and Ali (2016); Zarrouk, Jedidia, and Moualhi (2016); Salike and Ao (2018); Bolarinwa and Soetan (2019); Usman and Lestari (2019); Khan (2022) found a negative influence of NPF on Islamic bank's profitability. A high NPF ratio increases the likelihood of banks bearing the loss or experiencing income delay (Khan 2022). Therefore, the following hypothesis is:

H_2: Non-performing financing negatively affects profitability.

Signaling theory explains the manager's attitude to inform capital owners about how the firm considers its prospects (Álvarez, Sánchez, and Domínguez 2008). Good asset management is a positive signal a firm can send its investors. A study by Khan (2022) on the factors affecting bank profitability in the GCC countries found that asset management positively and significantly affects profitability. Previous research by Karina and Khafid (2015); Alarussi and Alhaderi (2018); Ali and Saudi (2019); Usman and Lestari (2019); Pamuncak and Wijaya (2022) findings also support a strong positive effect of asset management on profitability. Firms' financial position will improve with a high asset turnover ratio. Therefore, profitability growth can be explained using the asset turnover ratio. The proposed hypothesis is:

H_3: Asset turnover ratio positively affects profitability.

According to the Signaling theory, when a firm expects a good performance, it will provide positive information regarding its capital structure. Jallali and Zoghlami (2022) tested risk management on bank profitability in MENA, GCC, and SAC and concluded that capital structure negatively affects Islamic banking profitability. Other studies by Borhan and Mohamed (2013); Alarussi and Alhaderi (2018); Samo and Murad (2019); Eckbo and Kisser (2021); Khan (2022) also found a negative effect of capital structure on profitability. Firms with a high loan level in their capital structure have a higher risk of declining profitability. The proposed hypothesis is:

H_4: Debt-equity ratio negatively affects profitability.

Based on the hypothesis's development, this research's conceptual framework can be described and presented in Figure 1.

