Analysis of Capital Adequacy Ratio, Operational Costs of Operational Income, Net Interest Margin, and Non Performing Loan Towards Loan to Deposit Ratio in Go Public Conventional Banks, 2012 – 2017 Periods

Mochamad Soelton[*]
Universitas Mercu Buana, Indonesia

Tri Wahyono
Universitas Mercu Buana, Indonesia

Ogie Trydianto MN
Mercu Buana, Indonesia

Dian Faqihdien Suzabar
Universitas Brawijaya, Universitas Brawijaya

Taufik Akbar
University of Science, Malaysia

Mardaconsita
Universitas Mercu Buana, Indonesia

Abstract

This research aims to identify and analyze the effect of Capital Adequacy Ratio (CAR), Operation Expense (BOPO), Net Interest Margin (NIM), and Non Performing Loan (NPL) of the Loan to Deposit Ratio (LDR) of conventional bank on the Indonesia Stock Exchange period 2012 – 2017, either simultaneously or partially. Independent variables used in this study is CAR, BOPO, NIM and NPL, while LDR as the dependent variable.The population in this research is conventional bank listed on the Indonesia Stock Exchange. The sampling technique in this research is purposive sampling. The number of samples in accordance with the prescribed criteria are as many as 35 samples. Based on the result of the research found that the variable CAR influences negatively insignificantly toward LDR, BOPO and NIM influences positively insignificantly toward LDR, while the variable NPL influences positively significantly toward CAR. But simultaneously CAR, BOPO, NIM, and NPL jointly affect the LDR.
Keywords: Loan to deposit ratio (LDR); Conventional bank; Capital adequacy ratio (CAR); Operating cost (BOPO); Net interest margin (NIM); And non performing loan (NPL).

1. Introduction

Banks are institutions that act as a financial intermediary between parties that have funds (surplus units) and those who need funds (deficit units) as well as institutions that function to facilitate the flow of payment traffic (Dendawijaya, 2009; Mardaconsita and Mochamad, 2019). During the period of 2010 - 2015 there were five banks that no longer operated in Indonesia. Although, in terms of the total number of the bank, the amount of them has decreased. However, in terms of the total number of the bank offices, the amount of them has increased each year. The increase in the number of bank offices was one of them caused by the issuance of the Ministry of Finance No. KEP-07 / M.EKON / 01/2010 by the Coordinating Minister for Economic Affairs which contains the addition of banks implementing people's business loans from previously only 6 banks to 32 banks. The greater the number of the credit is distributed, the greater the chance of the banks to obtain credit interests.

In the banking financial statements, the issuance of credit is usually projected by the ratio of Loan to Deposit Ratio (LDR). Dendawijaya (2009), states that the higher the LDR level, the more illiquid a bank is. As of March 1, 2011, BI has enacted the Bank of Indonesia regulation No. 012 / 19 / PBI / 2010 which contains the provisions of the LDR standard at the rate of 78% -100%. In addition to the LDR, the assessment of bank soundness is based on the Bank of Indonesia Regulation No.13 / 1 / PBI / 2011 with a risk approach namely the Risk-Based Bank Rating.

The Risk-Based Bank Rating or the RBBR method is a method consisting of four assessment factors namely the Risk Profile, the Good Corporate Governance (GCG), the Earnings, and the Capital. the Risk profile aspects include the LDR and the NPL, the aspects of earnings include the Operation Expense/BOPO and the NIM, and the capital aspects including the CAR. In bank operations, the capital is also an important factor in channeling credit to the community. One of the tools to measure the fulfillment of capital obligations can be calculated by using a CAR (Capital Adequacy Ratio) ratio in which the Bank of Indonesia sets a CAR of 8%, 9%, 10%, 11%. In addition to the

*Corresponding Author

credit, the efficiency, and the effectiveness of banks also play an important role in the ability to generate profits and to measure the performance of these banks using the profitability ratios.

