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THE IMPACT OF NON-PERFORMING LOANS AND ECONOMIC SHOCK ON THE STABILITY OF ISLAMIC BANKING PERFORMANCE AS MODERATING IN THE COVID-19 PANDEMIC ERA

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Abstract: This study aims to determine the effect of non-performing loans and economic shock as moderating variable on loanable supply and loanable demand in Islamic banks, which have an impact on the stability of the performance of Islamic banks in the Pandemic era. The research period is monthly with the research period from June 2019 – June 2021 using behavioral data analysis. We use secondary data from the Indonesian financial services authority. We investigated the data using linear and non-linear analysis to investigate the influence of loanable supply and loanable demand on the performance of Islamic banks in normal times or in a stable economy and the occurrence of economic shocks. From the results of our investigation, we found that non-performing loans have a significant impact on loan supply and loan demand in influencing the stability of the performance of Islamic banks in the era of the COVID-19 pandemic. Performance shocks in Islamic banks in the pandemic era are not only due to economic shocks but also due to non-performing loans from Islamic bank customers who are unable or have difficulty completing their obligations to Islamic banks.

***Keywords*:** islamic bank, islamic finance, covid-19

JEL Classification: C10, G21, M40, M41

BACKGROUND

Rapid technological developments have an impact on economic development, which is also increasingly massive. Economic growth itself cannot be separated from technology (Widarni & Susetyo, 2021). The development of technology and infrastructure is an important factor in economic development, including economic growth (Sulisnaningrum & Subagyo 2021).

The Ratio Of Bank Credit, The Ratio Of Domestic Savings, and the money supply have an impact on economic growth. Banks are important institutions in economic development (Garcia & Puspaningtyas, 2021). Bank policies have an impact on the macro economy. Where the macro economy has an impact on economic performance (Prabowo & Garcia 2021).

Economic shock has an impact on the stability of the value of money (Sasongko et al. 2021). Money is an important factor in the business sector because it functions as a medium of exchange and is important in the smooth running of the business (Sasongko & Bawono, 2021). The monetary factor is a

determining factor for economic development and growth in Indonesia (Hidayanti & Prabowo 2021).

The global financial crisis in 2008 became an economic shock that greatly affected the performance of banks, including the performance of Islamic banks in various countries (Sobarsyah et al. 2020). Covid-19 contributed greatly to the shocks of the Bank's performance during the Covid-19 pandemic (Dadoukis et al, 2021). In addition to economic shocks, non-performing loans also have an impact on bank performance shocks. Research by Lafuente et al. (2019) found that non-performing loans have a negative impact on bank performance.

Luo et al. (2020) explained that financing is one source of bank income. Amuakwa-Mensah et al.(2018) explained that public savings in banks are a source of funds for financing so that banks can earn income. Grira & Labidi (2021) explain that in Islamic banks, financing is one of the main sources of income for Islamic banks so that it becomes the main factor affecting the performance of Islamic banks. Saeed et al. (2020) explained that savings are a source of funds in financing both Islamic banks and conventional banks and are a determining factor for bank performance.

Regarding research on how the economic shock in the era of the COVID-19 pandemic and non-performing loans on the performance of Islamic banks has not been found in the Islamic banking literature. For this reason, this study aims to complement the study of literature related to economic shock and non-perming loans at Islamic banks. This study is the result of an investigation of how the economic shock and non-performing loans affect the key factors of bank performance, namely financing and savings.

Literature Review

Islamic finance continues to grow in various countries (Khan et al, 2021). The development of Islamic finance also has an impact on the development of Islamic banks throughout the world. The performance of Islamic banks is also influenced by economic stability. Islamic banks also apply Islamic principles in their business operations (Ibrahim, 2015). In Islamic principles in the financial sector, usury or usury is prohibited (Prabowo et al, 2021).

Interest that is prohibited in Islamic teachings has an impact on the difference in the impact of the interest rate between Islamic banks and conventional banks, especially in terms of credit performance in conventional banks and financing in Islamic banks. Financing in an Islamic bank must be in accordance with Islamic principles and Islamic Banks get income or profits from sharing the results of business profits that are financed or profits from the buying and selling process and or renting. So that financing becomes the main factor in the performance of Islamic banks (Mushtaq & Siddiqui 2017). Meslier et al.(2021) explained that the financing carried out by Islamic banks is a key value in the business performance of Islamic banks. Funding is obtained from customer funds (savings) collected by Islamic banks.

