
What is the Determinant of Non-Performing Financing in Branch Sharia Regional Bank in Indonesia

Determinant
of Non-
Performing
Financing

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Damanhur

Faculty of Economics and Business, Departement of Islamic Economic, Universitas Malikussaleh, Aceh, Indonesia and Islamic Economics, UIN Sumatera Utara, Medan, Indonesia

Wahyuddin Albra

Faculty of Economics and Business, Departement of Management, Universitas Malikussaleh, Aceh, Lhokseumawe, Indonesia and Doctorate Management Program, University of Syriah Kuala, Aceh, Indonesia

Ghazali Syamni

Faculty of Economics and Business, Departement of Management, Universitas Malikussaleh, Aceh, Indonesia and Doctorate Management Program, University of Syriah Kuala, Aceh, Indonesia

Muhammad Habibie

School of Management in Faculty of Economic and Business, Universitas Malikussaleh, Aceh, Indonesia

Abstract

Purpose – The aim of this study is to analyze the effects of macro- and micro-economic variables on the ratio of troubled financing (Non-Performing Financing, NPF).

Design/Methodology/Approach – The method used in this research is the data panel fixed effect with 13 banks and 4 periods of data report (semi-annual report 2014–2015).

Findings – The regression result achieved that variable inflation significantly influences the ratio of NPF. Variable Gross Domestic Product and assets total significantly influence the ratio of NPF too. While the SBI sharia's variable and Financing to Deposit Ratio did not significantly affect NPF in Syriah's Unit of Aceh Bank Pembangunan Daerah (BPD) in Indonesia.

Research Limitations/Implications – This study uses panel data which are a combination of time series data and cross-section.

Practical Implications – The policymakers can design a macro-policy carefully and better fiscal policies.



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1. Introduction

Some of local banks in Aceh Bank Pembangunan Daerah (BPD) have opened double window system expanding their previous conventional bank system with other Sharia system. Bank Pembangunan Daerah Unit Syariah (BPDUS) is a regional bank that is fully supported and developed in Indonesia. BPDUS is considered as a potential to support economic growth in the region, especially for employees both from private company and/or civil servant living in any districts all over Indonesia. Some of the great potentials that enable the banks to grow up are from sectors of financing, particularly consumptive financing for civil servants.

During year 2014–2015, BPDUS had distributed financing, especially the considerable consumptive financing toward working capital sector, investments, and other consumption financing as shown in Table 1.

Based on Table 1, it can be explained that the financial support conducted by BPDUS is more dominant by the consumptive financing which keep increasing from year to year. Data from the Financial Services Authority reported in 2014 show that the amount of consumptive sector financing is 26.957 billion rupiah and 31.68 billion rupiah in 2015. While the financing in the other two sectors ranges only half of it, 16.309 billion in the capital financing and 11.45 billion in the investment sector. The high rates of financing provided by BPDUS surely cannot be separated from the loan risk. This loan risk is reflected in the ratio of Non-Performing Financing (NPF).

Researches in countries, where sharia banking is more established, show different findings in affecting Non-Performing Loan (NPL) or financing, especially macroeconomic variables. In Europe, Dimitrios *et al.* (2016) assert that to face external environment developments the policy makers are carefully designing the macro and better fiscal policies.

A study by Alandejani and Asutay (2017) in the Gulf States found that particular sectors financed by sharia banks led to high loan risk. Because different sectors of finance affect the financing structure and have an impact on the long-term risk of sharia banking (Abdul-Rahman *et al.*, 2017). Similarly, Misman *et al.* (2015) express that the quality of financing and model ratios affect the risk level of Islamic banking in Malaysia. Although, Islamic banks have more capital that makes unstable profits (Bitar *et al.*, 2017).

