**WHAT DRIVES NON PERFORMING FINANCING? EVIDENCE FROM ISLAMIC RURAL BANKS IN INDONESIA DURING COVID-19**

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***ABSTRACT***

This study investigates the variables that affect Non-Performing Financing at Islamic Rural Banks (IRB) during the covid-19 pandemic. This study uses panel data taken in 2020 at the time of the COVID-19 pandemic. The data is processed using panel data regression analysis. The results of this study indicated that macroeconomic variables proxied by GRDP have a negative impact on NPF both in small and large banks in Java and outside Java. Furthermore, this study specified that Sharia BPRs are more careful in distributing financing, especially during the COVID-19 pandemic crisis.

**Keywords:** NPF, GRDP, Covid-19

1. **INTRODUCTION**

The Covid-19 pandemic does not only create a crisis in the health sector, but also affected to all fields including the economy and financial sector. Economic and financial crises can result in the failure of financial intermediary institutions such as banks (Cetorelli et al., 2012). The financial crisis has caused many global financial institutions to experience various problems. The main problem faced by financial institutions when a crisis occurs is the increase in non-performing loans or financing (Kuzucu et al., 2019).

Non-performing financing is a very crucial issue for both conventional and Islamic banks (Isaev & Masih, 2017). The crisis that increase the NPF is hitting mostly in profit-share based banks. Islamic banks have a higher level of non-performing financing compared to conventional banks (Kabir et al., 2015).

This study elaborated the dynamics of non-performing financing (NPF) in one type of Islamic bank in Indonesia, namely the Islamic Rural Bank (IRB) during the COVID-19 pandemic in Indonesia. The NPF at Sharia BPR in Indonesia during Covid-19 has increased since Covid-19 was first announced in early 2020. According to the Sharia Banking Statistics (SPS) released by the Financial Services Authority (OJK), there has been an increase in non-performing loans experienced by Sharia BPR in Indonesia over the past few years during the Covid-19 pandemic. The NPF of Sharia BPR in 2019 was 7.05% and increased in 2020 by 8.5% (OJK, 2020).

BPR Syariah is a bank that is very important to develop the rural sector economy. Where IRB focuses on Micro, Small and Medium Enterprises (SMEs). Recently, there are 36 thousand micro and small companies and 1000 large companies, while the total of IRBs in Indonesia is 165 banks. Therefore, the existence of IRB in Indonesia needs to be sustained with better financial performance (Widarjono & Rudatin, 2021).

The factors that affect the non-performing loans at the Bank have been commonly studied. Research on conventional banks as conducted by several scholars as follows: Tanasković & Jandrić, (2015); Kjosevski et al., (2019); Louzis et al., (2012); EL-Maude et al., (2017); Bardhan et al., (2019); dan Rizvi et al., (2019). In Islamic Banks as done by Kabir et al., (2015); Havidz & Setiawan, (2015) Wulandari et al., (2019); Rahmah & Armina, (2020) Widarjono et al., (2020); and Widarjono & Rudatin, (2021). This study utilize the internal bank and macroeconomics as the factors that affect credit or non-performing financing.

The research above show the different results related to the factors that influence credit or non-performing financing both at conventional banks and Islamic banks. Therefore, this study will re-examine the factors that influence the non-performing financing, especially in Islamic Rural Banks (IRB) in Indonesia. Unlike the previous researchs above, the novelty of this study is the data involved is recently published data of IRB and Macroeconomics during the COVID-19 pandemic.

**B. THEORITICAL**

Assets can have a negative or positive effect (Widarjono et al., 2020; Widarjono & Rudatin, 2021). Diversification of financing and economies of scale in large banks reduce financing risk (Abedifar et al., 2013). Large banks tend to be able to handle their financing risk compared to small banks (Mirzaei et al., 2013). Bank size also affects financing risk in times of crisis (Kuzucu et al., 2019).

The financing to deposit ratio (FDR) is the ratio between the amount of funds disbursed in the form of financing and the amount of funds and utilized equity (Chitra & Kadir, 2021). FDR has a positive effect on NPF (R.D.Kadir, 2019; Solihatun, 1994).

Operational efficiency ratio (OER) measures the level of efficiency in the use of funds in banks (Widarjono et al., 2020). A high BOPO ratio reduces bank efficiency, thus it does not bring profits to the bank (Firmansyah, 2014). OER has a positive effect on NPF (Girardone et al., 2004; Hughes & Mester, 1993).

Economic growth, measured by GRDP, has an effect on financing risk during a crisis (Kuzucu et al., 2019). This study using the Provincial GRDP to value the economic growth. Widarjono et al. (2020) explains that there are differences in the factors that affect the NPF of Sharia BPRs on the island of Java and outside Java due to economic growth (GRDP). GRDP is assumed to have a negative effect on NPF (Badar & Javid, 2013; Firmansyah, 2014; Ghosh, 2015; Kuzucu et al., 2019; Prasanna et al., 2014).

