



**LOAN QUALITY AND  
BANK'S PROFITABILITY  
IN INDONESIA**

**By**

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# **PANEL OF EXAMINERS APPROVAL SHEET**

The Panel of Examiners declare that the skripsi entitled “**LOAN QUALITY AND BANK’S PROFITABILITY IN INDONESIA**” that was submitted by Cut Alia Narisya majoring in Management from the Faculty of Business was assessed and approved to have passed the Oral Examinations on 1<sup>st</sup> February 2018

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## **DECLARATION OF ORIGINALITY**

I declare that this skripsi, entitled “**LOAN QUALITY AND BANK’S PROFITABILITY IN INDONESIA**” is to the best of my knowledge and belief; an original piece of work that has not been submitted, either in whole or in part, to another university to obtain a degree.

Cikarang, Indonesia, 22<sup>nd</sup> January 2018

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## ABSTRACT

The purpose of this study is to analyze the impact of loan quality towards bank's profitability in Indonesia. This study is important because loan quality is crucial for banking industry due to generate profitability to the bank. This study has 1 (one) main research question, which is: '*What is the impact of Loan Quality towards Net Interest Margin?*' This study is a quantitative study using panel data generalized least squares (GLS) regression in STATA M-64; and using secondary data that generated from Indonesian 16 (sixteen) largest commercial banks annual report during 2006-2015 and using convenience sampling and multilevel method. Furthermore, this study focuses to analyze the impact of Impaired Loans to Gross Loans; Loan Loss Reserve to Gross Loans; Net Loans to Deposit and Short Term Funding; Net Loans to Total Deposits & Borrowings; as loan quality's proxies together with Cost to Income Ratio as management quality proxy towards Net Interest Margin as bank's profitability proxy. The findings show that Impaired Loans to Gross Loans; Loan Loss Reserve to Gross Loans have a positive significant impact towards NIM. On the other hand, Net Loans to Deposit and Short Term Funding; and Net Loans to Total Deposits & Borrowings have a negative significant impact towards NIM. Surprisingly, even though Cost to Income Ratio has a negative impact towards NIM but insignificant. Therefore, this study contributes evidence that loan quality has significant impact towards NIM.

***Keywords:*** *Loan Quality; Commercial Bank; Profitability; Indonesia.*

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# CHAPTER I

## INTRODUCTION

### **1.1. Background of Study**

If it is noticed, the major financial crisis is occurred in the cycle of ten-year. The first major financial crisis is financial crisis in Asia during 1997 until 1998, and 10 years later there is a Global Financial Crisis during 2007 until 2008. The phenomena of the Asian Financial Crisis in 1997 until 1998 is began from the collapse of Thai Baht that effected other countries including Indonesia until IMF came to help Indonesia to restoring the market confidence of Rupiah by demanding some fundamental financial reform measures such as closure of 16 privately-owned banks and also asked Indonesian Central Bank which is Bank Indonesia to raise interest rates.

Meanwhile, for Global Financial Crisis, it begins from the U.S with the high of sub-prime mortgage or the high number of the interest loan which gives the significant loss in banking industry and financial industry even Lehman Brothers went bankrupt and also influencing the economic condition became worse. The high number of sub-prime mortgage made the banks don't have enough funds to give any loans neither to individuals or institutions which means hit the credit confidence, meanwhile by giving the loans for business and investment can drive the economic condition. Global financial crisis in 2007 experienced the banking panic that showed as a credit boom and followed by the destruction of subprime mortgage that makes problem in liquidity of financial institutions (Ivashina, & Scharfstein 2010). The economic condition of Indonesia is less affected during the global financial crisis in 2007-2008 than the Asian financial crisis, it was hit the export growth when the economic condition of Indonesia is going well, even Indonesia had the best growth rate in Asia



and the condition of banking sector is also in good health, but still it makes them cut the new lending (Tambunan 2011).

The interest by researchers in finance and economics in questioning of how banks operate and its function are increasing after the financial crisis (Warner, R. A. ,2015) . By borrowing short and long lending banks create the liquidity (Dewatripont, Rochet and Tirole, 2010), which means the short maturities of the banks in borrowing from depositors and lend to borrowers with long maturities. The banking sector's stability determines the effectiveness of the monetary policy transmission mechanism of monetary effects on the real economy (Enoch, Green, 1997, 41-51), it means the stability of the banking sector has important role in economic, or in another words there is no healthy economy without a healthy banking sector. The stability of banking sector is not good during the financial crisis and always been about the loan. In the fourth quarter of 2008 the lending volume was 47% lower than it was in the prior quarter and 79% lower than at the peak of the credit boom (Ivashina, V., & Scharfstein, D. (2010).

It can be conclude that the number of loan that can't be controlled with no payback can give impact to the performance of bank, and it can make financial distress because of liquidity problem and ended with worse economic condition and the worst is financial crisis happen. Based on the phenomena that stated, this study decides to make a research about the impact of loan quality towards the profitability of the bank.

### **1.1.1. Need for Study**

This study is needed for banking industry to indicate how important loan quality in bank and what is the impact if the loan quality of bank is not good. Since, there is still rarely research about the impact of loan quality

towards net interest margin, so this study is expected to be useful. The uniqueness of banking industry is concerned with the loans as the main funding source and source of risk at the same time. Higher economic growth could also result in higher interest margins due to more intense credit activity and better loan quality (Claeys and Vander Venet, 2004). It means economic condition is affected by how good is the loan quality of the bank. Therefore the financial crisis in 2008 is happened, because of several banks don't have a good loan quality so that they can't get the payback of the loans. It means the loan quality has significant influence to banking industry.

## **1.2. Problem Statement**

This study finds out the impact of loan quality towards net interest margin of 16 largest commercial banks in Indonesia. Loan has important role in banking industry, because that's one of the income source, however it does not mean the high the number of loans the better for the bank, but the payback of the loans itself which can determine whether the bank is good or not, it means the loan quality itself that have to be concerned.

When the bank has not healthy debt levels, the number of Non-performing loan is possible to getting high, when it's getting high it can make a problem for the liquidity of the bank, when it's happening financial distress will come in, and it will impact to economic condition and the financial crisis will happened again as in 1997 and 2007 which is should be avoided especially for case that 16 banks have to be liquidated and need 10 years to recovery.

### **1.3. Research Questions**

In this study, there is 1 (one) main question that help the study as a guideline, question is as follows:

*‘What is the impact of Loan Quality towards Net Interest Margin?’*

In order to answer the main research question, this study emphasis on 6 (six) supporting questions, which are:

1. Is there any impact of Impaired Loan to Gross Loans Ratio towards Net Interest Margin?
2. Is there any impact of Loan Loss Reserve to Gross Loans Ratio towards Net Interest Margin?
3. Is there any impact of Net Loans to Deposit and Short Term Funding Ratio towards Net Interest Margin?
4. Is there any impact of Net Loans to Total Deposits & Borrowings Ratio towards Net Interest Margin?
5. Is there any impact of Cost to Income Ratio towards Net Interest Margin?

### **1.4. Research Objectives**

Based on the research question that stated above, the main objectives of this study is to analyze the impact of loan quality towards Net Interest Margin. Moreover, these study also emphasis on the following supporting research objectives:

1. To find out the impact of Impaired Loan to Gross Loans Ratio towards Net Interest Margin
2. To find out the impact of Loan Loss Reserve to Gross Loans Ratio towards Net Interest Margin
3. To find out the impact of Net Loans to Deposit and Short Term Funding Ratio towards Net Interest Margin
4. To find out the impact of Net Loans to Total Deposits & Borrowings Ratio towards Net Interest Margin

5. To find out the impact of Cost to Income Ratio towards Net Interest Margin

## **1.5. Significance of Study**

### *Banking Industry*

The expectation of this study is to give benefits to banks (Banking Industry) by sharing the result about the significance relationship between loan quality and net interest margin that will be affected the bank performance that really impact the economic condition of the country, so it can remind the banks to keep controlling their loan quality and think further about the impact if they don't control their loan quality.

### *Scientific*

This study also expected to be useful for the scientific to contribute to bank profitability theory in term of loan quality and also for the next researcher that interested with loan quality of the banks, and helps the researcher to find a new fact about the relationship of loan quality and net interest margin and can be as the comparison of their research result and also deepen the knowledge about the loan quality of the bank.

