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Effect of Stability and Funding Risk on Shariah Rural Bank's Profitability

Pengaruh Stabilitas dan Resiko Pendanaan terhadap Keuntungan Bank Pembiayaan Rakyat Shariah

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ABSTRACT

This study examined the effect of stability and funding risk, as well as bank-specific factors and macroeconomic variables, on Shariah Rural Bank's margin. We investigated 83 Shariah Rural Banks (SRBs) on the island of Java from 2017 to 2021 with quarterly data. We employed the dynamic panel data regression with the two-step system GMM method. Our study also splits SRBs into large and small SRBs. Our findings show that the stability and funding risk positively influence the margin. The CAR positively influences the margin but assets, CIR, and NPF are negatively associated with the margin. However, stability and funding risk can increase margin only for large SRBs. Our results imply that SRBs should increase their equity and mobilize their third party to improve their margin. In addition, SRBs should improve their operating efficiency and manage low financing risk. This research contributed to Islamic banking literature by including stability and funding risk in influencing margins.

Keywords: Stability, funding risk, bank-specific variable, Margin, Shariah rural banks

ABSTRAK

Penelitian ini menguji pengaruh stabilitas dan risiko pendanaan, serta faktor spesifik bank dan variabel makroekonomi, terhadap marjin Bank Perkreditan Rakyat Syariah (BPRS). Kami meneliti 83 Bank Perkreditan Rakyat Syariah (BPRS) di Pulau Jawa dari tahun 2017 hingga 2021 dengan data triwulanan. Kami menggunakan regresi data panel dinamis dengan metode GMM sistem dua langkah. Penelitian kami juga membagi BPRS menjadi BPRS besar dan BPRS kecil. Temuan kami menunjukkan bahwa stabilitas dan risiko pendanaan berpengaruh positif terhadap margin. CAR berpengaruh positif terhadap margin, namun aset, CIR, dan NPF berhubungan negatif dengan margin. Namun, stabilitas dan risiko pendanaan dapat meningkatkan margin hanya untuk BPRS besar. Hasil penelitian kami mengimplikasikan bahwa BPRS harus meningkatkan ekuitas mereka dan memobilisasi pihak ketiga untuk meningkatkan margin mereka. Selain itu, BPRS harus meningkatkan efisiensi operasi mereka dan mengelola risiko pembiayaan yang rendah. Penelitian ini memberikan kontribusi pada literatur perbankan syariah dengan memasukkan stabilitas dan risiko pendanaan dalam mempengaruhi margin.

Kata kunci: Stabilitas, Resiko pendanaan, Bank spesifik, Margin, BPRS.

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I. INTRODUCTION

Banking is considered an important sector in the economy which aims to increase equality, economic growth, and national stability (Fahrial, 2018). During the economic uncertainty, banking as an institution whose role is financial intermediation continues to grow positively and fulfill its role as a driving force for the country's economy.

With one of the largest Shariah financial indexes in the world, the Shariah financial system in Indonesia was able to make a positive contribution to the country's monetary condition during the 2006 global crisis (Aryati & Purwanto, 2019). Based on assets and business scale, banking in Indonesia is divided into two types of Shariah banks, namely Shariah commercial banks for the national level and Shariah rural banks (BPRS) for the regional level. As of December 2021, Shariah Rural Banks (SRBs) were 164 banks with total assets of IDR 17 trillion (OJK, 2021). The Shariah rural bank is one of the financial intermediation institutions that drive the regional economy. Shariah rural banks focus on micro, small, and medium enterprises (MSMEs) from both financial and social perspectives (Fakhrunnas & Imron, 2019). MSMEs are the largest business sector in Indonesia with approximately 36,000 enterprises, while large enterprises have only 1,000 enterprises (Widarjono & Rudatin, 2021).

Based on the Financial Services Authority (OJK) regarding the performance of Shariah rural banks, they have very good performance in terms of adequate capital to absorb the risk of write-offs due to a decline in asset quality. Shariah rural bank is also considered good on liquidity, which means that Shariah rural bank has the potential to have very low short-term liquidity problems. In terms of profitability, Shariah Rural Bank experienced a decline in ROA from 2019 to 2021 even though the FDR each year exceeds 100%, which means that the growth of the financing portfolio as a source of income for Shariah Rural Bank is faster than the growth of its funding portfolio. More importantly, the non-performing financing has decreased from year to year.

