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Author: Toto Sugiharto, Novita Sulistiowati, Rina Nofianti

Gunadarma University, Indonesia

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DETERMINANTS OF RURAL BANKS FINANCIAL PERFORMANCE: EMPIRICAL EVIDENCE FROM INDONESIA

[1] Toto Sugiharto , [2] Novita Sulistiowati , [3] Rina Nofianti

[1,2,3] *Gunadarma University, Indonesia*

[1] *tsharto@staff.gunadarma.ac.id*

ABSTRACT

Rural banks in Indonesia experienced substantial development in the last decade. This was represented by a number of rural bank indicators which increased by more than ten times in the last decade. These include, amongst others, total assets, total collected third party funds, total disbursed funds (loans), number of rural banks and offices, and number of clients or customers. Rural banks are assumed to play important roles in supporting the nation's economic development. Accordingly, evaluating rural banks financial performance and investigating its potential driving factors are necessary and, to some extent, are challenging. One hundred and fifty rural banks across Indonesia were involved in this study. Financial reports (i.e., balance sheets and income statements) of these banks for a period between 2008 and 2012 were obtained from the Financial Services Authority of Indonesia and Central Bank of Indonesia. Regional economic development (i.e., GRDP) and consumer price index (CPI) were obtained from Statistics Indonesia. Return on asset was used as estimate rural bank financial performance and serves as dependent variable. Independent variables include regional consumer price index, regional economic growth (macroeconomic indicators), credit risk, rural bank size, capital adequacy ratio, non-performing loan, loan to deposit ratio, portfolio composition, and operational efficiency (microeconomic indicators). Multiple linear regression analysis were performed to test the hypotheses. Result of the study indicated that rural banks financial performance is affected in simultaneous way by all independent variables. Loan to deposit ratio, consumer price index, and operational efficiency are variables which partially affect rural bank profitability. Rural bank managers, in maintaining their bank financial performance, are required to pay more attention toward both external (consumer price index in particular) and internal (loan to deposit ratio and operational efficiency) factors.

Key words: rural banks; financial performance; credit risk; portfolio composition; gross domestic product; consumer price index; capital adequacy ratio.

INTRODUCTION

Converting savings and deposits into productive investments is believed as the primary economic role of financial sector—banking industry in particular—through which it provides financial intermediation and economic development acceleration. Accordingly, developing profitable banking sector is of importance towards economic growth sustainability because it has the ability to stand negative shocks and, more importantly, contribute to the stability of the financial system. Economic growth is closely associated with corporate financial performance. Since banking industry play an important role in supporting economic growth, financial performance within this industry receives much attention. A number of studies on statistical determinants of financial performance of banks have been accomplished which arrived at different conclusion.

In spite of facing a very tight competition and are exposed to various factors which have the potential to affect its financial performance, in Indonesia banking sector is assumed as the most valuable industries. In the banking system in Indonesia, BPR, judging from the amount of assets, third party funds, and the number of customers, is much smaller than commercial banks. However, since the rural banks have a specific client, namely low-income communities and micro and small business owners which are in the informal sector, in the last ten years has developed significantly. Additionally, a number literature indicates that rural banks in Indonesia have significant contribution to the welfare, socially and economically, of the rural population, especially those which work within informal sectors.

In Indonesia, according to Sugiharto et al. (2012), rural banks account for relatively substantial share of microfinance. Therefore, this study, which is focused on analyzing the determinants of rural bank financial performance, is conducted. More specifically, the primary objective of this study is to determine the factors that affect the financial performance (i.e., profitability) of rural banks in Indonesia.

The organization of the study is as follows. The section which follows deals with previous studies in the subject area (i.e., literature reviews); it is then followed by research methodology. The relationship between rural banks financial performance (i.e., profitability) and other determining statistical variables is analyzed and discussed in the results section. Finally, the study is terminated with conclusion and its related policy implications.