## **1.6. Limitations**

In order to focus and not across the topic of the research, this study has to scope and has a limitation for its topic. The scope and limitation of this study is based on total of banks that chosen as a sample, the rank of the banks, and the period of time of the bank's annual report. The chosen sample is 16 largest commercial banks based on asset in Indonesia. This study will focus on Asset Quality, Liquidity Quality, and Management Quality as the measurement of Loan Quality and Net Interest Margin as the measurement of Profitability, both Loan Quality and Net Interest

Margin are calculated from 10 years of annual report in the period of 2006 until 2015.

### **1.7. Thesis Organizations**

The first chapter on this study is contained of the background including the phenomena from the history and also explained the need for study, problem statement, research question, research objectives, significance of study, and also the limitation of the research. In the second chapter, it is contained with some theories and the explanation of the dependent variable and independent variable of this research and also the gap. In the third chapter, it is contained of the method that used in this research include the framework and unit analysis and the hypotheses. In the fourth chapter, it is contained of the explanation of the statistic that come out as the result of the research and the discussion. In the fifth chapter, it is contained of the result of the research that come out as the conclusion and recommendation for next researcher.

## **CHAPTER II**

### **LITERATURE REVIEW**

#### **2.1. Grand Theory**

##### **Good Corporate Governance**

Berle and Mean (1932) stated that corporate governance is a thought of the ownership separation in controlling. Due to the currently stage of corporate governance development, Berle and Mean have an idea to separate the power between the wide range of institutions and the state, with an eye to make government's institutions trusted by public.

Mülbart (2010) said that it has increasingly been acknowledged that poor governance of banks is one of the important cause of the recent financial crisis. Based on the investigation of Minton et al. (2010) it shows that financial expertise of the board has positive relationship with risk taking and bank performance before the crisis, meanwhile it has negative relationship with bank performance in the crisis

Based on the study of Williams and Nguyen (2005), the better of corporate governance and converged with the capabilities of the boards in consolidating these resources under outputs, will in turn, generate profitable outcomes and improved bank performance.

#### **2.2. Loan Regulation**

The term of Loan or Credit is not only one; it can be for general, financial, accounting, and in banking. This study is using the term of credit for banking. Term of credit for banking is the agreement of commercial lenders to advance funds, based on the borrower estimation has given and

promise to repay the debt eventually, or to resist from previously existing debt that will be collected, as well as refinancing.

Baiden (2011) stated that the fundamental principles of lending and credit so called 5C's is stand for Character (the willingness of customer to meet loan obligation), Capacity (the ability of management in generating sufficient excess cash, fulfill the obligation, and cash management), Capital (the funds that arrested by the company for providing the unexpected losses cushion), Conditions (the economic condition of national, international, and local and the bank conditions), and Collateral (the asset as a guarantee for secure the loan) and when the lender using this 5C's, the objective is to extending the sound of credit become beyond safety so that the difference can be called as safe and sound credit.

### **2.3. Loan Quality**

The expression of quality of bank loans is related to credit activities that carried by the banks which is arising from fundamental principles of credit, and the most importantly quality of the bank loans is it can be the context of ensuring the financial stability in one country or another (Filip, 2015). This study implements loan quality to find out the impact to net interest margin. The measurement of loan quality is poured into Asset Quality, Liquidity Quality and Management Quality

Asset quality is one of the important factor to help the bank in understanding the risk on the debtor exposures and asset quality ensures that the bad and doubtful loans of the bank can be covered (Ahsan 2016). This study adopts 2 proxies of asset quality which are Impaired Loans to Gross Loans and Loan Loss Reserve to Gross Loan. Impaired Loans to Gross Loans is the standard proxy for asset risk of the bank and as the measurement of the total loans' amount which are doubtful, the lower of the ratio is the better the assets quality. Loan Loss Reserve to Gross Loan

it is a good measurement for credit risk, and can be used as an alternate for market-based risk measures (Agusman et al 2008), the lower the ratio the better the quality of the loan portfolio.

Akter, R., & Roy, J. K. (2017) said that Non-performing Loans negatively affected Net Interest Margin. MattherZarruk & Madura, (1992) found there is a positive relationship between asset quality and net interest margin, it's indicate that an increase of the losses of the bank will narrowing net interest margin of the bank. Kosmidou, (2008) stated that bad asset quality may have negative impact on profitability of the bank by reducing interest income revenue and by increasing provisions cost.

Based on Maas, (2016) the changes in the liquidity and funding of the banks can directly influence both future economic growth and stability of financial, and therefore the disclosure of liquidity risk is important for several stakeholders in making decision. In a context of banks, liquidity ratio is the measurement of ability to pay the current obligations (Hazzi & Kilani 2013).

This study adopts 2 proxies of liquidity quality which are Net Loans to Deposit & Short term Funding and Net Loans to Total Deposit & Borrowings. Ratio of Loans to Deposit & Short term Funding consider that all loans are equally illiquid and the higher ratio represents a less liquid bank. Net Loans to Total Deposit & Borrowings it represents the percentage of the total deposit locked into non-liquid asset and the higher the LDBR, the higher is the risk of liquidity (Samad, 2004). Rahman & Khan (2015) found that there is a positive and significant impact between liquidity and NIM which suggests that banks with a high level of liquidity earn more NIM. On the other hand Molyneux & Thornton (1992) found that there is a weak inverse relationship between liquidity with profitability and expected that liquidity holdings reflect a cost to the bank.



## **2.4. Management Quality**

Based on Ahsan, (2016) management quality represents the management bank soundness and acts as a safeguard for bank operation in a smooth and decent manner and so called excellence management and while it controlled it will achieve higher profits. In this study, this parameter is measured by cost to income ratio.

The definition of the cost to income ratio is as non-interest costs, not include bad and doubtful debt expense, divided by the total of net interest income and non-interest income and used tends to focus on cost, a reduction in costs, for a fixed level of revenue, should lead to increased profit, and thus increased return on equity and share price, the measures of greatest interest to investors in bank shares (Tripe, 1998). Angbazo (1997) stated that management quality is important for bank profitability and he found that management quality has an important role in determining net interest margin of bank with the result of higher quality management will cost lower net interest margins. Meanwhile, Hess and Francis (2004); Ghosh et al., (2003) found that there is a negative relationship between cost income ratio and profitability.

## **2.5. Bank's Profitability**

Bank profitability is important to appraise the level of microeconomic and macroeconomic (Aburime, 2008), which means the profitability of bank is important to the condition of economic. Profitability has an important role for a bank in maintaining ongoing activity and for its shareholders to gain fair returns (Trujillo-Ponce, 2013). Bank performance can be measured by the profitability of the bank, while bank performance is related to the banking condition of a country which is affect the economic condition, so the controlling of the bank's profitability is important.

Bank's profitability usually measured by Return on assets (ROA) Return on equity (ROE), Net interest margin (NIM). This study using Net Interest Margin as the measurement of bank's profitability. Net interest margins is the measurement of the cost of financial intermediation which is the difference between interest earnings or the gross cost paid by a borrower to the bank and the net return that received by a depositor (Brock and Suarez, 2000). The higher net interest margin the better.

## **2.6. Research Gap**

Macroeconomics condition is affected by several determinants, one of the determinant is banking sector. Therefore, banking industry needs continuous evaluation to make the performance is higher and gives the good impact in the economic condition that can prevent the financial crisis.

Udell, (1989) said that loan quality control is critical in determining the performance of bank. Doliente, (2005) found that for the country of Indonesia and Thailand, the decline in loan quality is significantly associated with lower net interest margins. The studies of Abata (2014); Pasiouras and Kosmidou (2007); Adebisi and Matthew (2015) et al are examples of lower non-performing loans (Asset Quality) affecting bank's profitability negatively.

This study is expected that all of the independent variables have positive relationship with the dependent variables. According to the gap from previous journals, this study has a purpose to cover the gap by investigating the impact of loan quality towards Bank's Profitability in Indonesia; in the period analysis from 2006-2015 and using unit analysis of 16 largest commercial banks based on the asset.

