



**INVESTIGATING THE IMPACT OF BANKS'
SOUNDNESS AND MACROECONOMICS TOWARDS
BANKS' PERFORMANCE**

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SUPERVISOR AND EXAMINER PAGE

This page declares that the skripsi entitled **“INVESTIGATING THE IMPACT OF BANK’S SOUNDNESS AND MACROECONOMICS TOWARDS BANK’S PERFORMANCE”** that submitted by Alexander William Candra majoring in Management from the School of Business and approved to have passed the Oral Examinations on December 5th, 2016.

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RECOMMENDATION LETTER

This skripsi entitled **“INVESTIGATING THE IMPACT OF BANKS’ SOUNDNESS AND MACROECONOMICS TOWARDS BANKS’ PERFORMANCE”** prepared and submitted by Alexander William Candra in partial fulfillment of the requirements for the degree of Bachelor in the Faculty of Business has been reviewed and found to have satisfied the requirements for a skripsi fit to be examined. I, therefore, recommend this skripsi for Oral Defense.

Cikarang, Indonesia, 24th November 2016

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ABSTRACT

The aim of this study is to find out the influence of internal factors (CAMEL) and decile-1 external factors (GDP growth, inflation rate, Gini coefficient) towards bank performance at Indonesia commercial active bank with national coverage area for period 2011-2015. The type of data that used in this study was secondary data. Through purposive sampling, this study examined 180 observations from thirty-six commercial banks which fulfill the criteria. Internal variables were capital adequacy, asset quality, management efficiency, earning quality, liquidity and external variables were GDP growth $_{(t-1)}$, inflation rate $_{(t-1)}$, and Gini coefficient $_{(t-1)}$, towards return on average equity. Panel data regression was performed to find out the significance level of independent variable towards dependent variable in Indonesia commercial banks. Analysis revealed that some independent variable had a significance influence towards return on average equity which was CAR, IMPL, CINC, NIM, LDR, GDP, and INF in the commercial bank sector in Indonesia. Researcher believes that this is the first study, which applies CAMEL and decile-1 Macroeconomics factors (GDP growth, Inflation rate, and Gini coefficient) in the commercial banking sector with national coverage context.

Keywords: *CAMEL; Bank Soundness; Macroeconomics; Bank Performance*

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CHAPTER I

INTRODUCTION

1.1. Background

The global financial crisis that started in 2008 led a crucial turning point in the global financial system (Park et al, 2013). Its origins lay in market failure in the US housing and financial markets, its exposure of house growth financial imbalances in a number of advanced economies, typically depict the overreliance on funding sources by the banking system and asset bubbles in residential property markets, well-known as subprime mortgage. The demand for housing is delicate to money-market interest and accommodative policy (Taylor, 2010). European banks that had invested big amount of capital in American mortgage market were hit hard, thus government also try to bail-out some European banks like German, France, UK, Ireland, Denmark, Netherlands, and Belgium from banks' failure (European Commission, 2014).

The financial distress to the real economy condition affect the credit confidence hence hitting business investment and household demand, notably for consumer demand and housing. Cross-border was also extremely rapid, due to close connection in financial system and integrated supply chain in global product market. Therefore, Buti (2009) projected that European real GDP was shrinking by approximately 4%, the incisive degradation in its history. Farquee and Das (2013) said that the crisis had a disproportionate impact between the advanced economics countries and developing countries.

Although Indonesia position strengthen by its economic growth with 6.3% in 2007 and reach the highest level of stock market in 2008, the impact of global economic downturn cannot be resisted forever. In the last period, the impact of American crisis feels very strong towards Indonesia, it can be seen by several indicators which are the significant declining of capital market, the declining of currency exchange until the liquidity problem that face by banking sector in Indonesia (Sugema, 2012).

Figure 1.1: Indonesia Export and Import Data, 2007-2010

The declining of export and import demand on 2008-2009 have been another indicators of the impact global economic crisis towards Indonesia (Sugema, 2012).

Figure 1.2: NIM, ROAA, ROAE of Indonesian banks, 2007-2010

With shuffling Indonesian commercial banks still survive in the middle of onslaught world's financial crisis, with maintaining their earnings that shows by Net Interest Margin.

1.2. Problem Identification

Basel II that has just produce CAMELS was questioned if it contained several shortcoming regarding the condition in the OECD countries that were shrinking by the unfolding sub-prime mortgage crisis in the US, in spite of the fact that Basel Committee and the major OECD (Organization for Economic Co-operation and Development) countries are the one who created that agreement. In the non-OECD world point of view, future problems are discussed (Helmreich and Jager, 2008).

Although Basel II was established by OECD countries, this new regulation are supposed to be applied in the rest of the world. In general, it is discussed that Basel II causes problems for developing countries such as Indonesia, since it is more difficult for developing countries to reach the high technical standards which banks and also regulatory institutions are required to provide (Helmreich and Jager, 2008). The impact of pro-cyclicality that tend to follow economy cycle is the intermediation become hampered when crisis happen. Vice versa, the growing of credit could be unstoppable when the economy growth rapid.