LITERATURE REVIEW

In a number of recent literature, bank profitability typically measured by the Return on Assets (ROA) and or the return on equity (ROE) reported by a bank through its financial reports (i.e., balance sheet and income statements). The determinant of these measures are generally divided into two broad categories, namely internal and external determinants. The internal determinants are variables that are mainly influenced by a bank's management decisions and policy objectives. These factors, therefore, could be termed as micro determinants or bank-specific determinants of rural banks profitability. The external determinants , meanwhile, are variables which reflect

economic and legal environment in which banks are operated that have the potentials to affect the operation and, in turn, financial performance of banks.

A number of explanatory variables have been proposed for both categories. Those variables which are categorized as internal determinants include rural bank size, capital adequacy ratio, provisioning policy, operational efficiency, savings, deposits, and liquidity. In the other hand national and or regional economic growth (i.e., gross domestic product—GDP and or Gross regional domestic product—GRDP), rate of inflation, and market interest rates are examples of external determinants that have the potentials to substantially affect bank financial performance (i.e., profitability).

Due to either datasets or business environments differences, some studies examining internal and external determinants of rural bank profitability arrived at varying results. Some common elements, however, are recognized such as, amongst others, rural bank size, credit risk, portfolio composition, bank operational efficiency, non-performing loan, liquidity, economic growth (i.e., GDP and or GRDP), and inflation rates (Agyei-Mensah,2012; Donkor and Tweneboa-Kodua, 2013; Amel and Prager, 2014; Owusu-Antwi et al., 2014; Nsobilla, 2015). Following these previous studies, this study is performed and focused on examining the effect of credit risk, rural bank size, capital adequacy ratio, operational efficiency, portfolio composition, loan to deposit ratio, non-performing loan, rate of inflation, and economic growth on rural bank financial performance (i.e., profitability).

Boadi et al. (2016) recognized that in general rural and community banks profitability is influenced in varying magnitudes and directions by both internal and external variables which include capital adequacy ratio, asset quality, liquidity management, investment, gross domestic product growth rate, inflation, funding risk, and bank resilience risk. Empirical results of the study of Athanasoglou et al. (2005) indicate that credit risk significantly affects in a negative way rural bank profitability meaning that those banks with high credit risk tend to achieve lower profitability. The primary finding of study of Ali et al. (2011) is in line with Athanasoglou et al. (2005) who study on Islamic banks profitability in Pakistan which indicate that profitability, which is measured by return on assets (ROA), is negatively affected by credit risk. The higher the credit risk the lower the profitability of a bank.

Findings of Gefli's (2012) study suggest that rural bank size and non-interest income are found as internal variables that affect rural bank profitability. Economic growth (i.e., GDP) and money supply growth, meanwhile, are recognized as external variables that affect rural bank profitability. These variables positively affect rural bank profitability. Negative influences towards rural bank profitability, however, come from loan loss provisions, total overhead expenses and inflation. Saifun (2016) in her recent study on determinants of rural bank profitability in Yogyakarta, Indonesia, found that capital adequacy ratio, asset quality rate (i.e., nonperforming loan), and operational efficiency as determinants of rural bank profitability, which measured using return on asset ratio (ROA).

Study of Chou and Buchdadi (2016) examining the determinant of rural bank profitability in Indonesia found that non-performing loans and operational efficiency as important determinant of rural bank profitability. In their study on rural banks financial profitability in Ghana, Mills and Amowine (2013), recognized that rural bank size and non-interest income serve as internal variables of rural bank financial profitability. In the meantime, economic growth (i.e., GDP) and the growth of money supply serve as external factors of rural bank profitability. These variables positively affect rural bank profitability. Other variables, which are categorized as internal variables (i.e., loan loss provisions and total overhead expenses) and external variable (i.e., inflation) of rural bank profitability, are found to negatively affect rural bank profitability.

