The Analysis of Comparison of Bank Health Level Through Capital Approaches, Risk Profile, and Earnings in Conventional State-Owned Banks and National Private Banks Listed in IDX Period of 2012-2016

Iwan Firdaus*, Sunia Hedy Qumaira
Department of Management, Faculty of Economics and Business
Universitas Mercu Buana
Jakarta, Indonesia
*iwan.firdaus@mercubuana.ac.id

Abstract—The purpose of this research was to analyze the comparison of the soundness level of state-owned public banking with private-owned banking in Indonesia during the period 2012-2016. This research was conducted using the Capital approach with CAR ratio, Risk Profile with NPL & LDR ratios, and Earnings with ROA & NIM ratios. The sample of this study amounted to 8 banks consisting of 4 state-owned banks and 4 private banks. Normality testing uses the Kolmogorov-Smirnov test and hypothesis testing using the Independent t-test also Mann-Whitney test U-test. From the results of this study, it is known that there are significant differences in ROA & NIM ratios, while there is no significant difference in the CAR, NPL & LDR ratios. Whereas, based on the average CAR, NIM and ROA, state-owned-banks is better at a level of soundness compared to private-owned banks, and the NPL & LDR ratio of private-owned banks is better than state-owned banks.

Keywords: bank, comparison, capital, risk, earnings

I. INTRODUCTION

A. Background of the Research

Banking is one of the financial institutions that play an important role in the economy of a country, this is because banking is one of the financial systems that function as a financial intermediary, an institution that has a role to bring together fund owners and users of funds. On a macro or micro scale [1]. Banks can be said to be the blood of a country's economy. Therefore, the progress of a bank in a country can be used as a measure of the progress of the country concerned. The more advanced a country is, the greater the role of banks in controlling the country. This means that the existence of the banking world is increasingly needed by the government and society [2].

In 1997-1998 Southeast Asia experienced a monetary crisis that was able to turn Indonesia's economy into a downturn [3]. This has an impact on companies in the country, especially in the banking sector. This global crisis also occurred again in 2008-2009 so that the finances of countries around the world again experienced difficulties in which the banking industry was affected quite severely, namely experiencing liquidation difficulties, deteriorating asset quality, unable to create earnings and ultimately capital depleted very fast time. Many banks are not able to pay off debts due to bad credit so they are liquidated. Thus, the function of banks as intermediary and driving the economy is not optimal because the world financial system experiences a crisis.

On October 25, 2011 Bank Indonesia issued a new regulation on health assessment using a risk approach (Risk-Based Bank Rating) which includes four measurement factors, namely risk profile (risk profile), good corporate governance (GCG), profitability (earnings), and capital (capital) which is then abbreviated as RGEC. RGEC is a method of evaluating bank financial performance that refers to Bank Indonesia Regulation No. 13/1 / PBI / 2011 concerning the evaluation of the financial performance of commercial banks. The RGEC method is a bank valuation procedure that replaces the previous bank valuation procedure, namely CAMEL.

The soundness of the bank is an assessment of a condition of the bank's financial statements for a certain period and time in accordance with Bank Indonesia standards, banks must maintain and improve their level of health by applying prudential principles and risk management in carrying out their business activities including self-assessment periodically to the level of health and take corrective steps effectively according to Daniswara and Sumarta [4].
can be seen that the four state-owned banks are included in the 10 largest banks in Indonesia, namely Bank Rakyat Indonesia (Persero) Tbk., Bank Mandiri (Persero) Tbk, Bank Negara Indonesia (Persero) Tbk, and the State Savings Bank (Persero) Tbk. Whereas the four private banks that are ranked the largest in the list are Bank Central Asia Tbk, CIMB Niaga Tbk, Bank Pan Indonesia, and Bank Permata Tbk. Eight of the ten banks that are ranked best in terms of the assets mentioned above will then be the object of this study. The benchmarks used as measurement standards in this study are through the Capital, Risk Profile and Earnings approach in accordance with Bank Indonesia regulation no. 13/1 / PBI / 2011 namely Capital using CAR ratio, Risk Profile using NPL and LDR ratios, and Earnings using ROA and NIM ratios.

