Indicators of Bank Sustainability

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ABSTRACT-- *This study aims to investigate the sustainability of rural banks in West Java, Indonesia. The method used is descriptive verification and panel data analysis while secondary data obtained from Bank reports during the period 2012 to 2016 were used. The population in this study includes rural banks in West Java and the sample selection is based on purposive sampling. From the results, it was shown that capital and liquidity risk have a significant influence on financial performance. Meanwhile, credit risk and operation efficiency have no significant influence on financial performance. Furthermore, a Credit distribution strategy is needed for the sustainability of banks and increase in efficiency also needs to be continuously considered by management to improve bank performance. This research will be useful for investigating the sustainability of rural banks in West Java using financial performance, which has not been conducted previously.*

Keywords-- *sustainability, financial performance, risk JEL classification: G21 • G32 • P47• R11• R51*

I. INTRODUCTION

The development of the financial sector has a huge impact on improving the economy along with the development of the real sector. Based on data from the financial service authorities, the banking structure in Indonesia as of April 2019 consists of commercial and rural banks. The current data was recorded by 115 commercial and 1586 rural banks. In the establishment of rural banks, the government hopes to increase employment opportunities, productivity, and income in remote areas. In addition to passing monetary challenges, the banking industry is faced with the difficulties in increasing capital adequacy and insolvency risks where credit growth is higher than that of third party funds.

From 2014 to 2016, rural banks in West Java showed fluctuating profitability and tended to decline. The emergence of new banks led to intense competition 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.,* 2015). This research contributes to identifying the determinants of the sustainability of banks, based on financial performance.

II. LITERATURE REVIEW

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Generally, research on the financial performance of these companies focuses on the financial stability in 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.

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 in West Java to be revoked by the authority. Some studies in developed countries such as Japan and the US show that capital is vital in banking operations. The capital adequacy ratio is a proxy for its ability to face the risk of losses caused by these operations (Fukuda *et al.*, 2008). An increase in the ratio would cause resistance to risk. The study of Fukuda *et al.* (2008), which analyzed the health and risks that influence the sustainability banks, showed that the ability to generate profit is influenced by capital adequacy ratio and loan-to-deposit ratio. This is consistent with the results of Altunbas *et al.* (2000) and Hogan (2015). The Study of Mayes and Stremmel (2012) expressed a low capital adequacy ratio exceeding the minimum limit. Furthermore, the bank faced the risk of business continuity and must immediately fulfill the minimum capital reserves determined by the banking authorities.

Loan-to-deposit ratio is a proxy used to measure liquidity to meet short-term obligations. When the ratio exceeds the limit, the bank's business continuity will be threatened (Chatterjee and Eyigungor, 2012). Credit distribution has an impact on the profits obtained by the bank and will improve its financial performance. Thus, this study uses Return on Assets to measure this factor. The study of Fiordelisi and Mare (2012) found that the capital adequacy ratio had a negative and significant effect on financial performance. Meanwhile, operation efficiency has a positive and significant effect. These findings are not consistent with the study of Wheelock and Wilson (2000), that the capital adequacy ratio and operating efficiency had a negative and significant impact on financial performance.

The operational efficiency ratio is used as a proxy to measure operating efficiency. A higher ratio will reduce financial performance. The efficiency of bank operations has an impact on performance which shows that these institutions have used all resources appropriately or vice versa (Wheelock and Wilson, 2005). Fadare (2011) analyzes the factors influencing bank performance having an impact on the sustainability of banks in developing countries. The results show that non-performing loans and loan-to-deposit ratios have a positive and significant effect. Additionally, Gosh (2014) examined the influencing factors in Turkey which showed that the capital adequacy ratio also has a positive and significant effect on bank performance and sustainability of the bank. The non-performing loan in this study is used as a proxy for credit risk. On the contrary, research on Islamic banks in Malaysia by Isa and Rashid (2018) found that capital adequacy ratios had a negative and significant effect while non-performing loans had a positive and significant impact. When the credit quality is considered low, the loss reserves increase. If this condition occurs for a long period of time, it will affect the capital and sustainability of the bank, causing disruption. Furthermore, non-performing loans have a negative and significant impact while capital has a positive and significant effect according to the findings of Laeven *et al.* (2016). Srairi (2013) found

that state-owned Islamic banks tend to be more stable and less exposed to credit risk than conventional banks. Abedifar *et al.* (2013) and Mollah *et al.* (2017) posited that Islamic default risk is not different from that of conventional banks, while Čihák and Hesse (2010) and Beck *et al.* (2013) found that large conventional banks tend to be more stable than Islamic ones.

