The Determinant of Islamic Performance Ratio: Do Financing Deposit Ratio, Financing Quality, and Return on Asset Ratio Matters?

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Abstract: Islamic banks have the aim of providing benefit to all humankind. Therefore, to measure the performance of Islamic banks, different indicators are needed from conventional banks. One of the indicators that can be used to measure Islamic banks' performance is the Islamic performance ratio (IPR). This study aims to determine the factors that influence IPR. By employing moderated regression analysis with the panel data of 7 Islamic commercial banks during 2012-2017, this study found that several factors are significantly influencing the performance of Islamic banks as indicated by the IPR indicator. That is the return on asset ratio (ROA) which has a positive direct effect on IPR and non-performing financing (NPF) that becomes a moderating variable for the effect of financing to deposit ratio (FDR) on IPR that weakens FDR's effect. Although the NPF does not have a direct influence on the performance of Islamic banks, Islamic banks still have to be careful with NPF, because it can reduce the effect of FDR on the performance of Islamic banks.

Keywords: *Islamic Performance Ratio, Financing to Deposit Ratio, Return on Asset, Non-Performing Financing, and Islamic Bank.*

Introduction

The government's plan to make Indonesia the center of sharia economy, finance, and business has fundamental reasons. According to Almas and Nashrullah (2020), Indonesia, as a country that has the largest Muslim population in the world, must be able to compete with other countries in delivering products and services that contain Islam. Therefore, Indonesia must be able to market and sell products and services throughout the world, especially products and services that have Islamic values (Sharia). Furthermore, in the Sharia business ecosystem, financial services or Islamic banks have an essential role in mobilizing funds in business and investment transactions to move the real sector, impacting economic growth.

Economic growth supported by the Islamic banking industry, which has products and services that are by the objectives of Sharia (*maqasid syariah*), is believed to create justice and social-well being. Therefore, the Indonesian government continues to plan to increase Islamic banks' market share as of June 2019, only reaching 5.95% (Otoritas Jasa Keuangan, 2019). Even when the Rupiah exchange rate fell against the US Dollar and disrupting economic stability, the Governor of Bank Indonesia, Perry Warjiyo believed that this condition was due to the low market share of Islamic banks (Firmansyah, 2018). The purpose of Islamic banks (*maqasid syariah*) is to provide benefits that should be an indicator of Islamic banks' performance so that the success of Islamic banks is not measured by profitability alone.

Furthermore, banks' primary function, including Islamic banks, is to mobilize funds in the community with products and services in savings and loans (Choudhury & Hussain, 2005; Fakhfakh, 2020). However, most of the income source from Islamic banks is the distribution of funds to the public in loans with contracts following Sharia compliance. Therefore, the better the intermediation function of Islamic banks in channeling financing to the public will have an impact on economic stability and

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financial stability can be maintained properly (Imam & Kpodar, 2013; Nugroho & Bararah, 2018; Nugroho et al., 2019; Soekapdjo & Tribudhi, 2020). The excellent distribution of funds to the public is shown by the financing deposit ratio (FDR). The better of FDR, the bank will significantly contribute to mobilizing funds from the public for productive purposes.

One of the obstacles faced in channeling funds or providing loans is the quality of the problematic financing, commonly referred to as non-performing financing – NPF (Pissarides, 1999; Stubos & Tsikripis, 2007). The higher the financing with problems, the higher the risk of funds disbursed by the bank not being returned (Hayden et al., 2007; Kanagaretnam et al., 2003). Therefore, in providing loans, Islamic banking applies prudentiality with principles *al ghorm bil ghurmy* and *al kharaj bid dhamany* (Nugroho et al., 2020b). Definition of *al ghorm bil ghurmy* and *al kharaj bid dhamany* is every opportunity and profit there is always a risk to be faced. However, Islamic banks must be able to manage and be responsible for these risks. The application of Sharia contracts in channeling funds in the form of loans under their designation is one of the applications of the principle *al ghorm bil ghurmy* and *al kharaj bid dhamany* a risk mitigation for non-performing loans (Djojosugito, 2008; Waemustafa & Sukri, 2016). Also, the concept of Islamic banks prohibit transactions that contain elements "MAGHRIB," *maysir* (gambling and speculation), *gharar* (uncertainty), and *riba* (usury), also a risk mitigation for Islamic banks in lending (Rosly & Zaini, 2008; Biancone et al., 2018; Han & Rarick, 2011).

