Banking Subsector: Performance Ratio Influence to Bank’s Stock Prices during the Period 2010 - 2014

Linda Dwi Roswitasari¹, Noer Azam Achsani², Trias Andati³

¹, ², ³School of Business, Bogor Agricultural University (IPB), Pajajaran Road, Bogor 16151, Indonesia

Abstract: The Indonesian banking sector plays an important in the national economic growth. The sector dominates the national financial system with a market share up to 78.6%. There is a phenomenon that shows the number of banks listed on the Indonesian Stock Exchange (BEI) in the period 2010-2014 has increased every year that is followed by the increasing of banks’ profitability. However, the average stock price tends to decline. The bank health is the interest of all stakeholders includes investors, owners, bank management and public. Therefore, there is a need to conduct a bank performance assessment using Risk profile, Good Corporate Governance, Earnings and Capital (RGEC) method. The aim of this study is to analyze the growth of bank health ratio using the RGEC method and to examine the influence of these ratios to the stock price. This study used twenty banks listed in the BEI as a sample. Descriptive analysis and panel data between 2010 and 2014 using Random Effect Method were conducted for the data analysis. The result of this study indicates that the lowest non-performing loan (NPL) was obtained in 2013 and the lowest in 2010. In regards to the loan to deposit rasio (LDR), the lowest LDR obtained in 2012 while the highest in 2013. With respect to operational Efficiency Ratio(BOPO), the lowest BOPO was obtained in 2010 and the highest in 2010. Additionally, the panel data analysis reveals that the health of bank’s ratio statistically influences stock prices, NPL and LDR and the BOPO significantly influences the stock price changes.

Keywords: Banking sector, panel data analysis, random effect, RGEC, stock price.

1. Introduction

Banking sector plays an important role in the national economic growth. Based on the total assets of Indonesian financial system, banking sector dominates the financial industry with a market share up to 78.6 percent as can be seen in Figure 1. Therefore, with its dominance, the stability of the banking sector would influence the stability of the national financial system.

![Figure 1: Financial Institution Assets Composition in June 2014](Source: www.bi.go.id)

![Figure 2: Banking company’s growth in periods of 2010-2014](Source: www.idx.com

Figure 2 reveals the number of banks listed on Indonesia Stock Exchange (BEI) within the period of 2010 - 2014 that shows a positive growth around 29% in the period. The increase of number of listed bank is followed by the increased of profit sector.

Figure 3 shows a trend of the return on asset (ROA) that also slightly increased between 2010 and 2014. ROA measurement aims to review the company's ability to make profits through the investment fund on entire productive assets (Setyawati, 2010).
RGEC method is a procedure of bank ratings that replaces the previous bank ratings regulation called CAMELS (Capital, Asset Quality, Management, Earnings, Liquidity, and Sensitivity to Market Risks). Widiarti et al. (2015) argue that the condition of the Indonesian banking sector seems not healthy and sustainable that can be reflected from the profitability and operational efficiencies. Health or financial performance of the bank is the interest of all stakeholders, including owners, bank management, bank service users.

The aim of this study is twofold (1) to analyze the growth of bank health using internal ratios and (2) to examine the influence of ratios used in RGEC method to the stock price of the listed bank on Indonesia Stock Exchange from 2010 to 2014.

2. Data

The data used in this study was secondary data gathered from annual reports from bank websites and IDX websites that have information about NPL, LDR, ROE, NIM, BOPO, CAR of the issue, reports on the implementation results of the self-assessment of Good Corporate Governance for the last five years (2010-2014), bank health ratio as well as the bank stock prices. This study focused on banks that are listed and have not experienced delisting in the Indonesia Stock Exchange (BEI) during the last five years (2010-2014).

The sampling method in this study was purposive sampling. Twenty (20) banks were selected from the total of 40 banks that met the criteria: 1) Banks that will be examined is the bank listed on the Indonesian’s Stock Exchange (BEI) during the last five years (2010-2014), 2) The financial statements have been reported and published, 3) Not undergone delisting during the last five years (2010-2014), 4) Banks have financial data annual report complete financial ratio NPL, LDR, ROE, NIM, ROA, CAR and report of GCG implementation over the last five years (2010-2014). List of selected bank are provided in the Table 1.