Priority sector lending, credit deposit ratio, operational expenses, spread, deposits, and non-performing assets (NPA) are considered as perfect determinants rural bank profitability (Ahmed et al., 2013). They, moreover, emphasized that priority sector lending and operational expenses have positive effect on rural bank profitability. On the other hand, credit deposit ratio, deposits, and NPA are found to have negative effect on rural bank profitability. Nair and Thirumal (2012), emphasized through their study, that net worth, deposits, interest income, fixed assets, provision, and operational profit play an important role in measuring rural bank financial performance.

RESEARCH METHODS

One hundred and fifty rural banks in Indonesia (approximately 10 percent of the population) were involved in this study. These rural banks were derived from 1507 rural banks (2008), 1565 (2009), 1623 (2010), 1611 (2011), and 1669 (2012). Rural banks that will be selected as sample should satisfy the following conditions: (i) exists in the whole research period (i.e., 2008-2012); (ii) provides financial reports (i.e., balance sheets and income statements); and (iii) provides all research variables (i.e., credit risk, portfolio composition, total assets, non-performing loan, loan to deposit ratio, capital adequacy ratio, and operational efficiency measure). Sampling procedures are depicted in table 1 which follows.

Table 1. Sampling procedures

Conditions	Year				
	2008	2009	2010	2011	2013
Original number of rural banks	1507	1565	1623	1611	1669
Rural banks which exist in whole periods	1139				
Rural banks with complete financial reports	421				
Rural with all research variables	362				
Selected rural banks (sampled)	150				

On 421 rural banks that satisfy research conditions and objectives, proportionated sampling was performed to select rural bank sample. The selected sample is shown in following table.

Table 2. Selected rural banks and related provinces

Provinces	No of rural banks having all research variables	Percentage	Rural bank sample	Percentage
Bali	1	0.28	1	0.67
Central Java	108	29.83	44	29.33
Eastern Java	91	25.14	37	24.67
Eastern Kalimantan	1	0.28	1	0.67
Gorontalo	1	0.28	1	0.67
Jakarta	57	15.75	23	15.33
Jambi	2	0.55	1	0.67
Lampung	5	1.38	2	1.33
Northern Sulawesi	1	0.28	1	0.67
Northern Sumatera	7	1.93	2	1.33
Papua	1	0.28	1	0.67
Riau Mainland	4	1.10	1	0.67
Riau Islands	3	0.83	2	1.33
Southern Kalimantan	11	3.04	4	2.67
Southeastern Sulawesi	2	0.55	1	0.67
Southern Sulawesi	1	0.28	1	0.67
Southern Sumatera	2	0.55	1	0.67
Western Java	41	11.33	16	10.67
Western Kalimantan	1	0.28	1	0.67
Western Nusa Tenggara	4	1.10	1	0.67
Western Sumatera	1	0.28	1	0.67
Yogyakarta	17	4.70	7	4.67
Total	**362**	**100.00**	**150**	**100.00**

There are only 22 provinces out of 33 provinces in Indonesia whose rural banks satisfy research conditions. Central Java province is the province having the highest number of rural banks that satisfy research objectives and conditions (i.e., 108 rural banks). It is then followed by Eastern Java (91 rural banks), Jakarta province—special capital area of Jakarta (57 rural banks), Western Java (41 rural banks), Yogyakarta province—special area of Yogyakarta (17), and other provinces.

Panel data set comprising research variables was used in this study. Financial reports which include balance sheets and income statements of the rural banks covering the period 2008-2012 serve as the primary sources of data. Therefore, the sample size of this study is 750 (i.e., 150 rural banks x 5 periods). These were obtained from the Financial Services Authority of Indonesia and Central Bank of Indonesia. Other data (i.e., regional economic development and consumer price index) was obtained from Statistics Indonesia.

Research model

Financial performance of rural banks, which serves as dependent variable, is represented by return of assets (ROA). Determinants of rural banks financial performance (i.e., independent variables) include consumer price index, economic growth (macroeconomic indicators or external factors), credit risk, bank size, capital adequacy ratio, portfolio composition, and operational efficiency

(microeconomic indicators or internal factors). In table 3, which follows, technical descriptions of these variables (i.e., dependent and independent variables) are depicted.

