The Effect of Risk Based Bank Rating Components towards Earnings on 19 Indonesian Commercial Banks in Period 2005-2014

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Abstract
Bank primary products are collecting funds from the third party and providing loans. The third party funds consist of demand deposit, saving deposit and time deposit. On the other hand, loan is a provision of funds based on the agreement between lender and borrower that will be repaid by borrower after a certain period with interest. From these two products, banks gain income or also called spread based. Spread based is the difference between deposit interest and loan interest. However, the income from spread based is decreasing due to the competition among banks. Moreover, banks are required to assess the level of soundness to maintain the sustainability of the bank by using Risk-Based Bank Rating (RBBR). Risk-based Bank Rating assessment measures based on four factors, namely risk profile, good corporate governance, earnings, and capital. This research aims to reveal the effect of each component of Risk-based Bank Rating towards earnings on 19 Indonesian commercial banks. Therefore, Fixed Effect Regression is used to find out each component of Risk-Based Bank Rating to earnings. The author used bank health ratio that represent each component of Risk-based Bank Rating and earnings. Return On Asset represents earnings. Liquidity Coverage Ratio, Loan Deposit Ratio, and Non-Performing Loan represent risk profile. Net Interest Margin represents good corporate governance. Capital Adequacy Ratio represents capital. The data of the research obtained from the monthly reports of 19 Indonesian commercial banks from 2005 to 2014. The results show that all ratios except Liquidity Coverage Ratio have a significant effect on earnings. Net Interest Margin and Capital Adequacy Ratio have positive significant towards Return On Asset. While Non-Performing Loan and Loan to Deposit Ratio have negative significant to Return On Asset.

Keywords: Earnings, Risk-based Bank Rating, Effect, Bank,
I. Introduction

Nowadays, banking industry is growing rapidly, especially in Indonesia. There are 120 banks that spread across Indonesia. According to The Law Number 10 of 1998, bank is corporate entity mobilizing funds from the public in form of deposits and channel to the public in form of loans and/or other forms in order to improve the living standards of common people. Banks have three main functions, which are accepting deposits, providing loans, and providing other financial services to meet financial needs. Banks hold important role in economy of a country. Banks has to be healthy, secure, and responsible. Due to the important role in economic, banks are highly regulated. The better performance of banks will make a better economic growth.

As described above, bank primary products are collecting funds from third party and providing loans. The third party funds consist of demand deposit, saving deposit and time deposit (Kasmir, 2014). On the other hand, loan is provision of funds based on agreement between lender and borrower that will be repaid the by borrower after a certain period of time with interest (The Law Number 10 of 1998). From these two products, banks gain income or also called spread based. Spread based is the difference between deposit interest and loan interest (Kasmir, 2014). However, the income from spread based is decreasing due to the competition among banks.

![Figure 1 HQLA, TPF, Loans, Capital, and Profit before Tax of 19 Indonesian Commercial Banks](image)

Furthermore, banks are required to assess the level of soundness in order to maintain sustainability of the bank. According to Bank Indonesia Regulation Number 13/1/PBI/2011,
Bank has to evaluate their performance using risk approach (Risk-Based Bank Rating). This assessment is expected to be able to evaluate the condition and problems that bank faced. In Bank Indonesia Regulation Number 13/1/PBI/2011 also mention that Risk-Based Bank Rating assessment measures based on four factors, namely risk profile, good corporate governance, earnings, and capital.

Figure 1 shows High Quality Liquid Assets (HQLA), Third Parties Funds (TPF), Loans, Capital, and Profit Before Tax of 19 Indonesian commercial banks from 2010 to 2014. HQLA consists of cash, placement in Bank Indonesia, and securities, while TPF consists of demand deposit, saving deposit, and time deposit. Those components are assessed using Risk-Based Bank Rating approach. Directors and boards of bank run the business to gain some profits but from figure above, Profit Before Tax has the smallest amount compared to other components. Banks just earn little profits from its business activities. From this phenomenon, this research wants to reveal the effect of Risk-Based Bank Rating components towards earnings. Where Return on Return on Asset represents earnings. Liquidity Coverage Ratio, Loan to Deposit Ratio, and Non-Performing Loan represent risk profile. Net Interest Margin represents good corporate governance. Capital Adequacy Ratio represents capital.