Non-performing loans have an impact on financing health where when non-performing loans occur, the funds used as financing to customers cannot be returned as they should be. This will certainly hamper bank financing which has an impact on the decline in the performance of Islamic banks (Salem et al, 2021). The COVID-19 pandemic has caused economic shocks that have shaken Islamic bank financing activities so that it has an impact on the performance of Islamic Banks (Adekoya et al, 2021)

Based on previous research, a hypothesis or temporary answer can be formulated as follows:

H1. Non-performing loans affect credit performance in influencing the performance of Islamic banks

H2. The economic shock from the COVID-19 pandemic has an impact on the success of financing in making a profit so that it can have a negative impact on the performance of Islamic Banks.

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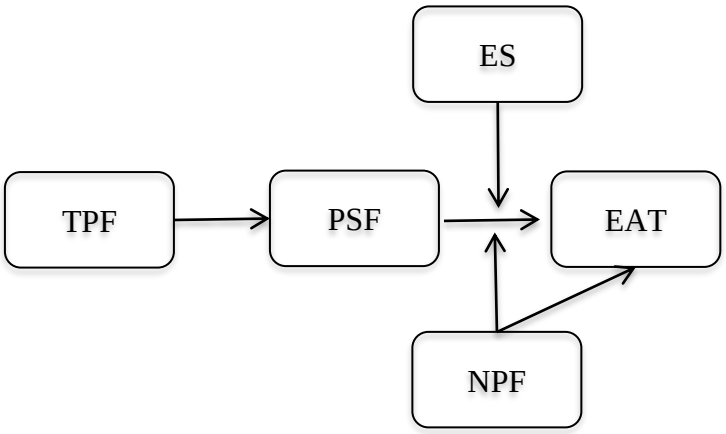


TPF (Third Party Fund) is a key factor in the performance of Islamic banks where Islamic bank financing depends on the amount of TPF owned (Meslier et al, 2021; Saeed et al, 2020; Amuakwa-Mensah et al. 2018). In Islamic banks, it is forbidden to have interest rates that are considered usury so that the Islamic Bank financing system is profit sharing financing (Mushtaq & Siddiqui 2017). Profit-sharing financing of Islamic banks can be in the form of productive financing for the real sector as well as for consumptive financing, both of which provide income and profits to Islamic banks (Mushtaq & Siddiqui, 2017; Grira & Labidi, 2021). Economic shocks have an indirect effect on bank performance so that they become an intervention on the bank performance (Sobarsyah et al. 2020; Dadoukis et al, 2021). In conditions of economic shocks, NPF (Non-Performing Financing) has a negative effect on bank financing and ultimately affects bank performance. Non-Performing financing also has a direct impact on the Bank's performance (Lafuente et al, 2019).

RESEARCH METHODS

Based on the hypothesis formulated from previous research, the research model is formulated as follows

To understand the impact of economic shocks on the covid 19 pandemic, it is necessary to determine the research period before and entering the covid 19 pandemic. This research period is determined based on the pandemic coming in 2020 so this research takes a monthly time period from January 2019 to January 2021. From the monthly data, it is expected the impact of the COVID-19 pandemic shock on the Bank's performance can be illustrated. To see the impact of non-performing loans on financing, behavior data on non-performing loans was conducted on financing. To see the possibility of a direct influence of non-performing loans on the Bank's performance, behavior data testing was carried out using an autoregressive threshold. Where non-performing loans become a threshold variable and saving becomes a non-threshold variable with the endogenous variable of Islamic bank performance (Earning after Tax of Islamic banks) in Indonesia. To test the effect of NPF (Non-performing loans finance) on financing. And in Islamic banks is profit-sharing financing because there is no usury in Islamic

banks so it is necessary to test the effect of NPF in strengthening or weakening PSF (Profit sharing financing) by using behavioral testing of data using an autoregressive threshold with the following model equation:

$PSF_t = (\beta_1 + \beta_2 NPF_{t2} + \beta_3 + \beta_4 NPF_{t4}) \times (Logit\beta_5 PSF_{t5}) + \beta_6 TPF_{t6} + e_t$

Where in the test model using the TPF (Third Party Funds) as non-threshold variable. B is a constant and e is the error term.

In testing the behavior of the NPF and PSF data in influencing EAT, the equation of the test model is formulated as follows:

$EAT = (\beta_1 + \beta_2 PSF_{t2} + \beta 3NPFt3 + \beta 4 + \beta 5PSF5 + \beta 6NPFt6) \times (LOGIT\ \beta_7 EAT_{t7} - \beta_8) + \beta 9TPFt9 + e_t$

Where EAT is earnings after tax.

In this study, we use secondary data from the Indonesian financial services authority with a sample of all Islamic banks throughout Indonesia. The period of this research is monthly from January 2019 to January 2021. The description of the variables for each data is presented in table 1.

