Analysis of the Effect of Risk-Based Banking Rating (RBBR) Ratios on the Amount of Indonesian Banking Credit Disbursement in 2014-2019

Arum Pratiwi Puspitasari  
Mercu Buana University  
Jakarta, Indonesia

*Dudi Permana  
Mercu Buana University  
Jakarta, Indonesia

Abstract:- Banking is an important part of the economic development of a country. As a financial institution, banks need to carry out all forms of activities with the principle of prudence. One of the activities of the bank which plays an important role in developing the country is the distribution of credit. Many internal and external factors need to be considered by the Bank.

This study aims to analyze how much influence the ratios included in the Bank Soundness Assessment using the RBBR Method on the provision of credit to Indonesian banks. The data used are secondary data such as banking financial reports based on the criteria of the bank which are classified as the 10 largest banks with assets in the 2016 period. The data collection method is purposive sampling with a data period of 6 years (2014-2019). The variables used in the study were NPL, LDR, OEOI, NIM, ROA, and CAR as independent variables and the amount of credit as the dependent variable. Tests have been carried out using multiple linear regression analysis to test the effect of the independent variable on the dependent variable. The F test is conducted to determine the effect simultaneously, the t-test is carried out to determine the effect part and the coefficient of determination to determine the ability of the independent variable to explain the dependent variable. This study found that simultaneously the six variables have an effect on the dependent variable, but partially the NPL, ROA, NIM, and CAR variables do not have a significant positive effect, LDR has no negative significant effect and OEOI has a negative significant effect on the amount of credit disbursement.

Keywords:- Perceived Ease of Use; Credit, Financial Ratio, Banking, Influence Analysis.

I. INTRODUCTION

The importance of the bank's ability to reflect its health condition is very useful for decision making and determining the bank's business strategy in the future. The reflection of a bank's health condition is used to assess the bank's performance which can be evaluated by related parties (internal and external parties of the bank), especially in applying prudential principles, compliance with applicable regulations, and risk management.

The system for assessing the condition of the bank's soundness level is always made adjustments so that it always reflects the real condition of the bank. Related to the author's interest in researching the independent variables that are included in the RBBR aspect consisting of Non-Performing Loan, Loan-to-Detect Ratio, Operating Expenses Operating Income, Net Interest Margin, Return On Assets, and Capital Adequacy Ratio, then in this study the author wants to provide empirical evidence of the influence of these independent factors on bank credit distribution.

In this study, the authors want to provide empirical evidence about independent factors that influence bank credit distribution in Indonesia.

- NPL and LDR in the RBBR method are included in the Risk Profile aspect.
- OEOI in the RBBR method is included in the aspects of Good Corporate Governance.
- ROA and NIM in the RBBR method are included in the Earning aspect.
- CAR in the RBBR method is included in the Capital aspect.

Based on the projection of banking trends, which are still dominated by the largest allocation coming from the sources of funds raised for lending, the authors are interested in examining this research topic.

II. LITERATURE REVIEW

A. Bank Health Condition

The soundness of a bank can be defined as the bank's ability to carry out banking operations normally and can fulfill all its obligations properly in ways that are following applicable banking regulations, (Budisantoso, 73).

The system for assessing the condition of the bank's soundness level is constantly adjusted so that it always reflects the actual condition of the bank, according to a Bank Indonesia circular letter number: 13/1/PBI/2011 regarding the assessment of the soundness level of commercial banks by self-assessment or regulating risk management and compliance policies (Good Corporate Governance / GCG) and Risk-Based Bank Rating (RBBR) or often referred to as...
RGEC which consists of 4 groups of indicator factors, namely Risk Profile, GCG, Earnings, and Capital.

B. Risk-Based Banking Rating (RBBR)

Risk-Based Banking Rating is a change from the previous assessment policy, namely CAMELS. According to POJK No. 3 of 2016 concerning the Rating of Commercial Bank Soundness, banks are required to maintain and/or increase the Soundness of Banks by applying the principles of prudence and risk management in carrying out business activities. To conduct an assessment of Bank Soundness using a risk-based Bank Rating approach, both individually and on a consolidated basis, including an assessment of the risk profile, Good Corporate Governance (GCG), earning, and capital.