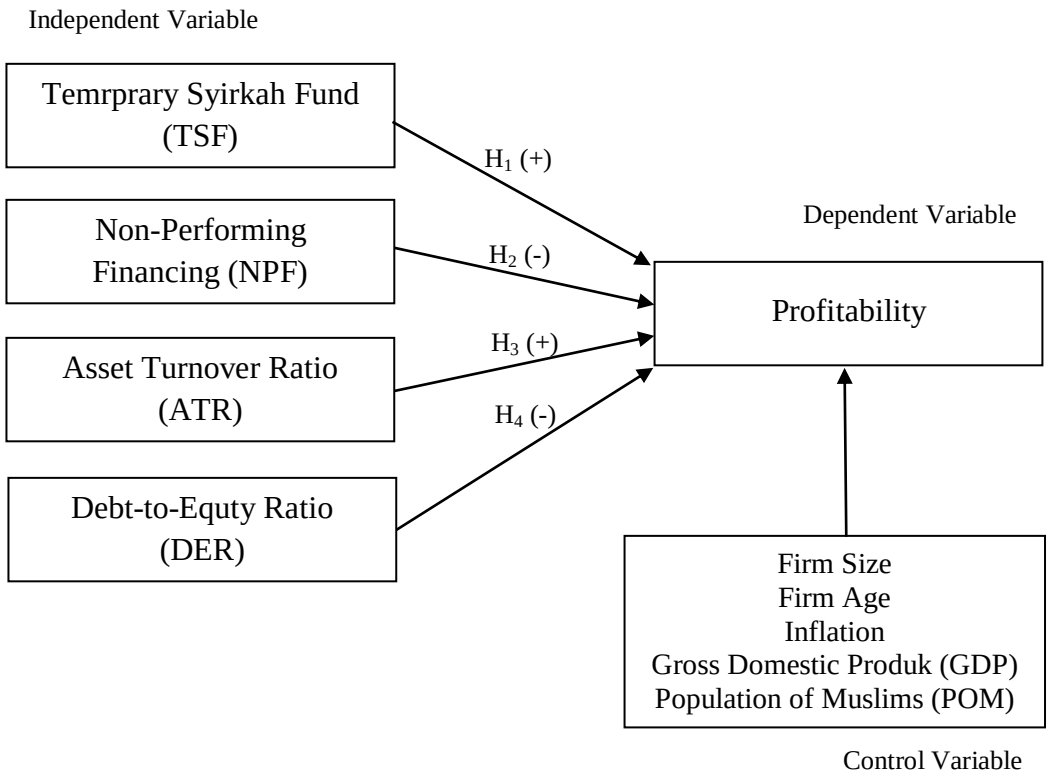

Figure 1 Research Framework

METHOD

This kind of study is a quantitative model to obtain empirical evidence of the effect of Islamic financial resources on the profitability of Islamic banking. This study's population is Islamic banking, including Indonesia, Kuwait, Saudi Arabia, UAE, and Qatar. Meanwhile, the study period started in 2013-2021. The population was taken because the five countries experienced fluctuations in profitability (ROA) during 2016-2021 (IFSB 2022). This study uses secondary data derived from annual reports and sourced from the official websites of the DFM (dfm.ae.en), ADSE (ad.ae), SSE - Tawadul (saudiexchange.sa), QSE (qe.com.qa), and Boursa Kuwait (boursakuwait.com). The purposive sampling method with specific criteria produced a final sample of 25 Islamic banks (attached).

Table 1 shows that 213 observation samples met the criteria for purposive sampling. Outliers in the research sample are caused by data exceeding the upper and lower limits, so 12 samples need to be eliminated from the research sample. Samples that meet the criteria for research from Indonesia have 69 samples, and from Kuwait, Saudi Arabia, Uni Emirate Arab (UAE), and Qatar, 36 samples each. In this study, the independent variables include temporary syirkah funds (TSF), non-performing financing (NPF), asset turnover ratio (ATR), and debt-to-equity ratio (DER), while the dependent variable is profitability. The control variables consist of microeconomics, namely the firm size and firm age of Islamic banking, and macroeconomics, namely inflation, GDP, and POM (Table 2).

The panel data analysis used includes CEM, REM, and FEM. The CEM model is a model and does not use space and time from panel data. The FEM model is a model that assumes that the intercept of each individual is likely different and that the slope is the same. The REM model is a model that links time and space for each data. Furthermore, the BPLM, Chow, and Hausman tests are used to determine the best model in this study. Regression analysis was performed using EViews software.

$$ROA = \alpha + \beta_1 TSF + \beta_2 NPF + \beta_3 ATR + \beta_4 DER + \beta_5 SIZE + \beta_6 AGE + \beta_7 INF + \beta_8 GDP + \beta_9 POM + \varepsilon$$

Table 1 Sample Selection

Sample Criteria	Indonesia	Saudi Arabia	Uni Emirate Arab	Qatar	Kuwait
Islamic banking registered with the FSA or stock exchange of each country	15	6	4	4	4
Banking that has not published an annual report as an Islamic bank during the period 2013-2021	(4)	(2)	(0)	(0)	(0)
Islamic banking that is the result of mergers and acquisitions during the period 2013-2021	(1)	(0)	(0)	(0)	(0)
The annual report published by Islamic banks does not have complete data related to the research variables	(1)	(0)	(0)	(0)	(0)
Total Islamic banks	9	4	4	4	4
Total sample (9 years)	81	36	36	36	36
Outlier data	(12)	(0)	(0)	(0)	(0)
Observations	69	36	36	36	36
Total of observations					213

Table 2 Variables Measurements

Variables	Measurements	Scale
Profitability	ROA = Net Profit / Total Assets * 100% NPM = Net Profit / Net Revenue-Sales * 100% (Panjaitan 2017)	Ratio
Temporary Syirkah Fund (TSF)	TSF = The final value in the financial statements transformed in log form (Hananto and Amijaya 2021)	Ratio

