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CAPITAL AND RISK TEND TO DEFAULT EVIDENCE FROM RURAL BANK IN EAST JAVA INDONESIA

Devy M. Puspitasari¹, Nenda N. Fatimah², Arinda A. Pratiwi³, Wulan Kosasih⁴,

Novia A. Widyakandhi⁵

¹Faculty of Economics and Business, University of Widyatama, Bandung-Indonesia

^{2,3,4,5}Faculty of Economics and Business, University of Widyatama, Bandung-Indonesia

*Corresponding author's email: devy.mawarnie@widyatama.ac.id

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ABSTRACT

This study aims to investigate regulatory capital funds and risk tend to default of rural banks in East Java, Indonesia. The method used is descriptive verification and panel data analysis while secondary data obtained from Bank reports during the period 2009 to 2018 were used. The population in this study includes rural banks in East Java and the sample selection is based on purposive sampling. From the results, it was shown that net interest margin, non-performing loan, operation efficiency and return on assets have a significant influence on tend to default risk. Meanwhile, loan to deposit ratio has no significant influence on tend to default risk. This research will be useful for identifying banks that may fail in the future through the variables discussed in this study. The ability to detect setbacks in bank conditions and the ability to distinguish between healthy and problematic banks is expected to anticipate bank default. This model will become an early warning system and can be used by banking regulators to maintain rural bank sustainability, which has not been conducted previously.

JEL classification: G21 • G32 • G33 • R11 • R51

INTRODUCTION

The issue of a failed or tend to default bank has long been abandoned. However, during the Indonesian banking turmoil during the Asian crisis period of the 1990s with weak risk management in the national banking industry, banks failed or tended to fail to become a concern again. The role of rural banks in the Indonesian economy cannot be separated from its

contribution to the empowerment and development of MSMEs which is one of the determination of the government's strategy in national economic recovery. From 2008 to 2018, the existence of rural banks was seen to decline. When a bank fails or the bank defaults, of course, not only customers are harmed but also employees, directors, commissioners and all bank stakeholders, capability is needed in good governance in banking industry (Napitupulu *et al.*, 2020).

Previous studies generally examined bank failures in commercial banks (Wheelock *et al.*, 2019; Giordana and Schumacher, 2017; Fiordelisi and Ibanez, 2011; Lopez and Saurina, 2007; Wheelock and Wilson, 2000), Islamic banks (Isa and Rashid, 2011). 2018) and foreign exchange banks (Puspitasari *et al.*, 2019), there has no studies for tend to default risk research on rural banks. This research contributes to investigate regulatory capital funds and risk tend to default of rural banks in East Java, Indonesia.

LITERATURE REVIEW

Default bank is a condition where the organization cannot maintain sustainability in order to carry out its operational activities and fulfill its obligations (Ikatan Banking Indonesia, 2014). Their inability to generate profits for competitions has caused many rural banks to be revoked by the authority (Puspitasari, 2018). There are several impacts of revoked bank business licenses or bank defaults on rural banks. First, it can cause distrust of the banking industry due to damage to the reputation of banks and reduce the level of public confidence (Raz, 2017). Reputational risk endangers the sustainability of bank. Distrust of banks can lose funds because the public will withdraw all funds in the bank for fear of loss (Laeven *et al.* 2016; Gosh, 2014).

Second, it interferes with employment opportunities and lowers productivity and income. Bank Perkreditan Rakyat as one type of bank which in its establishment has the aim to provide banking services that serve the community as well as micro and small businesses. Low efficiency in costs and income causes low profits, thus endangering the sustainability of banks (Puspitasari *et al.*, 2015; Fiordelisi and Mare, 2013; Filippaki and Mamatzakis, 2009).

Generally, research on default risk of bank focuses on conventional commercial and Islamic banks, excluding rural banks. Studies conducted by Fukuda *et al.* (2008), Chatterjee and Eyigungor (2009), Altunbas *et al.* (2000), Fadare (2011) and Gosh (2014) focused on failures in commercial banks in Latin America and Asia. Wheelock *et al.* (2019), Giordana and Schumacher (2017), Fiordelisi and Ibanez (2011), Lopez and Saurina (2007), Wheelock and Wilson (2000) specifically reviewed failed banks while Abedifar *et al.* (2013), Mollah *et al.* (2017) and, Isa and Rashid (2018) analyzed the defaults of Islamic banks in Malaysia.