Macroeconomics plays an important role in determining Banks' Performance. There is a general discussion that says high interest rate cause for aggregate economic performance. Interest rates has a negative relationship with economic growth, thus a reduction of the rate will therefore increase investment as well as economic growth (Hidayat et al 2015). In other hand, macroeconomics past period will also effecting banks' performance in current condition. Zhang and Dong (2011) analyzed the profitability of the US banking sector with specific characteristic and macroeconomics, and shows a result that GDP, interest rate were significant in explaining banks' performance.

1.3. Need of Study

As stated in Problem Identification section, CAMELS as the Basel Accord is considered as non-applicable approach that only focus on OECD countries. The purpose of this study is to determine the impact of banks' soundness using CAMEL as an approach and Macroeconomics that represented by GDP growth $_{(t-1)}$, Inflation rate $_{(t-1)}$, and Gini coefficient $_{(t-1)}$ on Indonesian commercial banks with national coverage in 2011-2015.

1.4. Research Questions

The research objectives can be converted into the following research questions:

1. Is there any significance influence of Capital Adequacy towards ROAE?
2. Is there any significance influence of Asset Quality towards ROAE?
3. Is there any significance influence of Management Efficiency towards ROAE?
4. Is there any significance influence of Earnings Quality towards ROAE?
5. Is there any significance influence of Liquidity towards ROAE?
6. Is there any significance influence of GDP growth $_{(t-1)}$ towards ROAE?
7. Is there any significance influence of Inflation rate $_{(t-1)}$ towards ROAE?
8. Is there any significance influence of Gini coefficient $_{(t-1)}$ towards ROAE?

Those research questions above will be examined in order to analyze the impact of bank soundness through CAMEL approach, and decile-1 macroeconomics factors towards bank performance that will be represented by ROAE.

1.5. Research Objectives

This study is conducted based on several variables that need to be discussed such as CAMEL, GDP growth $(t-1)$, Inflation rate $(t-1)$, Gini coefficient $(t-1)$, and Return on Average Equity (ROAE), therefore this study has the following objectives:

1. To find out the influence of Capital Adequacy towards Return on Average Equity
2. To find out the influence of Asset Quality towards Return on Average Equity
3. To find out the influence of Management Efficiency towards Return on Average Equity
4. To find out the influence of Earning Quality towards Return on Average Equity
5. To find out the influence of Liquidity towards Return on Average Equity
6. To find out the influence of GDP growth $(t-1)$ towards Return on Average Equity
7. To find out the influence of Inflation rate $(t-1)$ towards Return on Average Equity
8. To find out the influence of Gini coefficient $(t-1)$ towards Return on Average Equity

This study focuses to analyze the impact of current value of bank soundness and decile-1 macroeconomics factors, that are represented by $(t-1)$, towards bank performance of 36 commercial banks in Indonesia.

1.6. Significance of Study

The findings of this study will contribute to the benefit of banking sectors considering that banking sector play an important role to country's economic condition. The greater the amount of literature that discuss bank's financial performance, thus makes future researchers are able to predict accurately about economic condition of a country. For practitioners and bankers, this study will

enables new strategies to be developed in order to improve banks' performance considering internal and external factors.

1.7. Limitation

This study is conducted with certain scope and limitation. The main goal of setting the scope and limitation is to make the study more detail yet depth understanding. The scope and limitation of this study is regarding the number of banks that chosen as sample and also the period of time.

This study will focus on 36 Indonesian commercial banks which are Bank Artha Graha, Bank Bumi Arta, Bank Central Asia, Bank Danamon Indonesia, Bank DBS Indonesia, Bank Ekonomi Rahardja, Bank Mandiri, Bank Maspion, Bank Mega, Bank BNI, Bank OCBC, Bank Pan Indonesia, Bank Permata, Bank QNB, Bank Rabobank, Bank Rakyat Indonesia, Bank SBI, Bank Sinarmas, Bank Tabungan Negara, Bank Victoria, Bank Andara, Bank ANZ Indonesia, Bank Bukopin, Bank CIMB Niaga, Bank CTBC Indonesia, Bank ICBC Indonesia, Bank KEB Hana, Bank Mayapada International, Bank Maybank Indonesia, Bank Mizuho Indonesia, Bank BRI Agroniaga, Bank Resona Perdania, Bank Sahabat Sampoerna, Bank Sumitomo Mitsui Indonesia, Bank UOB Indonesia, and Bank Woori Saudara Indonesia, in national coverage. This research will discuss the influence of CAMEL (Capital Adequacy, Asset Quality, Management Efficiency, Earning Quality, and Liquidity) approach as an internal factors and GDP growth $(t-1)$, Inflation rate $(t-1)$, and Gini coefficient $(t-1)$ as external factor that may affect banks' performance that represented by ROAE from year 2011 until 2015.

1.8. Organization of Research

This study shows how internal components that represented banks soundness by CAMEL (Capital Adequacy, Asset Quality, Management Efficiency, Earning Quality, and Liquidity) and external components that represented decile-1 macroeconomics such as GDP growth $(t-1)$, Inflation rate $(t-1)$, and Gini coefficient $(t-1)$ will affect Banks' Performance. Chapter 2 provides a detail information about

each dependent and independent variables that being used by the researcher, some previous study that studied CAMEL and Macroeconomics as well as the explanation of research gap that underlie this study. Chapter 3 discuss about the theoretical framework, hypothesis statement, and also the sampling and instrument that being used by researcher. In Chapter 4, researcher will breakdown the result of this study using Panel Data Regression. And the last but not least, Chapter 5 provides an answer of the hypothesis as well as the recommendations.