2. Literature Review

According to Bank Supervision Report (2012), in 2011 Bank Indonesia refined its assessment of bank soundness through introduction of Risk- Bank Rating (RBRR). RBRR assessment is conducted a minimum of every six months based on four factors, namely the risk profile, good corporate governance, earnings and capital in order to create a composite rating of bank soundness. There are several ratings of bank soundness such as very sound, sound, satisfactory, less sound and unsound.

- Risk Profile

The risk profile illustrates risk exposure faced by bank as a consequence of performance and/or the business strategy. According to Bank Indonesia regulation, there are eight types of risk, such as credit risk, operational risk, market risk, liquidity risk, reputational risk, compliance risk, legal risk and strategic risk. Based on Bank Supervision Report (2012), the most salient types of risk in the national banking industry are credit risk and operational risk. Risk profile is measured by Loan to Deposit Ratio (LDR), Non-Performing Loan (NPL), and
Liquidity Coverage Ratio (LCR).

- Good Corporate Governance

The second component is good corporate governance. The assessment of good corporate governance is based on three main aspects: governance structure, governance process and governance outcomes (Bank Supervision Report, 2012). Governance structure evaluates task implementation and the responsibilities of directors and boards as well as the completeness and implementation of committee tasks. Governance process deals about the application of the compliance function, the handling of conflicts of interest, application of internal and external audit function, the application of risk management including the internal control system, availability of funds to related parties and large funds as well as the strategic plan of the bank. Governance process encompasses transparent financial and non-financial conditions. Good corporate governance is measured by net interest margin (NIM).

- Earnings

With reference to the component of earnings, during 2012 conventional commercial banks maintained a level of earning described as adequate. It shows that the profit accrued by banks exceeded their target and facilitated an increase in bank capital. Earnings are measured by return on asset.

- Capital

The component of capital is also evaluated as adequate during the reporting year. This reflects that the majority of banks have a good quality of permanent capital capable of absorbing losses and that most banks could anticipate nearly all risks. The capital is measured by capital adequacy ratio.

Before this research conducted, many researchers have conducted studies about earnings. Hassan and Bashir (2003) analysed Determinants of Islamic banking profitability. The results show that Return on Asset can precisely reflect the management ability to utilize the bank’s financial and real investment resources to generate profits. Meanwhile, Kok Yoke Teng, Tan Ker Wei, Tan Sim Yong, and Yong Man Siew (2012) analysed The Determinants of Islamic Banks Profitability in Malaysia. The estimation result shows that bank size and money supply are significantly and positively influence the bank profitability while asset quality and expenses management inversely affect the bank profitability. For future studies, it is recommended that more sample size and determinant factors can be included in determining the effect on bank
profitability.

3. Methodology
3.1 Data Collection

The sample data was taken from banks that are categorized in Bank UmumKegiatan Usaha (BUKU) III and BUKU IV. BUKU III is banks which have capital between five to thirty trillions rupiah and BUKU IV has capital more than thirty trillion rupiah. There are 19 commercial banks include in BUKU III and BUKU IV. The data for this research was the secondary data that was taken from Bank Indonesia period 2005-2014. The data was monthly financial statements from 19 commercial banks in Indonesia. There are samples of banks in Indonesia that the author use in the research:

Table 1: Samples of 10 Banks in Indonesia

<table>
<thead>
<tr>
<th>No.</th>
<th>Bank</th>
<th>No.</th>
<th>Bank</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bank Mandiri</td>
<td>11</td>
<td>Bank OCBC NISP</td>
</tr>
<tr>
<td>2</td>
<td>Bank BRI</td>
<td>12</td>
<td>Bank BJBR</td>
</tr>
<tr>
<td>3</td>
<td>Bank BCA</td>
<td>13</td>
<td>Bank Mega</td>
</tr>
<tr>
<td>4</td>
<td>Bank BNI</td>
<td>14</td>
<td>Bank Bukopin</td>
</tr>
<tr>
<td>5</td>
<td>Bank CIMB</td>
<td>15</td>
<td>Bank DBS</td>
</tr>
<tr>
<td>6</td>
<td>Bank Permata</td>
<td>16</td>
<td>Bank Sumitomo</td>
</tr>
<tr>
<td>7</td>
<td>Bank Panin</td>
<td>17</td>
<td>Bank Mizuho</td>
</tr>
<tr>
<td>8</td>
<td>Bank Danamon</td>
<td>18</td>
<td>Bank UOB</td>
</tr>
<tr>
<td>9</td>
<td>Bank BII</td>
<td>19</td>
<td>Bank BTPN</td>
</tr>
<tr>
<td>10</td>
<td>Bank BTN</td>
<td></td>
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</tr>
</tbody>
</table>

3.2. Regression Equation

The research was using regression to explain relation between the dependent and independent variables. Based on the data regression defined as follows:

\[ Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_4X_4 + \beta_5X_5 + \beta_6X_6 + \varepsilon \]

The explanation of the regression equation:

\( Y \): Return On Asset
\( X_1 \): Loan to Deposit Ratio
\( X_2 \): Non-performing loan
\( X_3 \): Net interest margin
\( X_4 \): Liquidity Coverage Ratio
3.3. Data Analysis

This research used Eviews8 as the statistics tools. According to Gujarati (2004), Regression analysis is concerned with the research of the dependence of new variable, the dependent variable, on one or more other variables, the explanatory variables, with a view to estimating and/or predicting the (population) mean or average of the former in terms of the known or fixed (in repeated sampling) values of the letter. The result of regression analysis is coefficient for each independent variable, which is obtained by predicts the value of the dependent variable with equation. Coefficient regression is calculated for two proposes: to minimize the deviation between actual and estimation value of dependent variable based from existing data.

This research used panel data, which combines the time series and cross section data. There are several advantages of using panel data, such as resulting efficient econometric, providing more information that cannot be given by cross section and time series, and providing better results compared to cross section data. There are three methods used as the approach to regression model in data panel:

- **Pooled Least Square**
  It is a method of combining the time series data and cross section data to estimate the regression panel data using Ordinary Least Square method. It is assumed that data behavior between the objects is similar in certain period.

- **Fixed Effect**
  It uses dummy variable to detect the intercept difference. It also aims to see the probability of omitted-variables problem that might occur. The slope of coefficient regression between the object and time series is assumed as different.

- **Random Effect**
  It calculates the error from time series data and cross-section data to fix the efficient least square process. It is also generalized the variance of least square estimation method.
To know which the best method for the model is, can be conducted by using Chow test and Hausman test. Chow test is to determine whether Pooled Least Square appropriate with the model or not. If the cross-section F probability is higher than $\alpha=0.05$, then using Pooled Least Square is appropriate. Meanwhile if using Pooled Least Square is not appropriate, the author has to conduct Hausman test. Hausman test is to determine using Fixed Effect method or Random Effect. When cross-section random probability is higher than $\alpha=0.05$, then the model has to use Random Effect method. Otherwise, if the cross-section random probability is lower than $\alpha=0.05$, then the model has to use Fixed Effect method.

4. Data Analysis

4.1. Selection of Panel Data Regression Estimation Techniques

Before the regression carried out, the author has to determine the best method for the model. The author conducted Chow test and Hausman test. First, conducted Chow test to determine whether Pooled Least Square method appropriate with the model.