This study aims to identify risk tend to default in rural banks that have not been reviewed in previous studies. Several studies have shown that the role of capital is vital in banking operations. The capital adequacy ratio is a proxy for

risk tend to default, indicating the readiness of a bank to mitigate risks caused by bank operations (Fukuda et al., 2008). The higher the capital adequacy ratio, the bank will be resistant to the risk of bankruptcy. The study conducted by Fukuda et al. (2008) found that banks are healthy when meeting the adequacy of their capital to avoid the risk of default. According to Basel III it is stipulated that banks must provide capital reserves as a minimum buffer capital adequacy ratio of 8%, otherwise the bank will be exposed to the risk of tend to default. This study is in line with Mayes and Stremmel (2012) found that the low capital adequacy ratio exceeds the minimum limit, banks are faced with the risk of business continuity. Immediately, bank must meet the fulfillment of the minimum capital reserves set by the banking authority in order to avoid the risk of tend to default.

There are four main risks that can threaten the sustainability of banks, namely market risk, credit risk, liquidity risk and operational risk. Non Performing Loans (NPL) as a proxy of credit risk are losses due to defaults from bank debtors. This risk can arise from bad loans, forward or derivative transactions (treasury), investment and trade finance. Fadare (2011) analyzes the factors that influence the sustainability of banks in developing countries. The results showed that non-performing loans had a significant and positive effect on risk tend to default. Gosh (2014) states that non-performing loans and loan to deposit ratios have a significant and positive effect on risk default banks in Turkey. This certainly has an impact on the business life of banks. NPL in this study are used to proxy credit risk. Research on Sharia banks in Malaysia by Isa and Rashid (2018) found that non-performing loans had a positive and significant impact on the risk of tend to default banks. When credit quality is low, the allowance for impairment losses increases. If this condition occurs in a relatively long time, it will affect the bank's capital and sustainability will be disrupted (Puspitasari and Harmanto, 2010). In contrast to empirical study of Laeven et al. (2016) which shows that non-performing loans have an insignificant impact on the sustainability of banks.

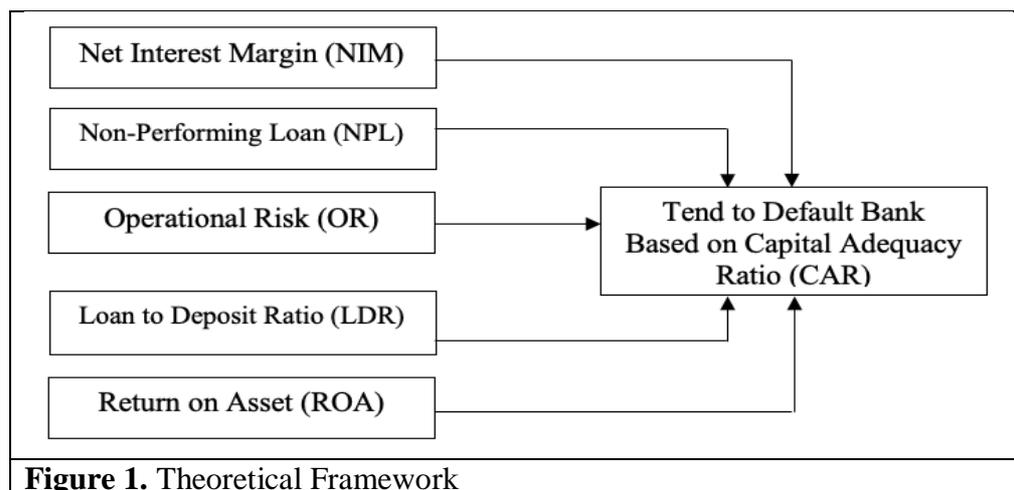
Market risk is caused by arises due to the movement of market variables from the portfolio owned by the bank and can harm the bank. One proxy for market risk is rate of interest, measured by the distinction between the rate of interest measured by the difference between the funding interest rate and therefore the loan rate or in banking terms referred to as Net Interest Margin (NIM). Net Interest Margin is employed to live the power of bank management to come up with financial gain from interest by watching the performance of banks in channeling loans, furthermore bank operational financial gain is extremely enthusiastic about the distinction in interest from funds and loans. The greater this ratio, the more interest income on productive assets managed by banks, then bank failure will decrease (Fiordelisidan Mare, 2013). Research conducted by Chatterjee and Eyigungor (2009) shows that NIM has a negative effect on the risk of bank failure. These findings are consistent with the empirical work of Dermine and Carvalho (2005); Tang and Yan (2007); Filippaki and Mamatzakis (2009); and Bolton and Jeanne (2011).