Variables	Measurements	Scale
Non-Performing Financing (NPF)	NPF = non-performing financing / Total Financing (Jallali and Zoghlami 2022)	Ratio
Asset Turnover Ratio (ATR)	ATR = Financing Income / Total Assets (Lubyanaya et al. 2016)	Ratio
Debt-to-Equity Ratio (DER)	DER = Debt / Equity (Alarussi and Alhaderi 2018)	Ratio
Firm Size	SIZE = the natural logarithm of total assets (Grassa and Matoussi 2014)	Ratio
Firm Age	AGE = the year of research from the first year of the organization's founding (Ridwan and Mayapada 2022)	Ratio
Inflation	INF = $(IHK_t - IHK_{t-1}) / IHK_{t-1}$ (Boukhatem and Moussa 2018)	Ratio
Gross Domestic Product (GDP)	GDP = $(GDP_t - GDP_{t-1}) / GDP_{t-1}$ (Bukair and Rahman 2015)	Ratio
Population of Muslim (POM)	World Population Review 2021	Ratio

RESULTS AND DISCUSSIONS

Descriptive Statistics

Descriptive statistical tests were conducted on each research variable using data from 2013-2021. The test used the dependent variable profitability with the proxy return-on-asset (ROA) and net profit margin (NPM). The independent variables include TSF, NPF, ATR, and DER. The control variables are micro (firm size/SIZE, firm age/AGE), while the macro variables consist of Inflation (INF), GDP, and POM.

Table 3 Descriptive Statistics

Variables	N	Minimum	Maximum	Average	Std. Deviation
ROA	213	-0.2013	0.1115	0.0091	0.0247
NPM	213	-0.9401	0.7049	0.0713	0.1270
TSF	213	1.9331	28.0860	5.5716	2.6550
NPF	213	0.0008	0.4399	0.0317	0.0388
ATR	213	0.0100	0.7827	0.0551	0.0557
DER	213	0.0623	3.4964	1.4209	0.8413
SIZE	213	45,708.00	166,272.64	18,726.89	24,621.54
AGE	213	3.0000	46.0000	17.7190	11.0040
INF	213	-0.0250	0.0640	0.0270	0.0220
GDP	213	-0.0890	0.0680	0.0250	0.0330
POM	213	0.6550	0.9800	0.8240	0.1010

Source: secondary data (processed)

Table 3 shows the results of descriptive statistics; namely, the dependent variable profitability using the ROA proxy has an average of 0.0091. Profitability

has a max value of 0.1115 from Qatar International Islamic Bank for the 2014 period, while the minimum value is -0.2013 from Bank Syariah Bukopin for the 2021 period. Profitability has a low level of variation, with the std dev value of profitability being less than the mean value of 0.0080. Furthermore, the results of descriptive statistics using the NPM proxy have a mean of 0.0713. Profitability has a maximum of 0.7049 from Bank Mega Syariah for the 2013 period, while the minimum value is -0.9401 from Bank Syariah Bukopin for the 2021 period. Profitability has a low level of variation due to the std dev value of profitability being less than the mean of 0.0620.

TSF variable has a mean of 5.5716 with a std dev of 2.6550. This value is lower than the TSF mean, meaning the distribution of TSF data is uneven. The range is quite extensive. This can be seen from the maximum value of 28.0860 from Al Inma Bank Bank Mandiri Syariah 2013 and the minimum value of 1.9331 from Bank Mandiri Syariah. The asset quality variable through the NPF proxy obtained an average of 0.0317, meaning that the mean non-performing financing of Islamic banks was 3.17%. This figure is quite good considering that the credit limit or non-performing financing is 5%, according to the determination of Bank Indonesia. NPF has a minimum value of 0.0008 obtained by Bank Muamalat Indonesia in 2013 and a maximum value of only 0.4399 by Kuwait Finance House in 2013. Asset management using the ATR proxy obtained an average value of 0.0551, meaning that the proportion of income to Islamic bank assets is 5.51%. The minimum ATR value is 0.0110 from Ahli United Bank in 2021, and the maximum value is 0.7827 from Bank BNI Syariah in 2015. The capital structure variable through the DER proxy has an average of 1.4209, so the DER ratio is 142.09%. The minimum Debt-to-Equity Ratio value comes from Bank Victoria Syariah in 2021 of 0.023. The maximum DER value comes from Bank BRI Syariah in 2017 of 3.4964. The DER standard deviation of 0.8180 indicates low variation data because its value is below the average.

