



Financing Scheme and Determinant Factors A Case Study of Islamic Rural Banks in Indonesia

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Abstract. This study aims to examine the factors that influence the financing scheme of Islamic Rural Banks (IRBs) in Indonesia. The financing scheme consists of profit margin financing (PMF) and profit-sharing financing (PSF). Factors thought to influence the financing scheme are non-performing financing (NPF), financing to deposit ratio (FDR), capital adequacy ratio (CAR), return on assets (ROA), operating to income ratio (OEIR), and company size (Size). The population in this study was 163 IRBs in Indonesia with a sample of 100 IRBs. The observation period was 4 years, with quarterly data. Hypothesis testing applied multiple regression. The results show that the factors influencing the financing scheme between PMF and PSF are the same, namely, NPF and Size have a significant negative effect, while FDR, CAR, ROA and OEIR have no effect. One variable is OEIR; if the significance level is 10%, then OEIR has a significant and negative effect on the profit-sharing financing scheme, but the profit-margin financing scheme has no effect.

Keywords: Profit margin financing · profit-sharing financing · non-performing financing · Capital adequacy ratio

1 Introduction

Islamic rural banks (IRBs) are financial institutions that function as financial intermediaries and operate in a limited area, usually in rural areas. IRBs are very much needed by rural communities, most of whom are poor and do not have access to financial institutions, so they take advantage of the services of moneylenders who pay high interest [1]. IRBs have a noble goal to help the poor and develop micro, small, and medium enterprises [2]. Because many BPRs serve the poor, whom commercial banks do not touch, these IRBs play a significant role in bringing about financial inclusion.

According to the Islamic Banking Statistics, IRBs in Indonesia are rapidly growing, as demonstrated by the number of IRBs that reach 165 banks spread across 34 provinces (OJK, 2021). As a banking institution, IRB, in addition to being required to obtain profitability, must also operate following Islamic law principles and are not allowed to use interest instruments. To avoid using the interest system, IRBs use a profit-sharing system, a trading system with profit margins, a rental system, and other systems permitted by sharia [3].

IRBs earn profit from financing or loans from conventional banks. According to Schoon [3], there are three primary schemes in financing, namely profit margin financing (PMF), profit sharing financing (PSF), and lease financing. In IRBs, PMF and PSF are the most dominant schemes. In an IRB, PMF is named murabaha financing, which is financing provided to customers where the bank will buy the assets desired by the customer and sell the asset to the customer by adding a profit margin that is in accordance with the agreement between the bank and the customer. PMF administration process is straightforward with negligible risk. While the PSF consists of two products: mudharaba and musyaraka financing. Mudharaba financing is financing where the bank provides all the customer’s funding needs and the customer provides the project and its management. Banks are not allowed to participate in the operations of the customer’s company. Musyaraka financing is financing in the form of equity financing, so that the bank participates in equity participation in the customer’s company and may participate in the company’s management. Banks earn profit from the PSF in the form of profit-sharing from the profits obtained by the customer. The amount of profit-sharing cannot be determined in advance; the profit-sharing ratio is allowed to be determined in advance. PSF is financing that has a higher risk than PMF, because the bank’s profit depends on the customer’s profit, so banks must look for customers who have good potential and are honest in their financial administration.

There are quite serious problems in the provision of financing where the portion of PMF is much larger than PSF. PSF does have a high risk, but this PSF should be developed in Islam. Table 1 shows that the average PMF is almost 80%, while the PSF portion is only 20%.

The financing provided is influenced by internal and external factors of the bank, but this study focuses on internal factors that IRBs can control. Financing risk proxied by non-performing financing (NPF) is influential non-performing financing that will be charged as a cost, thereby reducing profits. With a higher NPF, the financing provided will likely decrease because management is concerned that the higher the NPF, the more careful the distribution of financing. The results of previous studies show a negative influence of NPF on financing [4]. Liquidity risk, as measured by the financing to deposit ratio (FDR), shows the amount of financing provided compared to public deposits, so the larger the FDR, the greater the financing provided [5]. IRBs are very interested in

Table 1. Financing Scheme

YEAR	PMF	PSF
	%	%
2016	81.46	18.54
2017	78.87	21.13
2018	77.54	22.46
2019	86.49	13.51
2020	79.85	20.15
Average	80.84	19.16

Source: Financial Service Authority

FDR because they can contribute profits to banks [6, 7]. The higher the FDR, the higher the financing.