![Figure 3: Average ROA increasing of banking subsector 2010-2014](Image)

Source: www.idx.com

Average ROA increasing of banking subsector

Taufik (2009) claims that at the end of 2008, the case of Bank Century shocked Indonesian banking sector that was started by the failure of clearing conducted by bank customers. Bank Century was a seller of fake mutual funds that experienced a negative Capital Adequacy Ratio (CAR). According to Christanti and Mahastanti (2013), news or reviews in the financial media and company financial statements drove the valuation of the company by investors.

Bank Indonesia has issued a new regulation on the health assessment to assess the banking companies performance by using the risk approach (Risk-Based Bank Rating) that covers four factors measurement, i.e. the risk profile, Good Corporate Governance (GCG), earnings, and capital that is abbreviated as RGEC. RGEC banks financial performance assessment methods refers to the Bank of Indonesia regulation no. 13/1 / PBI / 2011 on financial assessment performance of commercial banks.

![Figure 4: Bank stock price movement in periods of 2010-2014](Image)

Source: www.idx.com

Bank stock price movement in periods of 2010-2014

Table 1: Bank Sample

<table>
<thead>
<tr>
<th>No.</th>
<th>Name of Bank</th>
<th>Types of Bank (Based on Ownership)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Bank ArthaGraha Tbk.</td>
<td>National Private Bank</td>
</tr>
<tr>
<td>2</td>
<td>Bank Bukopin Tbk.</td>
<td>National Private Bank</td>
</tr>
<tr>
<td>3</td>
<td>Bank Central Asia Tbk.</td>
<td>National Private Bank</td>
</tr>
<tr>
<td>4</td>
<td>Bank CIMB Niaga Tbk.</td>
<td>National Private Bank</td>
</tr>
<tr>
<td>5</td>
<td>Bank Danamon Tbk.</td>
<td>National Private Bank</td>
</tr>
<tr>
<td>6</td>
<td>Bank MaybankIndonesia Tbk.</td>
<td>National Private Bank</td>
</tr>
<tr>
<td>7</td>
<td>Bank Mandiri (Persero) Tbk.</td>
<td>State Bank</td>
</tr>
<tr>
<td>8</td>
<td>Bank Mega Tbk.</td>
<td>National Private Bank</td>
</tr>
<tr>
<td>9</td>
<td>Bank Negara Indonesia Tbk.</td>
<td>National Private Bank</td>
</tr>
<tr>
<td>10</td>
<td>Bank of India Indonesia Tbk.</td>
<td>State Bank</td>
</tr>
<tr>
<td>11</td>
<td>Bank Permata Tbk.</td>
<td>National Private Bank</td>
</tr>
<tr>
<td>12</td>
<td>Bank Pundi Indoneisa Tbk.</td>
<td>National Private Bank</td>
</tr>
</tbody>
</table>
### 3. Methodology

According to Jaya and Sunengsih (2009), panel data regression analysis is regression analysis using panel data to examine the relationship between a dependent variable with one or more independent variables. This study used a quantitative approach with quantitative descriptive and panel data analysis.

The equation model of bank health ratio (independent variable) that is the function of stock price (dependent variable) is:

\[ Y(it) = a + b1X1(it) + b2X2(it) + b3X3(it) + b4X4(it) + b5X5(it) + b6X6(it) + b7X7(it) + \epsilon(it) \]

Hypothesis: \( b1, b2, b3, b4, b5, b6 > 0; b7 < 0 \)

Information:
- \( Y = \) Stock Prices
- \( X1 = \) Non-Performing Loan (NPL)
- \( X2 = \) Loan to Deposit Ratio (LDR)
- \( X3 = \) Good Corporate Governance (GCG)
- \( X4 = \) Return on Equity (ROE)
- \( X5 = \) Net Interest Margin (NIM)
- \( X6 = \) Operating Expenses and Operating Income (BOPO)
- \( X7 = \) Capital Adequacy Ratio (CAR)
- \( a = \) Intercept
- \( b (1...7) = \) Coefficient for each variables
- \( \epsilon = \) error
- \( it = \) cross section on-\( i (1,2,....,22) \), waktu on-\( t(1,2,..,5) \)

### 4. Empirical Results

Based on the results of descriptive statistics, table 2 shows the analysis of descriptive statistics includes mean, maximum, minimum, and standard deviation.