Table 3. Technical description of research variables

Variables		Proxies	Units
ROA	Return on Assets	Net Profit/Total Assets	Percent
CR	Credit Risk	Loan Loss Provision/Total Loans	Percent
RBS	Rural Bank Size	Total Assets	IDR
CAR	Capital Adequacy Ratio	Equity/Total Assets	Percent
OE	Operational Efficiency	Total Operational Expenses/Total Operational Income	Percent
PC	Portfolio Composition	Total Deposits/Total Assets	Percent
LDR	Loan to Deposit Ratio	Total Loan/Total Deposits	Percent
NPL	Non-Performing Loan	Total NPL/Total Loans	Percent
CPI	Consumer Price Indices	Inflation Rate	Percent
GRDP	Gross regional domestic product	Economic Growth	IDR

Research model, which illustrates causal relationships between independent vvariabels and dependent variable, is depicted in the following figures.

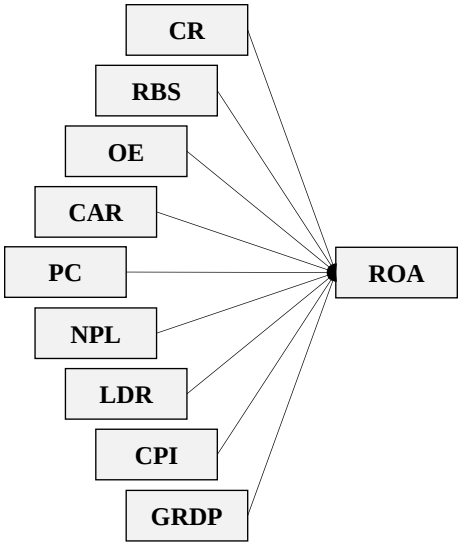

Figure 1. Proposed research model

METHOD OF ANALYSIS

Multiple linear regression analysis and partial classical assumption tests or model diagnosis (i.e., multicollinearity test, autocorrelation test, and heteroscedasticity test) were performed to analysis data. General regression model of the above proposed research model is as follows.

$ROA = \alpha + \beta_1 CR + \beta_2 RBS + \beta_3 OE + \beta_4 CAR + \beta_5 PC + \beta_6 NPL + \beta_7 LDR + \beta_8 CPI + \beta_9 GRDP + \varepsilon$

where:

ROA	:	return on asset (rural banks financial performance/dependent variable);
α	:	constant (intercept);
CR	:	credit risk;
RBS	:	rural bank size (total assets);
OE	:	operational efficiency;
CAR	:	capital adequacy ratio;
PC	:	portfolio composition;
NPL	:	non-performing loan;
LDR	:	loan to deposit ratio;
CPI	:	consumer price indices (rate of inflation);
GRDP	:	gross domestic product (economic growth);
β	:	regression coefficients; and
ε	:	error term.

Description of research variables

Table 4. Theoretical description of research variables

Variables	Description	References
Dependent variable		
Return on Asset (ROA)	It is frequently used as measure of rural bank financial performance.	Ali et al. (2011); Ahmed (2014); Owoputi et al. (2014); Antwi & Apau (2015);
Independent variables		
Credit Risk (CR)	It is estimated using the ratio of loan loss provision to total loans. Credit risk has the potentials to affect rural bank profitability.	Athanasoglou et al. (2005); Ali et al. (2011); Antwi & Apau (2015)
Rural Bank Size (RBS)	Proxy of rural bank size is natural logarithm of total assets. Bigger rural banks tend have the potentials to make higher profit.	Antwi & Apau (2015); Regehr & Sengupta (2016)
Operational Efficiency (OE)	Ratio between operational expenses and operational income. More efficient rural bank tend to have better profitability.	Antwi & Apau (2015); Bank of Indonesia (2016)
Capital Adequacy Ratio (CAR)	Ratio between Capital and Weighted Active based on Risk.	Antwi & Apau (2015); Bank of Indonesia (2016)
Portfolio Composition (PC)	Ratio between total deposits and total asset. Higher profit as well as interest margin could achieved by increasing deposits that are transformed to loan.	Antwi & Apau (2015)
Non-performing Loan (NPL)	Ratio between non-performing loans and total loan.	Bank of Indonesia (2016)
Loan to Deposit Ratio (LDR)	Ratio between loan and total third party fund.	Bank of Indonesia (2001)

Research variables detailed theoretical description is described in table as follows.