Bank capital, as measured by the capital adequacy ratio (CAR) is vital for banks because capital will be a reserve to cover losses. In addition, the amount of capital can be used by banks to increase their financing. Thus, the CAR will have a positive effect on the financing provided. Arintoko [8] at conventional banks and Azizah, Inayati, & Hapsari [9] at Islamic banks reveal a positive influence between CAR and financing. Bank profits also affect financing; the higher the bank's profits, the more funds can be channeled as financing. The results of previous studies show that ROA has a positive effect on financing [10, 11].

Bank's operating risk, as measured by the operating expense to operating income ratio (OEIR), shows the level of efficiency of the bank. The smaller the OEIR, the more efficient the bank and the larger the OEIR, the more efficient the bank is. Efficient banks allow for large profits that can be used to increase financing. Azizah et al. [9] and Riyadi et al. [4] conclude a negative effect between OEIR and financing. Likewise, third-party funds (TPF) are the ability of banks to mobilize public funds. The higher the TPF indicates the public trusts the bank in saving their funds. TPF is the primary fund channeled for financing; the larger the TPF, the greater the bank's ability to provide financing [10, 12, 13].

The novelty of this research is to compare the factors that influence each financing scheme. Most studies examine factors that affect total financing [9, 10, 14]. Some researchers use the dependent variable of profit-sharing financing [4, 15]. Meanwhile, Hadiyati & Iqbal [13] examine profit margin financing (PMF) as the dependent variable. This study compares the factors influencing the two financing schemes, PMF and PSF.

1.1 Financing Scheme and Financing Risk

Funds distributed to the public in a commercial bank are called credit, while in an Islamic bank are called financing. Financing contracts at Islamic banks are divided into 2 types: natural certainty contracts (NCC) and natural uncertainty contracts (NUC). NCC is a financing contract with a definite amount and payment term, so this type of financing is low risk and the administrative process is straightforward. The application of IRBs products is profit margin financing (murabaha financing). Meanwhile, NUC is a financing contract with no certainty about the amount or timing of payment, so this financing has a higher risk, which is applied to profit-sharing financing with mudharaba and musyaraka financing products [3].

Banks in providing financing must use the principle of prudence and a good selection process to avoid financing risks. Financing risk, as measured by non-performing financing (NPF), will reduce profitability, so if the NPF is high, banks will be more careful in providing financing. As the results of previous studies show a negative influence of NPF on financing in Islamic banks [4, 16]. Likewise, in conventional banks, non-performing loans (NPL) have a negative effect on loans [17]. So that the hypotheses can be formulated:

H1a: NPF has a negative effect on PMF

H1b: NPF has a negative effect on PSF

1.2 Financing Scheme and Liquidity Risk

Liquidity is a bank's ability to provide funds if there is a withdrawal from customers at any time, as well as the bank's commitment to providing financing to customers. In this study, liquidity risk is measured by the financing to deposit ratio (FDR). FDR shows the amount of financing provided from public savings, so the larger the FDR, the greater the financing provided [5]. The formulation of the hypotheses is as follows:

H2a: FDR has a positive effect on PMF

H2b: FDR has a positive effect on PSF

1.3 Financing Scheme and Capital

Bank capital is important because capital becomes a reserve fund to cover losses if the bank suffers a loss. Therefore, the government regulates bank capital as measured by a capital adequacy ratio (CAR) of at least 8%. The amount of bank capital can also be used by banks to increase financing, so that CAR can have a positive effect on financing. Azizah, Inayati, & Hapsari [9] find a positive influence between CAR and financing, and Arintoko [8] also finds the effect of CAR on loans in conventional banks. Thus, the formulation of the hypotheses:

H3a: CAR has a positive effect on PMF

H3b: CAR has a positive effect on PSF

1.4 Financing Scheme and Profitability

The owners choose the management of IRBs, so they are obligated to improve the welfare of the owners through profitability. High profitability shows that the bank has the potential to grow and become big. Profit, some will be distributed as dividends, and some will be divided as retained earnings. These retained earnings will increase equity so that IRBs management can use it to be channeled as financing so that higher ROA opens opportunities to increase financing. The results show that ROA has a positive effect on financing [4, 10]. So, the hypotheses are:

H4a: ROA has a negative effect on PMF

H4b: ROA has a negative effect on PSF

1.5 Financing Scheme and Operating Risk

To earn income, banks must incur operational costs. These operational costs must be controlled to avoid inefficiency. Thus, the bank faces operational risk as measured by the operating expense to operating income ratio (OEIR). This operational risk also shows the level of bank efficiency. Banks should reduce OEIR as low as possible because high OEIR will reduce profits. Azizah et al. [9] and Riyadi et al. [4] reveal a negative effect between OEIR and financing. The hypotheses are:

H5a: OEIR has a negative effect on PMF

H5b: OEIR has a negative effect on PSF

1.6 Financing Scheme and Third-Party Funds

One of a bank’s tasks is to mobilize public funds, because these public funds will later be used as the primary source of financing. The collected public funds are called third-party funds (TPF). The higher the TPF indicates the public trusts the bank in saving their funds. TPF is the primary fund channeled for financing, so the larger the TPF, the greater the bank’s ability to provide financing [10]. Pratikno & Ratnasari [16], Widodo & Asas [12], and Hadiyati & Iqbal, [13] show a positive influence between TPF and financing. Based on the description above, the hypotheses are:

- H6a: FDR has a positive effect on PMF
- H6b: FDR has a positive effect on PSF

2 Research Method

The population in this study was 165 IRBs in Indonesia, with a sample of 92 banks taken by purposive sampling. The observation period was 4 years, with quarterly data.

The research variable consists of 2 dependent variables: profit margin financing (PMF) and profit-sharing financing (PSF), while the independent variable consists of 6 variables: financing risk (NPF), liquidity risk (FDR), capital (CAR), profitability (ROA), operating risk (OEIR), and third-party funds (TPF). Table 2 exhibits variable measurement.

Hypothesis testing used multiple regression analysis with the following regression equation:

$$PMF = \alpha + \beta1NPF + \beta2FDR + \beta3CAR + \beta4ROA + \beta5OEIR + \beta6TPF + \epsilon \quad (1)$$

$$PSF = \alpha + \beta1NPF + \beta2FDR + \beta3CAR + \beta4ROA + \beta5OEIR + \beta6TPF + \epsilon \quad (2)$$

Table 2. Variable Measurement

Variable	Measurement
PMF	Ln (musyaraka + mudharaba financing)
PSF	Ln Murabaha financing
NPF	Non-performing financing/Total financing
FDR	Total financing/Third-party fund
CAR	Equity/Assets weighted risk
ROA	EAT/Total Assets
OEIR	Operating expense/operating income
TPF	Ln Third-party Fund

3 Results and Discussion

Table 3 shows the results of descriptive statistics from IRBs data tabulated from 92 banks for 4 years with quarterly data, so that 1472 observational data are collected.

Table 3 above shows that the NPF has a minimum value of 0.23% and a maximum of 75.56%, with an average of 10.11%, signifying that the NPF of IRBs in Indonesia is very bad because it is above the maximum requirement of 5%. The FDR has a minimum value of 11.18% and a maximum of 321.15%, with an average of 91.07%, implying that it is quite good on average, but there are IRBs with very small FDRs and some very large FDRs. The CAR has a minimum value of 8.50% and a maximum of 149.50%, with an average of 25.93%, indicating that all IRBs have a CAR above the minimum requirement of 8%, but it is still too large on average. ROA has a minimum value of -52.20% and a maximum of 109.20% with an average of 1.88%, indicating good profitability with an average of close to 2%. While the OEIR has a minimum value of 43.42% and a maximum of 286.35%, with an average of 85.56%, the OEIR is very good because it is less than 100%, but there is a very large OEIR IRB which results in losses.

3.1 Hypothesis Testing Results

From the results of data processing using multiple regression analysis tools, the results of the partial test of variables that affect PMF and PSF are obtained as in Table 4.

The NPF variable in PMF has a significance value of 0.003 and PSF has a value of 0.003, smaller than the 0.05 significance level with a negative coefficient, meaning that NPF has a significant and negative effect on both financing schemes. This result is in accordance with the hypothesis, so that the higher the NPF, the lower the financing. A high NPF is very bad for IRBs because it will reduce financing, which may be due to being too expansive in providing financing with less stringent customer selection. If you look at the NPF data, where the average is still very high at 10.10%, IRBs have serious problems managing their financing. For this reason, it is necessary to improve financing management to suppress NPF. High NPF will reduce profitability because financing will

Table 3. Descriptive Statics

Variable	N	Min	Max	Mean
PMF	1600	5.020	13.850	10.095
PSF	1600	0.000	12.220	6.700
NPF	1600	0.230	75.560	10.107
FDR	1600	11.180	321.150	91.065
CAR	1600	8.500	149.500	25.931
ROA	1600	-52.200	109.200	1.878
OEIR	1600	43.410	286.350	83.561
TPF	1600	5.380	15.150	10.817

Source: Data processed

Table 4. The Results of Hypothesis Testing

Variable	PMF		PSF	
	Coef.	Sig.	Coef.	Sig.
Constant	0	.000	0	.000
NPF	-.060	.003	-.064	.008
FDR	-.017	.588	.028	.442
CAR	.010	.674	.004	.869
ROA	.005	.887	-.011	.785
OEIR	-.028	.163	-.041	.094
TPF	-.580	.000	-.242	.000

Source: Data processed

also decrease. This is because IRBs will be more careful in disbursing financing and with a tight financing selection. These results are in line with Riyadi et al. [4], Hisan et al. [11], Sudarsono et al. [14], Azizah et al. [9], and Pratikno & Ratnasari [16], who reveal a significant and negative effect of NPF on financing. In conventional banks, NPL also affects loans [8, 17].