## **CHAPTER III**

### **METHODOLOGY**

#### **3.1. Research Method**

The method that being used in this study will be described in this chapter. This study adopts quantitative approach and secondary data to analyze the impact of loan quality towards bank's profitability. The data is in the form of numbers and can be counted mathematically and analyzed using statistical methods. This study will find out the impact of independent variable towards dependent variables by measuring the variables and testing hypotheses.

#### **3.2. Research Framework**

The impact of loan quality towards bank's profitability is the main topic of this study. This study is using several financial ratio analysis such as Asset Quality Ratio, Liquidity Ratio and Management Ratio as the measurement to analyze and evaluate the quality of loans in 16 commercial banks in Indonesia, and also using profitability ratio which is Net Interest Margin as the measurement of bank's profitability. The research framework will use several methods according to independent variables (X1, X2, X3, X4, and X5) impact the dependent variable (Y1).

The dependent variables in this study are Impaired Loans to Gross Loans (X1), Loan Loss Reserve to Gross Loans (X2), Net Loans to Deposit and Short Term Funding (X3), Net Loans to Total Deposits & Borrowings (X4), Cost to Income Ratio (X5), and the independent is Net Interest Margin (Y1).

- Impaired Loan to Gross Loans Ratio represents the Non-Performing Loan of bank activities and also as a measurement of the amount of doubtful total loans.
- Loan Loss Reserve to Gross Loans Ratio is measure the credit risk. The reserve expresses the losses as percentage of total loans.
- Net Loans to Deposit and Short Term Funding Ratio is consideration of all loans are equally illiquid.
- Net Loans to Total Deposits & Borrowings Ratio represents the percentage of the bank assets that tied up in loans.
- Cost to Income Ratio is a mean to measure bank's productivity by measuring the operating expenses as a percentage of operating income.
- Net Interest Margin can be calculated by dividing net interest income with interest earning assets. The interest margins are determined by the market competition degree and the interest rate.

Loan Quality is measured by Asset Quality, Liquidity Quality and Management Quality. These 3 measurements has the proxy that showed in figure 3.1 in detail.

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Figure 3.1. Theoretical Framework

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Asset Quality is measured by: Impaired Loans to Gross Loans Ratio and Loan Loss Reserve to Gross Loans. Liquidity Quality is measured by Net Loans to Deposit and Short Term Funding and Net Loans to Total Deposits & Borrowings. Management Quality is measured by Cost to Income Ratio. The dependent variable of Bank's Profitability is measured by Net Interest Margin.

### **3.3. Hypotheses**

Based on the research question there are 4 specific questions that help to answer the main research question that turn into 5 hypotheses as the proxy. Asset Quality has 2 proxy that turn into H<sub>1</sub> and H<sub>2</sub>, Liquidity Quality has 2 proxy that turn into H<sub>3</sub> and H<sub>4</sub>, and Management Quality has 1 proxy that turn into H<sub>5</sub>. The purpose of regression analysis is to determine the relationship between independent variables on the dependent variable, either partially or simultaneously, as well as knowing the size of the dominance of the independent variable on the dependent variable. This study focuses to analyze these hypotheses in below:

*H<sub>1</sub>*: Impaired Loans to Gross Loans Ratio gives significant impact to Net Interest Margin

*H<sub>2</sub>*: Loan Loss Reserve to Gross Loans gives significant impact to Net Interest Margin

*H<sub>3</sub>*: Net Loans to Deposit and Short Term Funding gives significant impact to Net Interest Margin

*H<sub>4</sub>*: Net Loans to Total Deposits and Borrowings gives significant impact to Net Interest Margin

*H<sub>5</sub>*: Cost to Income Ratio gives significant impact to Net Interest Margin

Through these hypotheses, this study will find out the impact of Loan quality towards Bank's Profitability.

### **3.4. Operational Definition of Variables**

In this study, Net Interest Margin is implemented as a single dependent variable; and Loan Quality as the independent variable. Furthermore, it is provided the operational definition of variables in detail as table 3.3.

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Table 3.3. Operational Definition of Variables

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The secondary data that using in this study is collected from reliable data sources, such as Bank scope and Annual report of banks.

### **3.5. Sampling Plan**

#### **3.5. Population**

The population of this study is 16 largest commercial banks in Indonesia based on total asset.

#### **3.5.2. Sampling**

The research problem in this study will be assisted by the sample. This study uses convenience sampling and multilevel method. Convenience sampling is the data that selected are convenient accessibility.

Hence, this study is using 16 largest commercial banks based on total asset in Indonesia, which are Bank Mandiri, Bank Rakyat Indonesia, Bank Central Asia, Bank Negara Indonesia, Bank CIMB Niaga, Bank Danamon Indonesia, Bank Pan Indonesia, Bank Permata, Bank Tabungan Negara, Bank Maybank Indonesia, Bank OCBC NISP, Hongkong and Shanghai Banking Corporation Limited (The Indonesian branches), Bank UOB Indonesia, Bank Mega, Bank DBS Indonesia, PT Bank Sumitomo Mitsui Indonesia.

### **3.6. Data Analysis Tool**

This study is using Panel Data Regression Model and adopt Generalized Least Squares (GLS) Method. Panel data (longitudinal or cross-sectional time-series data) is a dataset where the behavior of entities are observed

across time. There are 3 kind of approaches in panel regression model which are ordinary least-squares (OLS), random effects model (REM) and fixed effect model (FEM). Random effects assumed that the variation of across entities is uncorrelated with the independent variables, and the advantage of random effects is that time invariant variables is included. Fixed effect defines as the fixed model parameter or the quantity is non-random.

## **CHAPTER IV**

### **DATA ANALYSIS**

#### **4.1. Descriptive analysis**

Descriptive statistics are used to describe what the data shows and in this study it's indicate the total of the standard deviation for each variable which are Impaired Loans to Gross Loans, Loan Loss Reserve to Gross Loans, Net Loans to Deposit and Short Term Funding, Net Loans to Total Deposits and Borrowings, and Cost to Income and Net Interest Margin, also it shows the minimum, maximum, and the average value from all of the sample.

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Table 4.1. Descriptive Statistics of Dependent and Independent Variables

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This study is using 16 largest commercial banks by total Assets in Indonesia with the total samples are 139 taken from 10 years on annual basis in the period of 2006 to 2015, it is showed in table 4.2.

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Table 4.2. List of Bank Rank by Total Assets in 2015

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The rank of the bank for both country rank and world rank based on the total asset in 2015 is also showed in table 4.2.

#### **4.2. Inferential analysis: Panel Regression Model**

This study is using Panel Data Regression Model technique with the approach of random effects model (REM). Random effects model is chosen in this study because the behavior data is meet the needs.



## **Hypotheses Testing:**

### ***Simple Regression Model***

Linear regression is to examine two things whether a set of predictor variables do a good job in predicting an outcome or dependent variable and which variables in particular are significant predictors of the independent variable.

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Table 4.3. Data Panel Analysis Result

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There are 5 regression equations of this study such as:

#### **1. Impaired Loans to Gross Loans towards Net Interest Margin**

The regression equation is:

$$\text{NIM} = 5.315474 + 0.1115538 \text{ ILGL}$$

Constanta with the value of 5.315474 indicates that when the value of other variables is zero, the value of NIM will have 5.315474. Regression coefficient of impaired loans to gross loans = 0.1115538. Simple regressions show the result that ILGL has an impact towards NIM, which means that every 1 point increase of ILGL then NIM will increase about 0.1115538.

#### **2. Loan Loss Reserve to Gross Loans towards Net Interest Margin**

The regression equation is:

$$\text{NIM} = 5.084116 + 0.2153115 \text{ LLRGL}$$

Constanta with the value of 5.084116 indicates that when the value of other variables is zero, the value of NIM will have 5.084116. Regression coefficient of loan loss reserve to gross loans = 0.2153115. Simple regressions show the result that LLRGL has an impact towards NIM, which means that every 1 point increase of LLRGL then NIM will increase about 0.2153115.