As both use different systems, the risk taking behavior of Shariah rural banks and conventional rural banks is also different. Risk exposure, in turn, will affect the stability and expected profitability (Widarjono et al., 2022). Rural banks' Shariah risk exposure comes from internal and external sources. Internal risk is related to the soundness of Shariah rural banks, while external risk represents macroeconomic conditions (Almazari, 2014). These two types of risk exposure have direct and indirect impacts on the performance of Shariah rural banks. Internal risks can be managed by Shariah rural banks, while external risks are beyond the control of Shariah rural bank management. However, external control is still needed for the early identification of internal bank risks so that they do not interfere with financial performance (Devi & Firmansyah, 2018). The financial performance of Shariah rural banks not only affects the profitability, but also the sustainability of Shariah rural banks.

A strand of empirical studies investigated bank profitability, including Shariah rural banks, such as Boadi et al., (2016); Saleh et al., (2018); Fakhrunnas & Imron (2019); Syakhrun et al., (2019); Widarjono et al., (2020); Su et al., (2020); and Sutrisno & Widarjono, (2022). Previous studies used bank-specific factors such as bank size, bank capital, financing, and efficiency, as well as macroeconomic factors such as GDP and inflation, to determine profits. However, according toother internal factors are also very important in influencing bank profits, especially for small banks. These internal factors are bank stability and funding risk. Bank stability encourages banks to increase their funding due to the low risk of bankruptcy, and in turn, banks with high funding increase their profits (Ibrahim et al., 2017). Funding risk is the risk that banks face due to their inability to mobilize funds from customers. High funding risk means that banks cannot perform their channeling function as financial intermediaries well due to low third-party funds, which in turn reduces bank profits (Adusei, 2015a).

Based on the problems above, this paper analyzes the effect of stability and funding risk, along with bank-specific variables and macroeconomic variables, on the profitability of SRBs in Indonesia. Our research examined the profitability of SRBs on Java Island. SRBs on the island of Java were chosen based on two important reasons. First, SRBs on Java Island were selected because the economy on this island can represent the national economy. The economy on the island of Java contributes 56.30% of the national economy (BPS, 2022). Second, in terms of Shariah rural bank distribution, there are 83 Shariah rural banks on the island of Java (51%) out of a total of 164 SRBs in Indonesia.

Several contributions of this study were expected to enhance the Islamic banking literature. First, previous studies have not included bank stability and funding risk as important variables in influencing the profitability of SRBs. Therefore, this paper was hoped to contribute to the Islamic banking literature by including stability and funding risk as important variables affecting the profitability of SRBs. Second, bank size affects the performance of Islamic banks (Čihák & Hesse, 2010; Ibrahim et al., 2017). Therefore, this study also analyzed whether the effect of stability and funding risk on profits differs between small and large SRBs.

II. LITERATURE REVIEW

Theoretical background

Profitability is commonly used to examine the banking's ability to generate returns. Profitability is one of the factors for assessing banking performance. Profitability is defined as a condition of generating financial gain or profits through the exchange of potential risks (Aryati & Purwanto, 2019). Profitability is measured using several measures, such as return on assets (ROA), return on earnings (ROE), and margin (Sutrisno & Widarjono, 2022).

Ho & Saunders (1981) proposed a basic theory of bank profitability. They developed a profit model using the dealership theory. This dealership model describes banks are intermediaries who avoid risks between depositors and lenders. The dealership theory explains some factors that influence profitability, consisting of market strength, bank size, risk aversion, and the volatility of interest rates.

Literature review and hypothesis

One measurement used to represent the bank risk is the Z-score. According to Anning (2018), the Z-score is a measurement that relates the level of capitalization of a bank to its profitability and risk. Thus, the higher the Z-score value, the higher the level of resilience of a bank. Adusei (2015a) showed that Z-score positively affects profitability in the case of rural banks in Ghana.