Some research in Indonesia concludes that too high financing makes the risk of sharia banks facing the problem of congestion on the financing that has been disbursed. This is

Table 1.
Finance Distribution
of BPD Syariah
Based on Sectors

| Economic Sector | Dec. 2014 (MiliarRp) | Mar. 2015 (MiliarRp) | June 2015 (MiliarRp) | Sep. 2015 (MiliarRp) | Dec. 2015 (MiliarRp) |
|--------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Working capital | 15,301 | 16,985 | 16,940 | 17,156 | 16,309 |
| Investments | 9,128 | 9,080 | 9,701 | 10,361 | 11,452 |
| <i>Consumption</i> | <i>26,957</i> | <i>27,511</i> | <i>28,706</i> | <i>29,611</i> | <i>31,268</i> |

reflected in its large NPF value. Nursechafia and Abduh (2014) and Iriani and Yuliadi (2015) say that some macroeconomic variables have affected the risk of Islamic banking: exchange rates, inflation, economic growth, and the amount of money in circulation and all these factors need to be noticed by banks. Thus, the government needs efforts to maintain its macroeconomic performance to achieve low NPF and NPL (Sukmana and Sukmana, 2016).

However, a study by Setyawati *et al.*, (2017) shows that during the global crisis of Islamic banks' performance, NPF was better after the global crisis. While vulnerable banking research needs to pay attention to exchange rate risks and fluctuating inflation, especially banks that have small size asset size (Ekananda, 2017). Previous research (Iriani and Yuliadi, 2015) has said that the behavior of banking and economic behavior has been affecting NPF in sharia banking in Indonesia. Research in Malaysia (Sanwari and Zakaria, 2013) says that the performance of banks is strongly influenced by capital, asset quality, while macro-economic variables do not affect the financial performance of sharia banks although not all. In addition Asy'ari (2006) says that third party funds and lending rates influence the financing of sharia business. According to Lindiawatie (2007) the increment of interest rates on the decline in funding means there is coherence of SBIS to increase with the increase of NPF. While Pramudita (2013) says that banks with a large asset total has a great opportunity to growingly distribute the loan. Based on the above description, the purpose of this study is to examine the effect of macroeconomic variables inflation, SBISyariah, GDP, and internal variables of banks including financing debt ratio and total assets.

2. Methodology

The data used in this study was BPD Summary Report from Sharia Unit which ranging from 2014 to 2015 data. The data were accessed from bi.go.id website. By these criteria, the samples in this study was quarterly at 18 BPDUS, covering: PT Bank Aceh, PT Bank DKI, PT BPD Central Java, PT BPD East java, PT BPD West Kalimantan, PT BPD South Kalimantan, PT BPD NTB, PT BPD Riau Kepri, PT BPD Sulsel and Sulbar, PT BPD West Sumatra, PT BPD Sumsel& Babel, PT BPD North Sumatra, and BPD Yogyakarta. The variable of total assets, Financing to Deposit Ratio (FDR), and NPL were obtained after yielding financial statements, tabulated in accordance with the designed formula. While data on macroeconomic variables such as the growth rate of Gross Domestic Product (GDP), SBIS, and Inflation rate published on the official website of the Central Bureau of Statistics for the period 2014–2015.

This study used panel data because the data in this study was a combination of time series and cross-section data. In the test using panel data then the selection of suitable research model, Pooled Least Squares, Fixed Effects Model, or Random Effect Model (PLS, FEM, or REM) is done. The use of these three models was highly dependent on the test results of the Chow Test and Hausman Test. Thus, the model in this study is: $NPF_{it} = \alpha + \beta_1 Inflasi_{it} + \beta_2 SBIS_{it} + \beta_3 GDP_{it} + \beta_4 FDR_{it} + \beta_5 TAsset_{it} + e$, where α is a constant, $\beta_1 - \beta_5$ is the regression coefficient, is the magnitude of the variable change, bound due to each change unit of independent variable, NPF is Non-Performing Financing, SBIS is SBISyariah Interest Rate, GDP is gross domestic product, T Asset is total asset, FDR is Financing to Deposit Ratio, and e is Residual variable of error rate.

3. Findings

In general it can be concluded that inflation SBIS, GDP, FDR, and total assets BPDUS fluctuation occurred in the period 2014–2015.