#### Table 2: Descriptive statistics of banking subsector during the period of 2010-2014

<table>
<thead>
<tr>
<th></th>
<th>NPL</th>
<th>LDR</th>
<th>GCG</th>
<th>ROE</th>
<th>NIM</th>
<th>BOPO</th>
<th>CAR</th>
<th>HS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>0.027</td>
<td>0.843</td>
<td>1.73</td>
<td>0.459</td>
<td>0.062</td>
<td>0.786</td>
<td>0.164</td>
<td>2702.8</td>
</tr>
<tr>
<td>Median</td>
<td>0.02</td>
<td>0.86</td>
<td>1.67</td>
<td>0.163</td>
<td>0.053</td>
<td>0.799</td>
<td>0.154</td>
<td>1207.5</td>
</tr>
<tr>
<td>Maximum</td>
<td>0.509</td>
<td>1133</td>
<td>3.67</td>
<td>0.438</td>
<td>0.166</td>
<td>1.575</td>
<td>0.464</td>
<td>13200</td>
</tr>
<tr>
<td>Minimum</td>
<td>0.002</td>
<td>0.523</td>
<td>1</td>
<td>-0.84</td>
<td>0.018</td>
<td>0.447</td>
<td>0.099</td>
<td>79</td>
</tr>
<tr>
<td>Std.Dev.</td>
<td>0.051</td>
<td>0.119</td>
<td>0.54</td>
<td>0.157</td>
<td>0.026</td>
<td>0.162</td>
<td>0.051</td>
<td>3241.9</td>
</tr>
</tbody>
</table>

Minimum value of each ratio along the bank concerned is (1) NPL with a value of 0.23% was obtained in 2013, (2) LDR with a value of 52.3% was obtained in 2012, (3) GCG with a value of 1 or composite 1 was obtained in 2012, (4) ROE -84.44% with the value obtained in 2014, (5) 1.89% NIM to the value obtained from in 2014, (6) CAR with a value of 9.92% was obtained in 2010, (7) BOPO with values obtained in 2010, and (8) Price shares with a value of 79 obtained in 2014.

The maximum value of each ratio sequentially along the bank concerned is (1) NPL with a value of 50.96% was obtained in 2010, (2) LDR value obtained 113.3% in 2012, (3) GCG with a composite value of 3.67 or 3.67, obtained in 2013 and 2014, (4) ROE with a value of 48.83% was obtained in 2014, (5) NIM with a value of 16.64% was obtained in 2013, (6) CAR with a value of 46.49% was obtained in 2011, (7) BOPO with a value of 157.5% was obtained in 2010, and (8) Price 13,200 shares with a value obtained in 2010.

Standard deviation that greater than mean value describe that the spread of data has a large fluctuation. The standard deviation that less than mean value describes the spread of good data. NPL and stock prices ‘s data spread have a large fluctuation, whereas for data that has a spread with low fluctuations owned by LDR, GCG, ROE, NIM, BOPO and CAR.
The NPL ratio decreased from 4.95% in 2010 to 1.99% in 2013. This indicates that the number of loan problems decreased. The LDR ratio also shows a good improvement where the ratio increased 78.47% in 2010 to 89.27% in 2014. This means that the ability of banks to balance between the possibility of deposit withdrawal customers and the needs of the community to lend money.