From the data in table 1 above, it can be seen that based on CAR ratios from 2012 to 2016 the average of CAR in state owned banks is far greater than that of private banks and this shows that in terms of CAR state-owned are better compared to private banks.

According to the PBI codification of the bank soundness rating issued by Bank Indonesia, the best NPLs are those that are smaller or equal to 2% and from Table 2 shows that the average NPLs for 2012 to 2016 at private banks are smaller compared to state-owned banks. So if measured by the NPL ratio of private banks, it is better compared to state-owned banks.

In table 3 above, it can be seen that based on the LDR ratio from 2012 to 2016, the LDR average at state-owned banks was larger. According to the PBI codification of bank soundness rating issued by Bank Indonesia stating that the best LDR level was more from 60% and less than 75% or in other words the smaller the LDR level of a bank, the better the bank's soundness. So it can be concluded that in terms of LDR, the average of private bank banks is better than that of state-owned banks.

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**TABLE I. CAR OF STATE-OWNED BANKS AND PRIVATE BANKS LISTED IN IDX PERIOD OF 2012-2016 [5]**

| STATE-OWNED BANKS | 2012 | 2013 | 2014 | 2015 | 2016 |
|-------------------|------|------|------|------|------|
| MANDIRI           | 15.5 | 14.9 | 16.6 | 18.6 | 21.4 |
| BNI               | 16.7 | 15.1 | 16.2 | 19.5 | 19.4 |
| BRI               | 17.7 | 17.1 | 18.3 | 20.6 | 22.9 |
| BTN               | 17.7 | 15.6 | 14.6 | 17.0 | 20.3 |
| AVERAGE           | 17.4 |      |      |      |      |

**TABLE II. NPL OF STATE-OWNED BANKS AND PRIVATE BANKS LISTED IN IDX PERIOD OF 2012-2016 [5]**

| STATE-OWNED BANKS | 2012 | 2013 | 2014 | 2015 | 2016 |
|-------------------|------|------|------|------|------|
| MANDIRI           | 0.37 | 0.37 | 0.44 | 0.6  | 1.38 |
| BNI               | 0.75 | 0.55 | 0.8  | 0.9  | 0.4 |
| BRI               | 0.34 | 0.31 | 0.36 | 1.22 | 1.09 |
| BTN               | 3.12 | 3.04 | 2.76 | 2.11 | 1.85 |
| AVERAGE           | 1.15 | 1.07 | 0.99 | 1.21 | 1.18 |

**TABLE III. LDR OF STATE-OWNED BANKS AND PRIVATE BANKS LISTED IN IDX PERIOD OF 2012-2016 [5]**

| STATE-OWNED BANKS | 2012 | 2013 | 2014 | 2015 | 2016 |
|-------------------|------|------|------|------|------|
| MANDIRI           | 77.7 | 83   | 82   | 87.1 | 85.9 |
| BNI               | 77.5 | 85.3 | 87.8 | 87.8 | 90.4 |
| BRI               | 79.9 | 88.5 | 81.7 | 86.9 | 87.8 |
| BTN               | 101  | 104  | 109  | 109  | 103  |
| AVERAGE           | 89.7 |      |      |      |      |

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Fig. 1. The list of 10 Banks with the biggest Assets in Q1 2017. Source: www.ojk.go.id, data processed (2017).
Table 4 shows the ROA of state-owned banks and private banks in 2012, from these data, it shows that the soundness of state-owned banks and private banks is very good because the average is above 1.5%, although the 2016 ROA of PERMATA is not good because it reaches -49.0%. From the above, it can be seen that the average ROA in state-owned banks is far better than private banks.

Table 5 shows the average NIMs for 2012 to 2016 in state-owned banks and private banks when viewed from these data, the NIMs at state-owned banks are larger and this shows that bank swats’ NIM ratios are no better than state-owned banks.