Consumer Price Index (CPI)	Consumer price index or inflation has substantial effect on the real value of costs and revenues. It, accordingly, has the potential to affect rural bank profitability.	Antwi & Apau (2015); Statistics Indonesia (2016)
Gross regional domestic product (GRDP)	It is a representation of the total regional economic activity. It tends to have an impact on a number of factors related to the demand and supply for banks deposits and loans.	Rumler & Waschiczek (2010); Antwi & Apau (2015); Statistics Indonesia (2016)

RESEARCH RESULTS

Descriptive statistical analysis of research variables

In table 5, which follows, results of descriptive analysis of dependent and independent research variables are described.

Table 5. Descriptive statistics of research variables

Variables	Descriptive Statistics				
	Minimum	Maximum	Mean	Stdev*	CV**
Return on Asset	-27.46	963.00	9.43	48.34	512.62
Credit Risk	0.02	59.80	2.75	3.44	125.09
Rural Bank Size	13.10	19.78	16.43	1.16	7.06
Capital Adequacy Ratio	-1.75	3476.00	40.99	133.52	325.74
Operational Efficiency	43.44	511.67	83.18	25.73	30.93
Portfolio Composition	0.07	91.56	39.43	22.089	56.02
Loan to Deposit Ratio	5.20	8859.00	106.68	419.37	393.11
Non-performing Loans	-1.67	95.00	6.32	8.94	141.46
Consumer Price Index	107.29	147.79	120.35	8.61	7.15
Gross regional domestic product	8.68	13.91	12.94	0.99	7.65

Note: * Standard deviation; ** Coefficients of Variation

As clearly shown in the table, rural banks profitability, which is represented by return on asset, substantially varied. It ranges from as low as -27.46 percent to as high as 963 percent. Substantial divergences are also found in loan to deposit ratio (ranges from 5.20 percent to 8,859 percent), capital adequacy ratio (ranges from -1.75 percent to 3,476 percent), credit risk (ranges from 0.02 percent to 59.80 percent), and non-performing loans (ranges from -1.67 percent to 95 percent). These variations amongst rural banks' variables were also indicated by their related coefficient of variations which are higher than 100 percent (i.e., their standard deviations are higher than their mean). These substantial variations indicate that management quality amongst rural banks—represented by the levels or intensities of good corporate governance (GCG) implementation—which are varied (InfobankNews, 2016).

Mediocre variations or discrepancies are found in the following research variables such as portfolio composition and operational efficiency. Less variations, in the meantime, are found in rural bank size, consumer price index, and Gross regional domestic product, as indicated by their related coefficient of variations.

Model diagnostic test

Results of model diagnostic which include autocorrelation test, multicollinearity test, and heteroskedasticity test are summarized in table 6 below.

Table 6. Summary of model diagnostic of research variables

Diagnostic test	Method	Results	Conclusions
Autocorrelation	Durbin-Watson	2.024	No autocorrelations
Multicollinearity	Variance Inflation Factors (VIF)	1.055-1.606	No multicollinearity
Heteroskedasticity	Glejser	0.060-0.859	No heteroskedasticity

Based on the results of model diagnostic tests, it is clear that the resulting model is acceptable. Accordingly, the model can be regarded as the best linear unbiased estimator of return to assets (profitability) of rural banks in Indonesia.

Inferential statistical analysis of research variables

Results of multiple regression analysis which represent the magnitudes, directions, and significances of causal relationship amongst research variables (i.e., independent variables and dependent variable), is presented in the following table.