Within the income statement itself there are two main posts, namely the operating income and the operating costs. If the operating income is the result obtained from the operational activities, the operational costs are costs incurred to carry out the operational activities. The Bank of Indonesia/the central bank sets the best rate for the BOPO ratio below 90% because if the BOPO ratio exceeds 90% to and close to 100%, the banks can be categorized as inefficient in carrying out its operations. In addition, the banks in carrying out their operations certainly cannot be separated from a variety of risks. The bank's business risk or the business risk of the bank is the level of uncertainty about the income that is expected to be received (Riyanto, 2008). The Non Performing Loans (NPL) are the financial ratios related to the credit risks. The Bank of Indonesia through the PBI No. 2/15/2013 sets the ratio of non-performing loans below 5%. If a bank has a high NPL, it will increase the cost, both the cost of providing productive assets and other costs, in other words the higher the NPL of a bank, the higher the possibility it will disrupt the performance of the bank.

In managing the earning assets to generate the net interest income, the bank management uses the Net Interest Margin (NIM). The higher the NIM, the more effective the bank is in the placement of the earning assets in the form of credit (Dendawijaya, 2009). The standard set by the Bank of Indonesia for the NIM ratio is 6% and above. From the background of the problems outlined above, and with the research gap between the variables to be examined, the author chooses the title **"Analysis of Capital Adequacy Ratio, Operational Cost of Operating Income, Net Interest Margin, and Non Performing Loan against Loan to Deposit Ratio in Commercial Banks Conventional, Go Public for 2012 - 2017 period ".**

2. Literature Review

The CAR is an indicator of a bank's ability to cover a decrease in its assets as a result of bank losses caused by risk assets (Dendawijaya, 2009).

$$CAR = \frac{Capital}{ATMR} \; x \; 100\%$$

The BOPO is an operating efficiency measured by comparing the total operating costs with total operating income (the Bank of Indonesia Circular Letter No.6 / 73 / Intern DPNP dated December 24, 2004).

$$BOPO = \frac{Total \; Operating \; Expenses}{Total \; Operating \; Incomel} \; x \; 100\%$$

The NIM is a ratio used to measure the ability of bank management to manage their productive assets in order to generate the net interest income.

$$NIM = \frac{Net \; interest \; income}{Average \; of \; productivity \; assets} \; x \; 100\%$$

The level of credit risk is projected by the NPL because the NPL can be used to measure the extent to which the non-performing loans can be met with the productive assets owned by a bank (Riyadi, 2006).

$$NPL = \frac{Total \; of \; nonperforming \; loan}{Total \; of \; Credit} \; x \; 100\%$$

Kasmir (2014) the Loan to Deposit Ratio is a ratio to measure the composition of the amount of credit given compared to the amount of public funds and the capital used.

$$LDR = \frac{credit}{Third \; Party \; Fund} \; x \; 100\%$$

2.1. Framework of Thought

Based on the theoretical foundation and the previous research, the authors make a conceptual framework in the figure as follows:
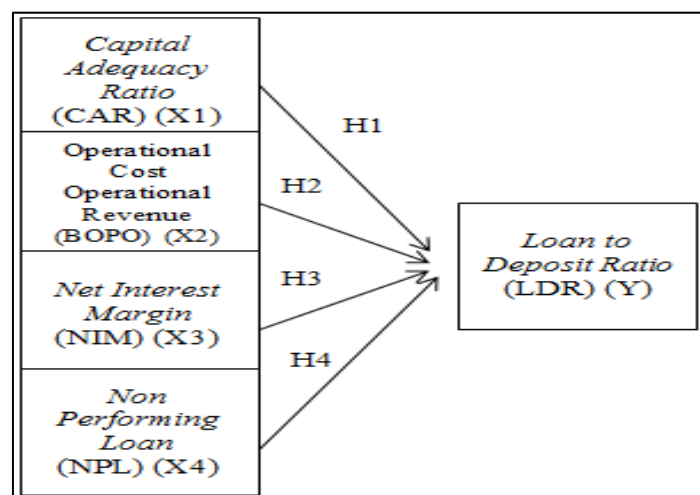
3. Research Methods

The researcher collected the information and the secondary data needed from the banking industry companies in the period 2012-2017 listed on the Indonesia Stock Exchange (IDX). The research method used is a causal associative research method. The Causative associative research is the research aiming to determine the effects or the relationships between two or more variables (Sugiyono, 2013).