H1: Z-score positively affects profitability

Funding risk (Z-scoref) is one of the risks that need to be considered, as retail-oriented banks fund their activities from third-party funds. Emphasis on funding risk affects the stability of the bank, which has a domino effect on the profitability of the bank. According to Adusei (2015b), the higher the Z-Scoref value, the more stable the bank. Therefore, it is expected that the control of funding risk, represented by the Z-Scoref, has a positive impact on bank profitability. Funding risk is positively related to profitability and stability for rural conventional banks in Ghana (Adusei, 2015b).

H2: Z-Scoref positively influences profitability

Bank performance tends to be sensitive to bank size to which bank size is widely measured using total assets. Yusuf (2017) explained that banks with larger total assets tend to have higher profitability. This is because banks with larger assets can lend more to borrowers. Almazari (2014) and Anatasya & Susilowati (2021) showed a positive and significant relationship between bank size and profitability. However, large assets can cause problems with management inefficiency and low financing control. Saif-Alyousfi et al., (2020) revealed that profitability is negatively linked to assets. On the other hand, Yusuf (2017) and Boadi et al., (2016) documented that bank size has no significant relationship with the growth of bank profitability.

H3: Asset has a positive influence on profitability.

Capital adequacy is an important factor in the operation of a banking business, in order to develop the business and absorb risks. The higher the CAR, the stronger the bank's ability to bear any risk from productive assets. When the CAR is high, it promotes profitability due to the strong capital of the bank (Yusuf, 2017). Anatasya & Susilowati (2021), Yusuf (2017), Boadi et al., (2016), Aryati & Purwanto (2019) indicated that CAR has a positive influence on bank profitability, which means that an increase in CAR boots profitability of Shariah banks.

H4: CAR has a positive impact on profitability

The FDR represents the bank's ability to repay depositor withdrawals using the funding provided as a source of liquidity. The higher the FDR, the higher the liquidity of the bank. This ratio is an indicator of a bank's vulnerability and capacity. The threshold of FDR is around 80% (Yusuf, 2017). The low FDR indicates that a bank cannot maintain its liquidity ratio, which can be seen from the lack of effectiveness in disbursing funds to debtors. On the other hand, the high FDR leads the bank to achieve high profitability, provided that the bank's financing to debtors is effectively managed and controlled. Yusuf (2017); Boadi et al., (2016); and Aryati & Purwanto (2019) showed that FDR has a positive effect on the profitability of Shariah commercial banks. Meanwhile, Pravasanti (2018) and

Anam & Khairunnisah (2019) revealed that FDR does not influence the profitability of Shariah commercial banks.

H5: FDR positively influences profitability

An efficient bank is a bank that can reduce its operating costs so that it can maximize its income, which is measured by the cost-income ratio (CIR). The lower the CIR, the more efficient the bank is in its business activities. On the other hand, the higher CIR means that the more inefficient bank carries out its business activities, which leads to a decrease in profitability. Yusuf (2017); Syakhrun et al., (2019); and Putri et al., (2022) reported that CIR has a negative influence on bank profitability. Meanwhile, Boadi et al., (2016) showed that CIR does not have a significant influence on bank profitability.

H6: CIR negatively affects profitability

The ratio that is widely used to assess asset quality is non-performing financing (NPF). Non-performing financing is a measure of business risk that shows the level of financing risk in an Islamic bank. The high NPF is the high funding risk. This will affect the income of the bank, which will reduce the profitability of the bank. Boadi et al., (2016); Yusuf (2017); Syakhrun et al., (2019); and Aryati & Purwanto (2019) indicated that NPF has a negative influence on bank profitability.

H7: NPF has a negative impact on profitability

One of the macroeconomic factors that determine bank profitability is Gross Domestic Product (GDP). GDP growth is directly proportional to the demand for financing by debtors, which means that when GDP increases, the demand for financing increases and then has a positive impact on bank profitability (de Leon, 2020). Widarjono et al., (2022) documented that GDP positively links to the profitability of BRI Shariah.

