

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].

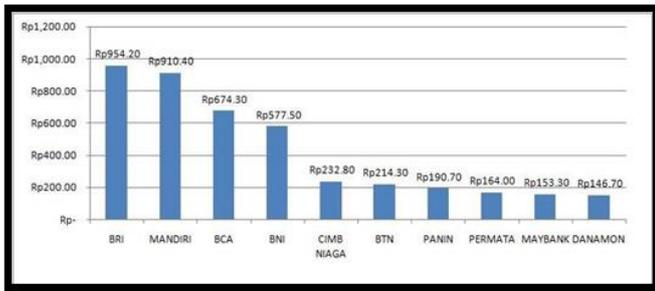


Fig. 1. The list of 10 Banks with the biggest Assets in Q1 2017. Source: ww.ojk.go.id, data processed (2017).

Figure 1 shows a list of 10 banks with the largest assets in the first quarter of 2017 according to OJK [5]. From the data it

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

STATE-OWNED BANKS	CAR %					PRIVATE BANKS	CAR %				
	2012	2013	2014	2015	2016		2012	2013	2014	2015	2016
MANDIRI	15,5	14,9	16,6	18,6	21,4	BCA	14,24	15,66	16,9	18,7	21,9
BNI	16,7	15,1	16,2	19,5	19,4	CIMB	15,08	15,38	15,58	16,28	17,96
BRI	17	17	18,3	20,6	22,9	PANIN	14,67	15,32	17,41	20,32	20,59
BTN	17,7	15,6	14,6	17	20,3	PERMATA	15,86	14,28	13,6	15	15,6
AVERAGE	16,70	15,66	16,44	18,92	21,00	AVERAGE	14,96	15,16	15,87	17,58	19,01
AVERAGE	17,742					AVERAGE	16,5165				

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

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.

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.

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

STATE-OWNED BANKS	NPL %					PRIVATE BANKS	NPL %				
	2012	2013	2014	2015	2016		2012	2013	2014	2015	2016
MANDIRI	0,37	0,37	0,44	0,6	1,38	BCA	0,22	0,19	0,6	0,7	1,3
BNI	0,75	0,55	0,4	0,9	0,4	CIMB	1,13	1,61	1,94	1,59	2,16
BRI	0,34	0,31	0,36	1,22	1,09	PANIN	0,48	0,75	0,52	0,55	0,82
BTN	3,12	3,04	2,76	2,11	1,85	PERMATA	0,41	0,31	0,6	1,4	2,2
AVERAGE	1,15	1,07	0,99	1,21	1,18	AVERAGE	0,56	0,72	0,92	1,06	1,62
AVERAGE	1,118					AVERAGE	0,974				

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.

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

STATE-OWNED BANKS	LDR %					PRIVATE BANKS	LDR %				
	2012	2013	2014	2015	2016		2012	2013	2014	2015	2016
MANDIRI	77,7	83	82	87,1	85,9	BCA	68,61	75,35	76,8	81,1	77,1
BNI	77,5	85,3	87,8	87,8	90,4	CIMB	92,24	90,34	99,46	97,98	98,38
BRI	79,9	88,5	81,7	86,9	87,8	PANIN	88,46	87,71	95,47	98,83	94,37
BTN	101	104	109	109	103	PERMATA	89,52	89,26	89,1	87,8	80,5
AVERAGE	83,98	90,31	90,09	92,63	91,67	AVERAGE	84,71	85,67	90,21	91,43	87,59
AVERAGE	89,736					AVERAGE	87,919				

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.

TABLE IV. ROA OF STATE-OWNED ENTREPRISES BANKS AND PRIVATE BANKS LISTED IN IDX PERIOD OF 2012-2016

STATE-OWNED BANKS	ROA %					PRIVATE BANKS	ROA %				
	2012	2013	2014	2015	2016		2012	2013	2014	2015	2016
MANDIRI	3,55	3,66	3,57	3,15	1,95	BCA	3,59	3,84	3,9	3,8	4
BNI	2,92	3,36	3,5	2,6	2,7	CIMB	3,11	2,75	1,33	0,47	1,09
BRI	5,15	5,03	4,73	4,19	3,84	PANIN	1,96	1,85	2,23	1,31	1,69
BTN	1,94	1,79	1,14	1,61	1,76	PERMATA	1,7	1,55	1,2	0,2	-4,9
AVERAGE	3,39	3,46	3,24	2,89	2,56	AVERAGE	2,59	2,50	2,17	1,45	0,47
AVERAGE	3,107					AVERAGE	1,8335				

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 -4.90%. From the above, it can be seen that the average ROA in state-owned banks is far better than private banks.