C. Risk-Based Banking Rating Aspects

There are 4 aspects in the Risk-based Bank Rating (RBBR):

1. Risk Profile

According to POJK No. 3 of 2016 concerning the Assessment of the Soundness of Commercial Banks, an assessment of the risk profile is an assessment of the inherent risk and the quality of risk management implementation in Bank operations that must be carried out against eight risks, namely: credit risk, market risk, liquidity risk, operational risk, legal risk, strategic risk, compliance risk, and reputation risk. However, in this study, the authors only use an assessment of the risks associated with the dependent variable, namely credit risk and liquidity risk, which is represented by the Non-Performing Loan (NPL) ratio as credit risk and the Loan-to-Deposit Ratio (LDR) as liquidity risk.

2. Good Corporate Governance

According to POJK No. 3 of 2016 concerning the Assessment of the Soundness of Commercial Banks, an assessment of the GCG factor is an assessment of the Bank's management on the implementation of GCG principles. In this study, the authors only used an assessment of the risks associated with the dependent variable, namely the GCG aspect represented by the BOPO ratio.

3. Earning

Earning of Commercial Bank Soundness, an assessment of the earning factor includes an assessment of the earnings performance, sources of earnings, and sustainability of the Bank's earnings. In this study, researchers used Return on Assets (ROA) and Net Interest Margin (NIM) as ratios that describe the earnings performance of a bank.

4. Capital

In this study, an analysis of the effect of Risk-Based Banking Rating (RBBR) ratios on the number of loan disbursements in Indonesian banks in 2014-2019 was conducted. Banks that are the object of research are banks that are listed as the 10 largest banks in Indonesia in terms of total assets. In this study, researchers used the Capital Adequacy Ratio (CAR) as a ratio that describes the capital performance of a bank.

D. Non-Performing Loan to Credit

The risk faced by banks is credit non-payment which is known as default risk or credit risk. Although credit risk is unavoidable, it must be maintained at a reasonable level ranging from 3% - 5% of the total credit.

Research conducted by Amelia (2017) found a significant negative effect between Non-Performing Loans (NPL) and Credit Distribution. Likewise, Ariyanti (2016) found a negative effect of NPL on credit distribution in her research.

Both studies are in line with Soedarto's research (2014) which proves that NPL has a significant negative effect on credit distribution in his research. Based on the previous empirical studies above, the researcher concludes:

\[ H_1 = \text{Non-Performing Loan to Credit} \]

E. Loan-to-Deposit Ratio to Credit

In the standard assessment of bank soundness, Bank Indonesia stipulates that an LDR ratio of 110% or more is assigned a credit score of 0 (zero), meaning that the bank's liquidity is considered unhealthy. Meanwhile, an LDR ratio below 110% is given a credit score of 100, meaning that the bank's liquidity is considered healthy. Even so, banking practitioners argue that the safe limit for a bank's LDR is 80% to 100%. The higher the ratio, the lower the liquidity capacity of the bank concerned, this is because the amount of funds needed to finance credit is getting bigger.

Research conducted by Amelia (2017) found a significant positive effect between the Loan-to-Deposit Ratio (LDR) and Credit Distribution. Likewise, Putri (2016) who found a positive influence between LDR and credit distribution in her research.

Based on some of the previous empirical studies above, the researcher concludes:

\[ H_2 = \text{Loan-to-Deposit Ratio to Credit} \]

F. Operating Expenses Operating Income to Credit

This ratio is used to measure the ratio of operating costs or intermediation costs to operating income earned by the bank. The smaller the OEOI ratio, the better the condition of the bank because a high ratio indicates a bad condition because it means that every dollar of sales that is absorbed in costs is also high for small profits.

Research conducted by Haryanto (2017) found a significant negative effect between OEOI and Credit Distribution. Likewise, Surisro (2018) who found a negative influence between OEOI and credit distribution in his research.

Both studies are in line with Arianti's research (2016) which proves that OEOI has a negative effect on credit distribution in her research. Based on the previous empirical studies above, the researcher concludes:

\[ H_3 = \text{Operating Expenses Operating Income to Credit} \]
G. Net Interest Margin to Credit

NIM (Net Interest Margin) is the difference between deposit interest (Third Party Funds) and loan interest earned by banks. NIM is a financial ratio that is the result of a comparison between income from interest on assets, which is also the difference between interest on deposits and interest on loans. In other words, NIM is very influential in banking activities in seeking income, one source of income is obtained from the interest generated from the provision of credit.