Table 7. Regression coefficients of causal relationships between independent and dependent variables

Variables	Regression Coefficients		t	Significance
	Ustd[a]	Std[b]		
Constant[1]	-55.439		-1.051	0.294
Credit Risk	0.547	0.039	1.094	0.274
Rural Bank Size	-0.233	-0.006	-0.145	0.885
Capital Adequacy Ratio	-0.003	-0.007	-0.166	0.868
Operational Efficiency	-0.151	-0.080	-2.260	0.024 **
Portfolio Composition	-0.068	-0.031	-0.869	0.385
Loan to Deposit Ratio	0.041	0.360	8.372	0.000***
Non-performing Loans	0.028	0.005	0.149	0.882
Consumer Price Index	0.481	0.086	2.317	0.021 **
Gross regional domestic product	1.547	0.032	0.873	0.383
R^2:	0.1465			
F-test:	14.107 (significant at alpha 1 percent; p<0.01)			
Note:	*** Significant at 0.01 level; ** Significant at 0.05 level; * Significant at 0.10 level			

Referring to the results of analysis of variance (ANOVA) or F-test, it is revealed that profitability of rural banks, which represented by return on asset—ROA, is significantly affected by independent variables including credit risk, rural bank size, capital adequacy ratio, operational efficiency, portfolio composition, loan to deposit ratio, non-performing loans, consumer price index, and gross regional domestic product, in simultaneous way (p<0.01). The ability of these variables in explaining the variability in rural banks profitability or in influencing rural banks

profitability is relatively low, as represented by the value of coefficient of determination (R2), i.e., 14.65 percent.

However, this finding suggests that rural banks managers should pay adequate attentions toward these variables, either internal variable (i.e., credit risk, rural bank size, capital adequacy ratio, operational efficiency, portfolio composition, loan to deposit ratio, non-performing loans) or external variables (i.e., consumer price index, and gross regional domestic product), in managing their bank. More specifically, in maintaining or improving rural banks financial performance or profitability, attentions and or considerations towards these variables or determinants are required.

In general, this finding—to some extent and in different magnitude and sovereignties—is in line with the finding of previous studies (e.g., Agyei-Mensah, 2012; Gefli, 2012; Donkor and Tweneboa-Kodua, 2013; Amel and Prager, 2014; Owusu-Antwi et al., 2014; Nsobilla, 2015; Saifun, 2016; Chou and Buchdadi, 2016). Internal variables (microeconomic indicators) and external variables (macroeconomic indicators) are of importance to the management of rural banks.

Amongst nine independent variables, which consists of seven internal variables and two external variables, as shown in table 7, only three variables that are found to have partial and significant effect on rural bank profitability. These include operational efficiency ($p<0.05$), loan to deposit ratio ($p<0.01$), and consumer price index ($p<0.05$). These findings are consistent with those findings of previous studies such as, amongst others, Saifun (2016), Chou and Bachdadi (2016), Boadi et al. (2016), and Mills and Amowine (2013). This suggests that special attentions should be paid towards these variables in order to preserve the most favorable or optimum levels of rural banks financial performance or profitability.

Converting savings and deposits (i.e., third party funds) into productive investments—in this case loans, as mentioned earlier in this study, is the primary role of banks, including rural banks, as intermediary institutions within economic and financial systems. On the other hands, making profit is one of the most motivating objective of establishing business organization including rural banks. Findings of this study where the most important determinants of rural banks profitability is loan to deposit ratio—ratio between loans or disbursed third party funds and total third party funds (i.e., savings and deposits) are in accordance with these statements. Contribution of this internal variable in influencing rural banks return on asset is approximately 88.75 percent (i.e., 13 percent from total contribution [R2] 14.65 percent). Meanwhile, other internal variable that is recognized to partially or individually affect rural banks profitability is operational efficiency. Contribution of this variable in affecting rural banks return on asset is approximately 4.13 percent (i.e., 0.60 percent from total contribution [R2] 14.65 percent).