Table 1 Operational Definition of Varaible

Variable	Description	Unit of Analysis	Data source
EAT	EAT is earnings after tax. In this study, EAT is calculated by adding up all net income after tax every month for all Islamic banks in Indonesia.	Billion Rupiah	Indonesian financial services authority
TPF	TPF is Third Party Funds. TPF is calculated by adding up all public funds that have been collected by Islamic banks throughout Indonesia every month.	Billion Rupiah	Indonesian financial services authority
PSF	PSF is Profit sharing financing. PSF is calculated by adding up all Islamic Bank financing throughout Indonesia that are in accordance with Islamic principles and free from usury or interest on debt	Billion Rupiah	Indonesian financial services authority
NPF	NPF is Non-Performing Financing. NPF is calculated by adding up financing funds that are stuck or constrained as a result of the failure of investment in the real sector and the failure of Islamic bank consumers throughout Indonesia to fulfill their obligations.	Billion Rupiah	Indonesian financial services authority

RESULT AND DISCUSSION

As in the research method, the behavior of NPF data is tested against PSF with TPF as a non-threshold variable. The test results are presented in Table 2.

Table 2. Test Results NPF Data Tested Against PSF with Non-Threshold TPF Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Threshold Variables (linear part)				
C	11798.72	51813.88	0.227713	0.8229
NPF	6.417132	7.097627	0.904124	0.3802
Threshold Variables (nonlinear part)				
C	63719.79	56197.78	1.133849	0.2747

NPF	-7.254292	7.802106	-0.929786	0.3672
Non-Threshold Variables				
TPF	0.143437	0.079281	1.809232	0.0905
Slopes				
SLOPE	0.000309	0.000189	1.635388	0.1228
Thresholds				
THRESHOLD	76665.22	2583.542	29.67446	0
R-squared	0.852092	Mean dependent var		83056.32
Adjusted R-squared	0.832928	S.D. dependent var		5855.89
S.E. of regression	1516.569	Akaike info criterion		17.73966
Sum squared resid	34499706	Schwarz criterion		18.08681
Log likelihood	-188.1363	Hannan-Quinn criter.		17.82144
F-statistic	49.68308	Durbin-Watson stat		1.009766
Prob(F-statistic)	0			

NPF on the linear part has a significant positive effect on PSF with a probability of more than 0.05, namely 0.3802 and a coefficient value of 6.417132. However, the non-linear part actually reversed to a significant negative with a probability value greater than 0.05, which is 0.3672 and a coefficient value greater than the linear part at -7.254292. This indicates that the NPF is able to strengthen the influence of the PSF where the linear part strengthens in a positive direction to encourage the Bank's performance with the assumption that when the NPF increases and the economy is good, financing can be increased to cover losses due to non-performing financing. On the other hand, when a crisis or economic shock occurs, it reverses direction. With an increasing NPF, it will endanger the bank's performance if the financing (PSF) is increased because the NPF pushes in the opposite direction or is negative. From the non-threshold variable, TPF has a significant positive effect on PSF with a coefficient value of 0.143437 and a probability value greater than 0.05, namely 0.0905. Where when more and more people save at Shariah Banks, they will provide the ability to fund Islamic Bank profit-sharing to its business partners or consumers. The results of our study regarding the impact of economic shock as moderating variable and NPF on PSF are in line with the research of Sobarsyah et al, 2020; Dadoukis et al, 2021, Lafuente et al, 2019

After testing the NPF against the PSF, the NPF and PSF tests on the EAT with TFP as a non-threshold variable are carried out. The test results are presented in table 3.

Table 3. The results of testing the behavior of PSF and NPF data on EAT with TPF as a Non Threshold Variable

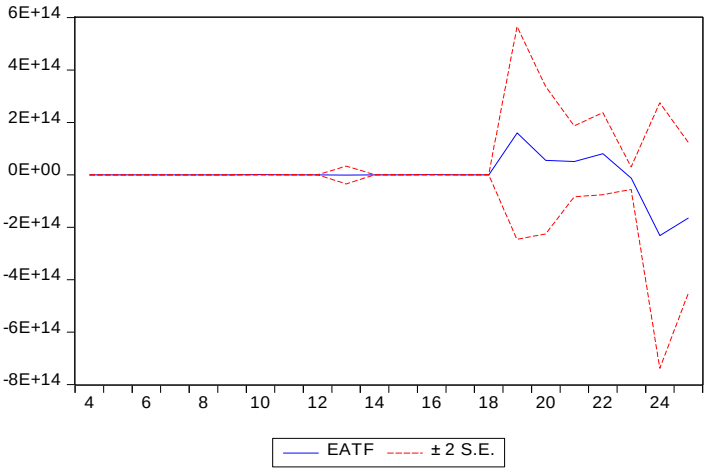
Variable	Coefficient	Std. Error	t-Statistic	Prob.
Threshold Variables (linear part)				
C	-5893.105	2896.773	-2.034369	0.0628
PSF	0.396365	0.121273	3.268369	0.061
NPF	-3.428137	0.807113	-4.247405	0.011
Threshold Variables (nonlinear part)				
C	1.33E+15	7.48E+19	1.78E-05	0.96
PSF	-5.54E+10	3.12E+15	-1.78E-05	0.97
NPF	-4.86E+11	2.74E+16	-1.78E-05	0.96
Non-Threshold Variables				
TPF	0.017905	0.041375	0.432744	0.6723