The company's internal control variable, SIZE, has an average score of $ 18,726,89, a minimum of $ 45,708,00 and a maximum of $ 166,272,64. The standard deviation score of SIZE is $24,621,54. The average AGE score is 17.71, the minimum AGE score is 3.00, and the maximum AGE score is 46.00. The standard deviation of AGE is 11,00. The macro variable is INF, with an average value of 0.0270. The inflation data range is relatively long compared to other variables. This is evidenced by the maximum value of 6.41 from Indonesia's inflation rate in 2013 and the minimum value of -2.05 from the United Arab Emirates' inflation rate in 2020. However, the distribution of inflation data is not even, but the std dev value is below the mean of 0.0220. The second control variable is GDP, with an average value of 0.0250. GDP has a large and even data distribution through a std dev of 0.0330, higher than the average. The GDP variable has the most extended data range compared to other independent and control variables. The average POM value is 0.8240, the minim POM is 0.6550, and the maxim POM is 0,9800. The standard deviation of POM is 0.1010.

Test of Normality

The normality test uses Jarque-Bera, which shows 0.000961 < 0.05, so the distribution data is not normal. Data normality is not mandatory because it is not a requirement for BLUE (Falikhatun and Mudrikah 2022). However, another test,

namely the long-run normality test, was used to observe the skewness and kurtosis data to obtain more valid results. Table 4 shows that the long-term normality test produces a probability value of 0.236873 > 0.05; therefore, this probability value indicates a normal data distribution.

Table 4 Normality Test Results

	Statistic Value	Probability
Skewness	-1.574850	0.942354
Skewness 3/5	3.856303	5.760005
Kurtosis	1.396491	0.081283
Normality	2.880466	0.236873

Source: secondary data (processed)

Multicollinearity Test

In addition, the multicollinearity test is used to see the relationship between independent variables, which is indicated by the variance inflation factor (VIF) value. Table 5 shows the results of the multicollinearity test, indicating no multicollinearity because the correlation value between independent variables is below 0.90 or the VIF value is below 10 (Ghozali 2016).

Table 5 Multicollinearity

	VIF	TSF	NPF	ATR	DER	SIZE	AGE	INF	GDP	POM
TSF	1.208003	1.000000								
NPF	1.022861	0.042634	1.000000							
ATR	1.237203	-0.001234	0.031240	1.000000						
DER	1.174263	0.294775	-0.021871	-0.037551	1.000000					
SIZE	1.581661	0.260951	0.073883	0.363600	0.127968	1.000000				
AGE	1.314562	0.009693	-0.035289	-0.243766	0.174419	-0.249098	1.000000			
INF	1.765295	0.218230	-0.001101	0.281517	0.003024	0.426913	-0.429055	1.000000		
GDP	1.597950	0.108310	0.109031	0.127815	-0.098627	0.439666	-0.285890	0.529500	1.000000	
POM	1.347420	0.139171	0.193308	0.216870	0.247185	0.407444	0.250319	-0218218	0,168508	1.000000

Source: secondary data (processed)

Heteroscedasticity Test

The heteroscedasticity test aims to detect the existence of variance inequality. The Glejser test is conducted to see whether there is a symptom of heteroscedasticity. Data can be categorized as not having heteroscedasticity using a probability value higher than 0.05. Table 6 shows that the test results explain that all probability values of each research variable are more than 0.5. This indication shows that all variables are not affected by heteroscedasticity.

Table 6 Heteroscedasticity Test Results

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	0.003034	0.001102	2.753770	0.0065
TSF	5.386732	0.000157	0.344128	0.7311
NPF	0.007499	0.015861	0.472819	0.6369
ATR	-0.030404	0.016327	-1.862137	0.0642
DER	-0.000204	0.000343	-0.594306	0.5530
SIZE	0.071128	0.048223	1.474967	0.1420
INF	-2.871264	8.95E-05	-0.320887	0.7487
GDP	-1.415977	5.65E-05	-0.250665	0.8024
POM	0.945200	0.578691	1.633341	0.1041

Source: secondary data (processed)

Best Model Selection Test

Regression analysis was performed using EViews software. The selection of the best model was done by estimating panel data using the common effect model (CEM), fixed effect model (FEM), and random effect model (REM). Furthermore, the BPLM, Chow, and Hausman tests were carried out. If the probability value is < 0.05, then the selected model is REM, and if the probability value is > 0.05, then the selected model is CEM. The BPLM test was then carried out with a probability value of 0.000 or less than 0.05, and the selected model is REM. However, from the results of the Chow Test and Hausman Test, the best model was selected FEM. The following are the results of the Chow Test and Hausman Test shown in Table 7.