CHAPTER II

LITERATURE REVIEW

2.1. Introduction

The global financial crisis has not directly affected economic conditions in Indonesia in comparison to its impact on other countries (Hartono, 2011). Indonesia shows improvement in the economy sector starting from year 2000, but due to the sub-prime mortgage crisis in 2008, Indonesia suffered for the second time after the Independence Day. After struggling with the US Crisis, Indonesia had to face another indirect crisis in year 2010 due to the European Sovereign Debt Crisis that was triggered by Ireland, Greece and Portugal (Becker, 2015).

This chapter provides the literatures related to this study with the concept of the CAMEL approach, GDP growth $(t-1)$, Inflation rate $(t-1)$, Gini coefficient $(t-1)$ and Banks' Performance in Indonesia. Theories of both dependent variable and independent variables are discussed as to define the variables themselves and to explain the influences among the variables.

2.2. Bank Performance

Indonesian banking conditions show a slight decline in the current year due to the world's economic slowdown. This condition significantly increases the number of Non-Performing Loans (NPL). Nowadays, banks prefer to limit corporate credit and move it to Small and Medium Enterprises (SME) credit that has a lower risk. Despite the poor condition in the current year, Bank Indonesia as a regulator is optimistic that Indonesia could pass this situation with their experiences before because they already learned from the back-year crisis and applied better risk management as well as good corporate governance.

Banks' Performance is usually measured by the level of its profits and a bank's profitability can be measured by the Return on Average Equity (ROAE). ROAE indicates the return to shareholders on their equity (Said and Tumin, 2013). Ross et

al (2015) said that Return on Equity (ROE) is the true bottom line measure of company performance. Banks with higher equity ratio supposed to be have higher return on assets (Naifar, 2010). In this study, researcher use ROAE to discuss about Indonesian bank performance in order to find the variable that influence by internal and external factors.

2.3. CAMEL

Basel II resulted CAMELS as their accord. This study focus on CAMEL without considering market sensitivity (S) due to the least number of Indonesian public listed banks. CAMEL approach was developed by Basel Committee in Switzerland as a measurement tools of banking financial condition. CAMEL analysis helps to examine banks' soundness and alert the banks to take preventive action for its sustainability (Siva and Natarjan, 2011). CAMEL represents, Capital Adequacy (C), Asset Quality (A), Management Efficiency (M), Earnings Quality (E), and Liquidity (L).

2.3.1. Capital Adequacy

Vong and Chan (2016) stated that the dimension of Capital Adequacy is an important factor to help the bank in understanding the shock attractive capability during risk. Capital Adequacy Ratio ensure that bank enable to deal with any unexpected condition because of credit risk, market risk, exchange risk, and interest risk. CAR has positive relationship with return on assets (ROA), in the other hand, has inversely relates to return on equity (ROE) (Ankenbrand, 2015). This study adopts Capital Adequacy Ratio data of Indonesian commercial banking to represent Capital Adequacy of CAMEL approach.

2.3.2. Asset Quality

Deteriorated loans have been a relevant problem in the financial crisis (Merrouche and Nier, 2010). In this study, researcher start to adopt Impaired Loans to Gross

Loans as a proxy of Asset Quality. Sheshzad et al (2010) stated that Impaired Loans to Gross Loans measure the amount of total loans which are doubtful. Asset Quality helps bank to measure the risk of debtor's point of view. This ratio will benefit the bank in understanding the reserved amount in the event of bad investment. Matthew et al (2016), found that NPL would have negative influence towards ROE.

2.3.3. Management Efficiency

Management Efficiency reflects the management soundness of a bank (Ahsan, 2016). Management have a role as a safeguard to operate bank in proper manner. This parameter is measured by cost to income ratio by dividing operating expense to operating income. This parameter shows the relation from its cost that made and decided by management to its total income that earned by the company. Hess and Francis (2004) found that there is no clear correlation between Costs to Income Ratio towards Return on Equity.

2.3.4. Earning Quality

The quality of earnings is a crucial criterion which represents the quality of a bank's profitability and its capability to maintain quality and earn consistently (Mishra and Aspal, 2013). In other words, bank depends on its earnings to perform the activities such as adequate capital levels, engaging with new activities, and maintaining competitive outlook. This parameter will be evaluated using Net Interest Margin (NIM). Mishra and Aspal (2013) also explained that NIM is the difference between the interest income and the interest expended.

2.3.5. Liquidity Quality

Liquidity ratio in a bank measures the ability to pay its current obligations (Hazzi and Kilani, 2016). The main activity of bank is using the funding effectively for lending necessity. Loan to Deposit Ratio (LDR) measures bank's liquidity as well as the profitability of the bank, thus the ratio is calculated by dividing the total

amount of loans, by the total amount of deposits (Taillard, 2014). High LDR indicates that bank's issuing more deposits in the form of interest bearing loans, or bank generates more income (Rengasamy, 2014). Rengasamy (2014) found that LDR have positive impact to banks' performance.