Based on Table 2, it can be shown that BPDUS's total banking assets continue to increase rapidly. Total assets by June 2014 was 1.155 billion which continued to rise to 1.396 billion in

2015, during the research period the value of its assets was above average. FDR value slightly decreased at the end of 2015 to an average of 1.377%; this indicates the efficiency in lending to the parties who need funds. NPF values can also be maintained in the range that is still awake with an average of 0.04%. On the macroeconomic side of Indonesia in the period of 2104–2015 showed that inflation growth is still higher than the national income or less 0.015%. While the value of SBISyariah is still at the $\pm 7\%$ level. In other words, there is no significant difference with the certificates of Bank Indonesia deposits in conventional banks.

3.1. Determination NPL at BPDUS in Indonesia

Prior to the discussion of the first regression results, a selection of suitable models of this study was made. Chow test results with reviews explain that the value of Cross-section F is worth -12.34 with 1% significance level. Since the value of Chow test finds significant value then the use of the model in research can be used as fixed effect model. However, this test was not final since it needs to be tested again by using Hausman test to select fixed effect or random effect model (Gujarati, 2004). After Hausman test, it is found that chi-sq 5 probability value was not significant $<5\%$, that is, 1. So, the results of this study are more suitable to choose the model research as fixed effect model.

Based on Table 3, the model in this study is $NPF_{it} = \alpha + 0.317Inflasi_{it}^{**} + 4.285SBIS_{it}^* - 7.735GDP_{it}^{**} + 0.002FDR_{it} - 0.052TAsset_{it}^{**}$.

Inflation variable capability, SBISyariah, GDP, financing debt ratio, and total assets explain that the relationship of NPL with the determinant factor was significant which is equal to 0.941189 or $\pm 94.12\%$ and the rest 0.0588 is influenced by other factors. The simultaneous test results also found that all independent variables of inflation, SBISyariah, GDP, financing debt ratio, and total assets in this study positively significant influence NPL.

Table 2.
Average Score of
Variable of all
Research Object

| Periode | Inflasi (%) | GDP (%) | SBIS (%) | NPF (%) | FDR (%) | Total Aset (Milyar) |
|---------|-------------|---------|----------|---------|---------|---------------------|
| Jun-14 | 0.045 | 0.05 | 0.071 | 0.035 | 1.535 | 1.155 |
| Dec-14 | 0.084 | 0.05 | 0.069 | 0.038 | 1.308 | 1.203 |
| Jun-15 | 0.073 | 0.047 | 0.067 | 0.046 | 1.460 | 1.290 |
| Dec-15 | 0.034 | 0.048 | 0.072 | 0.041 | 1.204 | 1.396 |
| | 0.059 | 0.04875 | h0.06975 | 0.04 | 1.377 | 1.261 |

Table 3.
Regression Results
using FEM

| Dependent Variable: NPF | | | |
|-------------------------|-------------|--------------------|---------|
| Variable | Coefficient | t-Statistic | Prob. |
| C | 0.831409 | 2.922183 | 0.0061 |
| Inflasi | 0.317690** | 2.273731 | 0.0294 |
| SBIS | 4.285389* | 2.002821 | 0.0532 |
| GDP | -7.735637** | -3.530162 | 0.0012 |
| FDR | 0.002477 | 0.374242 | 0.7105 |
| LOG(TASET) | -0.052867** | -2.409155 | 0.0216 |
| R-squared | 0.941189 | R | |
| F-statistic | 32.00700 | Prob (F-statistic) | 0.00000 |

This is indicated by the value of F statistics of 32.00 with the level of significance percent. Partially except for FDR, all independent variables of inflation, SBIS, GDP, and total assets affect NPF.