The population in this study was all from the banking industry companies that went public on the IDX as many as 41 (forty one) companies in the period 2012 - 2017. The Independent variables (independent variables) namely the Capital Adequacy Ratio (CAR), the Operational Income Operating Costs (BOPO), the Net Interest Margin (NIM), and the Non-Performing Loans (NPL). The dependent variable is the Loan to Deposit Ratio (LDR).

In this study the method of analysis carried out is a quantitative method. In general, the quantitative approaches focus more on the goal of generalization by conducting the statistical tests and the standards of the subjective influence of research. The analytical tool used in this study is multiple linear regression analysis with the SPSS program (Statistical Package for the Social Science).

4. Results and Discussion

Descriptive statistics provide a descriptive data that is seen from the mean, the standard deviation, the variance, the maximum, the minimum, the sum, the range, the kurtosis, and the skewness (tendency to distribution).

4.1. Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CAR	35	13.56	26.56	18.0494	3.12927
BOPO	35	59.93	89.21	75.3311	8.72481
NIM	35	3.58	8.55	6.1791	1.38418
NPL	35	.31	3.12	1.2171	.85541
LDR	35	74.09	108.86	88.2226	8.26618
Valid N (listwise)	35				

Source: SPSS 23

Based on the table above, it is known that there are five research variables (CAR, BOPO, NIM, NPL, LDR) with a total sample of 35 samples. With the minimum value as the lowest value for each variable, and the maximum value for the highest value for each variable in the study. In the table, we can also see the mean and the standard deviation of each value of each variable. Some explanations regarding the results of statistical calculations are described as follows:

4.1.1. Loan to Deposit Ratio (LDR)

The dependent variable of the LDR has a minimum value of 74.09% and a maximum value of 108.86%. While the value of the standard deviation (standard deviation) is 8.27% and the mean value is 88.22%. The mean value that is greater than the standard deviation value (standard deviation) indicates that the data is well distributed.

4.1.2. Capital Adequacy Ratio (CAR)

The independent variable of the CAR has a minimum value of 13.56% and a maximum value of 26.56%. While the value of the standard deviation (standard deviation) is 3.13% and the average value (mean) is 18.05%. The mean value that is greater than the standard deviation value (standard deviation) indicates that the data is well distributed.

4.1.3. Operational Income Operating Costs (BOPO)

The independent variable of the BOPO has a minimum value of 59.93% and a maximum value of 89.21%. While the value of the standard deviation (standard deviation) is 8.72% and the average value (mean) is 75.33%. The mean value that is greater than the standard deviation value (standard deviation) indicates that the data is well distributed.

4.1.4. Net Interest Margin (NIM)

The independent variable NIM has a minimum value of 3.58% and a maximum value of 8.55%. While the value of the standard deviation is 1.38% and the average value (mean) is 6.18%. The mean value that is greater than the standard deviation (standard deviation) indicates that the data is well distributed.

4.1.5. Non-Performing Loans (NPL)

The independent variable of the NPL has a minimum value of 0.31% and a maximum value of 3.12%. While the standard deviation (standard deviation) is 0.85% and the mean value is 1.22%. The mean value that is greater than the standard deviation (standard deviation) indicates that the data is well distributed.

Hypothesis Test, Multiple linear Regression Analysis

Coefficients[a]						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	56.679	18.883		3.002	.005
	CAR	-.359	.441	-.136	-.814	.422
	BOPO	.238	.197	.252	1.210	.236
	NIM	2.094	1.247	.351	1.679	.103
	NPL	5.851	1.977	.605	2.960	.006
a. Dependent Variable: LDR						

From the table above, the multiple linear regression equations can be arranged as follows:
LDR = 56,679 – 0.359 CAR + 0,238 BOPO + 2,094 NIM + 5,851 NPL

4.2. T Test

Based on the multiple linear regression equation above, we obtained the CAR regression coefficient of -0.359. The coefficient indicates a negative relationship between the CAR variable and the LDR. The BOPO regression coefficient is 0.238, where the coefficient indicates a positive relationship between the BOPO variable and the LDR. The NIM regression coefficient is 2.094, where the coefficient indicates a positive relationship between the NIM variable and the LDR. The NPL regression coefficient is 5.851, where the coefficient indicates a positive relationship between the NPL variable and the LDR.