The following shows some research gaps related to banking health carried out by previous researchers. The level of health of state-owned banks is better than the national foreign exchange private banks because the average value of ROA, NIM and CAR, BUMN banks is greater even though the average NPL and LDR of national foreign exchange banks are smaller than a state-owned bank [6]. The higher average value of ROA, NIM and CAR, state-owned banks shows that state-owned banks are trying to maintain profitability, net interest income, and capital adequacy while in terms of NPL and LDR ratios, national foreign private banks tend to maintain credit risk and liquidity keep it low. The state-owned banks are expected to maintain and supervise loans to minimize credit and liquidity risks. For national foreign exchange private banks, it is expected to be able to increase the value of their financial ratios in order to compete with other banks.

Whereas in the research conducted by Marsuki et al shows that if measured from CAR, ROA, NPM, ROA, and OR ratios, there is no difference in financial performance between state-owned banks and national private banks [7]. But when viewed from the LDR and CM Ratio, it turns out that there are differences in financial performance between state-owned banks and national private banks. The use of financial ratio proxies in conducting a comparative analysis of the performance of public banks provides evidence that the performance of government banks in terms of financial ratio proxies is not always superior to national private banks or vice versa. Based on the results of statistical tests it can be concluded that if viewed from CAR, ROA, NPM, ROA and OR ratios, it turns out there is no difference in financial performance between state-owned and national private banks. However, if viewed from the LDR and CM Ratio, it turns out that there are differences in financial performance between state banks and national private banks.

In general there was no difference in CAR, ROA, ROE and LDR between state-owned foreign exchange banks and private foreign exchange banks, but CAR ratio in state-owned foreign exchange banks was lower compared to private foreign exchange banks [8]. Whereas the research conducted by Rahayu et al states that in terms of ROA, ROE, and NIM in private banks it is better than state-owned banks, but in the CAR ratio the performance of state-owned banks is better than private banks [9].

Based on the description above, the authors are interested in conducting research with the title "The Analysis of Comparison of Bank Health Level through Capital Approaches (Car), Risk Profile (Npl & Ldr), And Earnings (Roa & Nim) In Conventional Stat-Owned Banks And National Private Banks Listed In Idx Period Of 2012-2016”

B. Research Problem Formulation

Based on the descriptions above, the questions on the problem formulation are proposed as follows:

- Is there a difference in the soundness of banks through capital using the CAR ratio of state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016?
- Is there a difference in the soundness of the bank through a risk profile by using the NPL ratio at state-owned banks and private listed in the Indonesia Stock Exchange period of 2012-2016?
• Is there a difference in the level of the soundness of the bank through a risk profile by using the LDR ratio at state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016?
• Is there a difference in the level of the soundness of the bank through earnings by using the ROA ratio of state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016?
• Is there a difference in the level of the soundness of the bank through earnings by using the ROA ratio of state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016?

C. Research Objectives and Contributions

The purpose of this study is to provide answers to the questions in the formulation of existing problems. The objectives of the study include:

• To find out and analyze differences in bank soundness through the capital by using CAR ratios at state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016.
• To find out and analyze differences in bank soundness through risk profile by using the NPL ratio at state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016.
• To find out and analyze differences in bank soundness through risk profiles by using the LDR ratio at state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016.
• To find out and analyze differences in bank soundness through risk profile by using CAR ratios at state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016.
• To find out and analyze differences in bank soundness through earnings by using the NIM ratio at state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016.
• To find out and analyze differences in the level of bank health through earnings by using the ROA ratio at state-owned banks and private commercial banks listed listed in the Indonesia Stock Exchange period of 2012-2016.
• To find out and analyze differences in bank soundness through the capital by using LDR ratio at state-owned banks and private banks listed in the Indonesia Stock Exchange period of 2012-2016.

The contributions of this study include:

1) **Practical contribution:** For companies, the results of this study are expected to be input and evaluation for state-owned banks as well as private banks in analyzing what factors affect the soundness of the bank before making policy decisions on banking companies.

2) **Academic contribution:** For the next researcher, the results of this study are expected to be a reference or comparative material to expand research in the future.