The phenomenon of the economic crisis that occurred in the period 1997-1998 was caused by, among other things, the maximization of profits carried out by bank institutions and also due to the greediness of humans (Nugroho et al. 2017; Siddiqi, 2008; Smolo & Mirakhor, 2010). Therefore, the profitability ratio is an indicator of success for management in managing conventional banks. Shareholders are concerned about the funds invested in the bank, where the higher the return on assets (ROA) generated, the better the bank's performance. However, the application of ROA as an indicator of measuring Islamic banks' performance is not appropriate due to the difference in objectives between Islamic banks and conventional banks (Rusydiana & Firmansyah, 2018). According to Nugroho et al., (2020a), Islamic banks have 4P goals that are the prophet, profit, people, and planet. Based on the 4P concept, Islamic banks are not only profit-oriented but also based on *tauhid*, namely seeking the pleasure of Allah SWT. Furthermore, to get the blessing of Allah SWT, then the Islamic bank must provide benefits for humans and all creatures created by Allah SWT (Razak, 2019; Shaharuddin, 2010). Besides, Islamic banks are in line with the sustainable finance program (Nugroho et al., 2020b). Sustainable finance is a program that supports the implementation of sustainable development goals that are oriented towards poverty alleviation and environmental sustainability (Nugroho et al., 2020b). Thus the existence of a Sharia bank in society must be in line with the Qur'an and Hadith and other sources of Islamic law. In Quran Surah Adz Dzariyat verse 56, "And I did not create the jinn and mankind except to worship Me." Based on this, humans must obey Allah's orders and stay away from His prohibitions. One of the prohibitions of Allah SWT, which is stated in Quran Surah Al-Baqarah verse 11, "And when it is said to them, "Do not cause corruption on the earth," they say, "We are but reformers."

One of the indicators that can be used to measure Islamic banks' performance is the Islamic performance ratio – IPR (Rahma, 2018). IPR is a ratio that can measure performance from a profit perspective and from the concept of justice shown by a financing portfolio with a cooperation agreement (*mudharabah* and *musyarakah*) and social care of Islamic banks in distributing zakat. Based on this phenomenon, the formulation of the problem in this study includes: Does FDR affect the IPR?; Does ROA affect the IPR?; Does NPF affect the IPR? and; Does FDR affect IPR with NPF as a moderating variable?

The purpose of this study is to analyze the factors that determine the IPR from the aspect of profitability and the distribution of financing with financing problems as a moderating variable. The novelty of this research is the IPR analysis in terms of profitability and Islamic banks' ability to provide quality loans. The benefit of this research is to provide a repository for all stakeholders of Islamic banks, and regulators, in particular, to take policies and support in advancing the Islamic banking industry.

Literature Review

Financing to Deposit Ratio (FDR), Non-Performing Financing (NPF), Return on Asset (ROA), and Islamic Performance Ratio (IPR)

Based on the concept of *maqasid sharia*, Islamic banks have a vision of *falah*, namely to reach Allah SWT pleasure with the mission of providing benefits to all humanity. Therefore, in their business operations, Islamic banks apply fair agreements so that no party will suffer losses, both savers and debtors. Cooperation loan agreements with Islamic banks consist of *mudharabah* and cooperation contracts. The ratio of loans with cooperation contracts (*aqad*) compared to the total loan disbursement is called the profit-sharing ratio (PSR). The distribution of financing under a cooperation agreement is often referred to as the principle of profit and loss sharing (PLS). Conventional banks that apply the principle of interest prohibits Islamic banks' operation because there is an element of injustice (*dzalim*) or unfairness in the distribution of risk that is purely borne by the debtor (El-Galfy & Khiyar, 2012; Kayed & Hassan, 2007). Therefore, Islamic banks that have the principle of justice, to get profit, must consider other parties' interests, namely without harming the debtor to pay high interest to cover bank risks. Thus, Islamic banks offer profit sharing solutions in channeling their financing with *mudharabah* and *musyarakah* contracts. The formula for the profit-sharing performance ratio (PSR) is as follows.