TABLE V. ROA OF STATE-OWNED BANKS AND PRIVATE BANKS LISTED IN IDX PERIOD OF 2012-2016

STATE-OWNED BANKS	NIM %					PRIVATE BANKS	NIM %				
	2012	2013	2014	2015	2016		2012	2013	2014	2015	2016
MANDIRI	5,58	5,6	5,94	5,9	6,29	BCA	5,57	6,18	6,5	6,7	6,8
BNI	5,93	6,1	6,2	6,4	6,2	CIMB	6	5,52	5,36	5,21	5,64
BRI	8,42	8,5	8,51	8,13	8,27	PANIN	4,19	4,09	3,06	4,61	5,03
BTN	5,83	5,4	4,47	4,87	4,98	PERMATA	5,03	4,22	3,6	4	3,9
AVERAGE	6,44	6,40	6,28	6,33	6,44	AVERAGE	5,20	5,00	4,63	5,13	5,34
AVERAGE	6,376					AVERAGE	5,0605				

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, RORA, 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 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 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 using the NIM ratio at 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 the level of bank health through earnings by using ROA ratios 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 the level of 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.

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]:

$$CAR = (\text{Equity/RWA}) \times 100\%$$

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]:

$$NPL = (\text{Troubled Total Credit} / \text{total credit}) \times 100\%$$

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]:

$$LDR = (\text{Total Credit} / \text{Third Party Funds}) \times 100\%$$

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]:

$$ROA = (\text{Profit Before Tax} / \text{Average Total Assets}) \times 100\%$$

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]:

$$NIM = (\text{Net Interest Income} / \text{Average Earning Assets}) \times 100\%$$

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

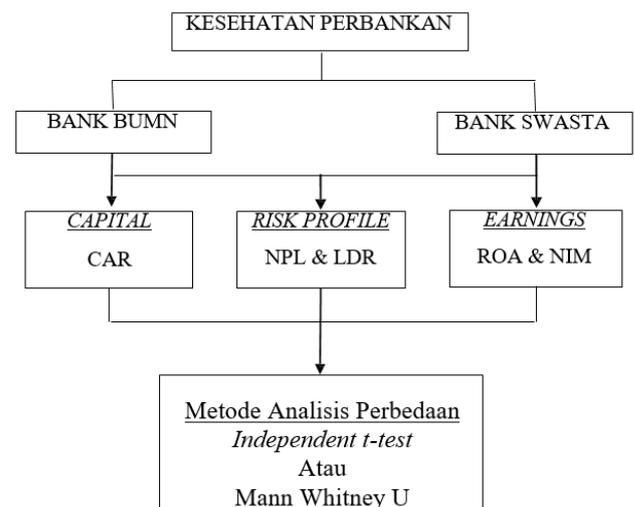


Fig. 2. Conceptual framework.

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 s banks and national private banks in terms of Risk Profile factors using the NPL ratio

H₃: 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

H₄: 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

H₅: There are differences in the level of health between state-owned banks and national private banks in terms of the Earnings factor using 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]:

$$CAR = (Equity / RWA) \times 100\%$$

TABLE XI. 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)

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]:

$$NPL = (Troubled Total Credit / total credit) \times 100\%$$

TABLE XII. 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)

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]:

$$LDR = (Total Credit / Third Party Funds) \times 100\%$$

TABLE XIII. LDR COMPOSITE RATING CLASSIFICATION

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)

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]:

$$ROA = (Profit Before Tax / Average Total Assets) \times 100\%$$

TABLE XIV. 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

b) Net Interest Margin (NIM): NIM is a comparison between earners of net interest on average earning assets. The higher the value in this ratio indicates the possibility of bank profits will increase. The NIM is formulated as follows [11]: $NIM = (Net\ Interest\ Income / Average\ Earning\ Assets) \times 100\%$