II. **LITERATURE REVIEW, CONCEPTUAL FRAMEWORK, AND HYPOTHESIS**

A. Definition of Bank

According to Republic of Indonesia Law Number 10 of 1998 dated November 10, 1998, concerning Banking, what is meant by a Bank is a business entity that collects funds from the community in the form of deposits and distributes them to the community in the form of loans and other forms in order to improve people's lives many. More broadly, Kasmir states that banks are companies engaged in finance whose activities are collecting funds from the wider community known as the term in the banking sector as an activity of funding [10]. After obtaining funds in the form of deposits from the public, the banks are repatriated or sold back to the community in the form of loans, or better known as lending.

According to IAI in PSAK no. 31 banks are institutions that act as financial intermediaries between those who have and those who need funds, as well as institutions that function to facilitate payment traffic. In the Indonesian Banking Booklet the definition of a bank is a business entity that collects funds from the public in the form of deposits and distributes them to the public in the form of loans and/or other forms in order to improve people's lives [11].

B. Types of Banks

According to [10] differences in types of banks are seen in terms of bank functions and bank ownership. In terms of function, the difference that occurs lies in the extent of the activity or the number of products that can be offered and the number of areas of operation. Whereas company ownership is seen from the number of existing shareholdings and deed of establishment.

1) **Viewed in terms of function:** According to the Banking Basic Law Number 10 of 1998 the type of banking according to its function consists of:
   - Commercial Banks
   - Bank Perkreditan Rakyat (BPR)

2) **Seen in terms of ownership:**
   - Government-owned bank
   - National private banks
   - Banks owned by cooperatives
   - Foreign-owned banks
   - The bank belongs to the mix

3) **Viewed in terms of status:**
   - Foreign exchange bank
   - Non-foreign exchange banks

C. Bank Health Assessment with the Capital Method

1) **Capital Adequacy Ratio (CAR).** CAR Ratio is used to be able to know the ability of a bank to absorb or cover operational losses or shrink the amount of the value of its assets; Bank supervisory institutions have for years defined bank capital as core capital and secondary capital that must be backed up every time by each commercial bank to meet the needs of saver customers and the demands of creditors. According to Bank Indonesia Regulation Number 10/15 / PBI / 20011 article 2 paragraph, 1 listed banks are required to
provide a minimum capital of 8% of risk-weighted assets (RWA). The CAR ratio is formulated as follows [11]:

\[
\text{CAR} = \left(\frac{\text{Equity}}{\text{RWA}}\right) \times 100\%
\]

**TABLE VI. CAR COMPOSITE RATING CLASSIFICATION**

| Composite Value | Ranking | Predicate |
|-----------------|---------|-----------|
| >12%            | 1       | Very good |
| 9% <= CAR < 12% | 2       | Good      |
| 8% <= CAR < 9%  | 3       | Pretty good |
| 6% <= CAR < 8%  | 4       | Not good  |
| CAR < 6%        | 5       | Bad       |

Source: Bank Health Codification 2011

D. Bank Health Assessment with Risk Profile Method

1) Credit risk: The risk of a loan does not return according to the contract, such as delays, reduction of interest payments and loan principal, or not paying the loan at all. Credit ratio is calculated using the ratio of Non Performing Loans, which is formulated as follows [11]:

\[
\text{NPL} = \left(\frac{\text{Troubled Total Credit}}{\text{total credit}}\right) \times 100\%
\]

**TABLE VII. NPL COMPOSITE RATING CLASSIFICATION**

| Composite Value | Ranking | Predicate |
|-----------------|---------|-----------|
| >2%             | 1       | Very good |
| 2% <= NPL < 5%  | 2       | Good      |
| 5% <= NPL < 8%  | 3       | Pretty good |
| 8% <= NPL < 12% | 4       | Not good  |
| NPL > 12%       | 5       | Bad       |

Source: Bank Health Codification 2011

2) Liquidity risk: This assessment is to assess bank liquidity, see the ability of banks to meet cash flow needs (short term) and at the appropriate costs. The inability of banks to manage short-term liquidity obligations and loan commitments can adversely affect bank performance [10]. Assessment of bank liquidity can be done by calculating the Loan to Deposit Ratio (LDR). LDR is a comparison between credit to funds received by a bank. LDR is a ratio to measure the composition of the amount of credit given compared to the number of public funds and own capital used [10]. The LDR is formulated as follows [11]:

\[
\text{LDR} = \left(\frac{\text{Total Credit}}{\text{Third Party Funds}}\right) \times 100\%
\]

