Correlation of Islamic Financing and Economic Growth through A Panel Data Approach

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ABSTRACT: One of the strengthening of the financial sector is through financing, therefore what factors are needed that can encourage financing growth. This study aims to analyze economic growth, assets and Non-Performing Financing affecting Islamic financing during the period Q1 2017 to Q4 2022. The research went through the unit root test stage, panel data estimation, then panel data regression was selected using the Fixed Effect Model method. Based on the results of the research, it was concluded that economic growth, assets and NPF together affect Islamic financing in Malaysia, Saudi Arabia, Bahrain, the United Arab Emirates and Qatar. Economic growth and assets have a positive and significant influence on financing. Meanwhile, NPF has a negative influence on financing. The higher the NPF will affect the quality of financing, so it can lower the bank's health level.

KEYWORDS: Islamic Financing, Economic Growth, Asset, Non-Performing Financing

I. INTRODUCTION

Financial institutions that follow sharia principles not only provide financing alternatives that are in accordance with religious values, but also encourage sustainable economic development (Sarker et al, 2020). Studies show that countries with Muslim-majority populations tend to be more receptive to Islamic financial products due to an awareness of compliance with sharia principles in their financial decisions (Andespa et al, 2024). Banking based on Islamic principles can also be used as a new engine of economic growth in order to contribute to the sustainable development goals (Shah et al, 2020).

Various issues of Islamic finance have captured the world's attention in recent times. This can be seen from the many studies carried out, especially in Muslim-majority countries. These discussions are intended to advance the theory, conceptualization and application of Islamic banking to real-world issues such as innovations in banking services, banking functions themselves and maximizing the contribution of Islamic banking to national economic development (Mansour et al, 2021).

Several factors that can affect the amount of financing disbursed, one of which is economic growth. Minneapolis (2016) states that economic growth is a long-term process that occurs along with the increase in potential economic output. Ghroubi (2023) said that increasing financing growth will stimulate economic growth in Muslim countries. The Islamic financial system must be designed to support economic growth. In the future, it is hoped that sharia financing can create better and safer economic stability compared to the conventional interest-based financial system. Siddiqi (2019) defines sharia financing as the provision of loan facilities that still meet sharia principles, avoiding prohibited elements such as riba, gharar, and maisir and focusing on profit sharing and fair-based transactions. This makes sharia financing different from conventional bank loans, where in conventional banks, each credit will be added to the loan interest, so that it will generate maximum profits.

The financial performance of Islamic banking is reflected in the size of the financing expansion rate and the efficiency of operational costs (Asngari, 2015). In addition to economic growth, internal bank factors can also affect financing such as assets and Non-Performing Financing (NPF). Assets are an indicator that determines the contribution of Islamic banking to national banking as well as a quantitative indication of the size of the bank, where the size of the assets will have an impact on the small level of economies of scale owned by the bank. Meanwhile, NPF is the ratio of non-performing financing to total financing. Thus, the higher the NPF, the lower the quality of the financing disbursed.

This research aims to provide in-depth insight into the relationship between economic growth, assets and Non-Performing Financing and Islamic financing in Malaysia, Saudi Arabia, Bahrain, the United Arab Emirates and Qatar. The results of the research are expected to provide guidance to related parties to design economic policies that can stimulate the growth of the financial

sector, especially the Islamic financial sector.

II. LITERATURE REVIEW

Islamic economic theory integrates Islamic moral and ethical principles into economic analysis (Abdullahi, 2017). It includes the concepts of fair distribution of wealth (Adl), social responsibility (Ihsan), and justice in the allocation of economic resources (Mirakhor et al., 2021). Fair distribution of wealth and social responsibility are fundamental principles in Islamic economic theory, which lead to inclusive and sustainable economic development (Purwati & Komalla, 2022). The theory also emphasizes the importance of sustainable and inclusive economic development, which recognizes the important role of social justice and environmental sustainability (Siregar et al., 2023).

Tashkandi (2022) in his research using panel data regression stated that economic and asset growth has a positive and significant effect on financing. Boukhatem et al (2018) also presented the results of a similar study where economic growth significantly affects the financing disbursed. Nahar et al (2018) said that Islamic financing can boost the country's economic growth so that the relationship between the two is positive. Non-Performing Financing (NPF) reflects the quality of a bank's financing. NPF has a negative relationship with financing (Soedarmono et al, 2023).