Research conducted by Aryanti (2017) found a positive influence between NIM and Credit Distribution. Likewise, Haryanto (2017) found a significant positive influence between NIM and credit distribution in his research.

Based on the previous empirical studies above, the researcher concludes:

\[ \text{CAR} = \text{Capital Adequacy Ratio} \]

H. Return On Asset to Credit

This ratio describes the asset turnover and measures the bank's ability to obtain overall profits. The greater the ROA, the greater the level of profit achieved, and the better the position of the bank in terms of asset use. ROA is an internal factor in implementing credit distribution which can be used to measure profitability in banking.

Research conducted by Putri (2017) found a significant positive effect between Return On Assets (ROA) and Credit Distribution. Likewise, Yuwono (2012) who found a positive influence between ROA and credit distribution in his research.

Both studies are in line with Yuliana's (2014) research which proves that ROA has a positive effect on credit distribution in her research. Based on the previous empirical studies above, the researcher concludes:

\[ \text{ROA} = \text{Return On Asset} \]

I. Capital Adequacy Ratio to Credit

The capital adequacy ratio shows the extent to which a bank can finance risk-weighted assets (RWA) from the bank's capital apart from other sources. The Capital Adequacy Ratio includes the bank's internal factors which conditions must be met by each bank. The minimum capital adequacy level for a bank is determined by Bank Indonesia at 8% of the RWA. High and adequate capital adequacy will increase the volume of bank credit. Therefore, the higher the capital adequacy, the higher the bank's ability to provide credit.

Research conducted by Amelia (2017) found a significant positive influence between Capital Adequacy Ratio (CAR) and Credit Distribution. Likewise, Arianti (2016) who found a positive influence between CAR and credit distribution in her research.

Both studies are in line with Soedarto's research (2014) which proves that CAR has a significant positive effect on credit distribution in his research. Based on the previous empirical studies above, the researcher concludes:

\[ \text{H}_c = \text{Capital Adequacy Ratio} \] has a positive effect on bank credit disbursement

III. RESEARCH METHOD

A. Data Collection Method

Samples were taken using a purposive sampling method. Sample design type Purposive sampling is a method of determining the sample by determining the target of population elements that are thought to be most suitable for data collection. The sample design of this type is Judgment sampling, which means that the researcher determines the subject of the selected sample based on the judgment of the researcher alone.

The sample criteria used by researchers in choosing purposive-judgment sampling are:

1) Companies, in this case, are banks listed on the IDX in 2014-2019 which can be accessed properly through www.idx.co.id
2) Banks that have published complete financial reports for the 2014-2019 period.
3) The bank was listed as the 10th largest bank in Indonesia in terms of total assets in 2016.

The method used in this research is quantitative because this research will analyze the problems that are realized with certain values. This study also uses multiple linear regression analysis techniques because it examines the relationship between one dependent variable to more than one other independent variable.

B. Data Analysis Method

This study uses multiple linear regression analysis techniques because it examines the relationship between one dependent variable on more than one other independent variable.

1. Descriptive Statistical Analysis

In this study, it is used to calculate the minimum, maximum, mean, standard deviation of the independent variable Non-Performing Loan, Loan-to-Deposit Ratio, OEOI, Return On Asset, Net Interest Margin, and Capital Adequacy Ratio as well as the dependent variable of the amount of credit extended to listed banking companies on the IDX for the period 2014-2019.

2. Classic Assumption Test

- The linear regression model can be called a good model if the model meets several assumptions called classical assumptions.
- The classic assumptions must be fulfilled aimed at obtaining a regression model with unbiased estimates and reliable testing.
If there is only one condition that is not fulfilled, then the results of the regression analysis cannot be said to be BLUE (Best Linear Unbiased Estimator).

Four Classical Assumption Test: Normality, Multicollinearity, Heteroscedasticity, Autocorrelation.

3. Multiple Regression Test Analysis
   Multiple regression allows a researcher to understand a phenomenon that affects the conditions of the dependent variable (Y) because almost all conditions that affect a factor are caused by more than one independent variable (X).

   - Output Variables Entered / Removed
     Describe the variables included in the model and excluded from the model.

   - Output Model Summary
     Describes the summary of the model, which consists of the results of multiple correlation values (R), determination coefficient (R square), adjusted determination coefficient (Adjusted R Square), and prediction error size (Std Error of the estimate).