H8: Gross Regional Domestic Bruto positively affects profitability

Covid-19 led to a decline in domestic production due to the lockdown policy. The decline in domestic production then lowered economic growth. The economic downturn means that banks, including Shariah commercial and rural banks, cannot optimally disburse their funds to the business sector. As a result, the financing of Shariah rural banks has decreased, and further reduction in financing reduces the profitability of Shariah banks (Alabbad & Schertler, 2022).

H9: Covid-19 negatively influences profitability

III. RESEARCH METHODS

Empirical model

This study employed a dynamic panel regression. We chose the dynamic panel regression for two important reasons. First, profitability is persistent over time, meaning that current profitability is apparently affected by the previous profitability (Yanikkaya et al., 2018; Widarjono et al., 2023). Second, the dynamic panel regression can solve the endogeneity problem that likely occurs in estimating profitability (Khattak et al., 2022). The dynamic panel regression is as follows:

$$Profit_{it} = \beta_0 + \beta_1 Profit_{it-1} + \beta_2 Zscore_{it} + \beta_3 Zscoref_{it} + \beta_4 Lasset_{it} + \beta_5 CAR_{it} + \beta_6 FDR_{it} + \beta_7 CIR_{it} + \beta_8 NPF_{it} + \beta_9 GRDP_{it} + e_{it} \quad (1)$$

Covid-19 has resulted in a decline in Indonesia's economic growth and, in turn, affected the profitability of Shariah rural banks. To analyze the impact of Covid-19 on profitability, this research also included the Covid-19 in our panel regression equation as follows:

$$Profit_{it} = \beta_0 + \beta_1 Profit_{it-1} + \beta_2 Zscore_{it} + \beta_3 Zscoref_{it} + \beta_4 Lasset_{it} + \beta_5 CAR_{it} + \beta_6 FDR_{it} + \beta_7 CIR_{it} + \beta_8 NPF_{it} + \beta_9 GRDP_{it} + \beta_{10} Covid_{it} + e_{it} \quad (2)$$

Where Profit is Shariah rural bank profitability, Zscore is bank stability, Zscoref is funding Risk, Asset is a total asset, CAR is capital adequacy ratio, FDR is financing to Deposit ratio, CIR is operational costs to operational income, NPF is non-performing financing, GRDP is Gross Regional Domestic Product, and Covid is Covid-19 outbreak.

Our study employed the General Method of Moment (GMM) to avoid endogeneity problems in the dynamic panel regression as equations (1) and (2). There were two methods for estimating dynamic panel regression, namely the difference GMM method (Arellano & Bond, 1991) and system GMM (Arellano & Bover, 1995). This paper applied the two-step system GMM method, which generates more robust estimators than two-differenced GMM (Blundell & Bond, 1998).

Measures of variables

This research measured the profitability of Shariah rural banks using net profit margin (NPM) (Yanikkaya et al., 2018; Widarjono et al., 2023). The main independent variables were Z-score and Z-scoref. Meanwhile, the control variables used were bank-specific variables consisting of Asset, CAR, FDR, CIR, NPF, and macroeconomic variables comprising regional GRDB and Covid-19.

The Z-score variable which measures resilience risk or stability was calculated using the following formula (Adusei, 2015a; Boadi et al., 2016):

$$Z - Score = \frac{(ROA + {}^{EC}/_{TA})}{\sigma(ROA)} \quad (3)$$

ROA is the return on asset, EC/TA is the ratio of equity to total assets, and σ(ROA) is the standard deviation of ROA. Z-score relates a bank's capitalization level to its profitability and risk. Thus, the higher the Z-score indicates, the higher the level of bank resilience (Curak et al., 2012; Boadi et al., 2016; Anning, 2018).

The funding risk (Z-scoref) refers to the possibility of bank losses arising from a decline in the bank's third-party fund mobilization. It was calculated using the following formula (Adusei, 2015b):

$$Z - ScoreF = \frac{[({}^{DEP}/_{TA}) + ({}^{EC}/_{TA})]}{\sigma({}^{DEP}/_{TA})} \quad (4)$$

DEP/TA is a ratio of total third-party funds to total assets. EC/TA is the ratio of equity to total assets, and σ(DEP/TA) is the standard deviation of the ratio of third-party funds to assets. The higher the Z-score shows, the more stable the bank. Therefore, it is expected that funding risk has a positive impact on bank profitability (Adusei, 2015a; Boadi et al.,2016).