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

Figure 1: Theoretical Framework
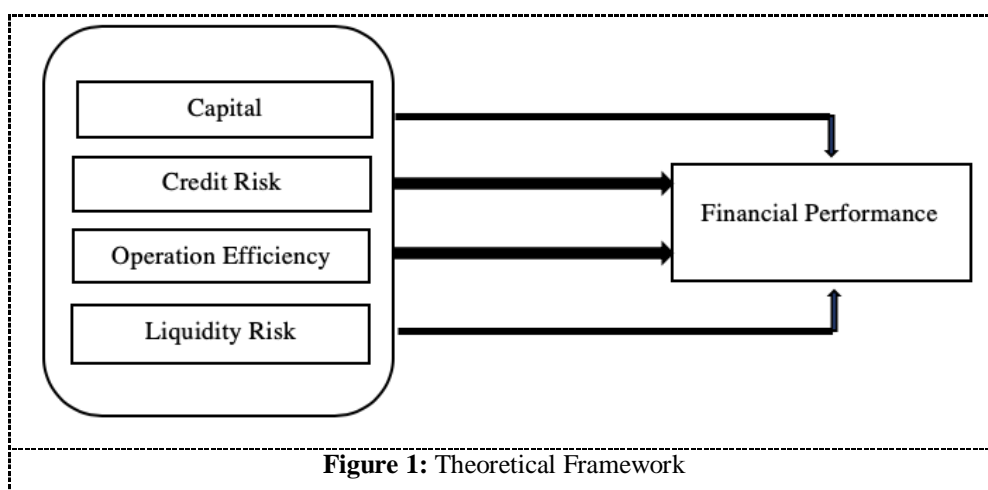
Based on the above review, the hypotheses proposed are as follows:

H_1 : Capital has a positive and significant influence on financial performance

H_2 : Credit risk has a negative and significant influence on financial performance

H_3: Operation efficiency has a negative and significant influence on financial performance

H_4 : Liquidity risk has a positive and significant influence on financial performance

III.   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, operational efficiency, capital, and liquidity risk on the dependent variable and the financial performance of rural banks.

The data used is secondary in the form of annual financial reports of rural credit banks in West Java during the period 2012-2016. Furthermore, the control method used in this study was a purposive sampling of banks that meet the criteria, which was recorded and the application of panel data methodology involved 229 banks. The regression equation formed is as follows:

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

IV.   RESULT AND DISCUSSION

The estimation model in this study is Fixed Effect, which was obtained after the Chow and Hausman test. The Lagrange Multiplier test is not conducted because the previous two tests state the most appropriate estimation models used are the Fixed Effect and data regression panel models. Based on table 1, the t-test shows the relationship between independent and dependent variables, while 81.3908% of financial performance can be explained by capital, credit risk, operation efficiency, and liquidity risk, while the remainder is explained by other variables. Therefore, it can be concluded that the formed model is acceptable.

Table 1: Results of Panel Data Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.46935	1.616740	10.18677	0.0000
Capital (X1)	0.031561	0.009098	3.468914	0.0006
Credit Risk (X2)	-0.119317	0.025757	-4.632318	0.0000
Operation Efficiency(X3)	-0.150288	0.006973	-21.55296	0.0000
Liquidity Risk (X4)	0.008239	0.018320	0.449751	0.6533
R-squared	0.817173	Mean dependent var	2.190472	
Adjusted R-squared	0.813908	S.D. dependent var	5.490807	
S.E. of regression	2.368643	Akaike info criterion	4.584103	
Sum squared resid	1256.745	Schwarz criterion	4.659075	
Log likelihood	-519.8798	Hannan-Quinn criter.	4.614349	
F-statistic	250.3008	Durbin-Watson stat	2.083405	
Prob(F-statistic)	0.000000			