TABLE XV. 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

B. Research Population and Samples

The population is a generalization area consisting of subjects or objects that have certain character & quality determined by a researcher to be studied which is then drawn a conclusion [12]. The population in this study were banking companies listed on the Indonesia Stock Exchange in 2012-2016 as many as 43 banking companies. Sample selection is done by purposive sampling method, namely the technique of determining the sample with certain considerations [12]. The criteria in this study are as follows:

- State-owned banking and private banking listed on the Indonesia Stock Exchange from 2012 to 2016.
- Sampling is based on the ranking of the largest number of assets owned by state-owned banks and private banks in the 1st Quarter of 2017.
- State-owned banking and private banking companies that have overall asset values of more than Rp. 160 Trillion in Q1 2017.

From the sample criteria outlined above, 8 (eight) banking companies were selected as the research sample, consisting of four state-owned banks and four private banks in Indonesia.

C. Data Collection Techniques

The type of data used in this study is secondary data in the form of the annual financial statements of banking companies in Indonesia which were published in 2012-2016. The source of the data used is obtained in the form of bank financial reports that have been published by the bank in question, namely through the website of Bank Indonesia, the Otoritas Jasa Keuangan, www.idx.co.id, as well as the websites of each bank sampled

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	17,742	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	5,15	3,107	1,169
NIM	20	4,47	8,55	6,385	1,277

Source: Bank Health Codification 2011

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 2011

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

TABLE XVIII. THE INDEPENDENT T-TEST RESULTS ON THE LDR RATIO

LDR	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference (e)	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.272	.605	.614	38	.543	181.700	295.902	-417.323	780.723
Equal variances not assumed			.614	37.467	.543	181.700	295.902	-417.603	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 0.614 with a significant probability of 0.543 (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.

TABLE XIX. INDEPENDENT T-TEST RESULTS ON ROA RATIO

ROA	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.757	.390	2482	38	.018	127350	.51305	.23489	231211
Equal variances not assumed			2482	30867	.019	127350	.51305	.22695	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 with a significant probability of 0.018 (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].

TABLE XX. INDEPENDENT T-TEST RESULTS ON THE NIM RATIO

NIM	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.261	.612	3.544	38	.001	132.450	.37373	.56792	208.108
Equal variances not assumed			3.544	36.947	.001	132.450	.37373	.56721	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 with a significant probability of 0.001 (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

TABLE XXI. MANN-WHITNEY U-TEST TEST RESULTS ON CAR RATIO

Test Statistics ^a	
	CAR
Mann-Whitney U	132.500
Wilcoxon W Z	342.500
Asymp. Sig. (2-tailed)	-1.826
Exact Sig. [2*(1-tailed Sig.)]	.068
	.068 ^b

^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 ^a	
	NPL
Mann-Whitney U	195.500
Wilcoxon W Z	405.500
Asymp. Sig. (2-tailed)	.122
Exact Sig. [2*(1-tailed Sig.)]	.903
	.904 ^b

^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 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 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.

REFERENCES

[1] A. Setyaningsih and S.U. Sri, "Analisis Perbandingan Kinerja Keuangan Perbankan Syariah Dengan Perbankan Konvensional", *Jurnal Ekonomi dan Kewirausahaan*, vol. 13, no. 1, pp. 105-111, 2013.

[2] Kasmir, *Bank dan Lembaga Keuangan Lainnya Edisi Revisi* 2014. Jakarta: PT RajaGrafindo Persada, 2014.