Table 7 Best Model Test Results

Model Test	Prob.
Chow-test	
Cross section Chi-square	0.0001
Hausman-test	
Cross section random	0,0000

Source: secondary data (processed)

Hypothesis Test

Table 8 explains the F prob value of 0.0000; it shows that the F prob is lower than the sign level of 0.05, meaning that all independent variables simultaneously affect profitability. Furthermore, the Adjusted R-squared value of 0.238249 means that all independent variables can explain the dependent variable of 23.82%, while 77.18% is possibly influenced by other variables not included in this research model. Furthermore, the test results show an individual influence of the independent variables (TSF, NPF, ATR, DER) and control variables (SIZE, AGE, INF, GDP, POM) in explaining the variation of ROA.

Table 8 Hypothesis Test Results

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	0,015393	0,150849	0.102044	0.9188
TSF	-0,003878	0,000888	-4.364468	0.0008***
NPF	-0,218879	0,045148	-4.848032	0.0452 **
ATR	0,100574	0,032356	3.108343	0.0324**
DER	-0,001252	0.003996	0.313322	0.0039***
SIZE	0,001035	0.005973	0.173229	0.0059***
AGE	-0,000756	0,000918	-0.823364	0.0092***
INF	-0,000167	0.107926	0.058811	0.4878
GDP	0,000273	0.063178	0.259529	0.0634*
POM	0,003566	0.115678	0.235222	0.0203**
R-Squared		0.213630		
Adj. R-Squared		0.238249		
F-Statistic		3.750403		
Prob. (F-Statistic)		0.000000		

Standard errors: *** p<0.01, ** p<0.05, * p<0.1

Source: secondary data (processed)

Table 8 illustrates that the P-value of TSF is 0.0008 < 0.05, meaning that TSF affects profitability. However, if we look at the coefficient value of -0.003878, the direction of the effect is negative. This means the hypothesis that TSF positively affects profitability is not supported (H_1 is rejected). In addition, the p-value of NPF is 0.0452 < 0.05, with a coefficient value of -0.218879, meaning that NPF negatively affects profitability. This means that the hypothesis is supported by data (H_2 is accepted). Moreover, the p-value of ATR is 0.034 < 0.05, and the coefficient value is 0.100574, which means that ATR positively affects profitability. Thus, the data supports the hypothesis that ATR positively affects profitability (H_3 is accepted). Likewise, the p-value DER is 0.0039 < 0.05, with a coefficient value of -0.001252, meaning that DER negatively affects profitability. This means that the data supports the hypothesis (H_4 is accepted).

Temporary Syirkah Fund (TSF) and Profitability

A temporary syirkah fund (TSF) is an investment based on the *Mudharabah Muthlaqah* contract; in this case, the fund owner (*Rabbul Maal*) gives authority to the entrepreneur (*Mudharib*) to develop his investment, and the Islamic bank will provide profit-sharing according to the ratio agreed between the *Rabbul Maal* and *Mudharib*. TSF is a syirkah contract that uses ratios as the basis for profit sharing. Islamic banks and fund owners share the profits and risks of financing (Guermazi 2020). TSF negatively affects the profitability of Islamic Banking. This finding is the same as previous findings, as shown by Sudarsono, Afriadi, and Suciningtias (2021), who concluded that IAH (savings structure) negatively affects profitability. However, it differs from the research conducted by Lahrech, Lahrech, and Boulaksil (2014); Bukair and Rahman (2015) stated that TSF has positively affected the profitability of Islamic banking. TSF is customer funds in the form of savings or *Mudharabah Muthalaqah* deposits and has different disbursement periods. This difference may be an obstacle for Islamic banking in allocating these funds in the form of financing in a longer term than savings and deposits. In addition, the large amount of TSF funds will also increase the risk of idle cash if the financing period disbursed is shorter than the TSF period, so the opportunity for Islamic banks to gain profitability is getting smaller. On the other hand, the addition of TSF, if used to increase the portion of financing in a shorter term than the TSF disbursement period, will have the opportunity to increase profitability. Regarding signaling theory, fund owners in TSF contracts will choose Islamic banks that provide more transparent information, especially about the profit sharing obtained by customers. Therefore, positive signals related to profitability will be a consideration for customers when making the most profitable investment decisions.

