# CHAPTER III

# RESEARCH METHODS

This chapter provide the overview of the research methods, calculations, classifications, and other terms that is used during this study.

## 3.1 Type of Research

This research is a quantitative based research with descriptive method, which is done by analyzing and describing financial report data to determine a bank's health category.

## 3.2 Population and Sample

Population in this research is banking sector in Indonesia. The sampling technique in this study uses purposive sampling, which is sampling with certain criteria. Here is the samples criteria that used in this study:

a. Sample from this research are 3 state-owned bank in Indonesia, BRI, BNI, and Bank Mandiri for their last 5 years annual report (2011-2015).

Researcher using these 3 state-owned bank in Indonesia because they are include in "Fourth-largest banks of Indonesia". BRI is one of the leading Indonesian commercial banks since 1895 and the largest Indonesian companies in terms of market capitalization. BRI also is one of the pioneer in micro and small enterprises that always consistent with service to small communities by focusing giving credit facilities to small entrepreneurs group. Furthermore, BRI is the first bank in the world that has their satellite. BNI officially distributed the first official currency of Indonesia and has branches in overseas. BNI also provides financial services which are supported by its subsidiaries in Shariah banking, financing, the capital market, and insurance. Moreover, Bank Mandiri is Indonesian's largest financial instituition by assets. Bank Mandiri offers business and individuals throughout Indonesia a full set of banking and non-banking products and services, such as micro and retail banking and commercial and business. Bank Mandiri was establised as a consequence of the Asian financial crisis when the Indonesian financial sector had collapsed in the late of 1990's, and 4 state owned-bank were merged into Bank Mandiri as part of the government's bank restructing program.

b. The financial statements from those above banks have been reported and published.

### 3.3 Data Types and Sources

This study uses historical data sources. The data used is secondary data. Secondary data is data obtained indirectly from third parties through intermediary. This study uses data such as financial statements of 3 state-owned bank in Indonesia, BRI, BNI, and Bank Mandiri. Source of data derived from financial statements published by the bank concerned. Data obtained from the bank's website that will be examined, from Indonesia Stock Exchange website (www.idx.co.id), and other media that is allowed. Researcher collected, recorded, and reviewed all required information contained in the annual financial statements of the bank concerned the

period 2011-2015. In addition, researcher also calculated the ratios contained in the financial statements of those three banks.

1. a. Annual Report of BRI 2015, from : http://media.corporate-ir.net/media_files/IROL/14/148820/AR-BRI-2015-FULL-Bhs.Inggris-small.pdf

   b. Annual Report of BRI 2014, from : http://media.corporate-ir.net/media_files/IROL/14/148820/AR_BRI2014_English.pdf

   c. Annual Report of BRI 2013, from : http://media.corporate-ir.net/media_files/IROL/14/148820/BANK_BRI_Annual_Report_2013.pdf

   d. Annual Report of BRI 2012, from : http://media.corporate-ir.net/media_files/IROL/14/148820/AR_BRI_Englis_2012.pdf

   e. Annual Report of BRI 2011, from : http://www.bri.co.id/readpdf/1443013962/fr

2. a. Annual Report of BNI 2015, from : http://www.bni.co.id/Portals/0/Hub-inv/[BNI]%20AR%202015_English%20Version.pdf

   b. Annual Report of BNI 2014, from : http://www.bni.co.id/Portals/0/Hub-inv/bni-ar2014-Eng.pdf

   c. Annual Report of BNI 2013, from : http://www.bni.co.id/Portals/0/Hub-inv/bni-ar2013-eng-fin.pdf

   d. Annual Report of BNI 2012, from : http://www.bni.co.id/portals/0/BNI-AR-2012.pdf

   e. Annual Report of BNI 2011, from : http://www.bni.co.id/Portals/0/Hub-inv/AR-BNI-2011_new.pdf

3. a. Annual Report of Bank Mandiri 2015, from : http://media.corporate-ir.net/media_files/IROL/14/146157/AR%20Mandiri%20English%202015.pdf

b. Annual Report of Bank Mandiri 2014, from : http://media.corporate-ir.net/media_files/IROL/14/146157/Bank%20Mandiri%202014%20Annual%20Report%20-%20English.pdf

c. Annual Report of Bank Mandiri 2013, from : http://media.corporate-ir.net/media_files/IROL/14/146157/AR_Mandiri%202013_English.pdf

d. Annual Report of Bank Mandiri 2012, from : http://media.corporate-ir.net/media_files/IROL/14/146157/Financial_Statements_AR.pdf

e. Annual Report of Bank Mandiri 2011, from : http://media.corporate-ir.net/media_files/IROL/14/146157/Financial_Statements.pdf

