

PalArch's Journal of Archaeology of Egypt / Egyptology

OFF-BALANCE SHEET ACTIVITIES AND ASSESSMENT ON TEND TO DEFAULT BANK RISK: EVIDENCE FROM RURAL BANK IN INDONESIA

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Devy M. Puspitasari, Erie Febrian, Mokhammad Anwar, Rahmat Sudarsono, Djoko Rospinoedji. Off-Balance Sheet Activities And Assessment On Tend To Default Bank Risk: Evidence From Rural Bank In Indonesia-- Palarch's Journal Of Archaeology Of Egypt/Egyptology 17(10), 1462-1470 ISSN 1567-214x

Keywords: risk, financial performance, rural banks.

ABSTRACT

This study aims to know the off-balance sheet activities and assessment on tend to bank default evidence East Java, Indonesia. The method used in this study uses logit. The data used are secondary data obtained from Bank publication reports during period 2009 - 2018. The population used in this study is rural banks in East Java and sample selection based on purposive sampling. The results showed that off balance sheet has a significant effect on tend to bank defaults. The same result are shown in credit risk, liquidity risk and operational efficiency have a significant effect on tend to bank defaults. Meanwhile, market risk has no significant effect on bank default risk, partially. This study is useful to determine the effect of off-balance sheet on the risk of tend to bank default from existing models based on existing parameters.

Keywords: risk, financial performance, rural banks.

INTRODUCTION

In its establishment, rural banks are expected to absorb labor and increase regional income. Banks can collect public funds; therefore, it requires public trust. To maintain this trust, banks need to maintain their health. Although there have been many regulations to maintain the health of banks, rural bank is still found to be in default. Information in the last ten years from 2008 to 2018, it seems that the existence of rural banks has decreased. From 2006 to 2018, there were 90 rural banks subscribers to the Deposit Insurance Corporation to

be liquidated. This shows that banking governance is still not good, so there is much that needs to be improved (Napitupulu *et al.*, 2020). The number of bank failures will be accompanied by the amount of the cost of settling the failure. Research by Hadad *et al.* (2003) found that the costs used to save and restore the banking industry are very large, up to more than fifty percent of GDP, so they need to be avoided.

Tight banking competition and declining profitability forced banks to carry out off balance sheet activities in order to survive. Off-Balance Sheet (OBS) is risk arising from activities related to contingent (and commitment) assets and liabilities, as recorded in a bank's off balance sheet. Commitments and contingencies will be recorded in off-balance sheet accounts to provide information to management of any receivables or liabilities arising from commitments and contingencies. This forces banks to make financial innovations in order to survive. One of the financial innovations that has been carried out is OBS activity transactions. There is an increasing trend for banks to engage in OBS activities as a result of increasing financial innovation and decreasing bank margins. This can be due to low-quality borrowers (low-quality other applicants) which causes many banks to tend to offer new products and services with the aim of increasing their profitability (Jurman, 2005). This is also one of the reasons why rural banks show a high probability of bank failure. In 2014 to 2016, rural banks in East Java showed profitability that fluctuated and tended to decline, thus demanding the Bank to maintain its performance and reputation to maximize profitability for the sustainability of the bank. The addition or the emergence of new banks has created intense competition in competing for customers. On that basis, strategies need to be developed accurately. Firstly, by identifying the capability of banks to compete. At this stage, the early identification of factors which form a competitive strategy becomes crucial (Puspitasari *et al.*, 2019). This research contributes to identify off-balance sheet activities and assessment risk tend to banks default, evidence from rural bank in East Java, Indonesia.

LITERATURE REVIEW

The current condition of the rural banks industry is considered strategic, considering that the Indonesian government is focused on encouraging the MSME sector to advance the national economy. In its implementation, advancing the economy and reducing the number of unemployed people, the majority of rural banks provide business credit for the use of working capital in the hope that this working capital loan will generate and expand employment so that it can absorb unemployment and move the economy. Merger, Consolidation and Acquisition activities also occur in rural banks in Indonesia. Based on data from 2008 to December 2018, rural banks that merged or merged were recorded as 183 rural banks, so 50 rural banks survived. Meanwhile, rural banks that consolidated or merged from 2008 to December 2018 were recorded as 130 rural banks, so there were 15 rural banks from the consolidation.

Generally, research on banking financial stability focuses on conventional commercial banks and Islamic banks. As research conducted by Fukuda *et al.* (2008), Chatterjee and Eyigungor (2009), Altunbas *et al.* (2000), Fadare

(2011) and Gosh (2014) examined failed banks in commercial banks in Latin American and Asian countries. Wheelock et al. (2019), Giordana and Schumacher (2017), Fiordelisi and Ibanez (2011), Lopez and Saurina (2007), Wheelock and Wilson (2000) studied failed banks in conventional banks. Isa and Rashid (2018) studied failed banks at Islamic banks in Malaysia. Rural Banks need to be able to maintain the sustainability of banks in order to carry out their operational activities and fulfill their obligations so that they can avoid bank default risk (Puspitasari et al., 2020).