Additionally, the GCG composite score has increased from 2010 with a composite score of 1.58 and continued to rise until 2014 which has a composite score of 1.84. Increase in value of GCG composite ratio describes that the bank management still unable to applied the GCG with the perfect practice. This is reflected to inadequate fulfillment of the principles of corporate governance. A weakness in the application of corporate governance principles can immediately be repaired by the Bank's management. Implementation of GCG principles under tasks and responsibilities of the Board of Commissioners and Board of Directors. Comprehensiveness and execution tasks of committees and working unit runs the bank's internal control function, the implementation of compliance, internal and external auditors; application of risk management, including the internal control system, provision of funds to related parties and large exposures, the bank's strategic plan, and transparency of financial and non-financial conditions.

Furthermore, the ROE ratio tends decrease from 13.72% in 2010 to 12.95% in 2014. This ratio implies a net gain resulting from the bank's equity deducted by the net income derived from its own capital. In regards to the BOPO ratio, the progress was quite well due its decreasing trend from 81.67% in 2010 to 79.07% in 2014. This shows that the smaller the ratio BOPO the more efficient management of operational costs used bank. NIM ratios in 2010-2014 show a declining trend from 6.44% in 2010 to 5.49% in 2014. This declining trend reflects the bank's ability to generate interest income is increased, but it is not comparable with the increase in the number of assets that banks are considered less able to manage the assets to generate more profits.

The last ratio is the ratio of CAR that experienced fluctuating trend. The value of the CAR in 2010 had a value of 17.31% which later decreased to 16.41% in 2011. However, the CAR increased again in 2012 to 16.61% then dropped again to 15.88% in 2013, and rose back in 2014 to 16.17%. The growth of the ratio shows the greater of the supply of their own capital reserves is used to cover the risk of losses. With respect to the stock price, the trend was fluctuating. In 2011 the stock price decreased from Rp 3,065 to Rp 2,312 and then increased in 2012 to Rp 2,612, fell back in 2013 to Rp 2,493 and increased back in 2014 to Rp 3,033. This downward trend is in line with the decreasing ratio of NPL, NIM, BOPO and CAR.

Figure 5 also shows correlation between the independent variables, and how every variable influenced each other. NPL has a negative correlation to the LDR, increasing in NPLs will led the loss of opportunity to earn (income) from credit, it will be reducing profits and the ability to provide credit. The number of credit problem makes banks more cautious to increase the lending especially when the third party funding failed to achieved optimally, it can disrupt bank liquidity, therefore, non-performing credit negatively affect the LDR. NPL showed a positive correlation with BOPO, the greater NPL number, costs that incurred by the company to conducting operations related to credit collection will be greater and BOPO ratio will increase.

LDR has a negative correlation with CAR, the higher the LDR as the impact of growth in number of credit lending greater than the growth in the amount of received funds. The amount of credit distribution will affect the increase of Risk Weighted Assets (RWA), which means it will also decreasing the CAR.

Results from GCG negative correlation with the profitability of ROE and NIM, this shows there is an increase in GCG composite that describe the lack of managements practice, so the profitability ratios that indicated by ROE and NIM will decline. GCG has a positive effect on LDR depicting the increase of composite GCG or their management companies are not good then the bank's loan portfolio decreased due to low public confidence.

CAR positively related to ROE and NIM, the higher of CAR, the better the bank's ability to bear the risk of each loan / assets at risk. If the CAR value is high, then the bank able to financing its operations and contribute significantly to profitability.