The inflation coefficient is 3.17, meaning that if inflation rises by 10 basis points it will increase the NPF by 3.17, otherwise if inflation gets down by 10 points it will decrease the NPF by 3.17 points. Thus, Indonesia's macroeconomic climate will affect the NPF ratio of Bank BPD Syariah. The higher the inflation rate, the more the potential for problem loans. This will increase the NPF ratio which will affect the decreasing bank profitability level. This finding is consistent with that done by Nursechafia and Abduh (2014), Iriani and Yuliadi (2015), Ghosh (2015), Rajha (2016), and Kjosevski and Petkovski (2017) which explains inflation as a macroeconomic factor affecting the risk of NPF at BPDUS in Indonesia. The coefficient of SBIS is 4.285, meaning that if SBIS rises by 10 points, it will increase the NPF by 42.85 points, otherwise, if SBIS decreases by 10 basis points then the NPF also decreases by 42.85 basis points. Although BPDUS has used the level of SBISyariah but still face the risk of financing. This finding is in accordance with Asy'ari (2006) and Lindiwatie (2007) which explains that the factor of lending rate influences the financing of sharia banking.

The coefficient of GDP found the value of 7.735. It means that an increase of GDP by 10 basis points will increase the NPF by 77.35 points. Conversely, if GDP drops 10 basis points then it causes a decline in the NPF by 77.35 basis points. A good economic climate with increasing GDP is characterized by increased production of goods and services, the potential for problem loans will decline. This will lower the NPF ratio which will impact on the increasing level of bank profitability. The results of this study are appropriated by Nursechafia and Abduh (2014), Iriani and Yuliadi (2015), Ghosh (2015), Rajha (2016), and Kjosevski and Petkovski (2017). They all conclude that macroeconomic variables or GDP as an important factor that cause financing risks in Islamic banking.

The total coefficient of assets is negative by 0.052 points, meaning that if the total assets increase of 10 points it will reduce the NPF by 5.2 points. Conversely, if the total assets drops by 10 points, it will increase the sharia banking NPF by 5.2 points. This indicates that banks that have larger assets, have a greater chance to increase the level of risk that can be borne by banks. The risk is borne by the increasing credit distribution, so that the bank is better able to control the problem loans. This finding is appropriated by Pramudita (2013) who state that assets are boosting risk levels with high lending. On the other hand, it is not supported by a statement (Misman *et al.*, 2015) which concludes that many of the assets held by banks are a trade-off for bank profits.

4. Conclusions

This study examines the effect of inflation, by Syariah interest rate, GDP, financing to deposit ratio, and total assets to NPF at Bank BPD Syariah in Indonesia. Of the many factors that can affect the growth of sharia banks in Indonesia, this study concludes that inflation, SBIS, GDP, and total assets lead to high credit risk or increased NPF. This makes the performance of sharia bank development (BPDUS) cannot grow optimally in the Indonesian banking world. For example, the cause of sharia banking is rather difficult to develop due to the high inflation rate. In the context of SBIS, there is a dilemma between in conventional banking when the rising SBI rises. This provides the opportunity for Islamic banks to be an alternative in the distribution of financing so that the level of credit disbursement to Sharia banks increases.

The results revealed that there are still many factors that must be added to complement this research, as well as sectors that are financed by BPDUS so as to not make mistakes in distributing credit. In addition to this research, the future variables having profitability level as the dependent variable and NPF as a mediation variable should be added. Some independent variables are also considered to be added such as the quality of human resources.