2.4. GDP Growth $(t-1)$

Gross Domestic Product is one of the most important economic indicators used by economic decision makers and government in planning and constructs the policies (Hamza and Khan, 2014). The greater demand for bank services coupled with a lower risk of default on loans in periods of real GDP growth should mean the coefficient is (Hafferman and Fu, 2008). In this study GDP growth $t-1$ used as a benchmark of Indonesia economic condition that will affected banks' performance. Mazadzi and Maseya (2015) found on his research that GDP growth have a positive influence to bank performance.

2.5. Inflation Rate $(t-1)$

Anticipated Inflation rate signifies that banks can appropriately adjust interest rates in order to grow their revenues faster than their cost and have positive impact on bank performance (Said and Tumin, 2013). In this study, Inflation rate is expected to have positive influence towards banks performance as Tan and Floros (2012) result. Inflation rate $t-1$ being used to measure the overall percentage increase in the consumer price index for all goods and services (Hafferman and Fu, 2008).

2.6. Gini Coefficient $(t-1)$

Only a few research or study that had been done that discussing about Gini Coefficient and its impact towards banks' performance. Gini Coefficient is a globally used measurement to measure income inequality in a country (The World Bank, 2013). Previous research that discussed about main determinants of profitability of the largest banks in the republic of Croatia by Odobasic et al (2014)

said that level of concentration of Gini Coefficient is directly related to the financial performance of the banks.

2.7. Research Gap

Banking sector plays an important role in the macroeconomics conditions due to all financial transaction flows are allocated through banks. Therefore, banks need continuous performance evaluation in order to ensure bank soundness and achieve higher bank performance.

CAMEL is a valuable approach to examine the banks' soundness. Previous empirical studies have been done to provide empirical evidence about the beneficial of CAMEL approach (Liu, 2011; Jha and Hui, 2012; Mohanty, 2013; Getahun, 2015; Ahsan, 2016). Jha and Hui (2012) examine CAMEL approach of commercial banks in Nepal, and the finding is Capital Adequacy has impact to ROE.

Moreover, another previous studies about banks' soundness through CAMEL approach and ROE, show inconsistency results. For instance, Hashim and Muhmad (2015) and Ramlall (2011) mention that Capital Adequacy as part of CAMEL has negative impact towards ROE, while Asset Quality and Liquidity have positive impact towards ROE. On the other hand, Negussie (2012) and Akhtar et al (2012) finds that Capital Adequacy has positive impact towards ROE while Asset Quality and Liquidity has negative impact towards ROE.

Macroeconomic factors and banks performance have two-ways impacts. Banks performance has strong influence towards macroeconomics conditions; on the other hand, macroeconomics conditions will influence bank performance. Giradone et al (2008) suggest using decile-1 macroeconomics factors to examine its impact towards bank performance, which is later on this study, adopts their suggestions by using decile-1 macroeconomics factors.

Thus, Osamwonyi and Michael (2014) prove that GDP growth has a significant negative impact towards bank performance. Wong et al (2014); Anwar and Herwany (2014); state that GDP and inflation have a significant impact towards bank performance. Neguisse (2012) who study about Islamic banking in Ethiopian

finds that Inflation rate has positive relationship with return on equity. On the other hand, Osamwonyi and Michael (2014) find a negative impact of inflation rate towards return on equity, but GDP growth had a positive impact towards return on equity. Furthermore, Kiganda (2014) finds that GDP growth is not significant towards bank performance.

Therefore, the purpose of this study is to fill-in that research gap through investigating the impact of banks' soundness and macroeconomics towards banks' performance in Indonesia; with period analysis from 2011 to 2015, and using 36 commercial banks as its unit analysis.

CHAPTER III

METHODOLOGY

3.1. Introduction

This chapter describes the methods that being used for this study. Quantitative approach and secondary data is adopted to analyze determinant factors of performance commercial banks in Indonesia. Quantitative method pieces of information can be counted mathematically, the data is in form of numbers and is collected from proportionally representative of population and is analyzed using statistical methods (Neuman, 2006). This study will emphasize on measuring variables and testing hypotheses to find out the impact of independent variables towards dependent variables.

3.2. Theoretical Framework

Main topic of this research is the influence of banks' soundness and macroeconomics to banks' performance. Researcher will use some financial ratio analysis to evaluate various aspects of a company's operating and financial performance. The theoretical framework will use some methods based on the independent variables (X1, X2, X3, X4, X5, X6, X7, and X8) affect the dependent variable (Y). The dependent variables in this research are Capital Adequacy (X1), Asset Quality (X2), Management Efficiency (X3), Earning Quality (X4), Liquidity (X5), GDP growth $_{(t-1)}$ (X6), Inflation rate $_{(t-1)}$ (X7), Gini coefficient $_{(t-1)}$ (X8) and for dependent variable is Return on Average Equity (ROAE) (Y).

1. Capital Adequacy is measured by Capital Adequacy Ratio (CAR). CAR is a measure of a bank's capital. It used to protect depositors from uncertainty risk in future activity, therefore banks is willing to allocate certain amount of money as the uncertainty risk.