$$\frac{Mudharabah\ Financing + Musyarakah\ Financing}{Total\ Financing} = PSR \tag{1}$$

Furthermore, Islamic banks, through their social instruments, namely the payment of zakat, where 2.5% of the bank profits will be paid as zakat, the better the zakat paid, the better the performance of the Islamic bank. The zakat ratio is a comparison of the zakat paid by Islamic banks to the total assets owned by Islamic banks. Thus, the better the earning assets that are channeled in channeling loans, it will produce a ROA, which increases, which implies an increase in zakat payments. According to Choudhury and Hussain (2005), one of the benefits of zakat is to function as bridging the gap between the rich and the poor in society and developing a sense of social responsibility in a person, especially those who have property. Therefore, the performance of zakat should be the focus of Islamic banks to analyze their performance. The formula for the zakat performance ratio (ZPR) is as follows.

$$\frac{Zakat}{Total\ Aktiva} = ZPR \tag{2}$$

Islamic performance ratio (IPR) is the sum of equitable contract financing distribution, namely PSR, and the performance of zakat payments from Islamic banks (ZPR). The formula for the IPR is as follows.

$$PSR + ZPR = IPR \tag{3}$$

Several previous studies stated that increasing financial performance achievement could contribute to increasing social performance in an organization or company (Griffin & Mahon, 1997; McGuire et al., 1988; Roman et al., 2007; McWilliams & Siegel, 2000; Waddock & Graves, 1997). Thus, sharia banks that have the principles of *maqasid sharia* should maintain their financial performance to contribute significantly to the welfare of their *ummah* through the products and services of Islamic banks that are embedded with social goals. Several previous studies (Barnett & Salomon, 2006; Binson et al., 1995; Waddock & Graves, 1997) stated that one of the indicators of financial performance is the return on assets (ROA), which can be formulated as follows.

$$\frac{Net\ Profit}{Total\ Asset} = Return\ on\ Asset \tag{4}$$

The FDR measures of Islamic bank intermediation, where the higher the FDR, the better the function of channeling funds from Islamic banks. However, to avoid liquidity problems, the maximum FDR is based on Bank Indonesia Regulation (PBI) No.17/11/PBI/2015 must be limited and not exceed 92%. Based on this regulation, the minimum FDR limit is 78%. If an Islamic bank has loan disbursements below 78%, then the Islamic bank cannot properly carry out its intermediation function. Violation of

these provisions will, of course, get sanctions from the government. The FDR ratio in this study is as follows

$$\frac{Total\ Financing}{Total\ Saving} = FDR \tag{5}$$

Besides, the ratio of problematic financing or NPF also has a maximum limit, where based on PBI No.17/11/PBI/2015, NPF is not allowed to reach the 5% level. If the NPF has reached 5% or more, the problematic financing at the Islamic bank can impact losses or even lead to bankruptcy.

$$\frac{Bad\ Debt}{Total\ Financing} = NPF \tag{6}$$

Thus, the management of Islamic banks must be able to manage risks well for lending. Based on this, the hypotheses that can be built for the variables FDR, NPF ROA, and IPR are as follows (see Figure 1 that contains the conceptual framework in this study).

H_1 : FDR positively affect the IPR
H_2 : NPF negatively affect the IPR
H_3 : ROA positively affect the IPR
H_4 : FDR positively affect the IPR with NPF as a moderating variable
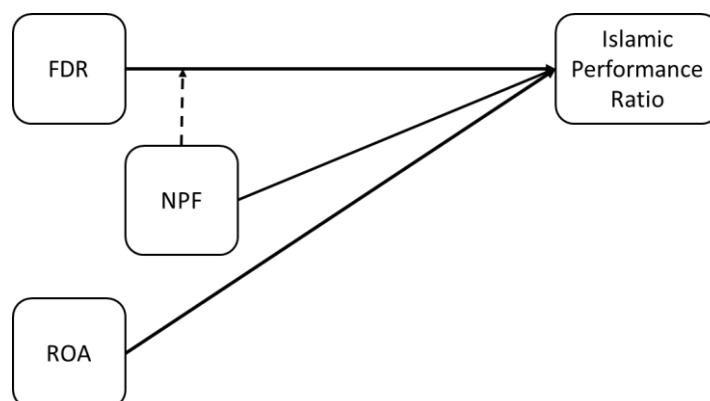

Figure 1. Proposed Research Model

Methods

This research uses the case study method to collect specific objects, events, or activities, such as specific business units or organizations. In contrast, the type of research data is seen based on time, so the data used in this study uses panel data. The observations of this study are five years, with the period 2012-2017. This study also uses purposive sampling, namely Islamic commercial banks (BUS), which operate throughout 2012-2017 and publish financial reports. Based on these criteria, the sample list in this study is presented in Table 1.