## 3.4 Research Variable

This study do not examine the effect of independent variables on the dependent variable as research is usually done so as not using regression analysis. Therefore there is no dependent variable and independent variables in this study. The variables tested in the current study is the financial ratios RGEC method, provided by several ratios as follows:

### 3.4.1 Risk Profile

According to Financial Services Authority in Indonesia Regulation 18/POJK.03/2016 on The Implementation of Risk Management for Commercial Banks, risk management is a series of procedures and methodologies used to identify, measure, monitor and control risks arising from the business of banks. In the application, risk assessment applied to eight types of risk which are Credit Risk, Market Risk, Liquidity Risk, Operational Risk, Legal Risk, Strategic Risk, Compliance Risk and Reputation Risk. In this study, there are two risks that use quantitative measurement which made it easier to get the data needed. These two

risks are the ratio of liquidity risk and credit risk. The calculation to measure these two aspects of risk will be provided below:

1. Non-Performing Loan (NPL)

In this research, Credit Risk is the only risk which measured using the NPL-gross which is acquired by comparing NPL toward the Total Loan. NPL is categorized into three groups, substandard, doubtful, and loss, which calculated using this formula:

$$\text{NPL} = \frac{\text{Non Performing Loan}}{\text{Total Loan}} \times 100\%$$

Provided below is the interval scale for decision making during NPL ratio calculation:

**Table 3.1: Matrix of NPL Factor Rank Criteria**

| Criteria | Rank | Score |
|---|---|---|
| NPL < 2% | 1 | Very Healthy |
| 2% < NPL ≤ 5% | 2 | Healthy |
| 5% < NPL ≤ 8% | 3 | Quite Healthy |
| 8% < NPL ≤12% | 4 | Quite Bad |
| NPL > 12% | 5 | Bad |

Source: Bank Indonesia Cicular Letter No. 6/23/DPNP

The smaller the NPL percentage value, the better the return rate of credit from customer. Vice versa, the larger the NPL percentage value, the lower the return rate from customer, which means there is a high rate of bad credit.

2. Loan to Deposit Ratio (LDR)

LDR to shows a bank capability to repay any withdrawal by deposit customer by utilizing given credit as the source of its liquidity.

$$\text{LDR} = \frac{\text{Total Loans or Debts}}{\text{Total Deposits}} \times 100\%$$

Provided below is the interval scale for decision making during LDR calculation :

**Table 3.2: Matrix of LDR Factor Rank Criteria**

| Criteria | Rank | Score |
|---|---|---|
| LDR ≤ 75% | 1 | Very Healthy |
| 75% < LDR ≤ 85% | 2 | Healthy |
| 85% < LDR ≤ 100% | 3 | Quite Healthy |
| 100% < LDR ≤120% | 4 | Quite Bad |
| LDR > 120% | 5 | Bad |

Source: Bank Indonesia Cicular Letter No. 6/23/DPNP

LDR of ≤ 75% shows that a bank has great capability to repay any withdrawal by deposit customer by utilizing given credit. Meanwhile the in the opposite side, larger LDR value shows that a bank has poor capability to repay withdrawal of deposit customer by utilizing given credit.

### 3.4.2 Good Corporate Governance

Measurement of Corporate Governance (CG) in this study uses a self-assessment in accordance with Bank Indonesia Regulation No. 15/15/DPNP, in which the assessment will produce a composite score of 1-5. This GCG's assessment will be taken from the annual report of the bank which follows the criteria of the study sample. Here is the banking self-assessment ratings according to Bank Indonesia Regulation:

**Table 3.3: GCG Self-Assessment Rating**

| Criteria | Predicate |
|---|---|
| Composite Score < 1.5 | Excellent |
| 1.5 < Composite Score < 2.5 | Healthy |
| 2.5 < Composite Score < 3.5 | Fairly Healthy |

| | |
|---|---|
| 3.5 < Composite Score < 4.5 | Poor |
| Composite Score > 4.5 | Failed |

Source: Bank Indonesia Regulation No. 15/15/DPNP

In GCG self assessment report, there are several stages through the final composite appraisal:

1. Determining the rating value for each factor, by conducting self-assessment analysis by comparing goals and criteria or stated indicator with real condition of the Bank.
2. Determining the composite score of self-assessment result, by weighting every factor, summing it all and then choosing its composite predicate.
3. On determining the predicate, if during the assessment of all factor there exist factor with rank value of 1, then the highest Composite Predicate which the bank may achieve is ”Excellent”, and if during the assessment of all factor there exist factor with rank value of 2, then the highest Composite Predicate which the bank may achieve is ”Healthy”.