Overall, previous literature shows that macroeconomic factors such as economic growth, inflation, and population have a significant impact on the development of sharia financing. This study provides a strong empirical foundation for understanding the dynamics of Islamic finance and how the principles of Islamic finance can contribute to the stability and sustainability of the global economy.

III. DATA AND METHODS

The scope of this research includes five countries that are included in the top ten best financial performance based on the IFDI 2023 report, namely Malaysia, Saudi Arabia, Bahrain, the United Arab Emirates and Egypt. This study uses secondary data with a time span from Q1 2017 to Q4 2022. The analysis technique used is panel data regression estimation using three methods, namely the Common Effect Model, Fixed Effect Model, and Random Effect Model. Based on the results of panel data regression, Chow test and Hausman test, the best model was obtained was the Fixed Effect Model.

Panel data regression model:

$$\widehat{LogIF}it = \alpha + \beta1\,EGit + \beta2ASTit + \beta3NPFit + e_{it} \tag{1}$$

Where:

LogIF	= Islamic Financing (Dependent variable)
α	= Constant
β1, β2, β3	= Coefficient of independent variablesEG = Economic Growth
AST	= Assets
NPF	= Non-Performing Financing
β	= 1st Cross Section
t	= period to
Eless	= error term

The data used in the panel data regression model must meet the stationary criteria in the stationary test. The stages that need to be carried out in the goodness model analysis test are through unit root testing and selection of panel data regression model estimation. The unit root test is known as the Unit Root Test which compares the statistical value of t with the regression results that have been carried out in the Dickey-Fuller Augmented test (Dickey, 1979). The concept of the Augmented Dickey Fuller (ADF) test is that if the data of the time series is not stationary at its original level, its stationarity can be achieved by differentiating the data, potentially making it stationary at the first or second level of difference. The unit root test in this study uses three testing criteria, namely Levin, Lin &; Chu, Im Pesaran Shin (IPS) and ADF-Fisher used a significance level of 5 percent (Gujarati, 2009).

IV. RESULT AND DISCUSSION Analysis of Islamic Financing Variables

Islamic financing is defined as a form of funding support or the provision of funds and/or bills through various types of transactions and based on Islamic principles (Muhammad, 2014). The growth of Islamic financing is presented in graph 1 as follows:

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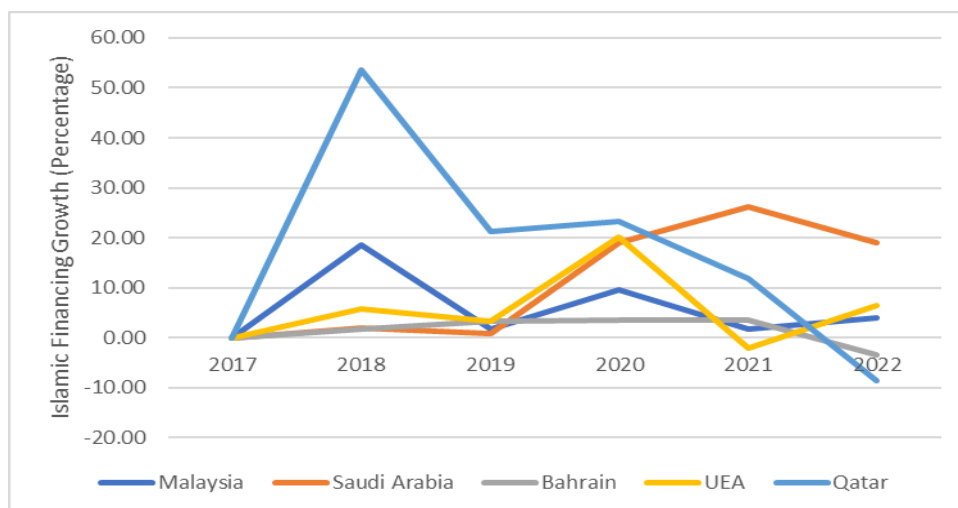

Figure 1. Islamic Financing Growth
Source: IFSB 2024

Saudi Arabia dominates the distribution of sharia financing. The highest financing amount is Saudi Arabia which reached 277.4 USD in 2022. The increase in financing in the five research countries grew in a positive direction. There is an increase in the volume of financing that continues to increase every year. The development of financing is supported by local governments through policies and regulations to strengthen the Islamic finance sector.

Islamic banking products in Malaysia are seen to be in great demand, this can be seen from the development of Islamic financing in Malaysia continues to be on a positive trend. The Islamic finance sector in Malaysia is growing rapidly, with the majority of banks in Malaysia operating under sharia principles. Malaysia's average financing growth is 5.95 percent, still below Saudi Arabia and Qatar which reached 11.20 percent and 16.90 percent, respectively. The UAE has a high financing development when in 2018 which reached more than 50 percent.