Table 1. List of Samples

Code	Company
BMI	PT Bank Muamalat Indonesia
BSM	PT Bank Mandiri Syariah
BRIS	PT Bank Rakyat Indonesia Syariah
BJBS	PT Bank Jabar Banten Syariah
BCAS	PT Bank Central Asia Syariah
BNIS	PT Bank Negara Indonesia Syariah
BMS	PT Bank Mega Syariah

In this research, we will analyze descriptive data using descriptive statistics. The descriptive statistics are used to determine the conditions of FDR, NPF, ROA, and IPR in Islamic commercial banks

in Indonesia for the period 2012-2017. Data analysis in descriptive statistics includes the presentation of data through graphs and the calculation of data distribution through the calculation of average, maximum, minimum, and standard deviation. Furthermore, this study's analysis uses moderated regression analysis (MRA) a particular application of multiple linear regression. The regression equation contains an element of interaction, namely the multiplication of two or more independent variables. In this study, the moderator variable is NPF. NPF will moderate the relationship between FDR and IPR. Thus, the panel data with moderation regression equation can be formulated as follows.

$$IPR_{it} = \alpha + \beta_1 FDR_{it} + \beta_2 NPF_{it} + \beta_3 ROA_{it} + \beta_4 FDR_{it} * NPF_{it} + \varepsilon_{it} \qquad (7)$$

Remarks:
IPR	: Islamic performance ratio
α	: Constant
β_1-β_4	: Regression coefficient
FDR	: Financing to deposit ratio
NPF	: Non-Performing Financing
ROA	: Return on asset
*FDR*NPF*	: Interaction term (FDR and NPF)
ε	: Error term

Results and Discussion

Figure 2 explains the results of the descriptive statistical test of Islamic commercial banking in Indonesia for 2012-2017. It can be seen that the FDR value in the 13th section has decreased sharply. This happened in the company Bank BRI Syariah in 2012. For NPF, it can be seen in the cross. The 23rd section is very high compared to the NPF value with the other sections. This happened in Bank BJB Syariah in 2016, while for ROA, there was a very sharp decline in the 23rd section that occurred at Bank BJB Syariah in 2016. For value, The IPR experienced a very sharp drop, seen in the 23rd sections in Islamic BJB Bank in 2016.
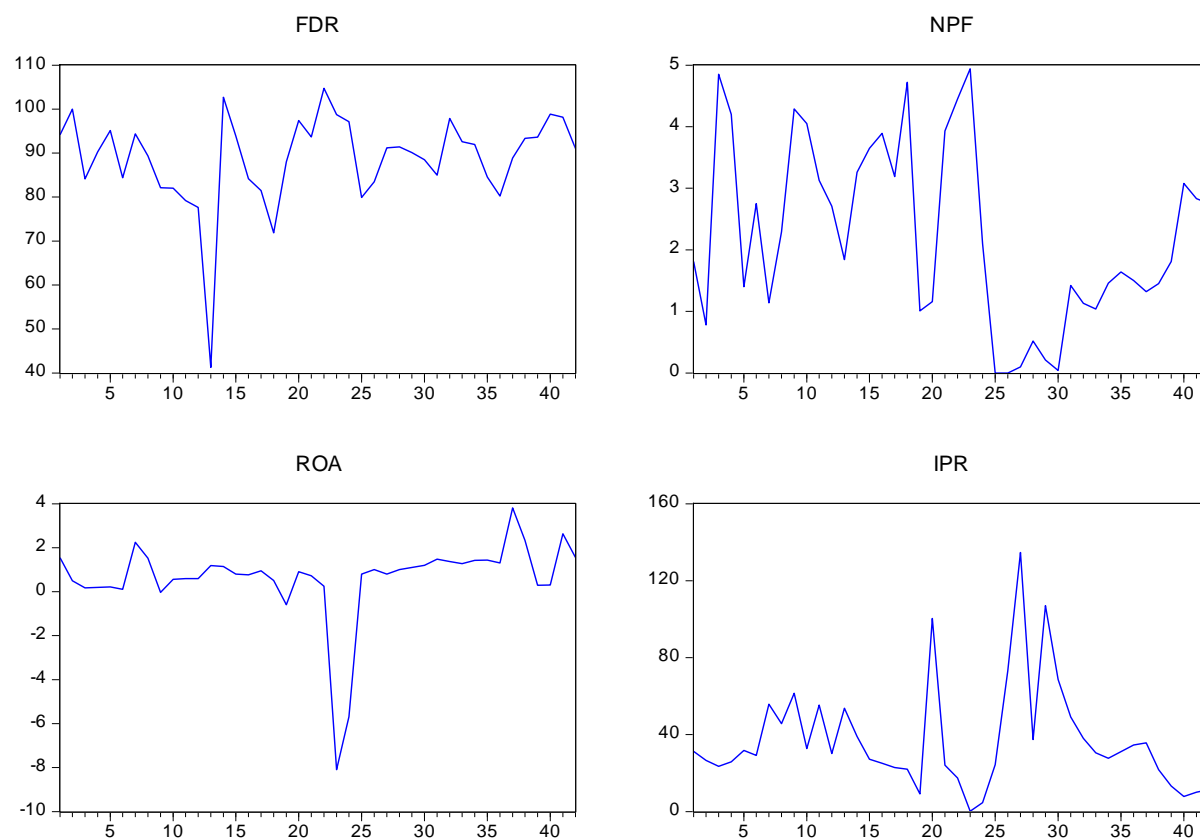