2. Asset Quality which measured by Impaired Loan to Gross Loan will represent the Non-Performing Loan of banks activities. Increasing in Non-Performing Loan will make bank face the liquidity problem in the future.
3. Management Efficiency is measured using Cost to Income Ratio. This ratio will compare banks net profit to banks total cost, therefore work efficiency will be achieve.
4. Earning Quality which measured by banks NIM will represent the banks earning by the difference of loan interest and saving interest.
5. Liquidity is measured by the Loan to Deposit Ratio (LDR). Loan to Deposit Ratio will compare between the total loans given to the total Deposit of a bank.
6. GDP growth $_{(t-1)}$ will represent the economic growth of a country during 2011-2015.
7. Inflation rate $_{(t-1)}$ will represent the purchasing power ability of a country during 2011-2015.
8. Gini coefficient $_{(t-1)}$ will represent the income inequality of a country during 2011-2015.

In the conceptual framework, the independent variables are conceptualized as CAMEL model and macroeconomics variables, as it's presented on figure 3.1.

Figure 3.1: Theoretical Framework

The CAMEL model included; Capital Adequacy, Asset Quality, Management Efficiency, Earning Quality, and Liquidity. Thus, macroeconomics variables included; GDP, inflation rate, and Gini ratio.

Figure 3.2: Detail Theoretical Framework

This framework was supported by Alexandro and Violita (2014) frameworks. The dependent variables are bank performance proxy by Return on Average Equity (ROAE). Thus makes the research framework as it's showed on figure 3.2 above.

3.3. Hypothesis

This study focuses to analyze the following hypotheses:

H₁: There is a significance influence between Capital Adequacy towards Banks' Performance

H₂: There is a significance influence between Asset Quality towards Banks' Performance

H₃: There is a significance influence between Management Efficiency towards Banks' Performance

H₄: There is a significance influence between Earning Quality towards Banks' Performance

H₅: There is a significance influence between Liquidity towards Banks' Performance

H₆: There is a significance influence between GDP Growth _(t-1) towards Banks' Performance

H₇: There is a significance influence between Inflation Rate _(t-1) towards Banks' Performance

H₈: There is a significance influence between Gini Coefficients _(t-1) towards Banks' Performance

Through those hypotheses above, this study would like to emphasis the impact of banks' soundness and decile-1 macroeconomics factors towards bank performance.

3.4. Operational Definition of Variables

This study implements ROAE as single dependent variable; and banks' soundness together with decile-1 macroeconomic factors as independent variables. Moreover, this study presents the detail of variables' operational definition as table 3.3.

Table 3.3: Operational Definition Table

Thus, this study uses secondary data from reliable data sources, such as Bankscope, Indonesia Statistic Bureau, and World Bank.

3.5. Sampling Plan

3.5.1. Population

Population refers to the entire group of people, events, or things of interest that the researchers are willing to investigate (Sekaran, 2010). The population of this study is 96 commercial banks in Indonesia.

3.5.2. Sampling

Sample is subset of population (Sekaran, 2010). Sample will help researcher to investigate the research problem. Nonprobability sampling used as the sampling method and focus with the purposive sampling. Purposive sampling is chosen as only specific types of sample provide the information needed. Therefore, in this study researcher decide to use 36 commercial banks, which are Bank Artha Graha, Bank Bumi Arta, Bank Central Asia, Bank Danamon Indonesia, Bank DBS Indonesia, Bank Ekonomi Rahardja, Bank Mandiri, Bank Maspion, Bank Mega, Bank BNI, Bank OCBC, Bank Pan Indonesia, Bank Permata, Bank QNB, Bank Rabobank, Bank Rakyat Indonesia, Bank SBI, Bank Sinarmas, Bank Tabungan Negara, Bank Victoria, Bank Andara, Bank ANZ Indonesia, Bank Bukopin, Bank CIMB Niaga, Bank CTBC Indonesia, Bank ICBC Indonesia, Bank KEB Hana,

Bank Mayapada International, Bank Maybank Indonesia, Bank Mizuho Indonesia, Bank BRI Agroniaga, Bank Resona Perdania, Bank Sahabat Sampoerna, Bank Sumitomo Mitsui Indonesia, Bank UOB Indonesia, and Bank Woori Saudara Indonesia, with national coverage.

3.6. Data Analysis Tool

In this study, researcher use Panel Regression Model. Panel data are also called longitudinal data or cross-sectional time-series data. These longitudinal data have observation on the same units in several different time periods (Kennedy, 2008). The combination of time series with cross-section can enhance the quality and quantity of data in ways that would be impossible when it's only using two dimensions (Gujarati, 2004). Panel data analysis can provide a rich yet powerful study.

CHAPTER IV

RESULTS AND DISCUSSIONS

4.1. Descriptive Analysis

Descriptive data is used to indicate the total of used data in this study as well as the minimum, maximum, and average value and standard deviation of each research's variable which are ROAE, CAR, IMPL, CINC, NIM, LDR, GDP, INF, and GINI. Furthermore, descriptive data that being used in this study consist of single dependent variable and eight independent variables.

Table 4.1: Descriptive Statistic of Dependent and Independent Variables

The samples are taken from 5 years on annual basis, during 2011 to 2015, with total data 180.