Accordingly, it can be summarized that rural banks with higher loan to deposit ratio—rural banks which convert more savings and deposits into productive investments—combined with better management practices—implementing

good corporate governance principles more intensely)—which is represented by higher operational efficiency, tend to have the capacity to generate higher profit.

External variable that has partial effect on rural banks profitability is consumer price index. It contributions to rural banks profitability is approximately 6.19 percent (i.e., 0.91 percent from total contribution [R2] 14.65 percent). Changes in this variable which is beyond the control of rural bank managements should be monitored and considered in making any decisions relating to rural banks profitability.

CONCLUSIONS AND IMPLICATIONS

Conclusions

Rural banks financial performance or profitability which is represented by return on asset was recognized as a function of both internal variable (i.e., credit risk, rural bank size, capital adequacy ratio, operational efficiency, portfolio composition, loan to deposit ratio, non-performing loans) and external variables (i.e., consumer price index, and gross regional domestic product). Its value is simultaneously affected by these variables. Variables that are found have partial effect on rural banks profitability include loan to deposit ratio, operational efficiency (internal variables/factors), and consumer price index (external variable/factor).

In achieving the best possible rural banks profitability (i.e., return on asset), it is therefore suggested to take into account these variables—especially loan to deposit ratio and operational efficiency—in a particular way. Managers' decisions which directly and indirectly have the potentials to affect rural banks profitability should include these variables into considerations. External variable that requires considerations consumer price index. Fluctuations in this variable which is believed to have close relationship with rate of interest should be carefully examined.

Implications

Implication of findings of this study include is as follows. Management of rural banks are required to examine loan to deposit ratio, operational efficiency, as well as consumer price index in a specific way with the intention of achieving the best possible rural bank profitability. Since all other studied variables are discovered have simultaneous effect on rural banks profitability, these variables should also be carefully measured.

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REFERENCES

Agyei-Mensah, B.K. (2012), "The Impact of Contingent Factors on Performance Measures in the Rural Banks of Ashanti Region of Ghana," *International Journal of Academic Research in Business and Social Sciences*, August 2012, Vol. 2, No. 8, pp. 78-110.

Ahmed, J.U., G.P. Bhandari, and R. Ahmed (2013), "Profitability of Regional Rural Banks in India: An Empirical Analysis in Meghalaya Rural Bank," *Journal of Rural and Industrial Development*, Vol. 1, Issue 1, April 2013, pp. 1-15.

Ali, K., M. F. Akhtar, and H. Z. Ahmed (2011), "Bank-Specific and Macroeconomic Indicators of Profitability-Empirical Evidence from the Commercial Banks in Pakistan," *International Journal of Business and Social Sciences*, Vol. 2, No. 6, pp. 235-242.

Amel, D.F. and R.A. Prager (2014), "Community Bank Performance: How Important are Managers?" *Finance and Economics Discussion Series Divisions of Research & Statistics and Monetary Affairs Federal Reserve Board*, 2014-26, Washington, D.C., pp. 1-37.

Antwi, F. and E. V. Apau (2015), "Financial Performance of Rural and Community Banks (RCBs) in Ghana," The International Journal of Business and Management, Vol. 3, Issue 2, pp. 76-85.

Athanasoglou, P. P., S.N. Brissimis, and M.D. Delis (2008), "Bank Specific, Industry Specific and Macroeconomic Determinants of Bank Profitability," *Working Paper*, No 25 June 2005, Bank of Greece, pp. 1-35.

Bank of Indonesia (2016), "Lampiran Surat Edaran Bank Indonesia Nomor 3/30/DPNP tanggal 14 Desember 2001," *htto://www.bi.go.id/id/arsip-peraturan/Perbankan2001/Lampiran 14-PedomanPerhitunganRasioKeuangan .PDF* (accessed on 10 June 2016).