Figure 2. Descriptive Statistical Graph of All Variables in the Research

Table 2 describes the results of descriptive statistics for data in the period 2012-2017 of 7 Islamic commercial banks in Indonesia (42 observations). Moreover, according to Table 2, the mean, maximum, minimum, and standard deviation values of each variable can be seen. This table is used to identify the size of each variable's deviation that affects one another. FDR has a maximum value of 104.75% in Bank BJB Syariah in 2015, while the minimum value was 41.26% in Bank BRI Syariah in 2012. The average value of FDR is 88.77%. NPF has a maximum value of 4.94% in Bank BJB Syariah in 2016, while the minimum value of 0.10% is found in Bank BCA Syariah in 2014. The average value of NPF is 2.23%. ROA has a maximum value of 3.81% in Bank Mega Syariah 2012, while the minimum value was -8.09% in Bank BJB Syariah in 2016. The average value of the ROA is 0, 62%. This is due to the negative ROA at Bank Syariah Mandiri in 2014 and Bank BJB Syariah in 2012, 2016, 2017. IPR variable has a maximum value of 134.66% in Bank BCA Syariah in 2014, while the minimum value was 0.17% in Bank BJB Syariah in 2016. The average value of IPR is 36.96%.

Table 2. Descriptive Statistics

	FDR	NPF	ROA	IPR
Mean	88.77548	2.234286	0.624286	36.96595
Maximum	104.7500	4.940000	3.810000	134.6600
Minimum	41.26000	0.000000	-8.090000	0.170000
Std. Dev.	10.48796	1.470817	1.889610	27.46017
Observations	42	42	42	42