**Tabel 1. Variabel Description and Hypotesis**

|  |  |  |
| --- | --- | --- |
| **Variabel** | **Description** | **Hyphotesis** |
| **Dependent Variable** | | |
| *NPF* | Non performing financing to measure the risk of financing. |  |
| **Independent Variabel** | | |
| ***Asset*** | Total assets with natural logarithm (ln) to measure the size of the bank. | (+/-) |
| ***FDR*** | Financing to deposit ratio measures the amount of financing disbursed compared to equity (deposit). | (+) |
| ***OER*** | Operational efficiency ratio (OER) measures the level of bank efficiency in the use of funds. | (+) |
| ***GRDP*** | GRDP is the rate of regional economic growth. | (-) |

**C. METHODOLOGY**

This research is a quantitative research. This study follow the previous researchs that utilized macroeconomic and internal variables on the NPF of IRB in Indonesia (Rahmah & Armina, 2020; Widarjono et al., 2020; Widarjono & Rudatin, 2021; Wulandari et al., 2019) during the COVID-19 pandemic 19. The analysis using panel data regression with the following model:

NPFit = β0 + β1Ln\_Sizeit + β2FDRit + β3BOPOit + β4 Ln\_PDRBit + eit

The macroeconomic variable used is economic growth as a proxy of GRDP. The internal variables of BPR Syariah are measured by Bank Size (Size) as proxied to assets, Financing to Deposit Ratio (FDR), operational efficiency ratio (OER).

Macroeconomic data is taken from the Badan Pusat Statistik (BPS) and internal bank data is taken from the Banking Report published by the Otoritas Jasa Keuangan (OJK) as the financial authority. The data of this research is using quarter data of the 2020 when the COVID-19 pandemic spread throughout Sharia BPR in Indonesia.

**D. RESULTS AND DISCUSSION**

Table 2. describes the descriptive statistics of all the variables involved. The average NPF at IRB during 2020 was 9.14% with standard deviation of 7.84%. The average NPF is still very high from the standard set by Bank Indonesia, which is 5%. This shows that during 2020 (during the covid-19 pandemic) the financing conditions of IRB were underperformed.

The average bank size (size) is Rp. 95.25 billion (ln. 9.14). The highest bank size is Rp. 1.31 trillion (ln. 21.01) and the lowest was Rp. 3.47 billion (ln. 15.06). The average FDR is 96.29% and the highest is 646.2%. The average BOPO is 83.91%. A high BOPO indicates the inefficiency of IRB.

**Tabel 2. Descriptive Statistics**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Variabel** | **Mean** | **Median** | **Minimum** | **Maximun** | **Std. Dev** |
| NPF | 9.14 | 6.58 | 0.000 | 48.61 | 7.84 |
| Ln\_Size | 17.65 | 17.58 | 15.06 | 21.01 | 1.12 |
| FDR | 95.29 | 89.55 | 0.79 | 646.2 | 44.49 |
| BOPO | 83.91 | 86.06 | -3092 | 704.4 | 146.29 |
| Ln\_PDRB | 19 | 19.37 | 16.11 | 20.40 | -0.52 |

Source: *Data processed using Eviews 10 (2021)*

Table 3. describes the correlation between the independent variables. It is obvious that all variables are below 0.7. These results indicate that there is no autocorrelation. Although this model can contain multicollinearity problems.

**Tabel 3. Correlation Matrix**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **NPF** | **Ln\_Size** | **Ln\_PDRB** | **FDR** | **BOPO** |
| **NPF** | 1 |  |  |  |  |
| **Ln\_Size** | -0.24 | 1 |  |  |  |
| **Ln\_PDRB** | 0.00 | 0.014 | 1 |  |  |
| **FDR** | 0.01 | 0.04 | -0.00 | 1 |  |
| **BOPO** | -0.11 | -0.02 | -0.02 | 0.05 | 1 |

Table 4. shows the results of panel data regression. Analysis of panel data regression model selection using common effect (CE), fixed effect (FE), and random effect (FE). The Chow Test is conducted to decide the model between CE and FE and the selection of the FE and RE model using Hausman-test. Based on the research ofWidarjono et al. (2020) confirmed that there is a relationship between NPF and bank size. Based on the Chow test and Hausman-test, the FE model is selected for all variables.

**Tabel 4. Static Panel Regression**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **All Banks: FE** | **Large: FE** | **Small: FE** |
| **Constant** | 3.459 | 2.384 | 2.603 |
|  | (0.006) | (0.018) | (0.010) |
| **Ln\_Size** | -5.062 | -1.147 | -0.829 |
|  | (0.000)\* | (0.252) | (0.408) |
| **FDR** | -1.253 | 2.348 | -0.807 |
|  | (0.210) | (0.019)\* | (0.427) |
| **OER** | -2.743 | 1.577 | -1.897 |
|  | (0.006)\* | (0.116) | (0.059)\* |
| **Ln\_GRDP** | -1.747 | -1.940 | -2.076 |
|  | (0.081) | (0.053)\* | (0.039)\* |
| **Chow-test (prob)** | 0.000 | 0.000 | 0.000 |
| **Hausman-test (prob)** | 0.000 | 0.008 | 0.020 |
| Note: \*are statistically significant at α = 5% | | | |

Bank size has a negative effect on all banks, although large and small banks are not significant. FDR valued negative but not significant effect on the data of all banks. On large bank data, FDR estimated a positive and significant effect. Meanwhile, in small banks FDR has a negative and insignificant effect. Large banks have a tendency to disburse financing so that the distribution of financing has an impact on increasing the NPF value. OER has a negative and significant effect to the data of all banks and small banks. In large banks, OER has a positive but not significant effect.