Bank size was measured by a log of total assets. Capital adequacy ratio (CAR) was calculated by equity divided by assets weighted risk. The financing deposit ratio (FDR) is a ratio of total financing to third-party funds. The cost-income ratio (CIR) is the total expense to total income. Non-performing financing (NPF) is a ratio of total financing default to total financing. Gross regional domestic product (GRDP) is the growth of GDRP.

Data

Our study investigated SRBs on Java Island and selected those that provide complete financial data for analysis. The Period of the study covered 2017-2021 and used quarterly data. Of 100 SRBs, 88 SRBs were selected for our study. Our final data for this study was 1631 observations with unbalanced panel data. The data used was secondary data originating from quarterly Shariah rural bank reports published online by Otoritas Jasa Keuangan (OJK) (www.ojk.go.id) and GRDP data published online by Statistics Indonesia (BPS) (www.bps.go.id)

IV. RESULTS AND DISCUSSION

Results

We begin with an overview of SRBs in Indonesia. The practice of Shariah banking in Indonesia began in 1992 with the establishment of Bank Muamalat Indonesia. However, Islamic banks have not received serious attention in the national banking industry. The development of Shariah banking began to grow rapidly since the issuance of Law No. 23 of 1998. Islamic banks in Indonesia are divided into Shariah commercial banks and Shariah rural banks. The number of SRBs in 2022 was 166 banks with 668 branches. Figure 1 shows the performance of BPRS in terms of return on assets (ROA) and non-performing financing (NPF) during 2016-2022. The average ROA was 2.21%, indicating the soundness of Islamic rural banks as it was above the threshold of 1.5%. However, the profitability of SRBs has been declining since the outbreak of Covid-19. More importantly, SRBs faced high funding risk in the form of high NPF with an average of 9.06, above the threshold of 5%. However, there is a decreasing trend in NPF, which seems to indicate that SRBs are getting better at managing their financing.

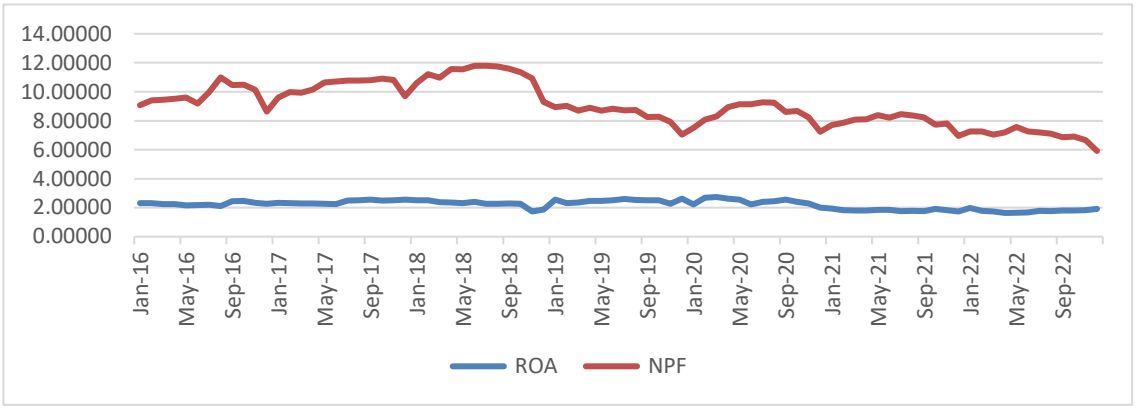

Figure 1. ROA and NPF, 2016-2022

Table 1 presents the performance of SRBs on Java Island and a summary of statistics of all variables being studied. The average margin was 5.21 with a standard deviation of 36.17. The margin has large deviations because the standard deviation value exceeds the mean. The average Z-score was 25.82, but there is quite a high deviation between SRBs because the standard deviation is greater than the average value. Z-scoref, on average, was 18.31% with a standard deviation of 20.95, which indicates the existence of stability variations between SRBs. For assets that measure bank size, the average was IDR 91.10 billion with a standard deviation of 150.92, which shows that the size of banks varies greatly among SRBs. The average FDR was 92.79, which indicates that SRB financing is high but still within the reasonable threshold. The average CIR was 66.08, suggesting that the SBRs are relatively efficient, with an efficiency level of 66.08%. The average NPF was 9.95%, indicating that the financing risk of SRBs is high due to exceeding the 5% threshold. The average economic growth rate was 93.62%, but it varies between regencies and municipalities.