**TABLE VIII. CLASSIFICATION OF LDR COMPOSITE RANKING**

| Composite Value | Ranking | Predicate |
|-----------------|---------|-----------|
| 60% <= LDR <= 75% | 1 | Very good |
| 75% <= LDR <= 85% | 2 | Good      |
| 85% <= LDR <= 100% | 3 | Pretty good |
| 100% <= LDR <= 110% | 4 | Not good  |
| LDR > 110%      | 5       | Bad       |

Source: Bank Health Codification 2011

E. Bank Health Assessment with Earnings Method

Earnings Factor Assessment of earnings factors in Bank Indonesia Regulation number 13/1 / PBI / 2011 Article 7 paragraph 2 as referred to in article 6 letter c includes the assessment of earnings performance and sustainability earnings. Assessment is based on the profitability of a bank that is seen as the ability of a bank to create profits. The quality of earnings from the institution depends on the effectiveness of the institution and the efficiency of managing wealth and obligations.

1) Return On Asset (ROA): Profit ratio to total assets (Return on Assets / ROA). This ratio is used to measure the effectiveness of banks in obtaining overall profits. The greater the value of ROA shows the greater the level of profit achieved by the bank. ROA can be formulated as follows [11]:

\[
\text{ROA} = \left(\frac{\text{Profit Before Tax}}{\text{Average Total Assets}}\right) \times 100\%
\]

**TABLE IX. ROA COMPOSITE RATING CLASSIFICATION**

| Composite Value | Ranking | Predicate |
|-----------------|---------|-----------|
| >1.5%           | 1       | Very good |
| 1.25% <= ROA <= 1.5% | 2 | Good      |
| 0.5% <= ROA <= 1.25% | 3 | Pretty good |
| 0% <= ROA <= 0.5% | 4       | Not good  |
| ROA < 0%        | 5       | Bad       |

Source: Bank Health Codification 2011

2) Net Interest Margin (NIM): This ratio is used to measure the ability of bank management's performance in channeling credit, considering that bank operating income is highly dependent on the difference between the interest rates of loans channeled with the interest rates received (net interest income). The higher the value in this ratio indicates the possibility of bank profits will increase. The NIM is formulated as follows [11]:

\[
\text{NIM} = \left(\frac{\text{Net Interest Income}}{\text{Average Earning Assets}}\right) \times 100\%
\]

**TABLE X. NIM COMPOSITE RATING CLASSIFICATION**

| Composite Value | Ranking | Predicate |
|-----------------|---------|-----------|
| >1.5%           | 1       | Very good |
| 1.25% <= ROA <= 1.5% | 2 | Good      |
| 0.5% <= ROA <= 1.25% | 3 | Pretty good |
| 0% <= ROA <= 0.5% | 4       | Not good  |
| ROA < 0%        | 5       | Bad       |

Source: Bank Health Codification 2011

F. Conceptual Framework

Fig. 2. Conceptual framework.
G. Hypothesis

The research hypothesis is a provisional conjecture that was used before the study was conducted [12]. The research hypothesis is a temporary answer to the problem under study, where the truth needs to be empirically tested. The research hypothesis is as follows:

H₁: There are differences in the level of health between state-owned banks and national private banks in terms of capital factors using the CAR ratio
H₂: There are differences in the level of health between state-owned banks and national private banks in terms of Risk Profile factors using the LDR ratio
H₃: There are differences in the level of health between state-owned banks and National Private banks in terms of Earnings factor using the ROA ratio
H₄: There are differences in the level of health between state-owned banks and National Private banks in terms of the NIM ratio

III. RESEARCH METHODOLOGY

This study uses a quantitative approach in the form of comparative panel data. The quantitative approach is data in the form of numbers or qualitative data that are planned and then use statistical analysis to process the data. Whereas comparative research is a comparative study, the variable is still the same as independent variable research, but for samples that are more than one or at different times [12]. Panel data is a combination of time series data (between times) and cross-section data (between spaces), so that the value of a variable or more is collected for several sample units at a time. In this study a comparison of the health level between state-owned banks and private banks period of 2012-2016.