4.2. Inferential Analysis

4.2.1. Panel Regression Model

Panel regression model technique could be using three approaches. The first one is called ordinary least-squares (OLS), second is called fixed effect model (FEM), and the last one called random effect model (REM). Researcher used Chow test and Hausman test to help determine the suitable panel model approach.

1. Chow Test – Likelihood Test

This test will determine the kind of panel data between ordinary least-square or fixed effect models. Firstly, researcher sets the panel data into fixed effect model. The hypothesis that is used:

H_0 : Ordinary least-squares model is used

H_1 : Fixed effect model is used

If the probability of Chi-square less than 5% then H_0 is rejected. Thus makes fixed effect model used as the approach. The result of estimation using fixed effect model was as follows.

Table 4.2: Chow Test Result

Based on table 4.2 above, the probability of F is 0.0000, therefore, it indicates that H_0 was rejected and fixed model will be used. Then, when H_0 is rejected on *Chow Test*, it indicates that researcher need to proceed the test using *Hausman Test*.

2. Hausman Test

This test will help researcher to determine panel data approach either using fixed effect model or random effect model. The result of this test was as follow:

Table 4.3: Hausman Test Result

From the table above, the probability value on cross section random effect model show 1.0000, therefore H_0 is accepted with hypothesis:

H_0 : Random effect model is used

H₁: Fixed effect model is used

Through Chow and Hausman test, researcher found that the suitable panel regression approach for this study is using random effect model (REM).

4.2.2. Classical Assumption Test

1. Normality Test

Normality test is the test that used for determining whether the dependent and independent variables are normally distributed or not. In essence, the normality test is one of the regular tests of hypothesis that can have two possible outcomes, which are rejection of the null hypothesis of normality, and/or failure to reject the null hypotheses.

There are two ways to evaluate the normality test, first through histogram, and second through Jarque-Bera test. Normality test by histogram is measuring on by on variable. Histogram describes the normal distribution by curve that difficult to be concluded. Normality test measurement using Jarque-Bera test is a statistic test whether the series is normally distributed.

Gujarati (2004) stated that to determine whether the residuals have normal distribution or not, the Jarque-Bera should be compared with X^2 table with two degrees of freedom under significance level of $\alpha = 5\%$.

1. If Jarque-Bera $> X^2$, then data are not normally distributed.
2. If Jarque-Bera $< X^2$, then data are normally distributed.

Table 4.4: Normality Test Result

It indicates normally distributed data when the Probability shows value that greater than 5%. As of the explanation above, researcher conclude that the data that being used in this study was normally distributed.

2. Multicollinearity Test

Multicollinearity test is to test whether a regression model found a correlation between the independent variables or not (Gujarati, 2004). Multicollinearity occurs when two or more predictors in the model are correlated and provide redundant information about response. In good regression model there should be no correlation between each independent variables. If there is any correlation, there is multicollinearity exist (Santoso, 2013). A good regression model should not have a correlation between their independent variable.

Table 4.5: Matrix Correlation

Based on the table 4.5 above, researcher conclude that multicollinerity problem was still tolerable when the value is less than 0.7. Thus, there is no multicollinearity problem in this regression.

3. Autocorrelation Test

Autocorrelation test is used to test the correlation between the variables from the data time series. The autocorrelation could be indicated using Durbin-Watson value which has range of tolerance between -2 until +2. The detail of Durbin-Watson test result interpretation was as follow:

1. If the value of $DW < -2$ indicates positive auto-correlation.
2. If the value of DW is $-2 < DW < 2$ indicates there is no auto-correlation.
3. If the value of $DW > 2$ indicates negative auto-correlation.

Table 4.6: Durbin Watson Table

Based on table 4.6 above, Durbin-Watson stat shows the regression has no tendency of autocorrelation problem since the value of Durbin-Watson was 1.881197 and it's between -2 to +2.

4. Heteroscedasticity Test

Heteroscedasticity test tried to analyze whether multiple regression model have an unequal of variance from residual from one observation to another. The good multiple regression analysis shows homoscedasticity model or there is no heteroscedasticity exist (Santoso, 2013).

To test the regression model whether it has heteroscedasticity or not, it can be done by doing park test, white test, glejtser test, and breusch-pagan-godfrey test (Gujarati, 2004).

Researcher use white test to test the heteroscedasticity in this study.

4.2.3. Hypotheses Testing

1. Multiple Regression Model

Multiple regression analysis will be used because there is more than one explanatory variable (Gujarati, 2004). Multiple regression equation is formed to predict the value of dependent variable using some explanatory variables in a study.