Table 1. Summary statistics

Variable	Mean	Std. dev.	Min	Max
NPM	5.2160	36.1757	-887.3817	170.0277
Z-score	25.8283	27.0935	-3.3030	351.1673
Z-scoref	18.3182	20.9522	0.3673	272.8002
Asset	91.1088	150.9200	2.1396	1402.0510
CAR	26.8725	19.4927	0.2000	149.5000
FDR	92.7923	42.7230	0.5400	975.1300
CIR	66.0083	36.9663	0.7541	983.4084
NPF	9.9553	8.8388	0.0400	67.5000
GGRDP	0.9362	0.4528	-0.7966	2.3072
Covid-19	0.3556	0.4788	0.0000	1.0000

Our study investigated all SBRs on Java Island as baseline regression. However, the performance of Islamic rural banks depends on their size (Čihák & Hesse, 2010; Ibrahim et al., 2017). Therefore, for further analysis, the study explored SRBs' margins according to their size. SRBs with assets above average were categorized as a large bank and SRBs with assets below average are classified as a small bank.

Table 2 exhibits the findings of the dynamic panel regression for all SRBs. This paper applies the two-step system GMM method. This method is more robust than two-differenced GMM (Blundell & Bond, 1998). Model 1 represents the model without Covid-19, and model 2 incorporates Covid-19. The results of model 1 and model 2 are consistent. The diagnostic test results reveal that the instrument is valid because the number of banks is greater than the number of instruments and rejects the Hansen test. The model is also free from autocorrelation according to the AR (-2). More importantly, the lag of the dependent variable, NPM (-1), is positive and significant, meaning that the margin is persistent because the previous period's margin has a positive effect on the current period's margin.

Table 2 shows that the Z-score positively influenced the margin with α=5%. Z-scoref is positive and significant at α= 1%. Assets had a negative effect on margin at α=1%. CAR had a positive effect

on margin at α=1%. CIR negatively affected Shariah rural bank margin at α=1%. NFP was negatively linked to the Shariah rural bank margin at α=1%. The results indicate that FDR, GRDP, and COVID-19 have no effect on the Shariah rural bank margin.

Table 2. All Shariah rural banks

	Model 1			Model 2		
Variable	**Coefficient**	**t-statistics**	**Prob.**	**Coefficient**	**t-statistics**	**Prob.**
NPM (-1)	0.144***	13.145	0.000	0.145***	12.837	0.000
Zscore	0.053**	1.695	0.047	0.050*	1.581	0.059
Zscoref	0.101***	3.748	0.000	0.101***	3.751	0.000
Lasset	-3.698***	-5.736	0.000	-3.633***	-5.564	0.000
CAR	0.192***	4.597	0.000	0.198***	4.616	0.000
FDR	-0.008	-0.771	0.222	-0.008	-0.749	0.228
CIR	-0.749***	-28.513	0.000	-0.746***	-28.368	0.000
NPF	-0.309***	-2.785	0.004	-0.307***	-2.864	0.003
GGRDP	-0.283	-0.283	0.389	-1.320	-1.047	0.149
Covid	-	-	-	-1.214	-0.957	0.171
Cons.	114.579***	9.726	0.000	114.509***	9.795	0.000
No. obs.	1631			1631		
No. bank.	83			83		
No. Inst.	28			29		
AR (-1)	0.000			0.000		
AR (-2)	0.674			0.684		
Hansen	0.311			0.329		

***, **, * denote significant at α=1%, α=5%, α=10%.

As mentioned before, we devided SRBs between large and small banks. The results are shown in Table 3. The instrument is valid because the number of banks is greater than the number of instruments and rejects the Hansen test. Based on the AR (-2) test, the model is also free from autocorrelation problems. NPM (-1) had a positive and significant, meaning that the margin is persistent over time, so the dynamic model is better than the static panel model.