Analysis of Economic Growth Variabels
There are many indicators in measuring the economic level of a country, one of which is through economic growth. Economic growth is a general indicator to represent economic performance. Economic growth in Saudi Arabia has fluctuated significantly, mainly due to the volatility of oil prices. Oil and gas are indeed the main sectors that support Saudi Arabia's economic growth. Here is graph 2 showing economic growth:
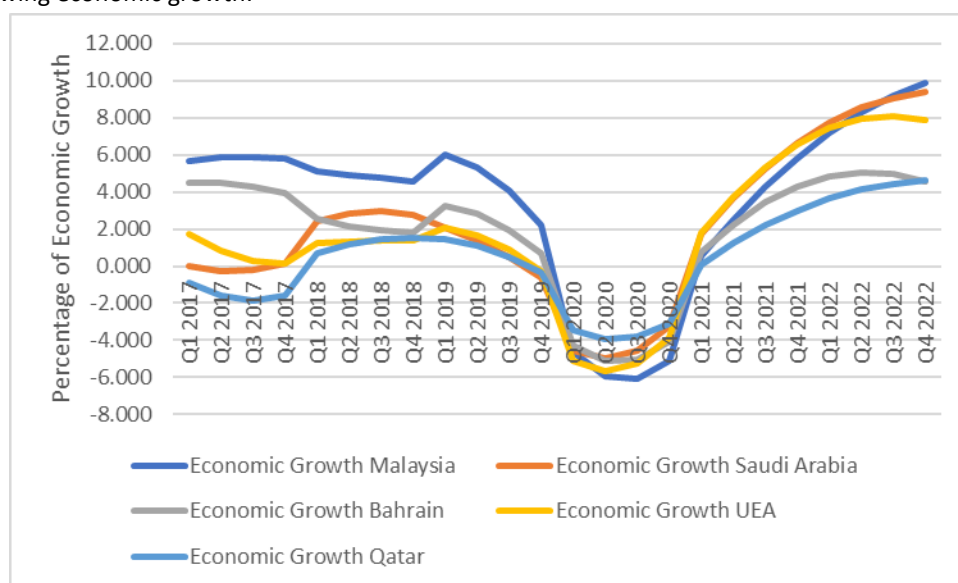

Figure 2. Economic Growth
Source: IFSB 2024

The average economic growth in Bahrain was 3 percent from 2017 to 2022. It had experienced a decrease of 6 percent when the pandemic hit due to the decline in world oil prices and the existence of pandemic-related restrictive policies. The United Arab

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Emirates has managed to diversify its economy and reduce its dependence on the oil and gas sector. One of the sectors that is currently running smoothly in the UAE is tourism. Economic growth in the UAE remains supported by the gas and oil sector at 30 percent and the tourism sector contributes an average of 10 percent.

The average economic growth in Malaysia is 3.5 percent, Saudi Arabia 2 percent, and Qatar 0.5 percent. The economic slowdown had occurred during the pandemic, namely in 2020, which hampered economic activity and had an impact on almost all countries in the world. In contrast to countries in the Middle East, the main contributors to Malaysia's economic growth are in the manufacturing, trade and banking and financial services sectors.

Analysis of Asset Growth

The majority of Islamic banking assets are concentrated in the Middle East region. This reflects that the Middle East region dominates Islamic banking at the world level. Asset growth in Malaysia is interesting to discuss, this is becauseMalaysia is ranked first in the development of Islamic finance in the world according to the Islamic Finance Development Indicator (IFDI) 2023 report. The average asset growth in Malaysia reached 5.58 percent, still below Saudi Arabia with an average asset growth of 11.9 percent in this study. Asset growth in Malaysia is also accompanied by a positive trend in financing growth. Meanwhile, the lowest average asset growth is Bahrain which is only 0.76 percent. The decline in assets in Bahrain in 2022 was also accompanied by a decrease in financing by