Table 2 Chow Test

<table>
<thead>
<tr>
<th>Effects Test</th>
<th>Statistic</th>
<th>d.f.</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross-section F</td>
<td>87.587344</td>
<td>(18,2256)</td>
<td>0.0000</td>
</tr>
<tr>
<td>Cross-section Chi-square</td>
<td>1208.269658</td>
<td>18</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

Based on Table 2, The cross-section F probability is lower than $\alpha=0.05$, it means that the equation is not appropriate using Pooled Least Square Method. Hausman test has to conduct to determine whether using Fixed Effect method or Random Effect method. The following Table 3 below is table of Hausman test.
Table 3 Hausman test

From Table 3, shows that cross-section random probability is 0.0287. If the probability is lower than \( \alpha = 0.05 \), the model is appropriate using Fixed Effect method.

Table 3 Regression Using Fixed Effect Method
After using Fixed Effect method, the regression shows the independent variables that have significant effect to Return On Asset.

1. Non-Performing Loan

   The p-value of Non-Performing Loan is lower than significant level 5%. It shows that Non-Performing Loan has significant effect to Return On Asset. From the regression, the significant effect of Non-Performing Loan is negative due to the value of Non-Performing Loan coefficient is -0.108389. Non-Performing Loan is to measure loan that default or close to being default. When Non-Performing Loan is going up, Return On Asset will be decreasing.

2. Net Interest Margin

   The result shows that Net Interest Margin has positive significant effect to Return On Asset because the p-value of Net Interest Margin is lower than significant level 5% and the coefficient of Net Interest Margin is positive. Net Interest Margin measures the ability bank to generate income. If Net Interest Margin is increasing, Return On Asset will be increasing too.

3. Loan to Deposit Ratio

   The p-value of Loan to Deposit Ratio is lower than significant level 5% and the coefficient of the ratio is negative. It indicates that Loan to Deposit Ratio has negative significant effect to Return On Asset. Loan to deposit Ratio determines the distributing of credit against fund collecting from third party. When Loan to deposit Ratio increases, total asset will be going up and profit is going up too. However, the profit rise is not as big as total asset rise. It will make the Return On Asset will be going down.

4. Liquidity Coverage Ratio

   Liquidity Coverage Ratio intended to ensure banks maintain adequate levels of unencumbered high quality assets (numerator) against net cash outflows (denominator) over a 30 days significant stress period. The result shows that positive effect to Return On Asset. However, the p-value of Liquidity Coverage Ratio is higher than $\alpha=0.05$. It means that there is no significant effect between Liquidity Coverage Ratio with Return On Asset.

5. Capital Adequacy Ratio

   The regression shows that Capital Adequacy Ratio has positive significant effect towards Return On Asset. Capital Adequacy Ratio is the indicator to absorb any risk and cover any losses. The Capital Adequacy Ratio level determines the ability of banks to generate profit and then the assets allocation fund accordance with risk level. So, when the bank has high
Capital Adequacy Ratio, the Return On Asset will be high too due to the purpose of Capital Adequacy Ratio is to cover any losses and absorb risk.

5. Conclusion and Recommendation

This research focuses on the effect of Risk-Based Bank rating components towards earnings on 19 Indonesian commercial banks in period 2005-2014. The components of Risk-Based Bank Rating are risk profile, good corporate governance, and capital. For risk profile represented by Non-Performing Loan, Loan to Deposit Ratio, and Liquidity Coverage Ratio. The result shows that Liquidity Coverage Ratio has no significant effect to Return On Asset. While Non-Performing Loan and Loan to Deposit Ratio has negative significant effect to Return On Asset. The next variable is Net Interest Margin. The ratio as a proxy for good corporate governance has positive significant effect towards Return On Asset. Last, Capital Adequacy Ratio, that represents capital, has positive significant effect to Return On Asset.

The goal of directors and boards of the bank is to gain profits. Based on this research, Return on Asset as proxy for earnings can be maintained by controlling Risk-Based Bank Rating components, such as risk profile, good corporate governance. Moreover, The further research might be conducted to get better result by exploring another independent and/or change dependent variable that represents earning.

References
Kok Yoke Teng, T. K. (2012). The Determinants Of Islamic Banks Profitability In Malaysia.