Zsocre and Z-scores positively affected the margin, at α=10% and at α=1%, respectively, for large SRBs. CAR had a positive impact on margin at α=1%. However, CIR, NPF, and Covid were negatively associated with margin at α=1%. Asset, FDR, and GGRDP have no impact on margin. Turning to small SRBs, Zsocre and Z-scoref have no impact on margin. CAR positively influenced the margin at α=1%. Asset, FDR, CIR, and NPF negatively affected the margin at α=1%. GDP and Covid have no effect on margin.

Table 3. Large and Small Shariah Rural Banks

	Large SRBs			Small SRBs		
Variable	**Coefficient**	**t-statistics**	**Prob.**	**Coefficient**	**t-statistics**	**Prob.**
NPM (-1)	0.031***	4.138	0.000	0.311***	20.652	0.000
Zscore	0.070*	1.885	0.067	-0.015	-0.763	0.450
Zscoref	0.135***	8.736	0.000	0.058	1.031	0.308
Lasset	-1.994*	-1.641	0.055	-2.303***	-3.749	0.001
CAR	0.302***	6.440	0.000	0.187***	6.685	0.000
FDR	0.009	0.757	0.453	-0.034***	-3.651	0.001
CIR	-0.874***	-82.935	0.000	-0.550***	-13.321	0.000
NPF	-0.429***	-7.069	0.000	-0.401***	-3.434	0.001
GGRDP	-0.797	-0.410	0.684	-1.256	-1.381	0.175
Covid	-3.382*	-1.851	0.072	-0.585	-0.488	0.628
Cons.	87.639***	3.785	0.001	82.825***	6.923	0.000
No. obs.	782			849		
No. bank.	40			43		
No. Inst.	29			29		
AR (-1)	0.015			0.004		
AR (-2)	0.456			0.224		
Hansen	0.297			0.169		

***, **, * denote significant at α=1%, α=5%, α=10%.

Discussion

The first discussion starts with the Z-score. The Z-score has a positive impact on the margin. This means that the more stable the rural Shariah banks are, the greater their ability to generate margin. The Z-score is a proxy for solvency risk control. According to Munteanu (2012), the most relevant measure of bank performance is its resilience to crises and the risks it faces. The Z-score is a measure of bank performance that can prove that regulatory supervision and good governance can protect depositors' funds and increase trust in Shariah banks (Boadi et al., 2016). This proves that bank resilience in facing crises and risks drives profitability. This supports empirical evidence, which stated that Syariah's resilience to crises and risks has a positive impact on profitability (Munteanu, 2012; Boadi et al., 2016; Ali & Puah, 2019; Le, 2020).

The next variable is Z-Scoref. Z-Scoref has a positive impact on the margin. This implies that the higher the funding risk, the higher the margin of the rural Shariah bank. The Z-scoref measures the standard deviations that third party funds must fall from the average to force a bank to resort to recapitalization of its equity. Thus, the higher the Z-score, the lower the funding risk of rural Shariah banks. Banks with high funding risk indicate that the bank can mobilize public funds well. A high deposit means that the bank can disburse more funding due to lower liquidity risk of finding, so the bank's ability to generate profits is also high (Acharya & Naqvi, 2012). This is in line with the studies of Adusei (2015b) and Boadi et al., (2016) for the case of rural banks in Ghana.

Assets have a negative impact on margin. Large assets tend to have a strong financial position and vice versa. Large assets are expected to be able to meet their obligations and avoid the risk of bankruptcy. However, large assets can also lead to operational inefficiencies and weak control over funding, thereby reducing margin. The results of this study support the findings of Islamic banks in the GCC (Saif-Alyousfi et al., 2020). This finding supports the "too big to fail" theory where small SRBs are more suitable than larger SRBs.