GRDP shows consistent results and has a significant negative effect on large and small banks. GRDP has a significant impact on the reduction of NPF in Islamic banks. The impact of GRDP in reducing the level of NPF does not differentiate between the large and the small banks.

**Tabel 5. Static Panel Regression**

|  |  |  |
| --- | --- | --- |
| **Variable** | **Java: FE** | **Outside Java: RE** |
| **Constant** | 3.474 | 2.780 |
|  | (0.000) | (0.006) |
| **Ln\_Size** | -4.484 | -2.333 |
|  | (0.000)\* | (0.020)\* |
| **FDR** | -2.938 | 1.193 |
|  | (0.003)\* | (0.234) |
| **OER** | -2.584 | 1.136 |
|  | (0.010)\* | (0.257) |
| **Ln\_GRDP** | -2.027 | -1.948 |
|  | (0.043) | (0.053)\* |
| **Chow-test (prob)** | 0.000 | 0.000 |
| **Hausman-test (prob)** | 0.000 | 0.073 |
| **Note: \***are statistically significant at α=5% | | |

Indonesia is a unique country separated into small to large islands. There are ten largest islands in Indonesia consisting of Papua, Kalimantan, Sumatra, Sulawesi, Java, Timor, Halmahera, Seram, Sumbawa and Flores Island. Apart from the ten largest islands there are many other. The problem that occurs with the number of islands or regions in Indonesia is the problem of equitable distribution of economic development. Economic development is more concentrated on the island of Java compared to other islands. Therefore, this study separates the data between Java and outside Java.

Table 5. indicated that bank size has a negative and significant effect on NPF in Java and outside Java. FDR has a negative and significant effect on NPF in Java. As for outside Java, FDR has a positive but not significant effect on NPF. The effect of OER on Java Island has a negative and significant effect. But it has a positive and insignificant effect on banks outside Java. GRDP specified the consistent results that there is a negative and significant influence of regional economic growth on NPF both in Java and outside Java.

**Discussion**

Non-performing financing (NPF) at IRB in this study is influenced by several variables. The bank size variable specified that there is a significant and negative effect on the data of all banks. Although there is no difference in the level of influence and significance on the NPF for large and small data banks. This shows that the high NPF at IRB is not completely influenced by the size of the bank during the COVID-19 pandemic.

The financing ratio (FDR) of BPR Syariah to the total equity owned by IRB shows a positive and significant influence on NPF in large banks. The high level of FDR at large banks increase the non-performing financing. This result is in accordance with research by R.D.Kadir (2019 dan Solihatun (1994) which shows a positive and significant effect of FDR on NPF. Large banks show a tendency to disburse their financing to riskier financing than small banks (Widarjono et al., 2020). It causes the amount of financing at large banks has an impact on increasing the number of NPF, especially during the covid-19 pandemic.

The increase in NPF at large banks during the COVID-19 pandemic is also influenced by the slow regional economic growth. The results of this study specified that economic growth (GRDP) both in Java and outside Java has a negative and significant effect. The stagnation of economic growth during the COVID-19 pandemic causes non-performing financing, especially to large banks whose financing contracts are more risky. These results support the research of Kuzucu et al. (2019) which explained that during a crisis the rate of economic growth will have an impact on increasing the NPF. The negative and significant effect of GRDP in this study is in line with research conducted by Badar & Javid (2013; Firmansyah (2014); Ghosh (2015); Kuzucu et al. (2019); Prasanna et al. (2014).

The outcomes of this study also confirm that OER has a negative and significant effect on the data of all banks and small banks. The positive yet insignificant effect presented by OER to NPF is occurred in large banks and banks located outside Java. This result is contrary to the research conducted by Girardone et al. (2004); Hughes & Mester (1993) which confirmed a positive effect of OER.

**E. CONCLUSION**

Concluded based on the above analysis, that in 2020 during the COVID-19 pandemic, the NPF level is strongly influenced by regional economic growth (GRDP). The variable of Bank size shows a negative and significant effect to NPF. The variable of FDR in large banks shows a positive and significant effect. Additionally, the variable of OER is confirmed to have positive yet insignificant effect to large banks.

The findings and conclusions in this research is expected to be the logical source of IRB in Indonesia to manage the NPF, especially during the COVID-19 pandemic. IRB should be able to overcome the negative impact of economic growth. This study has its limitations on the variables and data collected. The future research is expected to be able to use the data taken both before and after the COVID-19 pandemic. In addition, the data of macroeconomic and internal bank engaged in this study are limited. Therefore, could be accomplished in the further research.

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