Non-Performing Financing and Profitability

Non-performing financing (NPF) is a performance ratio that explains the failure of financing carried out by Islamic banking. Problematic financing can potentially reduce profitability and become a barrier for Islamic banks to provide more financing in the future (Hernawati et al. 2021). The Asset Quality variable measured by non-performing financing (NPF) shows that NPF negatively affects profitability. The findings are consistent with Salike and Ao (2018); Jallali and Zoghlami (2022); Khan (2022) who found that low asset quality results in the

profitability of Islamic banks. Low asset quality, substandard, or default is one indication that affects banking profitability. Financing in Islamic banking is a potential source of income but also has a large risk. The amount of risk banks bear signals the possibility of a reduction in profitability (Athanasoglou, Brissimis, and Delis 2008). The amount of problematic financing explains the company's inability to manage assets, so failed financing increases and ultimately increases the risk of Islamic banking financing. Low NPF illustrates that the amount of problematic financing is getting smaller so that banks can increase their portion of financing to other customers. The additional financing will provide opportunities for Islamic banking to make a profit and reduce the portion of productive asset reserves. Thus, low NPF is expected to trigger Islamic banking to be more active in distributing financing, thereby spurring potential profitability. Further, when associated with the signaling theory, low NPF information increases customer trust in entrusting their money to Islamic banks, so their assets will increase. The increase in these assets increases the opportunity for Islamic banks to expand their potential investment portfolios, thereby increasing their income.

Asset Turnover Ratio and Profitability

Asset management, also called allocation, is the process of distributing funds available to banks to several elements of use and investment to align liquidity and profitability. Resources are allocated to cash elements, investments in securities, loans, and other assets. A company's financial performance will improve along with the high asset-turnover ratio because the asset-turnover ratio shows that the firms generate marginal income from their assets. Good company asset management is reflected in higher asset turnover productivity and high profitability, which shows that the company manages its assets well. Asset Management variable measured by ATR positively profitability. The findings are consistent with Alarussi and Alhaderi (2018); Khan (2022); Pamuncak and Wijaya (2022) stating that asset management positively affects profitability. Asset-turnover ratio (ATR) describes the ratio of Islamic banking in obtaining revenue by the assets utilized in generating that revenue. The faster the asset turnover, the higher the ability of Islamic banking management to manage these assets. The speed and accuracy of Islamic banks in allocating their assets to the financing portfolio will increase the potential income, which is projected to increase profitability. Signaling theory argues that managers share information as signals to the external stakeholders that their firms perform better than their peers (Álvarez, Sánchez, and Domínguez 2008). Further, the theory also explains that firms can increase their value by providing positive signals to the stakeholders, including through financial reports and the firm's prospectuses.

Debt to Equity Ratio and Profitability

The firm's capital structure can be optimal by weighing the ratio between costs and benefits that can be taken from debt. Leverage is one component of a company's capital structure (Alarussi and Alhaderi 2018). Companies with high leverage ratios indicate that the company uses less equity and increases debt. The probability value of capital structure proxied by DER concludes that DER negatively affects profitability. The results are consistent with previous studies by Borhan and Mohamed (2013); Alarussi and Alhaderi (2018); Samo and Murad

(2019); Eckbo and Kisser (2021); Khan (2022), which stated that DER negatively affects profitability. The debt-to-equity ratio (DER) describes the total Islamic banking liabilities compared to the equity it owns. This DER explains the ability of Islamic banking to manage its liabilities to finance projects that are expected to generate income. However, suppose the DER ratio is too large. In that case, it will result in a greater burden that must be borne by Islamic banks, thus increasing the amount of expenses and reducing the profitability generated by Islamic banks.