In this study, to test the normality of the residuals, we used the Jarque-Bera (JB) test. We used the level of significance (α) 0.01, 0.05, and 0.10. The basis for making a decision is to look at the probability value from the JB statistics. Figure 3 presents the results of the normality test. Based on Figure 3, it is known that the probability value of JB < α indicates that the data are not normally distributed. So, we transform IPR into logarithmic form. Figure 4 shows the results of the normality test after the data transformation.
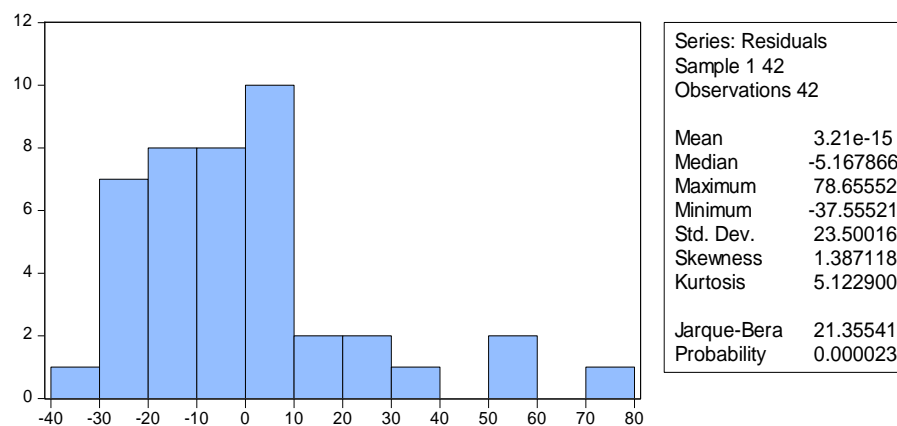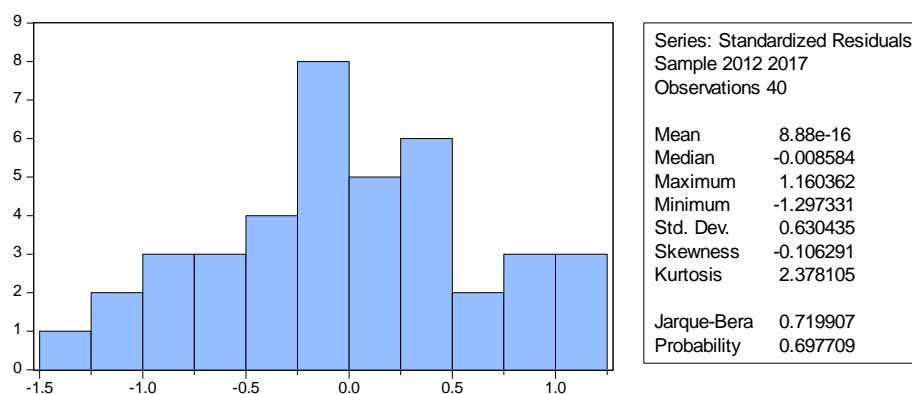

Figure 3. Normality Test

Figure 4. Normality Test after Transformation

After transforming the data, it is known that the probability value of the JB statistics is 0.719907 (see Figure 4). Because the probability value 0.697709 is greater than the significance level of α. It means that the assumption of normality has been fulfilled. Furthermore, the next test is to check whether heteroscedasticity exists or not using the Breusch-Pagan test. Table 3 presents the heteroscedasticity test using the Breusch-Pagan test.

Table 3. Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.717539	Prob. F(4,37)	0.5854
Obs*R-squared	3.023479	Prob. Chi-Square(4)	0.5539
Scaled explained SS	1.957108	Prob. Chi-Square(4)	0.7436

Based on the results of the Breusch-Pagan test in Table 3, it is known that the probability value of the Obs * R-squared is 0.5539 > α, which means there is no heteroscedasticity. Besides, assumptions of non-autocorrelation of the residuals can be tested using the Durbin-Watson test. The statistical value from the Durbin-Watson test that is smaller than 1 or greater than 3 indicates autocorrelation. Based on Table 4, the Durbin-Watson statistic value is 1.376706, so it lies between 1 and 3, then the non-autocorrelation assumption is fulfilled. In other words, there was no autocorrelation at the residuals. The next is to conduct the hypothesis tests (F-test and t-test) and check the coefficient of determination (R^2) as presented in Table 5.