Table 4.7: Data Panel Analysis Result

From the result above, regression equation can be arranged by using the number that appear in the coefficient column.

$$\text{ROAE} = -0.269748 \text{ CAR} - 0.547336 \text{ IMPL} - 0.286380 \text{ CINC} + 1.697503 \text{ NIM} - 0.072535 \text{ LDR} + 3.756841 \text{ GDP} - 0.248572 \text{ INF} + 9.787841 \text{ GINI} + 7.710353$$

- a. Regression coefficient of capital adequacy ratio = -0.269748
Multiple regressions provide the result that CAR has an impact -0.269748 towards ROAE. It means that every 1 point increase of CAR and the other variables are remain constant then ROAE will decrease about 0.269748.
- b. Regression coefficient of impaired loans to gross loan = -0.547336
Multiple regressions provide the result that IMPL has an impact -0.547336 towards ROAE. It means that every 1 point increase of IMPL and the other variables are remain constant then ROAE will decrease about 0.547336.
- c. Regression coefficient of cost to income ratio = -0.286380
Multiple regressions provide the result that CINC has an impact -0.286380 towards ROAE. It means that every 1 point increase of CINC and the other variables are remain constant then ROAE will decrease about 0.286380.
- d. Regression coefficient of net interest margin = 1.697503
Multiple regressions provide the result, that NIM has an impact 1.697503 towards ROAE. It means that every 1 point increase of NIM and the other variables are remain constant then ROAE will increase about 1.697503.
- e. Regression coefficient of loan to deposit ratio = -0.072535
Multiple regressions provide the result that LDR has an impact -0.072535 towards ROAE. It means that every 1 point increase of LDR and the other variables are remain constant then ROAE will decrease about 0.072535.
- f. Regression coefficient of gross domestic product = 3.756841
Multiple regressions provide the result that GDP has an impact 3.756841 towards ROAE. It means that every 1 point increase of GDP and the other variables are remain constant then ROAE will increase about 3.756841.

g. Regression coefficient of inflation = -0.248572

Multiple regressions provide the result that INF has an impact -0.248572 towards ROAE. It means that every 1 point increase of INF and the other variables are remain constant then ROAE will decrease about 0.248572.

h. Regression coefficient of gini coefficient = 9.787841

Multiple regressions provide the result that GINI has an impact 9.787841 towards ROAE. It means that every 1 point increase of GINI and the other variables are remain constant then ROAE will increase about 9.787841.

i. Constanta with the value 7.710353

It indicates that when the other variables are having a zero value, the value of ROAE will have 7.710353.

2. T-Test ($\alpha = 5\%$)

T-Test is used to know whether each independent variable had a partial significant influence towards dependent variable. Based on table 4.7, there are 7 independent variable which are CAR, IMPL, CINC, NIM, LDR, GDP and INF that had a significant influence towards ROAE; and have a value of probability less than 0.05. Thus, researcher can define a new regression model as bellow:

$$\text{ROAE} = -0.269748 \text{ CAR} - 0.547336 \text{ IMPL} - 0.286380 \text{ CINC} + 1.697503 \text{ NIM} - 0.072535 \text{ LDR} + 3.756841 \text{ GDP} - 0.248572 \text{ INF}$$

3. F-Test ($\alpha = 5\%$)

F-Test is conducted to evaluate the simultaneously influence between independent variables towards dependent variable. The detail information is stated on the picture below.

Table 4.8: F-Test Result

According to table 4.8 above, it shows probability value of F is 0.000000. It indicates that the independent variable have simultaneous significant influence to its dependent variable since the value of it is less than 5%.

4. Coefficient of Determination (R^2)

The R-square is used when there is only one independent variable and one dependent variable, moreover researcher use more than 1 independent thus makes Adjusted R-square have to be considered. Coefficient determination considered as good when the value is closer to one.

Table 4.9: Adjusted R^2 Result

From the table above it can be seen that the value of adjusted R-square is 0.683634. It indicates that 68.36% of ROAE is influenced by the independent variable, while 31.64% is influenced by other factors outside the research model.

4.3. Discussions

1. The Influence of CAR towards ROAE of Commercial Bank in Indonesia during 2011 – 2015

From the table 4.7 above, CAR had a significance influence towards ROAE with probability $0.0000 < 0.05$ and regression coefficient with the value of -0.269748. CAR has negative influence towards ROAE, means that when Indonesian banks allocate their budget to resist from systematic and un-systematic risk, they will had a small return on average equity. The result of this study was in line with Ankenbrand (2015) that stated CAR will have negative influence towards ROAE.

2. The Influence of IMPL towards ROAE of Commercial Bank in Indonesia during 2011 – 2015

IMPL showed a significant value towards ROAE with 0.0027 probability and regression coefficient -0.547336. IMPL has a negative influence towards ROAE, it indicates that an increase of Non-performing Loan will leads to the declining of their bank's return on average equity. Impaired Loan to Gross Loan help bank to measure the amount of total loan that are doubtful. So in line with that statement, the increase of IMPL will decrease the profitability of bank that later can be said as bank performance (NPL). This result is in line with Matthew et al (2016).

3. The Influence of CINC towards ROAE of Commercial Bank in Indonesia during 2011 – 2015

From the regression result, it can be obtained that the probability value of CINC towards ROAE is 0.0000, while the regression coefficient is -0.286380. When banks can manage their cost and result lesser amount of expenses than income, profitability of bank will be increase as well. It shows that the regression model of this study was in line with the theory of Hess and Francis (2004) who found that there is no correlation between costs to income ratio towards banks' performance.