References

- Abdul-Rahman, A., Sulaiman, A. A. and Mohd Said, N.L.H. (2017). "Does Financing Structure affects Bank Liquidity Risk?". *Pacific-Basin Finance Journal*. DOI: <https://doi.org/10.1016/j.pacfin.2017.04.004>
- Alandejani, M. and Asutay, M. (2017). "Nonperforming Loans in the GCC Banking Sectors: Does the Islamic Finance Matter?". *Research in International Business and Finance*, Vol. 42(Suppl. C), pp. 832–854. DOI: <https://doi.org/10.1016/j.ribaf.2017.07.020>
- Asy'ari (2006). *Analisis Faktor-Faktor yang Mempengaruhi Pembiayaan Perbankan Syariah*, Jakarta: PSKTTI-UI.
- Bitar, M., Madiès, P. and Taramasco, O. (2017). "What Makes Islamic Banks Different? A Multivariate Approach". *Economic Systems*, Vol. 41, No. 2, pp. 215–235. DOI: <https://doi.org/10.1016/j.ecosys.2016.06.003>
- Dimitrios, A., Helen, L. and Mike, T. (2016). "Determinants of Non-Performing Loans: Evidence from Euro-Area Countries". *Finance Research Letters*, Vol. 18(Suppl. C), pp. 116–119. DOI: <https://doi.org/10.1016/j.frl.2016.04.008>
- Ekananda, M. (2017). "Macroeconomic Condition and Banking Industry Performance in Indonesia". *Bulletin of Monetary Economics and Banking*, Vol. 20, No. 1, pp. 71–98.
- Ghosh, A. (2015). "Banking-Industry Specific and Regional Economic Determinants of Non-Performing Loans: Evidence from US States". *Journal of Financial Stability*, Vol. 20, pp. 93–104. DOI: <http://dx.doi.org/10.1016/j.jfs.2015.08.004>
- Gujarati, D. (2004). *Basic Econometrics*. United States Military Academy, West Point: Tata McGraw-Hill.
- Iriani, L.D. and Yuliadi, I. (2015). "The Effect of Macroeconomic Variables on Non Performance Financing of Islamic Banks in Indonesia". *Economic Journal of Emerging Markets*, Vol 7, No. 2, pp. 120–134.
- Kjosevski, J. and Petkovski, M. (2017). "Non-Performing Loans in Baltic States: Determinants and Macroeconomic Effects". *Baltic Journal of Economics*, Vol. 17, No. 1, pp. 25–44. DOI: 10.1080/1406099X.2016.1246234
- Lindiawati. (2007). *Dampak Faktor-Faktor Eksternal dan Internal Perbankan Syariah di Indonesia terhadap Pembiayaan Macet*. Jakarta: Pascasarjana-Universitas Indonesia
- Misman, F.N., Bhatti, I., Lou, W., Samsudin, S. and Rahman, N.H.A. (2015). "Islamic Banks Credit Risk: A Panel Study". *Procedia Economics and Finance*, Vol. 31 No. Suppl. C, pp. 75–82. DOI: [https://doi.org/10.1016/S2212-5671\(15\)01133-8](https://doi.org/10.1016/S2212-5671(15)01133-8)
- Nursechafia, N. and Abduh, M. (2014). "The Susceptibility of Islamic Banks' Credit Risk Towards Macroeconomic Variables". *Journal of Islamic Finance*, Vol. 3, No. 1.
- Pramudita, A and Subekti, I. (2013). Pengaruh Ukuran Bank, Manajemen Aset Perusahaan, Kapitalisasi Pasar dan Profitabilitas terhadap Kredit Bermasalah pada Bank yang terdaftar di BEI. *Jurnal Universitas Brawijaya*, Semarang. Vol. 2, No. 1.
- Rajha, K.S. (2016). "Determinants of Non-Performing Loans: Evidence from the Jordanian Banking Sector". *Journal of Finance*, Vol. 4, No. 1, pp. 125–136.

-
- Sanwari, S.R. and Zakaria, R.H. (2013). "The Performance of Islamic Banks and Macroeconomic Conditions". *ISRA International Journal of Islamic Finance*, Vol. 5, No. 2, p. 83.
- Setyawati, I., Suroso, S., Suryanto, T. and Nurjannah, D.S. (2017). "Does Financial Performance of Islamic Banking is Better? Panel Data Estimation". *European Research Studies*, Vol. 20, No. 2, p. 592.
- Sukmana, R. and Sukmana, R. (2016). "Determinants of Non Performing Financing in Indonesian Islamic Banks". *Ratio*, Vol. 2, No. 4, p. 6.

Corresponding author

Damanhur can be contacted at hurbenabbas@gmail.com