CAR has a positive effect on margin. Shariah rural banks that maintain high capital relative to assets tend to have better performance because they face lower risks than banks with lower capital (Pasiouras & Kosmidou, 2007). In other words, the higher capital adequacy in bearing risks, the better the bank's performance, which obviously increases public trust and increase profitability (Armereo, 2015). This supports empirical evidence which states that capital has a positive impact on profitability (Aryati & Purwanto, 2019).

CIR negatively affects Shariah rural bank margin. A high CIR indicates the inefficiency of Shariah rural bank operations. Operational inefficiencies of Shariah rural banks reduce margins. This finding confirms the previous study on the case of Indonesian Shariah commercial banks (Sutrisno & Widarjono, 2022). Therefore, SRBs must be able to manage operational activities efficiently by reducing operational costs (Yusuf, 2017). This greatly influences the level of profitability reflected in the high margin.

NFP is negatively related to the margin of Shariah rural banks. Financing is the main activity that is the source of profitability for Shariah rural banks. However, even though the disbursed financing is high, the high non-performing financing will cause SRBs to increase their reserves for losses from financing activities. Banks with high loan loss reserves indicate poor portfolio quality. As a result, if the financing portfolio is burdened with financing defaults and the income derived from profit sharing, margin and endowment from the financing disbursed will not be maximally absorbed. This results in a lower margin. This finding is consistent with the influence of NPF on margin in Shariah business units in Indonesia (Widarjono et al., 2023).

The results indicate that FDR, GRDP, and COVID-19 have no effect on the Shariah rural bank margin. GDPR does not have a significant influence on margin because economic growth in the research period was relatively stable, so it did not affect the funding and financing. These results are in accordance with the study of Fithria (2018); Sudarsono et al., (2021); and Sangjaya et al., (2022). The government, through the Financial Services Authority, carried out several stimuli related to the condition of SRBs. Some of the stimuli include customer restructuring and margin subsidies for customers affected by COVID-19. In addition, there is an adjustment to the collectability of customers affected by COVID-19 to current collectability, even though there are debts in the payment of obligations. Therefore, it is possible that economic growth during this period

did not have a direct influence the profitability. This is in accordance with the finding in the case of Shariah commercial banks in Indonesia (Ajizah & Widarjono, 2023).

A number of previous studies have not examined the effect of stability and funding risk on the profitability of rural banks between large and small banks (Adusei, 2015a; Boadi et al., 2016). Regarding the results of larger and smaller SRBs, there are some important contributions. Stability and funding risk have a positive effect on margin for large SRBs, but these two variables have no effect on margin for small SRBs. The plausible reason is that large banks have better capabilities than small banks in mobilizing public funds because they have better facilities and infrastructure (Ibrahim et al., 2017). Bank size has a negative effect on all SRBs, so the hypothesis of too-big-to-fail applies to SRBs, but it is more prone to small SRBs, and this is supported by the negative effect of FDR on margin. CAR has a positive effect on the margin of both small and large SRBs. Low operating efficiency and high financing default have a negative effect on the margin of both large and small SRBs. Covid-19 has a negative effect on margin at large SRBs, but Covid-19 has no effect on small SRBs.

V. CONCLUSION

The purpose of this study was to examine the influence of stability and funding risk, with bank-specific variables and macroeconomic variables as control variables, on the SRB margin. Stability and funding risk have a positive impact on SRB margin. Some bank-specific factors also affect the SRB margin. CAR has a positive impact on SRB margin. Meanwhile, asset, NPF, and CIR have a negative impact on the SRB margin. More importantly, stability and funding risk are positively associated with the margin in the case of large SRBs. In addition, Covid-19 has a negative effect in the case of large SRBs.

There are several important implications of these findings. First, stability and CAR positively affect margin. Therefore, Shariah rural banks should increase CAR and build up capital buffers to increase margins. Second, funding risk has a positive effect on margin. This funding suggests that SRBs likely intensify the way to collect high deposits and, in turn, increase financing and strengthen their margin. Third, Shariah rural banks should improve their operating efficiency to increase their margin. Fourth, Shariah rural banks should manage their financing properly to avoid high non-performing financing (NPF) since low NPF encourages high margins. However, our study is limited because we analyze only SRBs on the island of Java.

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