### **3. Net Loans to Deposit and Short-Term Funding towards Net Interest Margin**

The regression equation is:

$$\text{NIM} = 7.383527 - 0.0207913 \text{ NLDSTF}$$

Constanta with the value of 5.084116 indicates that when the value of other variables is zero, the value of NIM will have 7.383527. Regression coefficient of net loans to deposit and short-term funding =  $-0.0207913$ . Simple regressions show the result that NLDSTF has an impact towards NIM, which means that every 1 point increase of NLDSTF then NIM will decrease about  $-0.0207913$

### **4. Net Loans to Deposit and Total Deposit and Borrowing towards Net Interest Margin**

The regression equation is:

$$\text{NIM} = 7.509009 - 0.0241406 \text{ NLDTB}$$

Constanta with the value of 7.509009 indicates that when the value of other variables is zero the value of NIM will have 7.509009. Regression coefficient of net loans to deposit and short-term funding =  $-0.0241406$ . Simple regressions show the result that NLDSTF has an impact towards NIM, which means that every 1 point increase of NLDSTF then NIM will decrease about  $-0.0241406$ .

### **5. Cost to Income Ratio towards Net Interest Margin**

The regression equation is:

$$\text{NIM} = 5.818581 - 0.0021235 \text{ CIR}$$

Constanta with the value of 5.818581 indicates that when the value of other variables is zero the value of NIM will have 5.818581. Regression coefficient of cost to income =  $-0.0021235$ . Multiple regressions show the

result that CIR has an impact towards NIM, which means that every 1 point increase of CIR then NIM will decrease about -0.0021235

#### ***T-Test ( $\alpha = 5\%$ )***

T-test is used to compare means to know the significance of relationship between 2 variables. Based on the table 4.3, there are 4 independent variables that have significant relationship towards NIM which are Impaired Loans to Gross Loans, Loan Loss Reserve to Gross Loans, Net Loans to Deposit and Short-Term Funding, and Net Loans to Deposit and Total Deposit and Borrowing with the value of probability less than 0.05.

#### ***Coefficient of Determination ( $R^2$ )***

R-square is used to predict how much the contribution of independent variables towards dependent variables and also to measure the success rate of the regression that this study used. The lower is the value of coefficient determination is considered as good.

Based on the result on the table 4.3., there are 3 kinds of  $R^2$  which are between, within, and overall. Between  $R^2$  showed how much of the variance between separate panel units does my model account for. Within  $R^2$  measures how much of the variance within the panel units do the model accounts for. The last  $R^2$  is overall  $R^2$  which measures a weighted average of both between and within  $R^2$ . This study uses on the result of overall  $R^2$ .

Impaired Loans to Gross Loans towards Net Interest Margin shows the result of overall  $R^2$  is 0.0324 or 3.24%

Loan Loss Reserve to Gross Loans towards Net Interest Margin shows the result of overall  $R^2$  is 0.1391 or 13.91%

Net Loans to Deposit and Short-Term Funding towards Net Interest Margin shows the result of overall  $R^2$  is 0.0861 or 8.61%

Net Loans to Deposit and Total Deposit and Borrowing towards Net Interest Margin shows the result of overall  $R^2$  is 0.0272 or 2.72%

Cost to Income Ratio towards Net Interest Margin shows the result of overall  $R^2$  is 0.0024 or 0.24%

All the result show that Cost to Income Ratio towards Net Interest Margin has the lowest number of overall  $R^2$  which is 0.24% which means good.

### **4.3. Discussions**

#### **1. The relationship of ILGL towards NIM of commercial Banks in Indonesia during 2006-2015**

Based on the table 4.3. ILGL showed a significance influence towards NIM with probability  $0.018 < 0.05$  and regression coefficient with the value of 0.1115538. ILGL has significant positive influence towards NIM, which means the increase of Non-performing Loan leads to the increasing on bank's profitability of Net Interest Margin. Since the Impaired Loans to Gross Loans is the ratio of measuring the doubtful loans and also one of the most important criteria to know the asset quality of commercial bank, it means the increase in non-performing loans the better profit that the bank can reach. This result support the findings of Zarruk & Madura, (1992) who said that an increase of the losses of the bank will narrowing net interest margin of the bank.

#### **2. The relationship of LLRGL towards NIM of commercial Banks in Indonesia during 2006-2015**

Based on the table 4.3; LLRGL showed a significance influence towards NIM with probability  $0.000 < 0.05$  and regression coefficient with the value of 0.2153115. LLRGL has positive influence towards NIM, which means an increase in credit risk will leads to increasing on Net Interest Margin Loan Loss Reserve to

Gross Loan is a good measurement for credit risk, and can be used as an alternate for market-based risk measures, it means the result shows that the higher you take the risk in credit the higher profit you will get.

**3. The relationship of NLDSTF towards NIM of commercial Banks in Indonesia during 2006-2015**

Based on table 4.3; NLDSTF showed a significance influence towards NIM with probability  $0.000 < 0.05$  and regression coefficient with the value of  $-0.0207913$ . NLDSTF has significant negative influence towards NIM. Net loans to Deposit & Short term Funding ratio represents that the higher ratio the less liquid bank, it means the result shows that the increase in Net Loans to Total Deposit & Borrowings will leads the decrease in Net Interest Margin which decreasing the profit of the bank, because the bank is less liquid.

**4. The relationship of NLDTB towards NIM of commercial Banks in Indonesia during 2006-2015**

Based on the table 4.3; NLDTB showed a significance influence towards NIM with probability  $0.002 < 0.05$  and regression coefficient with the value of  $-0.241406$ . NLDTB has negative influence towards NIM, which means the increase in Net Loans to Total Deposit & Borrowings will leads the decrease in Net Interest Margin. Net Loans to Total Deposit & Borrowings it represents the percentage of the total deposit locked into non-liquid asset, the result shows that the more deposit locked into non-liquid asset the less profit that the bank can get but the risk also high. This result support the findings of Molyneux & Thornton (1992) who said that there is a weak inverse relationship between liquidity with

profitability and expected that liquidity holdings reflect a cost to the bank.

**5. The relationship of CIR towards NIM of commercial Banks in Indonesia during 2006-2015**

Based on the table 4.3; CIR showed a negative influence towards NIM with probability 0.902 and regression coefficient with the value of  $-0.0021235$ . CIR has negative influence towards NIM, which means the increase in Cost to Income Ratio will leads the decrease in Net Interest Margin. Cost to Income Ratio shows how efficient the bank in minimizing the cost while increasing the profit, the result show that minimizing the cost to increase the income doesn't mean increase the profit, but the relationship is give insignificant impact. This result against the research of (Tripe, 1998) that found CIR has positive relationship with NIM, meanwhile this result support the findings of Ghosh et al., (2003) who found that CIR has negative impact towards profitability

## **CHAPTER V**

### **CONCLUSION AND RECOMMENDATION**

#### **5.1 Conclusion**

The objective in this study is to analyze the impact of Loan Quality towards Bank's Profitability in 16 biggest commercial banks in Indonesia based on the total asset with the purpose to give new suggestion for the banker to take notice with the impact of the Loan Quality towards Bank's Profitability which has the role important in economic condition.

From the analysis and study that has been conducted, the conclusion can be defined as follow:

1. There is a significant positive relationship between Impaired Loans to Gross Loans Ratio and Net Interest Margin. It means  $H_1$  is accepted.
2. There is a significant positive relationship between Loan Loss Reserve to Gross Loans and Net Interest Margin. It means  $H_1$  is accepted.
3. There is a significant negative relationship between Net Loans to Deposit and Short Term Funding and Net Interest Margin. It means  $H_1$  is accepted.
4. There is a significant negative relationship between Net Loans to Total Deposits and Borrowings and Net Interest Margin. It means  $H_1$  is accepted.
5. There is a negative relationship but insignificantly between Cost to Income Ratio and Net Interest Margin. It means  $H_1$  is rejected.

The findings show that Impaired Loans to Gross Loans; Loan Loss Reserve to Gross Loans have a positive significant impact towards NIM. On the other hand, Net Loans to Deposit and Short Term Funding; Net Loans to Total Deposits & Borrowings have a negative significant impact towards NIM. Surprisingly, even though Cost to Income Ratio has a

negative impact towards NIM but it's insignificant. Therefore, this study contributes evidence that loan quality has significant impact towards NIM.