   - Output ANOVA
     Explain the results of the F test or the regression coefficient test together. This test is conducted to test the significance of the influence of several independent variables on the dependent variable.

   - Output Coefficients
     Describe the value of the coefficient, t value, and significance.

   - F test and t-test
     Test the significance of individual and simultaneous parameters.

IV. DISCUSSION AND RESULTS

F test
Simultaneous testing was carried out to determine whether the independent variables used in this study together had a significant effect on the dependent variable. In this case, to test the NPL, LDR, OEOI, NIM, ROA, and CAR variables.

Do together show a significant effect on the amount of credit disbursement. The test uses a significance level of 0.05 (5%).

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>10,481</td>
<td>6</td>
<td>1,747</td>
<td>9.476</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>9,770</td>
<td>53</td>
<td>184</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>20,251</td>
<td>59</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The t-test results can be seen in the following table:

<table>
<thead>
<tr>
<th>Coefficients</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>22.452</td>
<td>17.945</td>
<td>1.185</td>
<td>.000</td>
</tr>
<tr>
<td>NPL</td>
<td>.136</td>
<td>.100</td>
<td>.267</td>
<td>.185</td>
</tr>
<tr>
<td>LDR</td>
<td>.018</td>
<td>.007</td>
<td>.188</td>
<td>.1729</td>
</tr>
<tr>
<td>OEOI</td>
<td>.003</td>
<td>.006</td>
<td>.212</td>
<td>.1729</td>
</tr>
<tr>
<td>NIM</td>
<td>.008</td>
<td>.001</td>
<td>.186</td>
<td>.1478</td>
</tr>
<tr>
<td>CAR</td>
<td>.007</td>
<td>.006</td>
<td>.092</td>
<td>.374</td>
</tr>
</tbody>
</table>

1. H1 = Non-Performing Loan has a negative effect on bank credit disbursement.
   Based on the t-test, the result shows that the t value is (+) 0.135 with a significance level of 0.185. Because the t value is positive and the significance level > 0.05, partially the independent variable NPL has no significant positive effect on the bank credit disbursement dependent variable. Thus this hypothesis is rejected.

2. H2 = Loan-to-Deposit Ratio has a positive effect on bank credit disbursement.
   Based on the t-test, the result shows that the t value is (-) 0.013 with a significance level of 0.090. Because the t value is negative and the significance level > 0.05, partially the independent variable LDR has a negative significant effect on the bank credit disbursement dependent variable. Thus the hypothesis is rejected.

3. H3 = Operating Expenses Operating Income Ratio has a negative effect on bank credit disbursement.
   Based on the t-test, the result shows that the t value is (-) 0.033 with a significance level of 0.001. Because the t value is positive and the significance level < 0.05, partially the independent variable of OEOI has a significant negative effect on the bank credit disbursement dependent variable. Thus the hypothesis is accepted.

4. H4 = Net Interest Margin has a positive effect on bank credit disbursement.
   Based on the t-test, the result shows that the t value is (+) 0.037 with a significance level of 0.05. Because the t value is positive and the level of significance > 0.05, partially the independent variable NIM has no significant positive effect on the bank credit disbursement dependent variable. Thus the hypothesis is accepted.
5. $H_5 = \text{Return On Asset has a positive effect on bank credit disbursement}
   
   The ROA test results show that the t value is $(+)$ 0.006 and the significance level is 0.146. The t value is positive and the significance level $> 0.05$, it can be concluded that partially the independent variable ROA has no significant positive effect on the bank credit disbursement dependent variable. Thus the hypothesis is accepted.

6. $H_6 = \text{Capital Adequacy Ratio has a positive effect on bank credit disbursement}
   
   The CAR test results show that the t value is $(+)$ 0.003 and the significance level is 0.916. The t value is positive and the significance level $> 0.05$, it can be concluded that partially the independent variable ROA has no significant positive effect on the bank credit disbursement dependent variable. Thus the hypothesis is accepted.

7. The most dominant/influencing variable is the NPL variable because it has the greatest influence on the bank credit disbursement dependent variable with a beta regression coefficient value of $(+)$ 0.267, followed by the ROA, NIM, CAR, LDR, and OEOI variables with a regression value of $(+)$ 0.165, $(+)$ 0.092, $(+)$ 0.013, $(+)$ 0.090, $(+)$ 0.188 and $(+)$ 0.812.