In the classical assumption, there were no heteroskedasticity symptoms, multicollinearity, autocorrelation and have a normal distribution of data so that it can continued on panel regression analysis. In the panel data, there are three models that can be used by assuming that models are best linear estimator unbiased (BLUE). Based on the chow test result the selected model are Fixed Effect Model. Based on the Hausman test, there was insufficient evidence to accept Ho while H1 is accepted. Then the model used in the study is the Random Effect Model. The following output results presented in Table 3, which is the result of the test with Random Effect Model.
Table 3: Random Effect Model equation results in periods of 2010– 2014.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>BOPO</td>
<td>-1.960,603</td>
<td>0.742335</td>
<td>-2.641.13</td>
<td>0.009*</td>
</tr>
<tr>
<td>CAR</td>
<td>0.391058</td>
<td>1.078.8040</td>
<td>0.362480</td>
<td>0.7178</td>
</tr>
<tr>
<td>GCG</td>
<td>-0.034326</td>
<td>0.146480</td>
<td>-0.23433</td>
<td>0.8152</td>
</tr>
<tr>
<td>LDR</td>
<td>-0.685101</td>
<td>0.411052</td>
<td>-1.666.70</td>
<td>0.099*</td>
</tr>
<tr>
<td>NIM</td>
<td>-1.851.989</td>
<td>4.020.464</td>
<td>-0.46064</td>
<td>0.6461</td>
</tr>
<tr>
<td>NPL</td>
<td>3.126.112</td>
<td>1.271.228</td>
<td>2.459.128</td>
<td>0.015*</td>
</tr>
<tr>
<td>ROE</td>
<td>0.513935</td>
<td>0.416214</td>
<td>1.234.785</td>
<td>0.2201</td>
</tr>
<tr>
<td>C</td>
<td>9.125.429</td>
<td>0.466523</td>
<td>1.981.534</td>
<td>0.0000</td>
</tr>
<tr>
<td>R-squared</td>
<td>0.110047</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Prob(F-statistic)</td>
<td>0.138082**</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*significant at level 10%  **significant at level 15%

Based on the Random Effect Model equation result, the value of R-Squared is 11%. This indicates that the independent variables consisting of the NPL, LDR, GCG, ROE, BOPO, NIM, and CAR are able to explain the dependent variable by only 11% while the rest 89% is explained by other variables outside of the model. The F-statistic is 1.3802 <0.15 which means the H0 is rejected. Thus, NPL, LDR, GCG, ROE, BOPO, NIM, and CAR are statistically influence the stock price.

NPL ratio statistically has a positive influence on the stock prices. The increased of NPL would statistically increase the stock price. The result is consistent with a research conducted by Khaddafi and Syammi (2011) and Satria and Hatta (2015) that reveals a positive relationship between NPL and stock prices. The increase in stock prices would be due to the bank's profit is still high, credit growth and the significant additional loss provisioning made by the bank. This suggests that investors remain interested in the shares of banks throughout the bank's earnings and performance by looking at the magnitude of the NPL. The company's profit still can be increased with high NPL because banks are still unable to make profits outside the lending business such as through fee-based income (Santoso 2016).

LDR ratio statistically has a significant negative influence on stock prices. The increased of the LDR will decrease the stock price of the banks that go public in Indonesia Stock Exchange 2010-2014. This result is in line with the previous research conducted by of Takarini and Putra (2013) which found that LDR has a negative and significant impact on stock prices. LDR reflects the business activities or daily operations of banking such as how operations are financed, whether more than debt or capital. Investors would prefer banks are able to finance their operations with their own capital. If it should be financed with debt, the bank must be able to restore it to its assets. High bank liquidity will increase consumer confidence in the bank. Thus, the company will attract investors to invest and will have an impact on stock prices.

The variables of Good Corporate Governance (GCG) has no significant effect on the banking companies stock prices that go public in Indonesia Stock Exchange 2010-2014 which support the study conducted by Ramadhan (2009). This means that the increase in the value of the GCG composite has no impact on banking companies’ stock prices. This can be caused due to the influence of corporate governance cannot be perceived directly by the company in short run, but it will be visible in the long run.

The Return On Equity (ROE) has no significant effect and has a positive coefficient on the stock prices of banking companies that go public in Indonesia Stock Exchange 2010-2014. This is in line with the study conducted by Satria and Hatta (2015) where ROE has a positive effect on stock prices. ROE simply describes the company's ability to generate profits from the owner's investment, but less describes the company potency, thus, investors would not really consider the ROE as an investment indicator.

The Operational Efficiency Ratio (BOPO) variable has negative impact on stock prices. This means that the increase in the value of BOPO would decrease the stock prices of banks. This result is in line with studies conducted by Praditasari (2009) and Anisma (2012) which shows that the BOPO has a negative effect on stock prices. The lower level of BOPO ratio shows the better of bank management performance. The reason would be more efficient use of existing fund resources in the company by minimizing the cost incurred for operational and non-operational so that investors will be interested to take the stake then it may increase the stock price.