## **5.2 Recommendation**

Since bank's profitability reflects the bank's performance which has the important role in economic, it is crucial to declare whether loan quality has relationship towards bank's profitability or not. Thus, this study would like to give recommendations as follows:

### *Banking Industry*

This study contributes evidence that loan quality is crucial for bank's profitability. Therefore, banking industry should ensure that they will seek approvable potential loan profile; and the bank must implement loan or credit regulations straight forward. This 2 (two) steps is significant for having a good quality loan for the bank.

### *Scientific*

This study contributes a scientific research that loan quality of 16 largest assets of commercial banks in Indonesia during 2006-2015 has significant impact towards bank's profitability. Therefore, this finding shows that Good Corporate Governance of loan or credit application process is crucial to determine bank's profitability. Finally, there are a strongly recommendation for the future research to analyze the effective Good Corporate Governance implementation towards loan or credit application process in banking industry through a qualitative research.



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# Appendices

## Figures

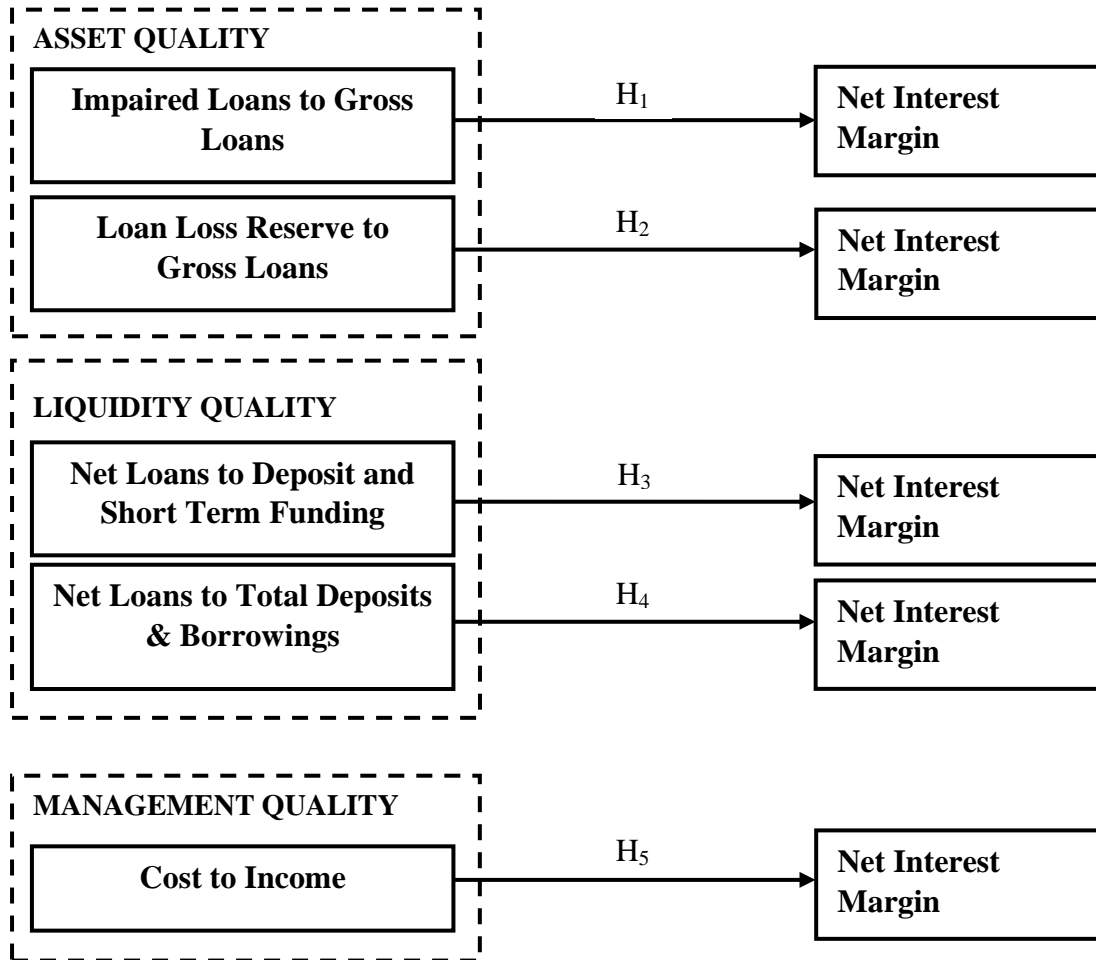


Figure 3.1: Theoretical Framework  
(Source: Adopted from Previous Study)

## Tables

**Table 3.3: Operational Definition Table**

Research Variable	Operational Definition	Formula	Previous Study	Source
<b>Dependent Variable (Y1)</b>				
Net Interest Margins	Measure how well a company is making investment decisions by comparing the income, expenses, and debt of these investments	Net Interest Income/ Average Interest Earnings Assets	Ben Naceur, S., & Goaid, M. (2008)	Bank Scope
<b>Independent Variable (X)</b>				
Impaired Loans to Gross Loans	Measure the total loans' amount which are doubtful	Impaired Loans/ Gross Loans	Akter, R., & Roy, J. K. (2017)	Bank Scope
Loan Loss Reserve to Gross Loans	Measure the credit risk	Loan Loss Reserve/ Gross Loans	(Agusman et al 2008)	Bank Scope
Net Loans to Deposit and Short Term Funding	Consider that all loans are equally illiquid	Net Loans/ Deposit and Short Term Funding	Pasiouras, F., & Kosmidou, K. (2007)	Bank Scope
Net Loans to Total Deposits & Borrowings	Measure the percentage of the bank assets that tied up in loans	Net Loans/ Total Deposits & Borrowings	(Samad, 2004)	Bank Scope
Cost to Income	Measure bank's productivity by measuring the operating expenses as a percentage of operating income.	Cost/ Income Ratio	Mathuva, D. M. (2009)	Bank Scope

**Table 4.1.****Descriptive Statistics of Dependent and Independent Variables**

	NIM _Y	ILGL	LLRGL	Net Loans to Deposit & Short- Term Funding	Net Loans to Total Deposit & Borrow ings	CIR
Mean	5.71	3.25	2.89	80.62	74.63	52.35
max	11.35	16.27	16.38	222.39	117.32	74.63
min	1.62	0.05	0.07	38.64	38.45	22.82
std. deviation	1.87	2.40	2.32	23.73	14.75	10.14
Numb Obs.	139	139	139	139	139	139

*(Source: Panel Data Regression)*

**Table 4.2.****Bank Country Rank and World Rank by Total Assets in 2015**

<b>Bank Name</b>	<b>Country rank by assets</b>	<b>World rank by assets</b>
<b>Bank Mandiri (Persero) Tbk</b>	1	324
<b>Bank Rakyat Indonesia (Persero) Tbk</b>	2	336
<b>Bank Central Asia</b>	3	472
<b>Bank Negara Indonesia (Persero) - Bank BNI</b>	4	543
<b>PT Bank CIMB Niaga Tbk</b>	5	969
<b>Bank Danamon Indonesia Tbk</b>	6	1136
<b>Bank Pan Indonesia Tbk PT-Panin Bank</b>	7	1155
<b>Bank Permata Tbk</b>	8	1158
<b>Bank Tabungan Negara (Persero)</b>	9	1206
<b>PT Bank Maybank Indonesia Tbk</b>	10	1277
<b>Bank OCBC NISP Tbk</b>	11	1493
<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>	12	1668
<b>PT Bank UOB Indonesia</b>	13	1777
<b>Bank Mega TBK</b>	14	2030
<b>Bank DBS Indonesia</b>	15	2130
<b>PT Bank Sumitomo Mitsui Indonesia</b>	16	2216

**Table 4.3.**  
**Data Panel Analysis Result**

```
. xtreg Y1 X1, re

Random-effects GLS regression           Number of obs   =       139
Group variable: BankName                Number of groups =       16

R-sq:                                   Obs per group:
    within = 0.0405                      min =           7
    between = 0.0311                     avg =          8.7
    overall = 0.0324                      max =          10

                                         Wald chi2(1)    =       5.57
corr(u_i, X) = 0 (assumed)               Prob > chi2     =       0.0183
```