Slopes				
SLOPE	0.00194	0.000425	4.566241	0.0005
Thresholds				
THRESHOLD	18393.97	29037102	0.000633	0.9995
R-squared	0.886681	Mean dependent var		3937.826
Adjusted R-squared	0.816946	S.D. dependent var		1833.057
S.E. of regression	784.2706	Akaike info criterion		16.45947
Sum squared resid	7996044	Schwarz criterion		16.90581
Log likelihood	-172.0542	Hannan-Quinn criter.		16.56462
F-statistic	12.71501	Durbin-Watson stat		1.317086
Prob(F-statistic)	0.000053			

On the linear part, PSF as a key factor driving the performance of Islamic Banks has a significant positive effect on EAT with a probability greater than 0.05 or 0.061 with a coefficient value of 0.396365. In the linear part, NPF has an insignificant negative effect on EAT.

In the non-linear part, PSF and NPF have a significant negative effect with a probability value above 0.05 with a very high coefficient value. This indicates that when there is economic turmoil, financing becomes very risky and the increase in NPF deepens the turmoil in the performance of Islamic Banks. However, the good news is that TPF still has a significant positive effect on the performance of Islamic Banks. This research is in line with the research of Sobarsyah et al, 2020; Dadoukis et al, 2021, Lafuente et al, 2019, Meslier et al, 2021; Saeed et al, 2020; Amuakwa-Mensah et al, 2018.

To see the results of data behavior and economic shocks that occurred during the COVID-19 pandemic in 2020, it is presented in Figure 1 forecasting the behavior of EAT data after it has accumulated from the influence of PSF and NPF with TPF as a non-threshold variance.



Forecast: EATF	
Actual: EAT	
Forecast sample: 1 25	
Adjusted sample: 4 25	
Included observations: 22	
Root Mean Squared Error	7.35E+13
Mean Absolute Error	3.44E+13
Mean Abs. Percent Error	1.50E+12
Theil Inequality Coefficient	1.000000
Bias Proportion	0.001570
Variance Proportion	0.998430
Covariance Proportion	0.000000
Theil U2 Coefficient	3.95E+10
Symmetric MAPE	145.2275

Figure 1 Forecasting the behavior of EAT

From the results of the forecasting, it can be seen that the performance of Islamic Banks in Indonesia in general was quite stable in the early days of the covid 19 shock that occurred in 2020 in period 13 and there were few shocks but remained stable. However, the effect that is quite felt from the stability of Islamic Banks has only occurred in period 20 which is quite surprising, it actually increased the performance of Islamic Banks in Indonesia but experienced instability and went up and down in period 23 until the end of this study, namely period 25.

From the forecasting results in Figure 1, it can be seen that It is indicated that the performance of Islamic banks is quite stable during this pandemic as long as Islamic banks remain cautious in conducting financing.

CONCLUSION

Non-performing loans have a significant impact on loan supply (Third Party Funds) and loan demand (Profit sharing financing) in influencing the stability of the performance of Islamic banks (Earnings after Tax) in the era of the COVID-19 pandemic. Performance shocks in Islamic banks in the pandemic era are not only due to economic shocks but also due to non-performing loans (Non-Performing Financing) from Islamic bank customers who are unable or have difficulty completing their obligations to Islamic banks.

This study has limited data, namely only in the one-year period before covid 19 occurred and one year during the covid 19 period. This limitation occurs because this research was conducted in 2021 and the most recent available data is 2021 data. So this research can be developed in the future in 2023 with a longer period of time, for example January 2017 to January 2023 so that the level can be known not only economic shock as moderating variable, but also the endurance of Islamic banks in maintaining the stability of their performance during the COVID-19 pandemic.

The academic contribution in this study is to complete references to academic studies related to the level of stability of Islamic banks in the face of economic shock during the Covid 19 pandemic. In addition, to complement previous research related to research on economic shocks as moderating variable on the performance of Islamic banks, which are still rare or rare in scientific journal publications. The practical contribution in this research is the guidence in the management of Islamic banks to be careful in doing profit-sharing financing in the pandemic era and really having to keep the level of non-performing financing to be low so that Islamic banks can maintain the health of their business.

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