According to the Signaling theory, when a firm expects a good performance, it will provide positive information regarding its capital structure. Companies with high debt and leverage are vulnerable to default risks and cannot generate high profits. Financial leverage also has some positive aspects. Companies taking on debt can be positive for growth-seeking businesses and investors, but when leverage reaches a critical point, investors become concerned about the company's financial position (Bhatti, Alshagawi, and Juhari 2018). For the control variables, Firm Size proxied by (ln asset) positively affects profitability. The size of Islamic Banking assets, the greater the potential income that will be obtained, thus increasing profitability. Meanwhile, the variable of the enterprise's age negatively affects profitability. The older the age of the corporation, the more assets that are less productive, so there is a possibility of wasteful maintenance costs, which will affect the amount of the firm's burden. An increase in the firm's burden will reduce the profitability of Islamic banking.

For the macro variables, the probability value of inflation on profitability shows that inflation negatively affects profitability, meaning that the rise and fall of inflation is not a direct variable that affects the profitability of Islamic Banking. This is possible, but Islamic banking is more oriented towards financing the real sector than the financial sector, which is very sensitive to the volatility of bank interest rates. The second control variable (GDP) positively affects profitability through ROA. GDP is a macroeconomic factor that describes a country's production volume. If the volume of production increases, it means that the community's business activities are also high. The community's high level of effort or business provides an opportunity for Islamic banking to channel financing according to customer needs. The increase in financing impacts the potential income of Islamic banking, so it is expected to increase the profitability of Islamic Banks. If the level of profitability of Islamic banking increases, it will increase GDP (Salike and Ao 2018).

The third variable of control, the population of Muslims (POM), positively affects profitability. The large Muslim population is a potential market for Islamic banks, especially for people who already understand the advantages of Islamic banks compared to conventional banks. Islamic banks can use variations in financing products, including *Murabahah*, *Salam*, and *Istishna* contracts, *Mudharabah*, *Musyarakah*, and *Ijarah*. Moreover, if various innovations of new contracts are added that are to the needs of the community, for example, *Mudharabah Musytarakah*, *Musyarakah Mutanaqishah* (MMC), and *Ijarah Mumtahiyyah Bit Tamlik* (IMBT), it will undoubtedly encourage people to use Islamic bank products more widely.

Robustness Test

To test the consistency of variables in a research model, a robustness test can be used by replacing different proxies for the same variable. Robustness testing can be done in several ways, one of which is by replacing the profitability proxy from ROA to NPM. The test on the second model uses the dependent variable of profitability with the NPM proxy.

$$NPM = \alpha + \beta_1 TSF + \beta_2 NPF + \beta_3 ATR + \beta_4 DER + \beta_5 SIZE + \beta_6 AGE + \beta_7 INF + \beta_8 GDP + \beta_9 POM + \varepsilon$$

Table 9 NPM Test Results

Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.333640	2.200248	-0.151638	0.8796
TSF	-0.045797	0.012959	-3.534126	0.0005***
NPF	-2.308227	0.658519	-3.505181	0.0006***
ATR	2.870086	0.471939	6.081483	0.0000***
DER	-0.064312	0.058283	-1.103444	0.0581*
SIZE	0.043624	0.087114	0.500762	0.0872*
AGE	-0.019737	0.013389	-1.474120	0.0134**
INF	0.837240	1.574190	0.531854	0.1420
GDP	0.383617	0.921501	0.416296	0.0925*
POM	0.003366	0.115678	0.235222	0.0389**
R-Squared		0.329630		
Adj. R-Squared		0.299249		
F-Statistic		9.291107		
Prob. (F-Statistic)		0.000000		

Standard errors: *** p<0.01, ** p<0.05, * p<0.1
Source: secondary data (processed)