### 3.4.3 Earnings

Earnings is a measure of bank’s ability to increase their profits or the level of business efficiency and profitability achieved by bank. Earning aspects can be calculated as:

1. Net Interests Margin (NIM)

NIM is a ratio that measures how successful a firm is at investing its funds in comparison to the expenses on the same investments.

$$\text{NIM} = \frac{\text{Total Interest}}{\text{Total Loan}} \times 100\%$$

Provided below is the interval scale for decision making during NIM ratio calculation:

**Table 3.4: Matrix of NIM Factor Rank Criteria**

| Rank | Score | Criteria |
|---|---|---|
| 1 | Very Healthy | Very high interest margin (Ratio above 5%) |
| 2 | Healthy | High interest margin (Ratio between 2.01% and 5%) |
| 3 | Quite Healthy | Quite high interest margin (Ratio between 1.5% and 2%) |
| 4 | Less Healthy | Low interest margin (Ratio between 0% and 1.49%) |
| 5 | Unhealthy | Very low interest margin (NIM Ratio below 0%) |

Source: Bank Indonesia Circular Letter No. 6/23/DPNP

2. Return on Assets (ROA)

Indicator of bank performance in earning profit is the ROA. This ratio shows the effectiveness of bank performance in earning profit by utilizing its own assets.

$$\text{ROA} = \frac{\text{Income Before Tax}}{\text{Average Total Assets}} \times 100\%$$

Provided below is the interval scale for decision making during ROA calculation:

**Table 3.5: Matrix of ROA Factor Rank Criteria**

| Criteria | Rank | Score |
|---|---|---|
| ROA >1,5% | 1 | Very Healthy |
| 1,25% < ROA ≤ 1,5% | 2 | Healthy |
| 0,5% < ROA ≤ 1,25% | 3 | Quite Healthy |
| 0% < ROA ≤ 0.5% | 4 | Quite Bad |
| ROA ≤ 0% | 5 | Bad |

Source: Bank Indonesia Cicular Letter No. 6/23/DPNP

Large value in ROA ratio shows that a bank has good effectiveness in earning profit by utilizing its own assets, while a smaller value in ROA ratio shows how ineffective a bank in earning profit by utilizing its own assets.

### 3.4.5 Capital

Capital is an aspect of capital that owned by bank. The fund may include owners' equity and long-term financing funds. Existing capital is based on the capital adequacy of banks. The parameter for capital assessment is the CAR. According to Bank Indonesia Regulation No. 14/18/PBI/2012 concerning Minimum Capital Adequacy Requirement for Commercial Banks, CAR is the minimum capital requirement that must always be maintained by bank as a certain proportion of total assets weighted according to RWA for at least 8%. This ratio shows how much the amount of assets that involve risks, like credits, investments, securities and payment with other bank. CAR can be calculated as:

$$\text{CAR} = \frac{\text{Tier 1 Capital} + \text{Tier 2 Capital}}{\text{Risk Weighted Assets}} \times 100\%$$

Provided below is the interval scale for decision making during CAR calculation:

**Table 3.6: Matrix of CAR Factor Rank Criteria**

| Rank | Score | Criteria |
|---|---|---|
| 1 | Very Healthy | CAR Ratio is significantly higher than the requirement (CAR > 15%). |
| 2 | Healthy | CAR Ratio is quite significantly higher than the requirement (9 % < CAR ≤ 15%). |
| 3 | Quite Healthy | CAR Ratio is marginally higher than the requirement (8% < CAR ≤ 9%). |
| 4 | Less Healthy | CAR Ratio is lower than the requirement (CAR ≤ 8%). |
| 5 | Unhealthy | CAR Ratio is lower than the requirement and bank tends to be not solvable (CAR ≤8%). |

Source: Bank Indonesia Circular Letter No. 6/23/DPNP

Composite Rank are categorized as follows:

1. Composite Rank 1 (PK-1), shows bank condition in general very healthy therefore assessed to be very capable to face significantly negative influence from business condition and other external factors.
2. Composite Rank 2 (PK-2), shows bank condition in general healthy therefore assessed to be capable to face significantly negative influence from business condition and other external factors.
3. Composite Rank 3 (PK-3), shows bank condition in general quite healthy therefore assessed to be capable enough to face significantly negative influence from business condition and other external factors.
4. Composite Rank 4 (PK-4), shows bank condition in general less healthy therefore assessed to be less capable to face significantly negative influence from business condition and other external factors.
5. Composite Rank 5 (PK-5), shows bank condition in general unhealthy therefore assessed to be incapable to face significantly negative influence from business condition and other external factors.