

Print ISSN: 2288-4637 / Online ISSN 2288-4645
doi:10.13106/jafeb.2021.vol8.no8.0497

Determinants of Default Risks and Risk Management: Evidence from Rural Banks in Indonesia

Devry Mawarnie PUSPITASARI¹, Erie FEBRIAN², Mokhammad ANWAR³,
Rahmat SUDARSONO⁴, Sotarduga NAPITUPULU⁵

Received: April 30, 2021 Revised: July 08, 2021 Accepted: July 15, 2021

Abstract

This study aims to investigate the determinants of default risk of rural banks in East Java, Indonesia. The method used is descriptive verification and logistic regression analysis. The data used is secondary in the form of monthly annual financial reports of rural banks in East Java during the period 2009–2018. From the results, it was shown that net interest margin (NIM) as a proxy of market risk, non-performing loan (NPL) as a proxy of credit risk, operation efficiency as a proxy of operational risk and return on assets (ROA) as a proxy of profitability have a significant influence on default risk. Meanwhile, the loan to deposit (LDR) ratio as a proxy of liquidity risk has no significant influence on default risk. Banks need to implement risk management and meet the capital adequacy requirements of regulators so that they are resistant to risk, and also, compliant with bank governance to be able to produce high returns for rural banks have an impact on sustainability and its existence. The ability to identify setbacks in bank conditions and the ability to distinguish between healthy and problematic banks will enable to anticipate default banks.

Keywords: Sustainability, Rural Bank, Default Risk, Liquidity Risk, Banking, Finance

JEL Classification Code: G21, G32, G33, R11, R51

1. Introduction

The Indonesian banking turmoil during the Asian crisis period of the 1990s showed the weak risk management

in the national banking industry, and hence, bank failure has become a huge concern. The failure of a bank is generally considered to be of more importance than the failure of other types of business firms because of the interconnectedness and fragility of banking institutions. 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 government's strategies in the recovery of the economy. From 2008 to 2018, rural banks had witnessed a decline. When a bank fails or the bank defaults, not only customers are affected but also employees, directors, commissioners, and all bank stakeholders.

Previous studies generally examined bank failures in commercial banks (Giordana & Schumacher, 2017; Fiordelisi & Mare, 2013; Lopez & Saurina, 2007; Wheelock & Wilson, 2000), Islamic banks (Isa & Rashid, 2018), and foreign exchange banks (Puspitasari et al., 2015). There have been no studies for identifying the determinants of default risk of rural banks. This research contributes to identifying the determinants of default risk of rural banks in East Java, Indonesia.

¹First Author and Corresponding Author. [1] Doctoral Student, Doctor of Management Science (DIM), Faculty of Economics and Business, Padjadjaran University, Indonesia [2] Lecturer, Faculty of Business and Management, Widyatama University, Indonesia [Postal Address: Jl. Dipati Ukur No. 46, Lebakgede, Kecamatan Coblong, Kota Bandung, Jawa Barat 40132, Indonesia] Email: devymawarnie@gmail.com

²Associate Professor, Faculty of Economics and Business, Padjadjaran University, Indonesia. Email: erie_febrian@fe.unpad.ac.id

³Associate Professor, Faculty of Economics and Business, Padjadjaran University, Indonesia. Email: anwardade@gmail.com

⁴Associate Professor, Faculty of Economics and Business, Padjadjaran University, Indonesia.

Email: rachmat.sudarsono@fe.unpad.ac.id

⁵Faculty of Economics and Business, Hayam Wuruk Perbanas University, Indonesia. Email: sotarduga@perbanas.ac.id

© Copyright: The Author(s)

This is an Open Access article distributed under the terms of the Creative Commons Attribution Non-Commercial License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

2. Literature Review

A ‘default bank’ is a bank that cannot maintain sustainability to carry out its operational activities and fulfill its obligations. The inability to generate profits and maintain a competitive advantage has caused many rural banks’ licenses to be revoked by the authority. There are several impacts of revoking a bank’s license. First, it can cause distrust in the banking industry due to damage to the reputation of the banks, and a decline in the level of public confidence in banks (Raz, 2018). Reputational risk endangers the sustainability of the bank. A lack of trust in banks (especially default banks) can lead to the bank losing its deposits because customers will withdraw all their funds with the fear of losing their investments and savings (Laeven et al., 2016; Gosh, 2014).