Operational risk is brought about by insufficient or breaking down of human mistake, interior procedures, framework disappointments, or outside occasions that influence bank activities. Operational risk can cause direct or indirect financial losses and potential losses from lost profit opportunities. Mahardia (2008) argues that efficiency is the ability to use input resources to produce output products or services. The operational efficiency ratio is used as a proxy to measure the operational efficiency of running a bank's business. The efficiency of bank operations impact on bank performance which shows that bank has used all factors of production appropriately or otherwise (Mawardi, 2005). When a bank is efficient with its capital, the bank is able to produce profitability in order to avoid the risk of tend to default and increase bank stability (Boadi et al., 2016). This is in accordance with examines led by Fiordelisi and Mare (2012) who found that operation efficiency has a positive and significant effect on tend to default risk. This result is in consistent with Wheelock dan Wilson (2000) which found that capital adequacy ratio had a negative and significant effect on operating efficiency. This is because when a bank is efficient but cannot meet its capital adequacy, the bank still will not be able to avoid the risk of tend to default.

Banks are faced with liquidity risk, where banks must have ability to meet their short-term obligations. A high loan to deposit ratio exceeds the limit, threatening the bank's sustainability and potentially defaulting (Chatterjee and Eyigungor, 2012). Loan to deposit ratio is a proxy used to quantify liquidity by comparing the total loans disbursed with third party funds. The threat of liquidity transmitted through interbank connections will put banks under pressure. Capital adequacy will help to cope with pressures and have a positive effect on bank liquidity. Otherwise, the bank will be at risk of tend to default.

Profitability is the most appropriate indicator to measure the performance and health of banks (Lopez and Saurina, 2007). Banks need to assess their health in order to find out the actual condition of the bank whether it is in a healthy or unhealthy condition causing the bank to be in trouble and ultimately fails. Profitability analysis can be used to measure the health of banks. Return on Assets, as a proxy for profitability, is a financial ratio that shows management's ability to benefit from each of its rupiah assets (Siamat, 2005). The higher bank profit reflects the better management of its assets. Bank profits have a significant negative effect on bank failures (Mayes and Stremmel, 2012; Fukuda *et al.*, 2008; Lopez and Saurina, 2007).

The model in this study is a variant of previous research to assess risk tend to default bank. This study uses proxy variables to investigate the indicators which are usually in conventional and Islamic commercial banks. This paper fills gaps in previous research by determining these factors.



Based on the on top of review, the hypotheses planned are as follows:

H₁ :Net Interest Margin has a negative and significant influence on tend to default bank

H₂ :Non-Performing Loan has a positive and significant influence on tend to default bank

H₃ :Operation efficiency has a negative and significant influence on tend to default bank

H₄: Loan to Deposit Ratio has a positive and significant influence on tend to default bank

H₅: Return on Asset has a negative and significant influence on tend to default bank

METHODOLOGY

The analysis technique used is descriptive verification and quantitative within the kind of a causative study. It's descriptive and accustomed get empirical proof of the impact of independent variables, particularly credit risk, market risk, liquidity risk, operational risk, and profitableness on the variable capital adequacy ratio of rural banks.

The data used is secondary within the style of montly annual monetary reports of rural banks in East Java throughout the amount 2009-2018. Moreover, the methodology employed in this study was a purposive sampling of banks that meet the factors, that was recorded and also the application of logit regression concerned 304 banks. The equation formed is as follows:

$$Y = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \dots + \beta_n X_{nit} + eit$$

RESULT AND DISCUSSION

The results of data processing using Eviews are as follows:

Table 1. Results of Logistic Regression

Variable	Coefficient	Std. Error	z-Statistic	Prob.
C	5.419405	0.227907	23.77897	0.0000
NIM	0.097843	0.009075	10.78127	0.0000
NPL	-0.048584	0.003410	-14.24849	0.0000
BOPO	0.001948	0.000789	2.469026	0.0135
LDR	0.000112	0.000117	0.954044	0.3401
ROA	0.040516	0.004932	8.215400	0.0000
McFadden R-squared	0.485059	Mean dependent var		0.996082
S.D. dependent var	0.062473	S.E. of regression		0.056685
Akaike info criterion	0.026698	Sum squared resid		125.4513
Schwarz criterion	0.028016	Log likelihood		-515.2741
Hannan-Quinn criter.	0.027116	Deviance		1030.548
Restr. deviance	2001.293	Restr. log likelihood		-1000.646
LR statistic	970.7447	Avg. log likelihood		-0.013196
Prob(LR statistic)	0.000000			
Obs with Dep=0	153	Total obs		39049
Obs with Dep=1	38896			

Based on **Table 1**, LR statistic shows smaller than 1% ($\alpha < 1\%$). This shows that Net Interest Margin (NIM), Non Performing Loans (NPL), Operation Efficiency (OR), Loan to Deposit Ratio (LDR) and Return on Assets (ROA) influence on tend to default risk using logit regression.