V. CONCLUSION

Based on the results of the testing and discussion above, the following conclusions can be drawn:

1. In the first partial test, NPL has a positive and insignificant effect on the bank credit disbursement. This is indicated by the result $(+)$ 1.342 and a significance value of 0.106. Thus, Hypothesis 1 is rejected, because although bad credit always exists every year, this does not affect or reduce banks in extending credit. Banks are trying to avoid bad credit so that banks can reduce losses, in other words, banks can manage and anticipate bad credit. Before bad credit occurs, banks can avoid bad credit, for example by extending the credit period for installments or by providing convenience for customers who cannot pay off their debts at maturity, so that the bank will still benefit and bad credit can be resolved.

2. In the second test partially, LDR has a negative and insignificant effect on the bank credit disbursement. This is indicated by the result $(-)$ 1.728 and a significance value of 0.090. Thus, Hypothesis 2 is rejected, due to the higher LDR, the current bank management will be increasingly worried about the position of bank liquidity, in line with bank policies in the standard assessment of bank soundness. Bank Indonesia has determined that an LDR ratio of 110% or more is given a credit score of 0 (zero), meaning bank liquidity is considered unhealthy. Meanwhile, an LDR ratio below 110% is given a credit score of 100, meaning that the bank’s liquidity is considered healthy. The higher the LDR ratio, the more risky bank conditions are in liquidity, so that the higher the LDR ratio, the bank must reduce the amount of credit disbursement.

3. In the third test partially, Operating Expenses / Operating Income (OEOI) had a negative and significant effect on the bank credit disbursement. This is indicated by the result $(-)$ 3.512 and a significance value of 0.001. Thus, Hypothesis 3 is accepted, because the OEOI ratio is part of an assessment of the efficiency and quality of bank fund management correctly and accurately. This ratio is used to measure operating income against operating income earned by the bank. The smaller the OEOI ratio, the better it shows the health condition of the bank in managing funds and the more available profits are so that the potential that can be channeled for credit will be higher.

4. In the fourth test partially, the Net Interest Margin (NIM) has a positive and insignificant effect on bank credit disbursement. This is indicated by the result $(+)$ 0.674 and a significance value of 0.503. Thus, Hypothesis 4 is accepted, because the NIM variable shows that the bank is effective in placing assets. The higher the NIM ratio, the more effective the bank’s activities are in earning a profit and the effective bank in placing productive assets, especially in the form of credit.

5. In the fifth test partially, Return On Assets (ROA) has a positive and insignificant effect on bank credit disbursement. This is indicated by the result $(+)$ 1.476 and a significance value of 0.146. Thus, Hypothesis 5 is accepted, because a high ROA indicates a bank’s ability to manage an increase in profit is also high, the higher the profit, the bank can use it for lending activities or more dominantly for reserves of productive assets.

6. In the sixth test partially, the Capital Adequacy Ratio (CAR) has a positive and insignificant effect on bank credit disbursement. This is indicated by the result $(+)$ 0.106 and a significance value of 0.916. Thus, Hypothesis 6 is accepted, because the average CAR at commercial banks in this study period 2014-2019 was in a fairly high range, namely 14.64% -24.2%, well above the minimum requirement required by Bank Indonesia of 8%. High CAR indicates idle financial resources (capital). A good CAR ratio encourages optimal use of financial resources (capital) through one of its activities, namely credit disbursement.

VI. SUGGESTION

The researcher wants to provide some suggestions related to the research being carried out to be used as input and consideration for the parties concerned, including the following:

1. This research will be more perfect by including variables that are not included in this study, such as variable credit interest rates, economic growth, and other related financial ratios such as (LFR, LCR, ROE, CKPN, etc.).
2. This research will be more perfect by adding a wider observation year and a larger number of bank objects taken, for example, the 20 banks with the largest assets in more than 5 years.
3. Researchers suggest that banks always pay attention to the OEOI ratio because, from the results of this study, the OEOI ratio has the most significant effect. It is necessary to pay attention to the OEOI ratio so that banks can measure the operating costs and operating income earned
by the bank. The smaller the OEOI ratio produced, it shows good conditions and vice versa. The lower the OEOI ratio, the better the Bank is in managing funds and the duration so that the potential for idle funds to be used can be more profitable/productive.

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