A. Variable Definition and Operationalization

Variables are anything that can distinguish and bring variation to values [12]. Variables are objects of observation in the form of phenomena observed or measured in research. The variables in this study only involve independent variables, namely variables that are not influenced by other variables. Meanwhile, the independent variable (independent variable) is a variable that affects or is the cause of change or the emergence of dependent variables [12]. The variables tested in this study are financial ratios with the method of Risk Profile, Earnings and Capital with assessments 1 to 5 where the smaller points received indicate better health, which is proxied by several ratios as follows.

1) Bank health assessment with the capital method
a) Capital Adequacy Ratio (CAR): CAR ratio is used to be able to find out the ability of a bank to absorb or cover operational losses or depreciate the value of its assets. The CAR ratio is formulated as follows [11]:

\[ \text{CAR} = \frac{\text{Equity} \times \text{RWA}}{100} \]

2) Bank health assessment with risk profile method
a) Credit risk: The credit ratio is calculated using the ratio of Non Performing Loans, which is formulated as follows [11]:

\[ \text{NPL} = \frac{\text{Troubled Total Credit}}{\text{Total credit}} \times 100\% \]

b) Liquidity risk: LDR is a comparison between credit to funds received by a bank. LDR is a ratio to measure the composition of the amount of credit given compared to the number of public funds and own capital used. The LDR is formulated as follows [11]:

\[ \text{LDR} = \frac{\text{Total Credit}}{\text{Third Party Funds}} \times 100\% \]

3) Bank health assessment with earnings method:
Earnings Factor Assessment of earnings factors in Bank Indonesia Regulation number 13/1 / PBI / 2011 Article 7 paragraph 2 as referred to in article 6 letter c includes the assessment of earnings performance and sustainability earnings. Assessment is based on the profitability of a bank that is seen as the ability of a bank to create profits. The quality of earnings from the institution depends on the effectiveness of the institution and the efficiency of managing wealth and obligations.

a) Return on Asset (ROA): ROA can be formulated as follows [11]:

\[ \text{ROA} = \frac{\text{Profit Before Tax}}{\text{Average Total Assets}} \times 100\% \]
D. Analysis Method

To test the hypothesis of the comparative hypothesis between state-owned banks and private banks in this study will be conducted with two test instruments, namely the Independent t-test and Mann-Whitney test (or U-Test) with the help of the SPSS program. Testing with an Independent t-test is carried out if the data normality test finds that the data is normally distributed. However, if the data normality test found that the data was not normally distributed, then testing of the comparative hypothesis was carried out using the Mann-Whitney test. Testing with this test equipment was carried out [13].

IV. FINDINGS AND RESULTS

A. Results of Descriptive Statistics

| TABLE XVI. DESCRIPTIVE STATE-OWNED BANK STATISTICS |
|-----------------------------------------------|
|                  | N  | Minimum | Maximum | Mean | Std.dev |
| CAR              | 20 | 16.64   | 22.91   | 17.74 | 2.321   |
| NPL              | 20 | 0.31    | 3.12    | 1.118 | 0.951   |
| LDR              | 20 | 77.52   | 108.86  | 89.736 | 9.899   |
| ROA              | 20 | 1.14    | 3.13    | 3.107 | 1.169   |
| NIM              | 20 | 4.47    | 8.55    | 6.385 | 1.277   |

Source: Bank Health Codification 2013

Based on table 16 above, it appears that BUMN CAR has a mean value of 17.742 with the highest value of 22.91 and the lowest of 16.64. BUMN NPL has a mean value of 1.118 with the highest value of 3.12 and the lowest value of 0.31. BUMN LDR has a mean value of 89.736 with the highest value of 108.86 and the lowest value of 77.52. BUMN ROA has a mean value of 3.107 with the highest value of 5.15 and the lowest value of 1.14. BUMN NIM has a mean value of 6.385 with the highest value of 8.55 and the lowest value of 4.47.