Second, it interferes with employment opportunities and lowers productivity and income. Bank Perkreditan Rakyat (BPR), or rural bank, is one type of bank that has been established with 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 (Fiordelisi & Mare, 2013; Koutsomanoli-Filippaki & Mamatzakis, 2009).

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

This study aims to identify the determinants of default risk (failure of banks) 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 (CAR) is a measure of how much capital a bank has available, reported as a percentage of a bank’s risk-weighted credit exposures. The purpose is to establish that banks have enough capital on reserve to handle a certain amount of losses, before being at risk for becoming insolvent (Fukuda et al., 2008). A bank with a high capital adequacy ratio is considered to be above the minimum requirements needed to suggest solvency. Therefore, the higher a bank’s CAR, the more likely it is to be able to withstand a financial downturn or other unforeseen losses. 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, the minimum capital adequacy ratio that banks must maintain is 8%, otherwise,

the bank will be exposed to the risk of default. This study is in line with Mayes and Stremmel (2012), who found that a low CAR indicates that the bank does not have enough capital for the risk associated with its assets, and it can go bust with any adverse crisis, something which happened during the recession. The capital owned by the bank affects the size of the capital buffer that must be met by the bank. Banks that have sufficient capital will be stronger against the risks that will be faced (Anisa & Sutrisno, 2020). Hence, banks must fulfill the minimum capital requirement set by the banking authority to avoid the risk of default.

There are four main risks that can threaten the sustainability of banks, namely credit risk, market risk, operational risk, and liquidity 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) analyzed the factors that influence the sustainability of banks in developing countries. The results showed that non-performing loans had a positive and significant effect on default risk. Gosh (2014) stated that non-performing loans (NPLs) and loan to deposit ratios have a positive and significant effect on the risk of bank default in Turkey. This certainly has an impact on the sustainability of banks. NPL in this study is 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 default risk of 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. This is in contrast to the empirical study of Laeven et al. (2016), who showed that non-performing loans have an insignificant impact on the sustainability of banks.

Apart from making loans, banks also hold a significant portion of securities. The business of banking is therefore intertwined with the business of capital markets. Market risk is the risk of losses in positions arising from movements in market variables like prices and volatility. One proxy for market risk is the interest rate, measured by the difference between the funding interest rate and the loan rate, or called Net Interest Margin (NIM). NIM is a measure of the difference between interests paid and interest received, adjusted for the total amount of interest-generating assets held by the bank. The NIM measures the success of a financial institution’s investment decisions compared to its debt. It’s a percentage figure calculated by subtracting the interest paid on liabilities from the interest earned on assets (the net interest income) and dividing this figure by the average earning assets. A higher ratio represents a more effective use of assets. If the NIM is negative, this means the bank is paying out more in interest on its liabilities than its generating from its investments (which can cause a default risk by banks or chances of bank failure) (Fiordelisi & Mare, 2013). Research conducted by Chatterjee

and Eyigungor (2009) showed 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), Koutsomanoli-Filippaki and Mamatzakis (2009), and Bolton and Jeanne (2011).