_____ (2016), "Rural Banking Statistics 2007-2010," http://www.bi.go.id/id/statistik/ *perbankan/ bpr-konvensional/indikatorutama/Default. aspx* (accessed on September 2016).

Boadi, E.K. and Y. Li, and V.C. Lartey (2016), " Role of Bank Specific, Macroeconomic and Risk Determinants of Banks," *International Journal of Economic and Financial Issues*, Vol. 2, No. 2, pp. 813-823.

Chou, T. K. and A.D. Buchdadi (2016), "BankPerformance and Its Underlying Factors: A Study of Rural Banks in Indonesia," *Accounting and Finance Research*, Vol. 5, No. 3, pp. 55-63.

Donkor, J. and K. Tweneboa-Kodua (2013), "Profitability, Liquidity and Efficiency of Rural Banks: Evidence

from Ghana," British Journal of Economics, Finance and Management Sciences, Vol. 8, No. 1, pp. 1-11.

Financial Services Authority of Indonesia (2016), " Rural Banking Statistics 2011-2015," http://www.ojk.go.id/id/kanal/perbankan/data-dan-statistik/Statistik-BPR-Konvensional/ Default.aspx (accessed on 13 September 2016).

Gefli, F.Y. (2012), "The Determinants of Rural Bank Profitability," *Master's Thesis* (Unpublished). Institute of Distance Learning, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

InfoBank (2016), "Ini Penyebab BPR Dilikuidasi," *Infobanknews.com/dibalik* (accessed on July 2016)

Mills, E. F. E. A. and N. Amowine (2013), "The Rural Bank Profitability Nexus: Evidence from Ghana," *International Journal of Application or Innovation in Engineering and Management*, Vol. 2, Issue 4, April 2013, pp. 506-513.

Nair, G.K. and R. Thirumal (2012), "Profitability and Growth of Regional Rural Banks (Rrbs) in India (With Reference to the Profit Making RRBs)," *International Journal of Management, IT and Engineering*, Vol. 2, Issue 9, pp. 146-167.

Nsobilla, T. (2015), "The Effect of Non-Performing Loans on the Financial Performance of Selected Rural Banks in the Western and Ashanti Regions of Ghana," *Master's Thesis* (Unpublished), College of Humanities, Kwame Nkrumah University of Science and Technology, Kumasi, Ghana.

Owusu-Antwi, G., J. Antwi, and M. Crabbe (2014, "The Performance of Rural Bank's in Ghana: The Ages Have Past Anything Recommended for the Future," *International Review of Management and Business Research*, Vol. 3, Issue 2, pp. 1047-1060.

Regehr, K. and R. Sengupta (2016), "Has the Relationship between Bank Size and Profitability Changed?" *Economic Review*, Second Quarter 2016, Federal Reserve Bank of Kansas City, USA.

Rumler, F. and W. Waschiczek (2010), "The Impact of Economic Factors on Bank Profits," *Monetary Policy & The Economy*, Q4/10, pp. 49-67.

Saifun, F.A. (2016), "Determinants of Rural Bank Profitability in Yogyakarta: Period 2012-2015," *Undergraduate Dissertation* (Unpublished), Faculty

of Economics, International Program For Islamic Economics And Finance (IPIEF), University Of Muhammadiyah Yogyakarta, Indonesia

Statistics Indonesia (2016), "Gross Regional Domestic Product Without Oil and Gas at Current Market Prices by Province (billion rupiahs), 2000-2013," https://www.bps.go.id/ *linkTabelStatis/view/id/1623* (accessed on June 20 2016).

_____ (2016), "Consumer Price Indices in 66 Cities (2007=100), 2000-2012," https://www.bps.go.id/linkTabelStatis/view/id/911 (accessed on 15 August 2016).

Sugiharto, T. (2012), "Contribution of Rural Banks to The Indonesia's Economy: A Preliminary Investigation" *Proceedings of the Second Uzbek-Indonesia International Joint Conference on Economic and Management towards Nation Character Development*. Tashkent, Uzbekistan, 21–22 September 2012.