Based on the test results of this study, the variable Net Interest Margin (NIM) has no significant effect on share prices of banking companies go public in Indonesia Stock Exchange 2010-2014. This can be caused by NIM high could not be a reference bank has a substantial profit because offset by operational costs to be incurred and High NIMs inefficiencies in the banking sector as banks with huge costs tend to have NIM is also high (Altunbas, et al., 2000). NIM big banks still make a profit that is not maximum.

The Capital Adequacy Ratio (CAR) variable has no significant effect and has a positive coefficient on the price of shares of banking companies go public in Indonesia Stock Exchange 2010-2014. The results of this research was supported by the results of research Pradita (2009), and Satria and Hatta (2015) which showed that the CAR has a positive coefficient on stock prices. CAR also judged to be capable of providing a signal to investors in estimating the returns to be obtained. Investors consider the CAR is not good enough in describing the level of return commensurate with the risk to be borne so with rising CAR could eventually decrease the proceeds to be receive by this investor. It may occur due to forming capital in the banking company does not only come from core capital alone, but also from supplementary capital (PMK No. 140 / PMK.010 / 2009 on Procedures for Preparation and Submission of Statement of capital Adequacy ratio). Tier II capital consists of the capital loans, subordinated loans, and reserves established did not come from profits. Great loan capital means that the bank must pay greater interest charges as well. If the condition is occurring, even though a bank had a CAR above the threshold set by Bank Indonesia at 8% (Darmawi, 2011), at any time can be decreased. Thus affecting all investors trust to invest in the bank. This
resulted in the demand for the company stock will fall that led to the decline in stock prices and stock returns.

5. Conclusion

Based on the research that has been done, it can be conclude as follows:

1) The results from this study suggests that the bank performance is considerably good. The NPL ratio decreased, indicates that the number of loan problems also decreased. The LDR ratio also shows a good improvement. This means that the ability of banks to balance between the possibility of deposit withdrawal customers and people needs to lend money. The GCG composite score has increased from 2010 until 2014. Increase in value of GCG composite ratio describes that the bank management still unable to applied the GCG with the perfect practice. Furthermore, the ROE ratio tends decrease from 2010 until 2014. This ratio implies a net gain resulting from the bank's equity deducted by the net income derived from its own capital. BOPO ratio has increase, this shows that the smaller the ratio BOPO the more efficient management of operational costs used bank. NIM ratios in 2010-2014 show a declining trend, this declining trend reflects the bank's ability to generate interest income is increased, but it is not comparable with the increase in the number of assets that banks are low in generating profit.The CAR that experienced fluctuating trends. The growth of the ratio shows the greater of the supply of their own capital reserves is used to cover the risk from losses. With respect to the stock price, the trend was fluctuative. This downward trend is in line with the decreasing ratio of NPL, NIM, BOPO and CAR.

2) The highest NPL over the period 2010-2014 was obtained in 2010 with the amount of 50.96% and labelled as an unhealthy bank. The lowest NPL obtained in 2013 was 0.23% rated as healthy bank. With respect to LDR, a company that has the highest LDR was obtained in 2013 valued 113.30% with the less healthy predicate, the lowest LDR was obtained in 2012 with the amount of 52.39% with a very healthy predicate. Based on the ratio of BOPO, the highest BOPO 157.50% was obtained 2010 with unhealthy predicate, while the lowest BOPO 44.76% was obtained in 2010 with a very healthy predicate.

3) Based on simultanous test ratio results from bank health that include Non Performing Loan (NPL), Loan Deposit Ratio (LDR), Good Corporate Governance (GCG), Return on Equity (ROE), Net Interest Margin (NIM), Cost Operating per Operating Income (BOPO) and the Capital Adequacy Ratio (CAR) has a significant influence on the price of banking stocks listed on the stock Exchange in 2010-2014. The dependent variable can be explained 11% by independent variable, while the remaining 89% explained by other variables.

References