Based on the beta coefficient regression in the table above it can be concluded that the NPL variable has the greatest influence on the banking LDR with the regression coefficient value of 5.851, followed by the variables of the NIM, the CAR, and the BOPO with regression beta values of 2,094, -0,359, and 0,238 .

From the results of the t test, we can discuss the hypothesis proposed as follows:
a. H1: The CAR has a negative effect against the LDR
   Based on the t test results, we obtained that the value of t count is - 0.359 with a significance level of 0.422. The level of significance is greater than 0.05; the value of t count is negative; partially the independent variable CAR has no significant negative effects against the LDR dependent variable. Thus the hypothesis is rejected.
b. H2: the BOPO has a positive effect against the LDR
   Based on the t test results, we obtain that the value of t count is 0.238 with a significance level of 0.236. Due to the fact that the level of significance is greater than 0.05 and the value of t count is positive, then partially the independent variable BOPO has a positive and insignificant effects on the LDR variable. Thus the hypothesis is accepted.
c. H3: the NIM has a positive effect against the LDR
   Based on the t test results obtained that the value of t count is 2.094 with a significance value of 0.103. Due to the fact that the level of significance is greater than 0.05 and the value of the t count is positive; then partially the independent variable of the NIM has a positive and insignificant effects against the LDR dependent variable. Thus the hypothesis is accepted.
d. H4: The NPL has a positive effect against the LDR
   Based on the t test, the results show that the value of the t count is 5.851 with a significance level of 0.006. Due to the fact that the significance level is smaller than 0.05, partially the independent variable of the NPL has a significant positive effect against the LDR dependent variable. Thus the hypothesis is rejected.

5. Conclusion

Based on the results of the data analysis and the discussion that have been stated in the previous chapter, the conclusions can be made as follows:
1. The Capital Adequacy Ratio (CAR) has no significant negative effects against the Loan to Deposit Ratio (LDR) because the higher the level of liquidity of a bank, the higher the risk or loss that must be borne by the bank. In this case, these risks or losses will reduce the amount of the assets owned by the bank.
2. The Operational Costs of the Operational Income (BOPO) have a positive and insignificant effect against the Loan to Deposit Ratio (LDR) in which the high operational costs of the company indicate the bank inefficiencies in carrying out their activities.
3. The Net Interest Margin (NIM) has no significant positive effects against the Loan to Deposit Ratio (LDR), in which the greater this ratio indicates, the more the interest increases the income against the earning assets managed by the bank.
4. The Non Performing Loans (NPL) has a significant positive effect against the Loan to Deposit Ratio (LDR). The greater the amount of credit given, the greater the credit risks will fail, which will affect the bank in tightening the provision of credit to the customers.

6. Suggestions

The suggestions that we can make in this study are as follows:

1. For the conventional banks, they must be able to maintain their ability and carry out the intermediation function properly by maintaining the LDR level in accordance with the rules set by the Bank of Indonesia. The conventional banks must also be able to keep their capital at a minimum of 8% so that they can continue to expand their credit to the public. In addition, the conventional banks must also be able to maintain the operational efficiency and the efficiency in managing their productive assets in order to produce even greater levels of income. The conventional banks must always make strict selections of the prospective debtors; so that the risks of default can be minimized and in order to earn the net interest income which is expected to be more maximal.

2. For the academic fields, this research can be used as a reference for further research with other variables outside the variables studied in order to obtain more varied results and it can also extend the period of observation to expand the research on what ratios affecting the Loan to Deposit Ratio (LDR).

3. For the community, it is expected that it can be used as a benchmark in assessing the bank liquidity as a reference in choosing a bank to save their funds at the bank.

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