7.71 percent. While the UAE had an average asset growth of 2.96 percent during the study period. Graph 3 explains the development of assets in the study country:
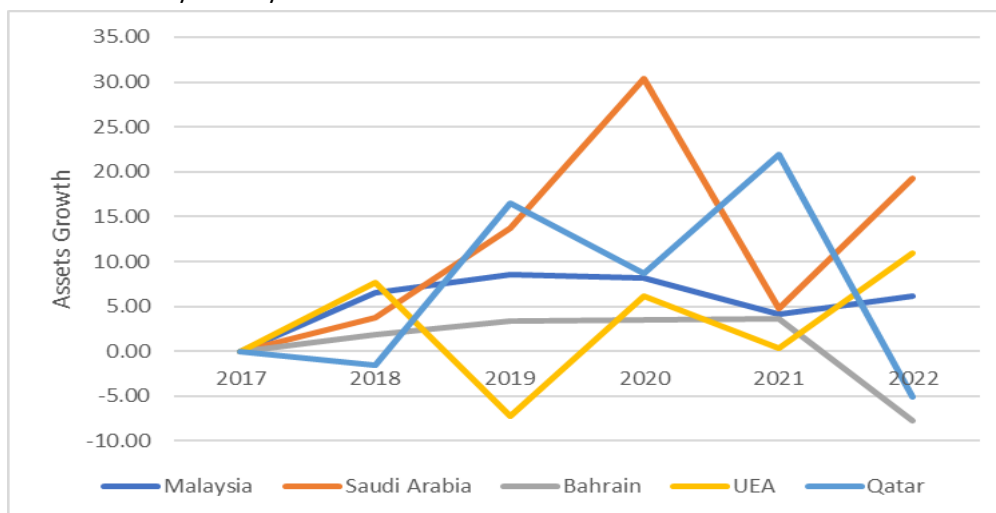

Figure 3. Assets Growth
Source: IFSB 2024

Interestingly, when Covid-19 broke out around the world, Islamic banking assets remained stable even in Saudi Arabia increased quite sharply, reaching 30.42 percent. This shows that Islamic banking is quite strong in dealing with the world crisis. Islamic banking without an interest system can reduce bank risk, this is what makes Islamic banking continue to grow even during the pandemic (Dibooglu et al, 2022). In 2020, Qatar experienced an increase in assets by 8.66 percent and Malaysia increased by 8.15 percent.

Analysis of Non-Performing Financing Variables

NPF is a term used in banking that refers to financing that does not produce payments within a certain period of time, or in other words experiencing late payments that are not in accordance with the previously agreed period. High NPF will disrupt bank performance, reduce financing quality and reduce bank profitability. The following is graph 4 which illustrates the development of NPF in the study country.

Correlation of Islamic Financing and Economic Growth through A Panel Data Approach
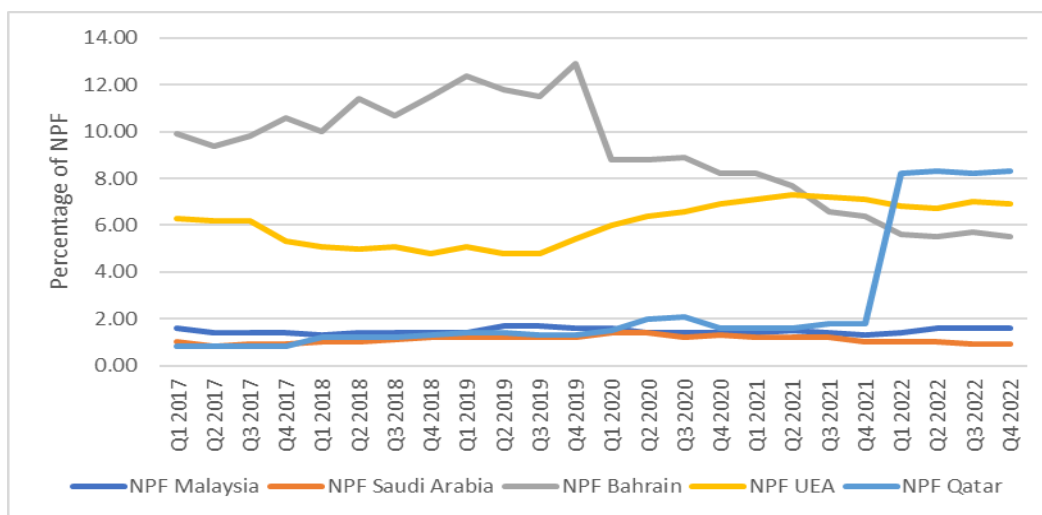

Figure 4. Non-Performing Financing Growth
Source: IFSB 2024

During the study period, the average NPF in Malaysia was 1.47 percent. This means that the ratio of non-performing financing to total financing disbursed in Malaysia is quite low. Malaysia can manage financing risks well. The low NPF also encourages Malaysia to continue to channel financing so that it can grow. In the table above, it is known that the highest NPF is in Bahrain which reaches 9.08 percent, while the lowest NPF is in Saudi Arabia which is 1.1 percent. Based on statistical data, it is known that Saudi Arabia is the country with the highest financing but can reduce the NPF figure to be very low.