Table 9 explains the adjustment. R-squared of 0.299249, purpose that all independent variables can accommodate the dependent variable of 29.92%, while others may not be demonstrated in this research model. Moreover, this model also shows the individual influence of the independent variables (TSF, NPF, ATR, DER) and micro control variables (SIZE and AGE), as well as macro variables (INF, GDP, and POM) in explaining variations in NPM. Table 9 shows that TSF negatively affects profitability at a significance level of 1%. The findings are consistent with Sudarsono, Afriadi, and Suciningtias (2021). TSF cannot be classified as equity because it has a maturity date, and *Shohibul Maal* does not have the same rights as other shareholders, such as voting rights at the general meeting of shareholders (GMS). However, TSF has quite a high potential to be managed by management because the type of contract used is *Mudharabah Muthlaqah*. This contract provides flexibility for Islamic banks in allocating financing to customers because it is not limited by type of business, business location, and so on. The ease of allocating TSF allows Islamic banks to obtain higher potential profitability. Thus, reducing the number of TSFs will reduce the potential of Islamic banking profitability.

Likewise, this study also finds that NPF is detrimental to profitability. This result is by the study of Salike and Ao (2018); Jallali and Zoghlami (2022); Khan (2022), which states that NPF negatively affects profitability. The following

variable, ATR, positively affects profitability. This finding is in line with the conclusions of the research conducted Alarussi and Alhaderi (2018); Khan (2022); Pamuncak and Wijaya (2022). The DER variable negatively affects profitability. This finding is in line with the conclusions of the research conducted by Borhan and Mohamed (2013); Alarussi and Alhaderi (2018); Samo and Murad (2019); Eckbo and Kisser (2021); Khan (2022). Meanwhile, all control variables found the same results as the regression analysis with probability proxy (ROA).

CONCLUSIONS

This research discovered that TSF, NPF, ATR, and DER simultaneously influence Islamic banking profitability. However, the partial test results in models 1 and 2 (ROA and NPM), TSF, NPF, and DER negatively affect profitability, while ATR (ROA and NPM) has positively affected profitability. Furthermore, for micro variables, firm size has positively affected profitability (ROA), while Firm Age negatively affects profitability. As for macro variables, inflation does not affect profitability, while GDP and POM variables positively affect profitability (ROA and NPM).

This study has several implications, both theoretically and practically. Theoretically related to Signaling Theory, Islamic banking must have an optimal asset management strategy, both assets originating from third-party funds and assets originating from equity, so that it can improve its financial performance, especially in terms of profitability. Then, in practice, there are several implications; for management, it is necessary to utilize TSF as a source of funding for Islamic banking to impact profitability. For regulators, these findings can be used as a reference in taking appropriate policies in assessing profitability to spur and trigger the development of Islamic banking in the future, both in terms of asset capitalization and income, as well as the amount of profit sharing that customers can enjoy. Meanwhile, profitability can be a consideration for Islamic bank customers when making investments, especially for customers who use *Mudharabah* and *Musyarakah* or profit-sharing contracts.

This study has several limitations, including that not all Islamic banks publish annual reports during the research period in full so that they can support the need for research data. Besides, this study has only conducted a robustness test by replacing one profitability proxy from ROA to NPM, which aims to test the consistency of the research results. Therefore, for future research, researchers can access other websites owned by each Islamic bank to cover the lack of research data and conduct a robustness Test by adding dependent variable proxies, adding control variables, or dividing research objects according to the size of the assets owned by Islamic banking.

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APPENDIX

List of Sample Companies for Research

Country	Bank Name
Saudi Arabia	Al Bilad
	Al Inma
	Al Jazira
	Al Rajhi
United Arab Emirates	Abu Dhabi Islamic Bank
	Dubai Islamic Bank
	Emirates Islamic Bank
	Sharjah Islamic Bank
Qatar	Dukhan Bank
	Masraf Al Rayan
	Qatar International Islamic Bank
	Qatar Islamic Bank
Kuwait	Ahli United Bank
	Boubyan Bank
	Kuwait Finance House
	Kuwait International Bank
Indonesia	Bank Mandiri Syariah
	Bank BNI Syariah
	Bank BRI Syariah
	Bank BCA Syariah
	Bank Mega Syariah
	Bank Muamalat Indonesia
	Bank Syariah Bukopin
	Bank Panin Dubai Syariah
	Bank Victoria Syariah