Previous studies have shown different results (research gap). The model in this study is a variant of previous research to assess tent to default bank risk. This study uses proxy variables to investigate the impact of off-balance sheet on risk tend to default rural banks. This paper fills gaps in previous research by determining these factors. The purpose of this study is to model bank default of all sizes. Therefore, I use proxy variables based on specific bank data from the call reports. These variables, defined in table 1, are drawn from the extensive literature on bank default.

The dependent variable DFAULT, is the dummy variable for default. The first five regressor in the model are inspired by the early warning system literature. Early warning systems are statistical models for off-site monitoring of bank condition used by regulators to complement on-site examination. These models seek to determine the condition of a bank through the use of financial data. NIM is a measure of the ability of bank management in managing productive assets to generate net income. Hence, a proxy for portfolio market risk. Bolton and Jeanne (2011) and Pam (2013) find that NIM is significant factor.

Table 1. Definition of Proxy Variables

Dependent Variable	
Default	Dummy variable: equals one for a failed bank, zero otherwise.
Regressors	
NIM	The ability of bank management in managing productive assets to generate net income
NPL	A credit category classified as non-performing loans.
OR	The bank's ability to perform security by measuring operating expenses against operating income.
ROA	The bank's ability to generate profits or profits from the assets used
OBS	Claims and bank financial liabilities that have not been realized in accordance with applicable regulations
CR	The bank's ability to pay short-term obligations with available cash and cash equivalents

Chatterjee and Eyigungor (2009) concluded that Net Interest Income (NIM) has a negative effect on the risk of bank failure. These findings are consistent with the results of research by Dermine and Carvalho (2005); Tang and Yan (2007); Filippaki and Mamatzakis (2009); and Bolton and Jeanne (2011) that the higher this ratio, the higher interest income on productive assets managed by the bank so that the condition of problem banks is getting smaller

(Fiordelisi and Mare, 2013). Non-Performing Loan (NPL) measures a credit risk category classified as non-performing loans of the loan portfolio. Gosh (2014), Ezejionor et al. (2014) and Chieng (2013) concluded that low NPL have an impact on increasing the amount of credit to be distributed as long as there are sufficient third party funds and bank revenues will increase.

Operation Ratio (OR) is a measure of efficiency. Anwar et al. (2018) find that rural bank in west java Indonesia has not manage their bank efficient. Fiordelisi and Mare (2012) in their research on bank default risk found that operation efficiency had a positive and significant effect. These findings are not in line with the results of research by Wheelock and Wilson (2000) who found that operation efficiency has contributed to the failure of bank. Cash Ratio (CR) is included to proxy for liquidity risk. Banks are required to be able to maintain their liquidity to meet their short-term obligations. When the high loan to deposit ratio exceeds the limit, the sustainability of the bank's business will be threatened (Chatterjee and Eyigungor, 2012).

A study conducted by Kashian and Tao (2014) states that off-balance sheet (OBS) has a direct impact on the performance and profitability of financial institutions in the future. Edwards and Mishkin (1995) concluded that an increase in traditional banking activities, including lending, would be accompanied by an increase in off-balance sheet (OBS). Banks that carry out OBS activities will get high profits and can avoid tax fees since the implementation of reserve requirements and deposit insurance premiums that are not imposed on OBS activities. However, OBS activities have the potential for risk exposure including market risk, operational risk and credit risk which affect bank solvency and liquidity.

Giordana and Schumacher (2017) study, Aktan et al. (2013), Perera et al. (2013), Haq and Heaney (2012), Calmes and Theoret (2010) found that OBS has a positive effect on the probability of default. This is because OBS can make financial reports appear to be performing. This is dangerous because management will tend to use OBS transactions as the window dressing to the Financial Statement. With the aim of management wanting to appear to be performing in the eyes of its stakeholders or other specific purposes. Therefore, this study aims to prove the effect of OBS on the risk of bank failure tendency.

METHODOLOGY

The research method used is quantitative in the form of a verificative research. The research is carried out on the basis of a number of theories. From these theories, hypotheses or temporary answers to research questions are developed as outlined in the formulation of the problem. The step in testing this hypothesis is through an inferential approach to provide conclusions at the end of the study. This method is implied with the aim of obtaining empirical evidence regarding the influence of independent variables, namely credit risk, market risk, operational efficiency, profitability and liquidity risk on the dependent variable, namely the off balance sheet activities of rural banks.

The data used are secondary data, namely the annual financial statements of rural credit banks in East Java during the 2009-2018 period. The sampling technique used in this study was purposive sampling. Purposive sampling is a sample determination technique based on the characteristics or consideration of certain criteria that a population has (Sugiono, 2014). The sampling criteria used in this study were rural credit banks in the East that published their complete financial reports for the period 2009 to 2018 as many as 304 banks.

RESULTS AND DISCUSSION

Table 1 shows the Adjusted R Square (R²) value obtained is 86.95%. This means that the model formed can explain the risk of bank failure tendency of 86.95%. To determine whether there is a difference between predictions and observations, the Hosmer Lemeshow test is performed. With a significant value > 0.05, it is concluded that there is no difference between the logistic regression model predictions and the observed data. The results show that the model formed is able to predict the value of the observations or it can be said that the model is accepted because the model is in accordance with the results of his observations. The AIC Model 3 value is the closest to zero compared to other models. Where the smaller the AIC and SIC values, the better the model formed (Winarno, 2007; Nachrowi and Hardius, 2006). The predictive power of the model formed by the sum of correct rate has exceeded the rule of thumb 50% and is considered perfect (> 90%).