Operational risk is caused by inadequate or malfunctioning of internal processes, human error, system failures, or external events that affect bank operations. Operational risk can cause direct or indirect financial losses and potential losses from lost profit opportunities. Efficiency signifies a peak level of performance that uses the least amount of inputs to achieve the highest amount of output. The operational efficiency ratio is used as a proxy to measure the operational efficiency of a bank's business. The efficiency of bank operations impacts bank performance which shows that the bank has used all factors of production appropriately or otherwise. When a bank is efficient with its capital, the bank is able to generate profits to avoid the risk of default and increase bank stability. This is in line with studies conducted by Fiordelisi and Mare (2013) who found that operation efficiency has a positive and significant effect on default risk. However, this result is not consistent with Wheelock and Wilson (2000) who found that the 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 will not be able to avoid the risk of default. Banks need to improve efficiency in order to create strong and competitive banks (Gazi et al., 2021).

Banks are at times faced with liquidity risk. Liquidity risk refers to how a bank's inability to meet its obligations (whether real or perceived) threatens its financial position or existence. Hence, banks must have the ability to meet their short-term obligations. A high loan to deposit ratio indicates the banks might not have enough liquidity to cover any unforeseen funding requirements or economic crises, leading to default risk (Chatterjee & Eyigungor, 2009). The loan to deposit ratio is a proxy used to measure 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 this pressure and have a positive effect on bank liquidity. Otherwise, the bank will be at risk of default.

Profitability is the most appropriate indicator to measure the performance and health of banks (Lopez & Saurina, 2007). Banks need to assess their health to find out the actual condition of the bank -whether it is in a healthy or unhealthy condition. Profitability analysis can be used to measure the health of banks. Return on Assets (ROA), as a proxy for profitability, measures how well a bank is generating profits from its total assets. In other words, ROA is an indicator of how efficient or profitable a bank is relative to its assets or the resources it owns or controls. The higher bank profit reflects the better

management of its assets. The bank's ability to generate profitability is determined by the bank's authorities and loan management (Yuzaruddin, 2020). Bank profits have a significant negative effect on bank failures (Mayes & Stremmel, 2012; Fukuda et al., 2008; Lopez & Saurina, 2007). Sumani and Roziq (2020) in their research found that the management of capital structure and liquidity are interrelated so that banks need to pay attention to this ratio. Ignoring this ratio can jeopardize the sustainability of the bank. This shows that good governance in banking is needed to support the realization of bank soundness (Napitupulu et al., 2020). Bank soundness is reflected in the bank's financial ratios.

The model in this study is a variant risk of previous research to assess the default risk of rural banks. This study uses proxy variables to investigate the indicators which are usually used in conventional and Islamic commercial banks. This paper fills gaps in previous research by determining these factors (Figure 1).

Based on the above review, the hypotheses proposed are as follows:

H1: Net Interest Margin as a proxy of market risk has a negative and significant influence on tend to default bank.

H2: Non-Performing Loan as a proxy of credit risk has a positive and significant influence on tend to default bank.

H3: Operation efficiency as a proxy of operational risk has a negative and significant influence on tend to default bank.

H4: Loan to Deposit Ratio as a proxy of liquidity risk has a positive and significant influence on tend to default bank.

H5: Return on Asset as a proxy for profitability has a negative and significant influence on tend to default bank.

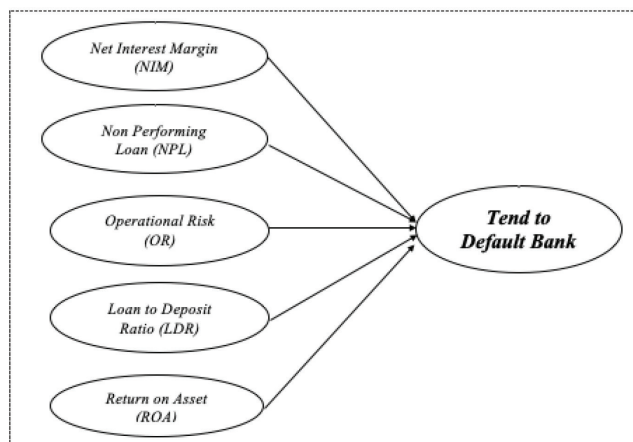


Figure 1: Theoretical Framework

3. Methodology

The research method used is descriptive verification and quantitative in the form of a causal study. It is descriptive and used to obtain empirical evidence of the effect of independent variables, namely credit risk, market risk, liquidity risk, operational efficiency, and profitability on the dependent variable capital adequacy ratio of rural banks.