The value obtained for the regression coefficient (beta) NIM variable is -0.097843 with probability (p) = 0.0000. It is ended that NIM has a negative and significant influence on tend to default risk. Therefore, H_1 is accepted. Banks maintain the quality of their productive assets when changes in interest rates can increase the opinion of net interest and affect profit before tax then banks avoid tend to default risk. The findings is in agreement with Dermine and Carvalho (2005), Tang and Yan (2007), Filippaki and Mamatzakis (2009), Chatterjee and Eyigungor (2009), Bolton and Jeanne's (2011) findings which showed NIM has a negative and significant effect on tend to default risk. NIM reflects market risk arising from the movement of market variables so that it can affect bank profits and losses and bank sustainability as well. This high ratio will increase net profit so that it will contribute to bank profits then banks can avoid the risk of default.

For the non-performing loan variable, the regression coefficient is positive with significant influence. Thus, it can be concluded that H_2 is accepted. Most rural banks in West Java have not managed their credit distribution very well. Special handling of bad credit is needed in order to increase profitability and suppress the high level of NPL. For instance, to be more observant in lending to customers, to monitor the use of credit properly, to check the actual conditions of prospective customers in the field and to take into account the cash flow of loans. By applying the 5 C credit analysis appropriately, this results in the possibility of minimized disbursement and a low NPL to avoid tend to default bank (Puspitasari and Harmanto, 2010). The findings of this study are in accordance with Gosh (2014) and Isa and Rashid (2018).

However, they differ from Laeven et al. (2018) which indicate that NPL has insignificant influence on tend to default bank.

For the operational efficiency (OR) variable, the regression coefficient is negative with significant influence. Thus, it can be concluded that H₃ is accepted. This means that rural banks have not been adequate in efficiency and the revenue of funds distributed to the public cannot be maximized. To increase ROA, they are expected to emphasize more efficient operational costs. Inefficiencies can be caused by credit failures, thereby increasing bank charges, therefore they need to take the right policy to cut unnecessary costs. In addition, the results of this study are in accordance with the study of Wheelock and Wilson (2000) however dissent from Fiordelisi and Mare (2012) and Srairi (2013), which indicate that the operation efficiency variable has a positive and significant influence on tend to default bank.

Thus, the regression coefficient loan to deposit ratio has no significant influence. Hence, it can be concluded that H₄ is rejected. The findings show that loans disbursed by rural banks do not make banks suffer from liquidity risk, so banks are not exposed to tend to default risk. This was in contrast to Chatterjee and Eyigungor's (2009) findings which purport that loan to deposit ratio has a positive and significant influence on sustainability bank and tend to default risk be spared.

The last variable, profitability, has a regression coefficient (beta) of -0.040516 with probability (p) = 0.0000. It can be concluded that H₅ is rejected. This finding shows that return on asset significant influence on tend to default bank, which is consistent with Mayes dan Stremmel, 2012; Fukuda *et al.*, 2008; Lopez dan Saurina, 2007.

CONCLUSION

The findings of this study are relevant to bank regulators in Indonesia as rural banks need to concentrate to fulfil capital requirement and need to pay attention to financial performance variables in order that they will risk's resistant. Also, rural banks to avoid risk default bank tendencies could not carry out their roles in the economy which are to absorb labor, meet the needs and development of small and micro enterprises, as well as middle and low-income people, especially to obtain loan funds. The savings-investment gap can have a control on the poverty of a region's economic process towards rising the standard of life for the community, micro, little and medium enterprises. Furthermore, the fulfillment of capital adequacy, application of risk management and compliance to bank governance are expected to generate high returns for rural bank so as to have an impact on the sustainability of banks. A bank's reputation and a declining level of public trust will have an impact on bank sustainability and the risk of bank default is likely to be unavoidable. This study is limited to relatively small sample (304 samples), only on rural bank in East Java, Indonesia. For further research, default banks should be investigated, especially rural banks in Indonesia. In addition, further

research will be enriched by using other variables or methodology not examined in this study.

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