FDR has a significance value of 0.588 for PMF and 0.442 for PSF, greater than 0.05, meaning that FDR has no effect on the two financing schemes. These results reject the proposed hypothesis that FDR has a positive effect on financing. These results can be interpreted that the amount of FDR will not affect financing; this is probably due to the NPF of IRBs, which is too high, causing reluctance in providing financing. These results are not in line with previous research, which show a positive effect of FDR on financing [10], but Sutrisno [18] reveals a negative effect of FDR on PSF and Rabab'ah [17] also finds a non-significant effect of LDR on loans to conventional banks.

CAR has a significance value of 0.674 for PMF and 0.869 for PSF, greater than 0.05, meaning that CAR has no effect on both financing schemes. These results reject the proposed hypothesis that CAR has a positive effect on financing. These results indicate that IRB's management cannot utilize capital to support financing. This can be seen from the average CAR of 25.93%, which is still too high because IRBs are less efficient in using their equity. Bank capital, apart from being a reserve to cover losses, can also be used for financing, provided that the CAR should not be less than the minimum requirement of 8%. These results contradict Arintoko [8], who studied conventional banks and Azizah et al. [9], who conclude a positive effect of CAR on financing. However, it is supported by Pratikno & Ratnasari [16], Sutrisno [18]; and Ali et al. [5], who show that there is no effect of CAR on financing, even though the effect is negative.

ROA has a significance value of 0.887 for PMF and 0.785 for PSF, greater than 0.05, meaning ROA has no effect on the two financing schemes. These results reject the proposed hypothesis that ROA has a positive effect on financing. These results indicate that IRB management cannot utilize bank profitability to increase financing. This could be because there are still many IRBs whose operations are still experiencing losses considering the NPF is too high, or there is still much profit being distributed as

dividends. These results contradict Medyawati et al. [10] and Hisan et al. [11], who find a positive effect of ROA on financing but are supported by Sutrisno [18], who posits no effect of ROA on financing.

The OEIR variable has a significance value of 0.163 and the PSF has a value of 0.094 greater than the 0.05 significance level, signifying that OEIR has no effect on financing. Thus, the proposed hypothesis is not proven. OEIR shows the bank's efficiency, so it should be more efficient. Yet, the study shows that although the bank increases its financing, it has no effect. This is probably due to the NPF being too high, so although the OEIR is efficient and the FDR is already high, it has not been able to affect the financing provided in both the PMF and PSF schemes. These results contradict the theory and the results of previous studies, which show a negative effect between OEIR and financing [4, 5, 9]. However, Arintoko [8] supports these results as his study shows no effect of OEIR on loans in conventional banks.

TPF has a significance value of 0.000 for PMF and 0.000 for PSF, which is smaller than the 0.05 significance level with a negative coefficient, meaning that TPF has a significant and negative effect on both financing schemes. These results are not in accordance with the hypothesis that TPF has a positive effect on financing. These results indicate that IRBs have not been able to take advantage of the large public funding opportunities for financing. This may be due to concerns of financing officers in disbursing funds for fear of increasing the NPF, so that public funds that should have been disbursed have been withheld. These results are supported by Apriyanti, Effendi, & Burhanuddin, [19] and Sudarsono et al. [14] but are inconsistent with some previous researchers who reveal a positive effect between TPF and financing [9, 10, 12, 16, 20].

4 Conclusion

Based on the analysis above, it can be concluded that only one variable whose hypothesis is proven is financing risk (NPF), while the other four variables: are FDR, CAR, ROA, and OEIR do not have a significant effect, and there is one variable (TPF) that has a significant but negative effect, so it is not in accordance with the hypothesis.

These results are expected to be used by the management of IRBs to manage their bank operations because they have a crucial problem, namely financing risk (NPF). The NPF of IRBs is too high, so it far exceeds the maximum NPF requirement of 5%. This high NPF has the potential to reduce profitability [6, 21]. The high NPF causes other independent variables to be unable to influence financing. Therefore, the management of IRBs in distributing their funds must use the precautionary principle with a strict selection process.

This research still has some weaknesses, such as using internal factors of IRBs as independent variables. Thereby, future research can add variables that were not included in this study, such as external factors that are thought to influence the financing of IRBs.

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