Y1	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
X1	.1115538	.0472599	2.36	0.018	.0189262	.2041814
_cons	5.315474	.4420358	12.02	0.000	4.4491	6.181849
sigma_u	1.6289096					
sigma_e	1.0271488					
rho	.71549994 (fraction of variance due to u_i)					

```
. xtreg Y1 X2, re

Random-effects GLS regression           Number of obs   =       160
Group variable: BankName                Number of groups =       16

R-sq:                                   Obs per group:
    within = 0.1387                      min =           10
    between = 0.1597                     avg =          10.0
    overall = 0.1391                      max =           10

                                         Wald chi2(1)    =       25.13
corr(u_i, X) = 0 (assumed)               Prob > chi2     =       0.0000
```

Y1	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
X2	.2153115	.0429472	5.01	0.000	.1311365	.2994864
_cons	5.084116	.411899	12.34	0.000	4.276809	5.891423
sigma_u	1.5443559					
sigma_e	.93975037					
rho	.72977786 (fraction of variance due to u_i)					



. xtreg Y1 X3, re

```

Random-effects GLS regression           Number of obs   =       160
Group variable: BankName                Number of groups =        16

R-sq:                                    Obs per group:
    within = 0.0888                       min =           10
    between = 0.0859                      avg =          10.0
    overall = 0.0861                      max =           10

Wald chi2(1) =       15.32
corr(u_i, X) = 0 (assumed)               Prob > chi2     =       0.0001

```

Y1	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
X3	-.0207913	.0053118	-3.91	0.000	-.0312022	-.0103803
_cons	7.383527	.5920148	12.47	0.000	6.223199	8.543854
sigma_u	1.6114788					
sigma_e	.96655034					
rho	.73542978	(fraction of variance due to u_i)				

. xtreg Y1 X4, re

```

Random-effects GLS regression           Number of obs   =       160
Group variable: BankName                Number of groups =        16

R-sq:                                    Obs per group:
    within = 0.0610                       min =           10
    between = 0.0159                      avg =          10.0
    overall = 0.0272                      max =           10

Wald chi2(1) =       9.55
corr(u_i, X) = 0 (assumed)               Prob > chi2     =       0.0020

```

Y1	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
X4	-.0241406	.0078118	-3.09	0.002	-.0394515	-.0088298
_cons	7.509009	.7209524	10.42	0.000	6.095968	8.922049
sigma_u	1.6733325					
sigma_e	.98121477					
rho	.74413303	(fraction of variance due to u_i)				

```
. xtreg Y1 X5, re
```

```
Random-effects GLS regression           Number of obs   =       160
Group variable: BankName                Number of groups =        16

R-sq:                                    Obs per group:
    within = 0.0004                       min =          10
    between = 0.0047                      avg =         10.0
    overall = 0.0024                       max =          10

corr(u_i, X) = 0 (assumed)                Wald chi2(1)    =         0.02
                                           Prob > chi2     =         0.9024
```

Y1	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
X5	-.0021235	.0173085	-0.12	0.902	-.0360475	.0318005
_cons	5.818581	1.00147	5.81	0.000	3.855735	7.781427
sigma_u	1.6813835					
sigma_e	1.0123842					
rho	.73392286	(fraction of variance due to u_i)				

Y1: NIM

X1: Impaired Loans/Gross Loans (Asset Quality – proxy1)

X2: Loan Loss Reserve/Gross Loans (Asset Quality – proxy 2)

X3: Net Loans/Deposit and Short-term Funding (Liquidity Quality – proxy 1)

X4: Net Loans/Total Deposit and Borrowing (Liquidity Quality – proxy 2)

X5: Cost to Income Ratio (Management Quality)

## RAW DATA

Year	Bank Name	ILGL %	LLRGL %	NLSDTF %	NLTDB %	CIR %	NIM %
2006	Bank Central Asia	1.28	2.84	39.33	39.15	43.69	6.91
2007	Bank Central Asia	0.8	2.13	42.8	42.55	47.36	5.79
2008	Bank Central Asia	0.59	2.49	52.04	51.91	41.99	6.15
2009	Bank Central Asia		3.45	48.98	48.88	44.01	6.3
2010	Bank Central Asia		2.48	54.4	54.31	47.08	4.78
2011	Bank Central Asia	0.22	1.85	61.56	61.47	44.06	5.46
2012	Bank Central Asia	0.22	1.56	69.13	68.61	46.57	6.04
2013	Bank Central Asia	0.18	1.79	75.53	74.96	43.38	6.37
2014	Bank Central Asia	0.05	1.95	76.76	75.99	44.45	6.94
2015	Bank Central Asia	0.05	2.35	80.87	80.13	45.36	7.38
2006	Bank CIMB Niaga Tbk	3.46	2.1	83.08	82.6	49.04	5.6
2007	Bank CIMB Niaga Tbk	3.01	2.45	75.65	74.91	52.2	6.97
2008	Bank CIMB Niaga Tbk	2.47	2.32	85.16	83.25	57.77	5.49
2009	Bank CIMB Niaga Tbk	3.02	3.24	91.49	90.29	49.01	6.52
2010	Bank CIMB Niaga Tbk	2.51	3.17	83.27	82.12	47.99	6.8
2011	Bank CIMB Niaga Tbk	3.6	2.72	91.37	87.07	50.3	5.97
2012	Bank CIMB Niaga Tbk	2.68	2.58	91.54	85.75	46.8	5.82
2013	Bank CIMB Niaga Tbk	3.22	2.61	91.18	85.07	47.88	5.4
2014	Bank CIMB Niaga Tbk	4.78	3.47	94.43	88.8	51.53	5.52

### RAW DATA (Cont.)

Year	Bank Name	ILGL %	LLRGL %	NLSDTF %	NLTDB %	CIR %	NIM %
2015	Bank CIMB Niaga Tbk	5.02	4.18	88.92	85.82	56.01	5.62
2006	Bank Danamon Indonesia Tbk	3.17	3.45	66.47	63.53	51.16	9.54
2007	Bank Danamon Indonesia Tbk	2.18	2.93	79.14	73.67	49.9	10.51
2008	Bank Danamon Indonesia Tbk	2.24	2.45	81.25	74.51	57.24	11.04
2009	Bank Danamon Indonesia Tbk		3.61	84.28	79.06	50.17	10.74
2010	Bank Danamon Indonesia Tbk		3.28	94.74	85.62	50.03	10.58
2011	Bank Danamon Indonesia Tbk	3.14	2.62	100.34	91.31	51.64	9.26
2012	Bank Danamon Indonesia Tbk	2.98	2.57	107.52	96.53	50.84	9.43
2013	Bank Danamon Indonesia Tbk	3.03	2.39	103.64	94.21	52.43	8.66
2014	Bank Danamon Indonesia Tbk	3.97	2.86	100.23	91.11	55.52	8.12
2015	Bank Danamon Indonesia Tbk	5.49	3.46	94.66	89.28	49.8	8.28
2006	Bank DBS Indonesia	1.52	0.99	75.76	75.04	57.02	3.76
2007	Bank DBS Indonesia	0.84	0.99	85.05	81.49	53.26	3.95
2008	Bank DBS Indonesia	2.18	1.31	76.84	74.86	56.49	3.28
2009	Bank DBS Indonesia	2.18	1.89	62.74	62.45	65.08	3.41
2010	Bank DBS Indonesia	2.26	2.07	82.06	81.82	61.86	3.34