Descriptive Statistics

Statistical descriptive analysis provides an overview of the average value, maximum value, minimum value and standard deviation of the variables in this study, namely economic growth, assets, Non-Performing Financing and Islamic financing. The descriptive results of these variables are shown in table 1 below:

Table 1. Statistic Descriptive

	IF	EG	AST	NPF
Mean	8.033	1.944	10.676	4.051
Median	8.155	2.011	11.283	1.600
Maximum	8.443	9.914	11.896	12.900
Minimum	7.559	-6.108	7.901	0.800
Std. Dev.	0.277	3.884	1.390	3.471
Skewness	-0.474	-0.249	-1.411	0.812
Kurtosis	1.720	2.510	3.140	2.361
Jarque-Bera	12.679	2.434	39.919	15.218
Probability	0.002	0.296	0.000	0.000
Sum	963.984	233.237	1,281.157	486.100
Sum Sq. Dev.	9.132	1,794.824	229.766	1,433.400
Observations	120	120	120	120

Source: Eviews 12, 2024

In the data analysis carried out, it is known that there are 120 observations with several significant findings that can be concluded. Table 1 above shows that the average value of financing is 8.03, with the highest score of 8.44 and the lowest value of 7.55. For an average economic growth value of 1.94 percent, the average value of assets is 10.67, while NPF has an average value of 4.05. Then, the highest and lowest values for economic growth were 9.91 percent and -6.1 percent, respectively. The highest asset reached 11.89 and the lowest was only 7.90. NPF, which describes the non-performing financing ratio, has the highest value of 12.9 percent, while the lowest value is 0.80 percent.

Model Estimation Results Unit Root Test

The Dickey-Fuller Augmented Test (ADF) checks whether the time series is stationary at that level. If the series is not stationary at

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this level, stationarity can be achieved by applying tests on a higher order, such as the First Difference or Second Difference level. (Dickey, 1979). Here are the results of the root unit test in Table 2:

Table 2. Unit Root Test

Variable	Statistical Value (Unit Root Test)							
	Level				First Difference			
	LLC	IPS	ADF	PP	LLC	IPS	ADF	PP
IF	-0.8121	0.31411	9.43584	12.4607	0.4518	-1.47067***	19.7162***	13.9876***
EG	-0.3693	-0.52592	9.43352	4.13146	-1.5073	-2.7614***	23.1827***	22.9255***
AST	0.44934	2.7817	2.2764	5.02402	-1.30318**	-2.7416***	26.7062***	20.8170***
NPF	1.11833	1.16777	5.77803	5.88005	-9.50965***	-8.43568***	73.0594***	73.8807***

Note **.***: Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality
Source: Eviews 12, 2024

The root test of the unit used three criteria, namely Levin, Lin & Chu (LLC), O, Pesaran & Shin (IPS) and Augmented Dickey-Fuller (ADF) using a significance level of 5 percent. The test results showed that the variables of Sharia Financing, Economic Growth and Population in the research model were not stationary at the level (containing the root unit) so the next test was carried out, namely at the first difference level. The result is the first difference of the three stationary variables where the probability outcome is less than the significance level. Meanwhile, the inflation variable is stationary on the level test, so it can be concluded that the inflation variable does not contain a unit root at that level.

Panel Data Regression

The next stage is to estimate the regression of panel data using three methods and selected based on the test results on the Chow test and the Hausman test. According to the two tests, a probability of 0.000 was obtained which is smaller than the significance level (0.000 < 0.05). Thus, the best model was chosen, namely the Fixed Effect Model. The following are the results of the panel data regression with the Fixed Effect Model method in table 3 as follows:

Table 3. Panel Data Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-2.012428	0.069438	-28.98168	0.0000
EG?	0.000712	0.000123	5.794896	0.0000***
AST?	0.940367	0.006521	144.2062	0.0000***
NPF?	0.001137	0.000186	6.107817	0.0000***
Fixed Effects (Cross)				
_SAU--C	-0.746773			
_BAH--C	-0.767644			
_QAT--C	-0.204306			
_UEA--C	2.132209			
_MAL--C	-0.413486			
Uji Chow Test				0.0000
Uji Hausman Test				0.0000
R-squared				0.999859
Adjusted R-squared				0.999850
F-statistic				113433.7
Prob (F-statistic)				0.000000