- [3] E. Satriyo Wibowo and M. Syaichu, "Analisis Pengaruh Suku Bunga, Inflasi, CAR, BOPO, NPF Terhadap Profitabilitas Bank Syariah", *Diponegoro Journal Of Management*, vol. 2, no. 2, pp. 234-245, 2013.
- [4] F. Daniswara and N.H. Sumarta, Analisis Perbandingan Kinerja Keuangan Berdasarkan Risk Profile, Good Corporate Governance, Earnings And Capital (RGEC) Pada Bank Umum Konvensional dan Bank Umum Syariah Periode 2011-2014, *Gema*, ISSN: 0215-3092. 30 (51), 2344-2360, 2016.
- [5] Otoritas Jasa Keuangan, Laporan Keuangan Perbankan [Online], 2017.
- [6] A.P. Ramadhany and Suhadak, "Analisis Perbandingan Tingkat Kesehatan Bank Berdasarkan Risk Profile, Good Governance, Earnings dan Capital (RGEC) Pada Bank Konvensional BUMN dan Swasta," *Jurnal Administrasi Bisnis*, vol. 23, no. 1, pp. 1-9, 2015.
- [7] M. Marsuki, C. Pahlevi and M. Pono, "Perbandingan Kinerja Keuangan Bank Pemerintah dan Bank Swasta Nasional," *Jurnal Analisis*, vol. 1, no. 1, pp. 66-72, 2012.
- [8] G.H. Ahmad, N. Renofa and U. Mardiyati, "Analisis Perbandingan Bank Devisa BUMN dan Bank Devisa Swasta Pada Tahun 2006-2011," *Jurnal Riset Manajemen Sains Indonesia*, vol. 5, no. 1, pp. 100-122, 2014.
- [9] D. Rahayu, Suhendro and A. Wijayanti, "Analisis Kesehatan Bank Mandiri dan Bank BCA Dengan Metode RGEC Tahun 2010-2014," *Jurnal Ilmiah Wahana Akuntansi*, vol. 11, no. 1, pp. 1-14, 2016.
- [10] Kasmir, *Dasar-dasar Perbankan Edisi Revisi 2014*. Jakarta: PT RajaGrafindo Persada, 2014.
- [11] Bank Indonesia, Surat Edaran BI No.13/1/PBI/2011 tanggal 25 Oktober 2011: Penilaian Tingkat Kesehatan Bank Umum, Jakarta, Indonesia, Booklet Perbankan Indonesia, Jakarta, Indonesia, 2011.
- [12] Sugiono, *Metode penelitian kuantitatif, kualitatif dan R&D*. Bandung: Alfabeta, 2016.
- [13] A. Novado and D.D. Hartono, "Kinerja Perbankan Pada Kepemilikan Domestik, Asing, Pemerintah dan Swasta," *Jurnal Bisnis & Ekonomi*, vol. 14, no. 2, pp. 51-66, 2014.
- [14] N.H. Sumarta and Yogyanto, "Evaluasi Kinerja Perusahaan Perbankan yang Terdaftar di Bursa Efek Indonesia dan Thailand," *Jurnal Bank Indonesia*, vol. 3, no. 2, pp. 183-203, 2000.
- [15] N. Hidayati and S. Utiyati, "Analisis Kinerja Keuangan Antara PT. Bank Negara Indonesia, (PERSERO) Tbk dan PT. Bank Internasional Indonesia, Tbk di Bursa Efek Indonesia," *Jurnal Ilmu & Riset Manajemen*, vol. 2, no. 2, pp. 120-134, 2013.
- [16] Y.Y.B. Sahulata, "Analisis Komparatif Kinerja Keuangan Empat Bank Terbesar di Indonesia Periode 2008 s/d 2013," *Jurnal Riset Bisnis dan Manajemen*, vol. 3, no. 1, pp. 85-96, 2015.
- [17] V.E. Korompis, T.O. Rotinsulu and J. Sumarau, "Analisis Perbandingan Tingkat Kesehatan Bank Berdasarkan Metode RGEC periode 2012-2014," *Jurnal EMBA*, vol. 3, no. 4, pp. 433-442, 2015.
- [18] J. Mandasari, "Analisis Kinerja Keuangan Dengan Pendekatan Metode RGEC Pada Bank BUMN Periode 2012-2013," *eJournal Administrasi Bisnis*, vol. 3, no. 2, pp. 363-374, 2015.
- [19] M.M. Munadi, I.S. Saerang, and Y. Mandagie, "Analisis Perbandingan Kinerja Keuangan Pada Bank Rakyat Indonesia (Persero) Tbk dan Bank Mandiri (Persero) Tbk Periode 2012-2015," *Jurnal EMBA*, vol. 5, no. 2, pp. 656-665, 2017.