### RAW DATA (Cont.)

Year	Bank Name	ILGL %	LLRGL %	NLSDTF %	NLTDB %	CIR %	NIM %
2011	Bank DBS Indonesia	2.47	1.94	87.78	87.45	56.66	3.76
2012	Bank DBS Indonesia	1.49	1.53	82.99	82.71	48.53	4.06
2013	Bank DBS Indonesia	2.12	1.74	88.09	86.04	43.71	3.92
2014	Bank DBS Indonesia	6.4	3.05	83.23	76.19	51.91	4.34
2015	Bank DBS Indonesia	7.5	2.98	84.01	81.97	60.62	4.11
2006	Bank Mandiri Tbk	16.27	12.61	47.04	46.3	52.47	4.54
2007	Bank Mandiri Tbk	8.61	9.72	48.32	46.63	50.79	5.11
2008	Bank Mandiri Tbk	4.72	6.97	54.43	52.74	47.17	5.17
2009	Bank Mandiri Tbk		6.27	56	55.33	46.01	5.14
2010	Bank Mandiri Tbk	6.17	4.66	63.29	62.34	42.19	5.36
2011	Bank Mandiri Tbk	5.53	3.85	69.22	67.39	45.59	5.13
2012	Bank Mandiri Tbk	4.62	3.63	75.22	73.48	44.5	5.16
2013	Bank Mandiri Tbk	4.5	3.53	79.15	77.09	42.43	5.22
2014	Bank Mandiri Tbk	4.63	3.42	76.56	74.51	42.71	5.59
2015	Bank Mandiri Tbk	7.02	3.86	81.55	78.38	41.02	6.06
2006	Bank Maybank Indonesia Tbk	5.66	2.92	63.61	58.54	62.05	5.7
2007	Bank Maybank Indonesia Tbk	3.4	2.31	78.86	69.62	62.74	5.27
2008	Bank Maybank Indonesia Tbk	3.2	2.66	84.56	77.9	64.66	5.48
2009	Bank Maybank Indonesia Tbk		2.33	77.76	74.23	63.4	6.02
2010	Bank Maybank Indonesia Tbk	4.86	2.63	84.87	81.93	64.7	6.11

### RAW DATA (Cont.)

Year	Bank Name	ILGL %	LLRGL %	NLSDTF %	NLTDB %	CIR %	NIM %
2011	Bank Maybank Indonesia Tbk	2.29	1.77	85.87	82.06	65.84	5.43
2012	Bank Maybank Indonesia Tbk	2.19	1.39	88.84	82.11	60.88	5.39
2013	Bank Maybank Indonesia Tbk	2.85	1.03	90.6	84.38	60.46	4.93
2014	Bank Maybank Indonesia Tbk	3.34	1.32	95.17	89.39	64.29	4.84
2015	Bank Maybank Indonesia Tbk	3.83	1.81	88.09	84.59	58.76	4.99
2006	Bank Mega Tbk	1.68	1.49	38.64	38.45	67.76	3.05
2007	Bank Mega Tbk	1.53	1.45	45.23	44.61	48.26	4.85
2008	Bank Mega Tbk	1.18	1.35	63.17	62.8	55.63	5.25
2009	Bank Mega Tbk		1.54	53.42	53.31	60.74	4.82
2010	Bank Mega TBK		1.17	52.56	52.27	55.78	6.35
2011	Bank Mega Tbk	0.98	1.23	57.6	57.23	61.32	6.99
2012	Bank Mega Tbk	2.1	1.25	47.07	47.07	59.27	6.8
2013	Bank Mega Tbk	2.17	1.3	50.57	50.57	73	4.81
2014	Bank Mega Tbk	2.09	1.41	57.42	57.41	69	4.81
2015	Bank Mega Tbk	2.81	2.01	57.69	57.66	57.92	5.87
2006	Bank Negara Indonesia	10.29	5.98	44.67	43.42	61.13	5.49
2007	Bank Negara Indonesia	8.39	6.32	54.94	52.74	65.76	5
2008	Bank Negara Indonesia	4.85	5.16	62.87	59.79	53.7	5.92
2010	Bank Negara Indonesia	7	5.1	66.76	63.18	50.42	5.28

**RAW DATA (Cont.)**

<b>Year</b>	<b>Bank Name</b>	<b>ILGL %</b>	<b>LLRGL %</b>	<b>NLSDTF %</b>	<b>NLTDB %</b>	<b>CIR %</b>	<b>NIM %</b>
<b>2011</b>	<b>Bank Negara Indonesia</b>	<b>5.54</b>	<b>4.23</b>	<b>65.6</b>	<b>63.19</b>	<b>52.98</b>	<b>5.44</b>
<b>2012</b>	<b>Bank Negara Indonesia</b>	<b>2.81</b>	<b>3.44</b>	<b>71.67</b>	<b>70.31</b>	<b>53.29</b>	<b>5.42</b>
<b>2013</b>	<b>Bank Negara Indonesia</b>	<b>2.16</b>	<b>2.75</b>	<b>77.39</b>	<b>75.66</b>	<b>49.2</b>	<b>5.78</b>
<b>2014</b>	<b>Bank Negara Indonesia</b>	<b>1.96</b>	<b>2.51</b>	<b>81.82</b>	<b>80.17</b>	<b>46.49</b>	<b>6.32</b>
<b>2015</b>	<b>Bank Negara Indonesia</b>	<b>2.67</b>	<b>3.69</b>	<b>78.36</b>	<b>76.73</b>	<b>49.04</b>	<b>6.57</b>
<b>2009</b>	<b>Bank Negara Indonesia</b>		<b>5.73</b>	<b>58.86</b>	<b>57.17</b>	<b>53.26</b>	<b>5.77</b>
<b>2006</b>	<b>Bank OCBC NISP Tbk</b>	<b>2.48</b>	<b>1.52</b>	<b>78.52</b>	<b>76.51</b>	<b>65.44</b>	<b>4.64</b>
<b>2007</b>	<b>Bank OCBC NISP Tbk</b>		<b>1.48</b>	<b>84.12</b>	<b>81.16</b>	<b>69.2</b>	<b>5.06</b>
<b>2008</b>	<b>Bank OCBC NISP Tbk</b>	<b>2.72</b>	<b>2.09</b>	<b>74.9</b>	<b>72.17</b>	<b>66.15</b>	<b>5.11</b>
<b>2009</b>	<b>Bank OCBC NISP Tbk</b>		<b>2.84</b>	<b>69.47</b>	<b>68.92</b>	<b>61.55</b>	<b>5.53</b>
<b>2010</b>	<b>Bank OCBC NISP Tbk</b>	<b>1.93</b>	<b>2.03</b>	<b>78.57</b>	<b>77.91</b>	<b>62.36</b>	<b>5.17</b>
<b>2011</b>	<b>Bank OCBC NISP Tbk</b>	<b>1.22</b>	<b>1.76</b>	<b>85.26</b>	<b>84.54</b>	<b>58.59</b>	<b>4.64</b>
<b>2012</b>	<b>Bank OCBC NISP Tbk</b>	<b>0.36</b>	<b>1.93</b>	<b>79.63</b>	<b>79.51</b>	<b>56.95</b>	<b>4.14</b>
<b>2013</b>	<b>Bank OCBC NISP Tbk</b>	<b>0.73</b>	<b>1.97</b>	<b>85.26</b>	<b>80.44</b>	<b>55.34</b>	<b>4.02</b>
<b>2014</b>	<b>Bank OCBC NISP Tbk</b>	<b>1.34</b>	<b>2.09</b>	<b>84.66</b>	<b>81.58</b>	<b>55.49</b>	<b>4.26</b>
<b>2015</b>	<b>Bank OCBC NISP Tbk</b>	<b>1.3</b>	<b>2.14</b>	<b>88.46</b>	<b>85.88</b>	<b>53.45</b>	<b>4.49</b>
<b>2006</b>	<b>Bank Pan Indonesia Tbk</b>	<b>7.93</b>	<b>6.92</b>	<b>62.45</b>	<b>57.09</b>	<b>48.03</b>	<b>4.9</b>
<b>2007</b>	<b>Bank Pan Indonesia Tbk</b>	<b>2.99</b>	<b>2.57</b>	<b>78.13</b>	<b>68.34</b>	<b>48.42</b>	<b>5.94</b>
<b>2008</b>	<b>Bank Pan Indonesia Tbk</b>	<b>4.29</b>	<b>3.6</b>	<b>75.18</b>	<b>66.24</b>	<b>50.08</b>	<b>5.04</b>
<b>2009</b>	<b>Bank Pan Indonesia Tbk</b>	<b>3.15</b>	<b>3.02</b>	<b>68.33</b>	<b>63.5</b>	<b>43.78</b>	<b>5.16</b>
<b>2010</b>	<b>Bank Pan Indonesia Tbk</b>	<b>4.23</b>	<b>2.96</b>	<b>70.62</b>	<b>61.95</b>	<b>45.6</b>	<b>5.11</b>