| TABLE XVII. DESCRIPTIVE STATISTICS OF PRIVATE BANKS |
|-----------------------------------------------|
|                  | N  | Minimum | Maximum | Mean | Std.dev |
| CAR              | 20 | 13.6    | 21.9    | 16.512 | 2.285   |
| NPL              | 20 | 0.19    | 2.2     | 0.974  | 0.646   |
| LDR              | 20 | 68.61   | 99.46   | 87.919 | 8.781   |
| ROA              | 20 | 4.9     | 4       | 1.833  | 1.974   |
| NIM              | 20 | 3.06    | 6.8     | 5.06   | 1.077   |

Source: Bank Health Codification 2013

Based on table 17 above, it appears that the CAR of private banks has a mean value of 16.512 with the highest value of 21.9 and the lowest of 13.6. NPL of private banks has a mean value of 0.974 with the highest value of 2.2 and the lowest value of 0.19. LDR of private banks has a mean value of 87.919 with the highest value of 99.46 and the lowest value of 68.61. ROA of private banks has a mean value of 1.833 with the highest value of 4 and the lowest value of -4.9. NIM of private banks has a mean value of 5.06 with the highest value of 6.8 and the lowest value of 3.06.
B. Hypothesis Test Result

1) Independent t-test

| LDR | Levene’s Test for Equality of Variances | t-test for Equality of Means | 95% Confidence Interval of the Difference |
|-----|---------------------------------------|-----------------------------|----------------------------------------|
|     | F          | Sig. | t   | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
| Equal variances assumed | .272 | .605 | .614 | 38 | .543 | 181.700 | 295.902 | -417.323 to 780.723 |
| Equal variances not assumed | .614 | 37.467 | .543 | 181.700 | 295.902 | -417.603 to 781.003 |

From the results of statistical testing, the output obtained in Table 18 can be seen that F count Levene’s Test is 0.272 with a probability of 0.605 and has exceeded the critical limit of 0.05 so it can be concluded that H0 is accepted. Thus, the analysis of different test t-tests must use the assumption of equal variance assumed. From Table 18 it can be seen that the t value of equal variance assumed is 3.544 (two-tailed) exceeding the critical limit of 0.05. So it can be concluded that the LDR between state-owned banking and private banking in Indonesia does not have a significant difference.

| ROA | Levene’s Test for Equality of Variances | t-test for Equality of Means | 95% Confidence Interval of the Difference |
|-----|---------------------------------------|-----------------------------|----------------------------------------|
|     | F          | Sig. | t   | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
| Equal variances assumed | .757 | .390 | 2482 | 38 | .018 | 127350 | .51305 | .23489 to 231211 |
| Equal variances not assumed | 2482 | 30867 | .019 | 127350 | .51305 | .22695 to 232005 |

From the results of statistical testing, the output in Table 19 shows that the t value of the equal variance assumed is 2.482 (two-tailed) smaller than the critical limit of 0.05. So it can be concluded that the value of ROA between state-owned banking and private banking in Indonesia has significant differences [13-15].

| NIM | Levene’s Test for Equality of Variances | t-test for Equality of Means | 95% Confidence Interval of the Difference |
|-----|---------------------------------------|-----------------------------|----------------------------------------|
|     | F          | Sig. | t   | Df | Sig. (2-tailed) | Mean Difference | Std. Error Difference |
| Equal variances assumed | .261 | .612 | 3.544 | 38 | .001 | 132.450 | .37373 | .56792 to 208.108 |
| Equal variances not assumed | 3.544 | 36.947 | .001 | 132.450 | .37373 | .56721 to 208.179 |

From the results of the Independent t-test in Table 20, it can be seen that the t value of the equal variance assumed is 3.544 (2-tailed) smaller than the 0.05 limit. Thus, it can be concluded that the NIM between state-owned banking and private banking in Indonesia has significant differences [16].