The value obtained for the capital variable is 3.468914 and for the regression coefficient (beta) is 0.031561 with probability (p) = 0.0006. It can be concluded that capital has a positive and significant influence on financial performance. Therefore, H_1 is accepted. Moreover, the capital adequacy of a bank can distribute loans optimally and affect public trust in saving their funds. Maximum credit distribution, assuming high credit quality, will increase profits and financial performance. Therefore, banks can channel third party funds in the form of loans which greatly affects the result of the research. The outcome of this study is consistent with Altunbas *et al.* (2000), Fukuda *et al.* (2008), Gosh (2014), and Hogan (2015). However, this result does not agree with Wheelock and Wilson (2000), Mayes and Stremmel (2012), Fiordelisi and Mare (2012), Laeven *et al.* (2016), and Isa and Rashid (2018) which indicate that Capital has a negative and significant influence on financial performance. For the credit risk variable, the regression coefficient is negative 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 Non-Performing Loans (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 increase ROA. The findings of this study are in accordance with Čihák and Hesse (2010), Beck *et al.* (2013) and Laeven *et al.* (2016). However, they differ from Fadare (2011), Gosh (2014), and Isa and Rashid (2018) which indicate that the credit risk variable has a positive and significant influence on financial performance. Thus, the regression coefficient operational efficiency has negative and significant influence. Hence, it can be concluded that H_3 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) but differ from Fiordelisi and Mare (2012) and Srairi (2013), which indicate that the operation efficiency variable has a positive and significant influence on financial performance. The last variable, liquidity risk, has a regression coefficient (beta) of 0.008239 with probability (p) = 0.6533. It can be concluded that this has no influence on financial performance, therefore, H_4 is rejected. This result is in contrast with Altunbas *et al.* (2000), Fukuda *et al.* (2008), Chatterjee and Eyigungor (2009), Fadare (2011), Gosh (2014), and Hogan (2015) which purport that liquidity risk has a positive and significant influence on financial performance. Where liquidity loans are hampered, the bank will be disrupted.

V.   CONCLUSION

The findings of this study are relevant to bank regulators in Indonesia as rural banks need to pay attention to financial performance variables. Also, rural banks to avoid 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 will have an impact on the sustainability of a region's economic growth towards improving the quality of life for the community, micro, small 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. This study is limited to relatively short observations during 5 years, with a small sample (229 samples). For further research, default banks should be investigated, especially rural banks in Indonesia. In particular, over the past 10 years, there have been 90 default rural banks. In addition, further research will be enriched by using other variables or methodology not examined in this study.

REFERENCES

1. Altunbas, Y., Liu, M. H., Molyneux, P., & Seth, R. (2000). Efficiency and Risk in Japanese Banking. Journal of Banking & Finance, 24(10), 1605-1628.
2. Abedifar, P., Molyneux, P. and Tarazi, A. (2013), "Risk in Islamic banking", Review of Finance, Vol. 17 No. 6, pp. 2035-2096.
3. Beck, T., Demirgüç-Kunt, A. and Merrouche, O. (2013), "Islamic vs. conventional banking: business model, efficiency and stability", Journal of Banking & Finance, Vol. 37 No. 2, pp. 433-447.
4. Chatterjee, S., & Eyigungor, B. (2012). Maturity, Indebtedness, and Default Risk. The American

Economic Review, 102(6), 2674-2699.

5. Čihák, M. and Hesse, H. (2010), "Islamic banks and financial stability: an empirical analysis", Journal of Financial Services Research, Vol. 38 Nos 2-3, pp. 95-113.

6. Fadare, S. O. (2011). Banking Crisis and Financial Stability in Nigeria. International Research Journal of Finance and Economics, 63(3), 1234-1256.

7. 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.

8. Fukuda, S. I., Kasuya, M., & Akashi, K. (2008). Impaired Bank Health and Default Risk (Forthcoming in" Pacific-Basin Finance Journal".) (No. CARF-F-122). Center for Advanced Research in Finance, Faculty of Economics, The University of Tokyo.

9. Ghosh, S. (2014). Risk, capital and financial crisis: Evidence for GCC banks. Borsa Istanbul Review, 14(3), 145-157.

10. Hogan, T. L. (2015). Capital and risk in commercial banking: A comparison of capital and risk-based capital ratios. The Quarterly Review of Economics and Finance, 57, 32-45.

11. Laeven, L., Ratnovski, L., & Tong, H. (2016). Bank size, capital, and systemic risk: Some international evidence. Journal of Banking & Finance, 69, S25-S34.

12. Mayes, D. G., & Stremmel, H. (2012). The effectiveness of capital adequacy measures in predicting bank distress. papers.ssrn.com

13. Mohd 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.

14. Mollah, S., Hassan, M.K., Al Farooque, O. and Mobarek, A. (2017), "The governance, risk-taking, and performance of Islamic banks", Journal of Financial Services Research, Vol. 51 No. 2, pp. 195-219.

15. 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. (ISSN: 1412-1212). (Http://Research-Dashboard.Binus.Ac.Id/Uploads/Paper/Document/Publication/Journal/The%20Winners/Vol.%2016%20No.%201%20Maret%202015/02_ED_WIDYATAMA_Devy%20.Pdf).

16. Srairi, S. (2013), "Ownership structure and risk-taking behaviour in conventional and Islamic banks: evidence for MENA countries", Borsa Istanbul Review, Vol. 13 No. 4, pp. 115-127.

17. 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