Note: ***,**,* represent statistical significance at 1%, 5%, and 10%, respectivelySource: Eviews 12, 2024

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Panel regression model:

$$\widehat{\text{LogIF}} = -2.012428 + 0.000712\,\text{EG}_{it} + 0.940367\,\text{AST}_{it} + 0.001137\,\text{NPF}_{it} + e_{it} \quad (2)$$

Based on the T statistical test, it is known that the variables of economic growth, assets and Non-Performing Financing show values below the significance level, which means that the three variables in this study together affect financing as dependent variables. The value of the determination coefficient is 0.9998. This shows that the independent variable is able to explain the dependent variable by 99.98 percent, while the rest is explained by other variables outside this study.

The constant value of 0.0007 indicates that there is a decrease in financing by 0.0007 percent when the independent variables, namely economic growth, assets and Non-Performing Financing have a value of zero. Meanwhile, economic growth variables and assets have a positive and significant influence on financing. This shows that increased economic and asset growth will encourage growth in increased financing as well. Meanwhile, the NPF variable has a negative and significant influence on financing in this study. This means that an increase in NPF will reduce the volume of financing.

The Influence of Economic Growth on Islamic Financing

Economic growth has a positive and significant effect on financing. The more advanced economic growth of a country will encourage economic activities in it to run well. Economic growth is often accompanied by an increase in people's income and purchasing power. The increase in purchasing power encourages the demand for goods and services to increase, so that it will increase the productivity of goods and services. On the other hand, this will improve the company's performance and even create jobs, thereby reducing unemployment. However, apparently, in terms of financing, it has also increased as a result of the high demand for goods and services, this is due to the demand for additional business capital.

The results of this study are in line with previous research conducted by Rashid et al (2019) and Grassa (2016) where the results of both stated that advanced economic growth will encourage an increase in the distribution of Islamic financing. Rafay (2017) also added that the development of the Islamic banking industry can also stimulate a stable financial system so that in the end it is able to contribute to the real economic sector.

The Influence of Assets on Islamic Financing

The size of the assets owned by the bank will determine the size of the bank itself. Saudi Arabia, the United Arab Emirates, Malaysia, Qatar and Bahrain have the largest total assets globally which have a positive impact on Islamic finance (Kismawadi, 2022). Based on the regression results of the panel data, it is known that assets have a positive and significant influence on financing. This means that the larger the assets owned by the bank, the greater the financing that can be channeled.

The results of this study are supported by research conducted by Tashkandi (2022) which concludes that assets are one of the determining factors for financing. The larger the size of the bank that is proxies through assets will support financing, the two have a positive relationship.

The Influence of Non-Performing Financing on Islamic Financing

In this study, Non-Performing Financing has a negative and significant influence on Islamic financing. The higher the NPF, the lower the financing. High NPF has a significant impact on banking, starting from an increase in loss reserves to cover non-performing financing thereby reducing profitability, decreasing asset quality so as to affect the health level of banks. The declining performance of banks will certainly have an impact on the level of public trust, so it will reduce financing demand. In addition, high NPF will make banks receive stricter supervision from the authority of the institution above them, so it will have a direct impact on the limits in distributing financing.

The results of this study are similar to previous research conducted by Miyajima (2020) and Al-Muharrami (2017) which stated that high NPF will reduce the volume of financing, which means that it will reduce the quality of financing as well. This phenomenon is very detrimental to banks. Therefore, it is necessary to be prudent in distributing financing to minimize risks.

V. CONCLUSIONS

Economic growth and assets have a positive and significant influence on financing. Advanced economic growth will encourage banks to be more aggressive in distributing financing. In addition, assets, which are an indicator of the size of the bank's high capacity, will encourage financing to increase. Because banks with larger assets also have larger capital in distributing financing. Meanwhile, Non-Performing Financing (NPF) has a negative and significant influence on financing. The higher the NPF, the lower the financing disbursed. This is because high NPF causes the loss reserve to swell. In addition, a high NPF will make the bank more closely supervised by the authority above it, thereby interfering with the performance of the bank itself.

Therefore, support and policies are needed from each government to increase the growth of Islamic banking, especially financing. The financial sector contributes to advancing the economy, one of which is through Islamic banking. Thus, the need for the

government's role in maintaining economic stability to support Islamic banking.

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