1) Mann-Whitney U-test

| CAR | Test Statistics |
|-----|-----------------|
| Mann-Whitney U | 132.500 |
| Wilcoxon W Z | 342.500 |
| Asymp. Sig. (2-tailed) | .182 |
| Exact Sig. [2*(1-tailed Sig.)] | .068 |
| .068b |

a. Grouping Variable: BANK
b. Not corrected for ties.
From the test results in Table 21 shows the results that the probability value of significance is greater than 0.05, which is equal to 0.068 (2-tailed). So, it can be concluded that there is no significant difference in the CAR variable between state-owned banking and private banking in Indonesia [17,18].

### TABLE XXII. MANN-WHITNEY U-TEST TEST RESULTS ON NPL RATIO

| Test Statistics | NPL   |
|-----------------|-------|
| Mann-Whitney U  | 195.500 |
| Wilcoxon W Z    | 405.500 |
| Asymp. Sig. (2-tailed) | .122    |
| Exact Sig. [2*(1-tailed Sig.)] | .904b |

a Grouping Variable: BANK  
b Not corrected for ties.

The results of the Mann-Whitney test in Table 22 show that the probability of significance is greater than 0.05, which is equal to 0.903 (2-tailed). So, it can be concluded that there is a significant difference in the NPL of the variables between state-owned banking and private banking in Indonesia [19].

### V. CONCLUSIONS AND SUGGESTIONS

#### A. Conclusions

Based on the results of the analysis and discussion that have been prepared and discussed in the previous chapter, conclusions can be drawn as follows:

- The results of hypothesis testing on the CAR ratio are rejecting the first hypothesis (H1) or accepting H0, which means there is no significant difference between state-owned banking and private banking in Indonesia. It viewed from the value of this ratio, state-owned public banking has a better level of health when compared to private banking.

- The result of hypothesis testing on the NPL ratio is rejecting the second hypothesis (H2) or accepting H0, which means there is a significant difference between state-owned banking and private banking in Indonesia. It seen from the value of this ratio private banking is better in terms of its health compared to state-owned banking.

- The hypothesis test results on the LDR ratio are rejecting the second hypothesis (H3) or accepting H0, which means that there is no significant difference between state-owned banking and private banking in Indonesia. It seen from the value of this ratio private banking is better in terms of its health compared to state-owned banking.

- The results of hypothesis testing on the ROA ratio are rejecting the null hypothesis (H0) or accepting H4, which means that there are significant differences between state-owned banking and private banking in Indonesia. It viewed from the value of this ratio, state-owned banking has a better level of health when compared to private banking.

- The hypothesis test results on the NIM ratio are rejecting the null hypothesis (H0) or accepting H5, which means that there are significant differences between state-owned banking and private banking in Indonesia. It viewed from the value of this ratio, state-owned banking has a better level of health when compared to private banking.

#### B. Suggestions

After processing the data and getting conclusions from this research, the suggestions that can be conveyed by researchers are as follows:

1) **For companies.** From this research, it can be seen that the NPL and LDR in state-owned banks are less superior compared to private banking, for the NPL ratio can be reduced by optimizing the management of non-performing loans given by the Bank. Banks must pay more attention to the parties or customers who will be given credit. So that the financial performance of the NPL ratio analysis can be optimal as expected. Whereas the quality of the LDR in state-owned banking can be improved by increasing the Bank’s channeled funds through financing or loans given to customers so that the Bank can obtain interest income from loans given to customers. While the ROA, NIM and CAR ratio of private banking is outperformed with State-Owned General Banking. For ROA ratios in private banking can be increased again by optimizing the management of assets contained in the Bank so as to produce even higher profits. The quality of the NIM ratio in the private banking can be improved by optimizing the management of its operating income to produce better net income so that the financial performance of the NIM ratio analysis can be improved. While for the CAR ratio, private banking should increase capital adequately and provide various strategies to increase the Bank’s capital to better not only increase capital but also companies must examine if there is a decrease in capital.

2) **Share further research.** Can develop further research regarding other variables because in this study the study was limited to the comparison of the level of banking health by using CAR, NPL, LDR, ROA, and NIM ratios while there are still many other factors that can also measure banking soundness besides used in this study, and can expand the sample of banking companies listed on the Indonesia Stock Exchange.

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