**RAW DATA (Cont.)**

<b>Year</b>	<b>Bank Name</b>	<b>ILGL %</b>	<b>LLRGL %</b>	<b>NLSDTF %</b>	<b>NLTDB %</b>	<b>CIR %</b>	<b>NIM %</b>
2011	Bank Pan Indonesia Tbk	3.45	2.81	72.92	67.52	49.24	4.92
2012	Bank Pan Indonesia Tbk	3.34	1.41	77.98	74.86	46.86	4.4
2013	Bank Pan Indonesia Tbk	3.55	1.67	81.43	78.57	47.82	3.97
2014	Bank Pan Indonesia Tbk	3.42	1.7	87.26	85.53	50.58	3.65
2015	Bank Pan Indonesia Tbk	4.35	2.18	89.85	87.6	53.92	4.05
2006	Bank Permata Tbk	6.4	4.31	73.94	72.34	66.12	6.55
2007	Bank Permata Tbk	4.55	4.49	81.38	79.53	64.57	7.32
2008	Bank Permata Tbk	3.52	3.88	77.87	76.21	70.11	6.5
2009	Bank Permata Tbk		4.09	85.91	85.25	65.46	6.07
2010	Bank Permata Tbk		2.92	85.76	85.44	62.21	5.62
2011	Bank Permata Tbk		1.92	81.09	81.07	61.88	5.03
2012	Bank Permata Tbk	1.27	1.42	87.64	87.63	61.97	4.61
2013	Bank Permata Tbk	1.21	1.17	87.66	86.63	60.89	3.7
2014	Bank Permata Tbk	1.92	1.5	87.48	86.62	56.53	3.44
2015	Bank Permata Tbk	6.08	2.8	85.17	84.68	52.43	3.91
2006	Bank Rakyat Indonesia Tbk	4.77	7.49	66.09	65.13	50.08	11.14
2007	Bank Rakyat Indonesia Tbk	3.41	6.17	63.96	62.99	48.55	11.35
2008	Bank Rakyat Indonesia Tbk	2.8	5.02	74.66	73.29	49.21	10.3
2009	Bank Rakyat Indonesia Tbk	3.47	5.51	75.41	71.6	45.44	9.09
2010	Bank Rakyat Indonesia Tbk	2.71	5.53	70.37	68.43	41.92	10.08
2011	Bank Rakyat Indonesia Tbk	3.23	5.46	68.66	68.63	44.49	8.03



### RAW DATA (Cont.)

Year	Bank Name	ILGL %	LLRGL %	NLSDTF %	NLTDB %	CIR %	NIM %
2012	Bank Rakyat Indonesia Tbk	3.24	4.06	74.05	74.01	43.47	7.24
2013	Bank Rakyat Indonesia Tbk	2.95	3.37	85.48	84.22	42.65	7.93
2014	Bank Rakyat Indonesia Tbk	3.88	3.17	74.03	72.68	43.98	7.94
2015	Bank Rakyat Indonesia Tbk	4.65	3.01	80.16	76.37	44.24	7.96
2006	Bank Sumitomo Mitsui Indonesia	2.99	1.74	123.78	117.32	22.99	6.06
2007	Bank Sumitomo Mitsui Indonesia	1	1.24	85.06	81.82	33.55	4.22
2008	Bank Sumitomo Mitsui Indonesia		1.19	107.76	93.74	23.98	3.38
2009	Bank Sumitomo Mitsui Indonesia	0.55	1.16	97.54	77.58	27.6	2.99
2010	Bank Sumitomo Mitsui Indonesia	0.88	0.32	116.27	94.18	25.54	2.54
2011	Bank Sumitomo Mitsui Indonesia	0.69	0.32	188.88	103.52	24.52	2.68
2012	Bank Sumitomo Mitsui Indonesia	0.7	0.22	155.48	89.81	24.58	1.97
2013	Bank Sumitomo Mitsui Indonesia	0.38	0.13	175.65	91.37	22.82	1.62
2014	Bank Sumitomo Mitsui Indonesia	0.07	0.08	222.39	102.19	28.56	2.3
2015	Bank Sumitomo Mitsui Indonesia	0.05	0.07	142.88	97.51	31.67	2.46
2006	Bank Tabungan Negara	3.91	3.09	78.82	60.28	66.02	5.32
2007	Bank Tabungan Negara	4.05	2.26	87.94	68.92	69.71	5.51

### RAW DATA (Cont.)

Year	Bank Name	ILGL %	LLRGL %	NLSDTF %	NLTDB %	CIR %	NIM %
2008	Bank Tabungan Negara	3.19	1.82	93.79	80.01	68.65	5.34
2009	Bank Tabungan Negara		1.82	84.26	79.28	68.73	4.83
2010	Bank Tabungan Negara	3.33	1.71	90.95	85.72	53.31	5.82
2011	Bank Tabungan Negara	2.76	1.49	86.17	79.91	62.5	5.34
2012	Bank Tabungan Negara	4.16	1.21	90.45	81.17	61.48	5.02
2013	Bank Tabungan Negara	4.19	1.13	97.75	86.34	59.98	4.81
2014	Bank Tabungan Negara	0.38	1.36	99.16	90.05	64.98	4.24
2015	Bank Tabungan Negara	0.44	1.48	97.9	90.2	57.9	4.77
2006	Bank UOB Indonesia	4.39	2.35	76.48	76.35	49.23	7.97
2007	Bank UOB Indonesia	3.34	1.61	86.95	86.84	56.43	7.28
2008	Bank UOB Indonesia	2.51	1.62	87.08	86.9	64.3	7.12
2009	Bank UOB Indonesia		1.81	85.71	85.63	52.84	7.49
2010	Bank UOB Indonesia		1.52	88.35	88.21	48.73	6.37
2011	Bank UOB Indonesia		1.25	82.9	82.76	55.05	5.62
2012	Bank UOB Indonesia	1.81	1.12	89.58	89.37	54.64	5.42
2013	Bank UOB Indonesia	1.63	0.66	88.1	87.57	58.63	4.89
2014	Bank UOB Indonesia	3.72	1.16	86.48	86.14	61.32	4.56
2015	Bank UOB Indonesia	2.68	1.28	86.09	84.6	65.75	4.22

**RAW DATA (Cont.)**

<b>Year</b>	<b>Bank Name</b>	<b>ILGL %</b>	<b>LLRGL %</b>	<b>NLSDTF %</b>	<b>NLTDB %</b>	<b>CIR %</b>	<b>NIM %</b>
<b>2006</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>	<b>3.12</b>	<b>4.97</b>	<b>59.32</b>	<b>49.04</b>	<b>46.51</b>	<b>8.37</b>
<b>2007</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>	<b>8.17</b>	<b>10.55</b>	<b>54.96</b>	<b>46.26</b>	<b>46.89</b>	<b>8.55</b>
<b>2008</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>	<b>9.19</b>	<b>10.83</b>	<b>54.24</b>	<b>46.74</b>	<b>52.88</b>	<b>8.77</b>
<b>2009</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>	<b>10.45</b>	<b>10.85</b>	<b>58.6</b>	<b>47.98</b>	<b>50.37</b>	<b>6.33</b>
<b>2010</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>		<b>16.38</b>	<b>57.57</b>	<b>50.45</b>	<b>51.43</b>	<b>5.87</b>
<b>2011</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>		<b>2.65</b>	<b>74.07</b>	<b>66.75</b>	<b>53.56</b>	<b>5</b>

**RAW DATA (Cont.)**

<b>Year</b>	<b>Bank Name</b>	<b>ILGL %</b>	<b>LLRGL %</b>	<b>NLSDTF %</b>	<b>NLTDB %</b>	<b>CIR %</b>	<b>NIM %</b>
<b>2012</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>	<b>1.14</b>	<b>1.37</b>	<b>67.02</b>	<b>64.73</b>	<b>48.34</b>	<b>4.93</b>
<b>2013</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>	<b>0.47</b>	<b>0.83</b>	<b>73.35</b>	<b>71.16</b>	<b>46.17</b>	<b>4.2</b>
<b>2014</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>	<b>1.5</b>	<b>1.31</b>	<b>91.64</b>	<b>85.7</b>	<b>43.83</b>	<b>3.77</b>
<b>2015</b>	<b>Hongkong and Shanghai Banking Corporation Limited (The) - Indonesian branches</b>	<b>4.42</b>	<b>1.73</b>	<b>113.8</b>	<b>108.84</b>	<b>47.44</b>	<b>4.15</b>