The data used is secondary in the form of monthly annual financial reports of rural credit banks in East Java during the period 2009–2018. Furthermore, the sampling method used in this study was a purposive sampling of banks that meet the criteria, which was recorded, and the application of logit regression involved 304 banks. The regression equation formed is as follows:

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

4. Results and Discussion

The results of data processing using Eviews are as follows (Table 1).

The logit regression model that is formed is as follows.

$$Y = 5.4194 - 0.0978\text{NIM} + 0.0485\text{NPL} - 0.00190\text{R} \\ + 0.0001\text{LDR} - 0.0405\text{ROA}$$

Based on Table 1, the 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 default risk using logit regression. The regression coefficient (beta) of the the NIM variable is 0.097843 with probability (p) = 0.0000. It can be concluded that NIM has a negative and significant influence on default risk. Therefore, H₁ is accepted. The findings are in agreement with Dermine and Carvalho (2005), Tang and Yan (2007), Koutsomanoli-Filippaki and Mamatzakis (2009), Chatterjee and Eyigungor (2009), Bolton and Jeanne (2011), who showed that NIM has a negative and significant effect on 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, as such, banks can avoid the risk of default.

The regression coefficient (beta) of the non-performing loan variable is 0.048584 with probability (p) = 0.0000, and is positive with significant influence. Thus, it can be concluded that H₂ is accepted. Most rural banks in West Java have not managed their credit distribution very well. Special handling of bad credit is needed to increase profitability and suppress the high level of NPLs. For instance, measures that are needed to be taken are banks need to be more observant in lending to customers, monitor the use of credit properly, check the actual conditions of prospective customers in the field, and take into account the cash flow of loans. By applying the 5C credit analysis appropriately. The five Cs of credit is a system used by lenders to gauge the creditworthiness of potential borrowers. The five Cs of credit are character, capacity, capital, collateral, and

Table 1: Results of Panel Data Regression

Variables	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
OR	-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 ²	0.850594	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			

conditions. This results in the possibility of minimized disbursement and a low NPL to avoid becoming a default bank. The findings of this study are in accordance with Gosh (2014) and Isa and Rashid (2018). However, they differ from Laeven et al. (2016), who indicated that NPL has an insignificant influence on default banks.

The regression coefficient (beta) of the operational efficiency variable is 0.001948 with probability (p) = 0.0135 and is negative with significant influence. Thus, it can be concluded that H₃ is accepted. This means that rural banks have not been maintaining adequate efficiency and the revenue of funds distributed to the public cannot be maximized. To increase ROA, they are expected to focus more on efficiency in operational costs. Inefficiencies can be caused by credit failures, thereby increasing bank charges; therefore, banks need to make the right credit policy to cut unnecessary costs. The results of this study are in accordance with the study of Wheelock and Wilson (2000) but differed from Fiordelisi and Mare (2013) and Srairi (2013), who indicated that the operation efficiency variable has a positive and significant influence on default banks.

The regression coefficient (beta) of the loan to deposit ratio variable is 0.000112 with probability (p) = 0.0341 and is not significant. 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 default risk. This is in contrast to the findings of Chatterjee and Eyigungor (2009), who showed that the loan to deposit ratio has a positive and significant influence on the sustainability of the banks. 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. These findings show that return on assets insignificantly influences default banks, which is consistent with Mayes and Stremmel (2012), Fukuda et al. (2008), and Lopez and Saurina (2007).