Table 4. Autocorrelation Test

Log-likelihood	-39.76283	Hannan-Quinn criteria.	2.207388
		Durbin-Watson stat.	1.376706

Table 5. Hypotesis Test

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.820058	2.187641	0.831973	0.4108
FDR	0.018372	0.024210	0.758857	0.4527
NPF	1.201298	0.808960	1.484991	0.1460
ROA	0.333571	0.060477	5.515667	0.0000***
FDR*NPF	-0.015382	0.009033	-1.702835	0.0970*
R-squared	0.639878			
Adjusted R-squared	0.600946			
F-statistic	16.43573			
Prob(F-statistic)	0.000000***			

***, **, and * show a significance level of 1%, 5%, and 10%, respectively.

Table 5 shows the adjusted R^2 value of 0.6009 or 60.09%. This shows that the IPR variation can be explained by FDR, NPF, ROA, and the interaction between FDR and NPF. The remaining 39.91% is explained by other variables. which is not researched. Based on Table 5, the F-stat value is 16.43573, with a probability value of 0.00000 which is lower than < α, so the regression model in this study is suitable for use.

Based on Table 5, the probability value of the effect of FDR on IPR is 0.4527. This value is higher than α, which means failing to reject H_0, so FDR does not affect IPR – the first hypothesis is rejected. In the second hypothesis testing, the probability value of the effect of NPF on IPR is 0.1460. This value is higher than α, which means failing to reject H_0, so NPF does not affect IPR. In other words, the second hypothesis is rejected. In testing the third hypothesis, the probability value of the effect of ROA on IPR is 0.0000. This value is lower than α, which means rejecting H_0 and it means that there is a significant positive effect between ROA on IPR – the third hypothesis is accepted. Finally, for testing the fourth hypothesis, the probability value is 0.0970. This value is lower than α, which means that H_0 is rejected, meaning that NPF has a role in moderating the effect of FDR on IPR. or in other words, the fourth hypothesis is accepted. The coefficient of interaction between FDR and NPF is negative which indicates that NPF weakens the effect of FDR on IPR.

Referring to Table 5, the FDR does not affect the IPR. This can be caused by income obtained by the bank from other services that generate fee-based income (FBI). Currently, the banking industry, including Islamic banks, has a strategy to reduce risk in lending so that the banking industry innovates its products and services that can generate the FBI. Some examples of Islamic bank products and services that can provide the FBI are remittances, pawning, and mobile banking. Other than that, referring to research conducted by Nugroho et al. (2018), Islamic banks still have to increase lending in the MSME segment because the focus of Islamic banks is on lending in the wholesale segment. With a low loan portfolio to MSMEs, it contributes to lower bank income from financing activities.

ROA has a positive effect on IPR. This is because the income from Islamic banks will partially become zakat so that the better the income, the higher the IPR. This is in line with the principles of *maqasid sharia*, where the existence of Islamic banks aims to provide benefits for the ummah (Kamla & Rammal, 2013). Therefore, an increase in ROA will impact an increase in IPR, whereas Islamic banks' excellent performance will impact the community's good welfare.

Furthermore, NPF does not affect IPR. This is because the average NPF of Islamic banks is still low, namely 2.23% and a maximum of 4.94%, which is still below the central bank regulation (see Table 2). Thus, the NPF of Islamic banks during the study period was still at a reasonable limit, so that it did not impact reducing the IPR. Therefore, in the 2012-2017 period, Islamic banks were able to manage risk well according to the principle of *al ghorm bil ghurmy al kharaj bid dhamany* – there is a profit, there is a risk that must be appropriately managed.

Further analysis related to the effect of the FDR moderated by NPF on IPR weakens FDR's effect so that previously the effect of positive FDR turned negative. This is because if the distribution of loans or financing is of low quality, it will impact decreasing the IPR. Furthermore, because the NPF of Islamic banks is still at a tolerable limit, the NPF increase has no direct effect on the decrease in IPR.

Conclusion

This research aims to determine the factors that influence IPR. By employing moderated regression analysis and using the panel data of 7 Islamic commercial banks during 2012-2017, this study found that several factors are influencing the performance of Islamic banks as indicated by the IPR indicator. That is ROA which has a positive direct effect on IPR and NPF that becomes a moderating variable for the effect of FDR on IPR that weakens FDR's effect on IPR.

Although the NPF does not have a direct influence on the performance of Islamic banks, Islamic banks still have to be careful with NPF, because it can reduce the effect of FDR on the performance of Islamic banks. So Islamic banks should minimize the NPF value as much as possible.

Future investigations are necessary to validate the kinds of conclusions that can be drawn from this study. Further researchers can develop research using other independent variables from this study, such as lending to micro and small entrepreneurs to make better modeling of the performance of Islamic banks.

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