The test results show that the NIM has no effect on the risk level of bank failure tendency with a significance level of above 10%. Therefore, NIM is not a determining factor for tend to bank default risk. it can be concluded that hypothesis null is accepted. Result of this study differ from the study of Dermine and Carvalho (2005); Tang and Yan (2007); Filippaki and Mamatzakis (2009); and Bolton and Jeanne (2011) that NIM has a significant influence tend to bank default risk.

The positive regression coefficient shows that the tendency to bank default risk is higher when the NPL gets bigger. Based on the value of the odds ratio coefficient, a bank with a higher NPL would have the opportunity to face tend to bank default risk in the amount of 1.141 compared to a bank with a lower NPL. Result of this study is in accordance with the study of Puspitasari et al. (2015), Laeven et al. (2016), Fadare (2011), Gosh (2014), and Isa and Rashid (2018) which indicate that the credit risk variable has positive and significant influence on tend to bank default risk. So it can be concluded that Ha is accepted.

Table 1. Results of Panel Data Regression

Variable	Expected Sign	Model	
		Coefficient	Odds Ratio
NIM	(-) negative	-0.0043	0.948
NPL	(+) positive	0.1806***	1.141
OR	(+) positive	0.0364***	1.019
CR	(-) negative	-0.0127***	0.943
OBS	(-) negative	-0.0126***	0.831
C		-74.113***	

Variable	Expected Sign	Model	
		Coefficient	Odds Ratio
McFadden R ² (%)	> 70	86.95	
H-L Statistic		27.53	
Prob. Chi-Sq	> 0.05	0.081	
AIC	$\epsilon \rightarrow 0$	0.2481	
SIC	$\epsilon \rightarrow 0$	0.2501	
% Correct	$\epsilon \rightarrow 100$	96.82	
% Incorrect	$\epsilon \rightarrow 0$	3.18	

***Significant at the 1percent level.

**Significant at the 5 percent level.

*Significant at the 10 percent level.

With a positive coefficient, it shows that the larger the operation ratio, the higher the probability of the tend to bank default risk. The value of the odds ratio coefficient, banks that have a higher operating ratio will have the opportunity to face tend to bank default risk in the amount of 1.019 compared to banks that have a lower operating ratio. Result of this study is in accordance with the study of Puspitasari *et al.* (2020), Wheelock and Wilson (2000). It can be concluded that Ha is accepted.

A negative coefficient indicates that the lower the CR, the higher the probability of tend to bank default risk. The odds ratio coefficient on a bank that has a lower CR will have the opportunity to face tend to bank default risk in the amount of 0.943 compared to a bank with a higher CR. Result of this study is in accordance with the study of Raz (2017), Laeven *et al.* (2016), and Gosh (2014). So it can be concluded that Ha is accepted.

The test results show that the OBS has a significant effect at the 1% level on the risk level of tend to bank default. It can be interpreted that OBS is a determinant of tend to bank default risk. With a negative coefficient indicating the lower the OBS, the higher the risk of bank failure or tend to bank default. The OBS odds ratio coefficient value above explains that banks with lower OBS will have the opportunity to face tend to bank default risk in the amount of 0.831 compared to banks with higher OBS. Result of this study is in accordance with the study of Giordana and Schumacher (2017), Aktan *et al.* (2013), Perera *et al.* (2013), Haq and Heaney (2012), Calmes and Theoret (2010). So it can be concluded that Ha is accepted. It can be noted that the regression equation formed can be as follows:

$$\ln \frac{P}{(1-P)} = -74.113 - 0.0043 NIM + 0.1806 NPL + 0.0364 OR - 0.0127 CR - 0.0126 OBS + e$$

CONCLUSION

High NIM is common in Rural Banks. The condition of rural banks is a financial institution that only accepts deposits from the public in the form of deposits and savings, which are deposits with high interest rates on deposits. Therefore, rural banks have a higher cost of funds compared to other commercial banks. In addition, competition makes operational costs high. This

is what makes rural banks known as banks with high interest rates and high NIM.

OBS can make financial reports look to be performing. This is dangerous because management will tend to use OBS transactions as the window dressing to the financial statement. With the aim of management wanting to appear to be performing in the eyes of its stakeholders or other specific purposes. The possibility of not disclosing an off balance sheet transaction will lead to financial shenanigans, which is an act taken with the aim of hiding or distorting the financial condition of a bank. This causes banks not to implement good corporate governance, namely providing information openly and informatively to stakeholders. It is proven that the affects the tendency to bank default risk, the subject is rural banks.

Rural bank needs to have a credit distribution strategy for sustainability banks, maintaining adequate cash stock and increasing efficiency needs to be continuously considered by management to avoid tend to bank default risk. For further research can be enriched by using other variables not examined in this study.

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