5. Conclusion

The findings of this study are relevant to bank regulators in Indonesia that rural banks need to pay attention to financial performance variables. The sustainability of rural banks needs to be considered, otherwise, they cannot play their role in an economy that absorbs labor, meets the needs and development of small and micro businesses, as well as middle- and low-income people, especially to get loan funds. The investment-savings gap will have an impact on the sustainability of a region's economic growth towards improving the quality of life of people, and micro, small and medium-sized (MSMEs) businesses. This research will be useful to identify rural banks that might default in the future through the variables discussed in this study. Rural banks are faced with four risks, namely market risk, credit risk, operational risk, and liquidity risk. Therefore,

risk management techniques need to be implemented. In addition, rural banks must fulfill the capital adequacy requirement so that they are resistant to risks and are able to run their business through good governance and ensure high returns. Thus, the sustainability of rural banks as a government effort to improve the quality of small and medium economic communities will be achieved. The ability to identify between healthy and problematic rural banks can enable in anticipating default banks. This model is expected to be an early warning system to identify the default risk of rural banks. This study is limited to a relatively small sample (304 samples) of rural banks in East Java, Indonesia. For further research, rural banks across Indonesia should be examined. In addition, further research will be enriched by using other variables or methodology not examined in this study.

References

- Abedifar, P., Molyneux, P., & Tarazi, A. (2013). Risk in Islamic banking. *Review of Finance*, 17(6), 2035–2096. <https://doi.org/10.1093/rof/rfs041>
- Anisa, A., & Sutrisno, S. (2020). Capital Buffer and Determinant Factors of Conventional Banks in Indonesia. *The Journal of Asian Finance, Economics and Business*, 7(12), 377–384. <https://doi.org/10.13106/jafeb.2020.vol7.no12.377>
- Altunbas, Y., Liu, M. H., Molyneux, P., & Seth, R. (2000). Efficiency and risk in Japanese banking. *Journal of Banking & Finance*, 24(10), 1605–1628. [https://doi.org/10.1016/S0378-4266\(99\)00095-3](https://doi.org/10.1016/S0378-4266(99)00095-3)
- Bolton, P., & Jeanne, O. (2011). Sovereign default risk and bank fragility in financially integrated economies. *IMF Economic Review*, 59(2), 162–194. <https://doi.org/10.3386/w16899>
- Chatterjee, S., & Eyigungor, B. (2009). Maturity, indebtedness, and default risk. *The American Economic Review*, 102(6), 2674–2699. <https://doi.org/10.1257/aer.102.6.2674>
- Dermine, J., & Carvalho, N. C. (2005). How to measure recoveries and provisions on bank lending: Methodology and empirical evidence. In: Altman, E., Resti, A., & Sironi, A. (Eds.), *Recovery risk: The next challenge in credit risk management* (pp. 101–20). London: Risk Books.
- Fadare, S. O. (2011). The banking crisis and financial stability in Nigeria. *International Research Journal of Finance and Economics*, 63(3), 1234–1256.
- Fiordelisi, F., & Mare, D. S. (2013). Probability of default and efficiency in cooperative banking. *Journal of International Financial Markets, Institutions, and Money*, 26, 30–45. <https://doi.org/10.1016/j.intfin.2013.03.003>
- Fukuda, S. I., Kasuya, M., & Akashi, K. (2008). *Impaired bank health and default risk*. Tokyo: Center for Advanced Research in Finance, Faculty of Economics, The University of Tokyo.
- Gazi, M. A. I., Rahaman, A., Waliullah, S. S. A., Ali, M. J., & Mamoon, Z. R. (2021). Financial Performance of Converted Commercial Banks from Non-Banking Financial Institutions:

- Evidence from Bangladesh. *The Journal of Asian Finance, Economics and Business*, 8(2), 923–931. <https://doi.org/10.13106/jafeb.2021.vol8.no2.0923>
- Gosh, S. (2014). Risk, capital and financial crisis: Evidence for GCC banks. *Borsa Istanbul Review*, 14(3), 145–157. <https://doi.org/10.1016/j.bir.2014.06.003>
- Giordana, G. A., & Schumacher, I. (2017). An empirical study on the impact of Basel III standards on banks' default risk: The case of Luxembourg. *Journal of Risk and Financial Management*, 10(2), 8. <https://doi.org/10.3390/jrfm10020008>
- Isa, M. Y., & Abdul Rashid, M. Z. H. (2018). Regulatory capital funds and risk-sharing behavior in distressed financial conditions: An empirical analysis on Islamic banks in Malaysia. *Journal of Financial Reporting and Accounting*, 16(1), 197–216. <https://doi.org/10.1108/JFRA-06-2015-0066>
- Koutsomanoli-Filippaki, A., & Mamatzakis, E. (2009). Performance and Merton-type default risk of listed banks in the EU: A panel VAR approach. *Journal of Banking & Finance*, 33(11), 2050–2061. <https://doi.org/10.1016/j.jbankfin.2009.05.009>
- Laeven, L., Ratnovski, L., & Tong, H. (2016). Bank size, capital, and systemic risk: Some international evidence. *Journal of Banking & Finance*, 69, S25–S34. <https://doi.org/10.1016/j.jbankfin.2015.06.022>
- Lopez, J. A., & Saurina, J. (2007). *How does competition impact bank risk-taking?* (FRB Working Paper 2007–23). Federal Reserve Bank, San Francisco. <https://www.frbsf.org/economic-research/files/wp07-23bk.pdf>
- Mayes, D. G., & Stremmel, H. (2012). *The effectiveness of capital adequacy measures in predicting bank distress*. Zurich: The European Money and Finance Forum.
- Mollah, S., Hassan, M. K., Al Farooque, O., & Mobarek, A. (2017). The governance, risk-taking, and performance of Islamic banks. *Journal of Financial Services Research*, 51(2), 195–219. <https://doi.org/10.1007/s10693-016-0245-2>
- Napitupulu, S., Primiana, I., Nidar, S. R., Effendy, N., & Puspitasari, D. M. (2020). The effect of management capabilities in implementing good corporate governance: A study from Indonesia banking sector. *The Journal of Asian Finance, Economics, and Business*, 7(1), 159–165. <https://doi.org/10.13106/jafeb.2020.vol7.no1.159>
- Puspitasari, D. M., Setiadi, N. J., & Rizkiyanti, N. (2015). Implementation of the Indonesian banking architecture as a blueprint of the direction and order of the national banking system: Empirical Study of Indonesian commercial banking. *Journal the Winners*, 16(1), 6–14. <https://doi.org/10.21512/tw.v16i1.1538>
- Raz, A. F. (2018). Risk and capital in Indonesian large banks. *Journal of Financial Economic Policy*, 10(1), 165–184. <https://doi.org/10.1108/JFEP-06-2017-0055>
- Srairi, S. (2013). Ownership structure and risk-taking behavior in conventional and Islamic banks: evidence for MENA countries. *Borsa Istanbul Review*, 13(4), 115–127. <https://doi.org/10.1016/j.bir.2013.10.010>
- Sumani, S., & Roziq, A. (2020). Reciprocal capital structure and liquidity policy: Implementation of corporate governance toward corporate performance. *The Journal of Asian Finance, Economics, and Business*, 7(9), 85–93. <https://doi.org/10.13106/jafeb.2020.vol7.no9.085>
- Tang, D. Y., & Yan, H. (2007). Market conditions, default risk, and credit spreads. *Journal of Banking & Finance*, 34(4), 743–753. <https://doi.org/10.1016/j.jbankfin.2009.05.018>
- Wheelock, D. C., & Wilson, P. W. (2000). Why do banks disappear? The determinants of US bank failures and acquisitions. *Review of Economics and Statistics*, 82(1), 127–138. <https://doi.org/10.1162/003465300558560>
- Yudaruddin, R. (2020). Determinants of micro-, small-and medium-sized enterprise loans by commercial banks in Indonesia. *The Journal of Asian Finance, Economics, and Business*, 7(9), 19–30. <https://doi.org/10.13106/jafeb.2020.vol7.no9.019>