4. The Influence of NIM towards ROAE of Commercial Bank in Indonesia during 2011 – 2015

NIM showed a significant value towards ROAE with 0.0000 probability and regression coefficient 1.697503. NIM has a positive influence towards ROAE, it indicates that when banks increase their net interest margin, it will lead to increase of profitability and last will affecting ROAE. Net Interest Margin is the margin between loan and saving interest that in the end will be the profit of the bank. So in line with that statement, the increase of NIM will increase the profitability of bank that can lead to the better performance.

5. The Influence of LDR towards ROAE of Commercial Bank in Indonesia during 2011 – 2015

From the table 4.7 above, LDR had a significance influence towards ROAE with probability $0.0001 < 0.05$ and regression coefficient with the value of -0.072535. LDR has negative influence towards ROAE, means that an increase in loan to

deposit ratio of a banks will lead to decline in the return on average equity. This Panel Data result is contradict with Rengasamy (2014).

6. The Influence of GDP towards ROAE of Commercial Bank in Indonesia during 2011 – 2015

From the regression result, it can be obtained that the probability value of GDP towards ROAE is 0.0000, while the regression coefficient is 3.756841. When gross domestic product of a country increase, it indicates that economic has positive growth and bank supposed have a better performance as a financial mediator of a country. This result was in line with Giradone et al (2008).

7. The Influence of INF towards ROAE of Commercial Bank in Indonesia during 2011 – 2015

Based on the table 4.7 above. It says that INF has probability 0.0022 towards ROAE, therefore INF has significance influence towards ROAE. It has negative impact towards ROAE with amount -0.248572. It indicates that when Inflation rate is getting high, banks will also affected as the decreasing of its performance that valuated by return on average equity. This statement was contradict with Tan and Floros (2012) that said inflation will have positive impact towards ROAE.

8. The Influence of GINI towards ROAE of Commercial Bank in Indonesia during 2011 – 2015

Based on the regression result, Gini coefficient have a in-significance influence towards ROAE since the probability result from the regression shows amount 0.2809 which greater than 5% to indicates the influential independent variable. The result from the coefficient shows 9.787841 amount. Then researcher can conclude that the better income distribution, there are no correlation towards banks' performance. This result is not in line with Odobasic et al (2014).

CHAPTER V

CONCLUSION

This study has an objective to analyze the influence of bank's internal and external factor towards banks' performance in 36 commercial banks with national coverage in order to increase the amount of literature study that discuss about banks' performance as well as giving a new suggestion to the practitioner and banker to not only focus on maintaining the internal factors but also oversee the macroeconomic condition that may impact banks' performance.

5.1. Hypotheses Answer

- H_1 : Accepted; Capital Adequacy has negative impact towards banks' performance.
- H_2 : Accepted; Asset Quality has negative impact towards banks' performance.
- H_3 : Accepted; Management Efficiency has negative impact towards banks' performance.
- H_4 : Accepted; Earning Quality has positive impact towards banks' performance.
- H_5 : Accepted; Liquidity has negative impact towards banks' performance.
- H_6 : Accepted; GDP Growth $_{(t-1)}$ has positive impact towards banks' performance.
- H_7 : Accepted; Inflation Rate $_{(t-1)}$ has negative impact towards banks' performance.
- H_8 : Rejected; Gini Coefficient $_{(t-1)}$ has positive impact towards banks' performance.

The panel data regressions result of this study finds that Capital Adequacy, Asset Quality, Management Efficiency, Liquidity, and Inflation Rate $(t-1)$ have significant negative impact towards banks' performance. While Earnings, and GDP Growth $(t-1)$ have significant positive impact towards bank's performance. However, Gini Coefficient $(t-1)$ shows in-significant impact towards banks' performance.

In short, the investigation result of this study shows that banks' soundness empirical proven has significant impact towards banks' performance in Indonesia commercial banks during 2011 to 2015; and decile-1 macroeconomics factors also has significant impact towards banks' performance in Indonesia commercial banks during 2011 to 2015; except for decile-1 Gini Coefficient.

The reason behind this investigation result about Gini Coefficient needs further investigation. However, this study thinks of one possible reason due to insignificant reason of Gini Coefficient towards banks' performance is because each banks has variance products for all market segmentation in Indonesia. So, since Gini Coefficient is about the difference in-equality income population in Indonesia, therefore, the Gini Coefficient would not have significant impact towards banks' performance.

5.2. Future Recommendation

In order to resist uncertainty and maintaining financial stability, it is vital to indicate the determinant of banks' performance of active commercial banks in Indonesia. Therefore, based on the study results researcher would like to forward the following recommendations for concerned bodies.

1. Academicians should develop the theories that discuss about the macroeconomics factors that may effected bank performance. Since macroeconomics will influence bank performance indirectly. Academicians could explore another variable such as interest rate, and export import data to evaluate banks performance.
2. Strict government and Bank Indonesia regulations towards banking sector by regulating the banking operation and activity were one of the major factors for

commercial bank's performance in Indonesia. Bank Indonesia could play an important role in banks performance by setting the interest rate in order to increase bank performance by also considering the macroeconomics factor that will influence the performance of a country and the purchasing power of the consumer.

3. Last but not least, researcher would like to remind the practitioner and banker to not only oversee the un-systematic risk but also the systematic risk since total risk is combination of un-systematic and systematic risk in order to avoid declining of bank performance and soundness that might trigger the crisis in the future.

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APPENDICES

Figures

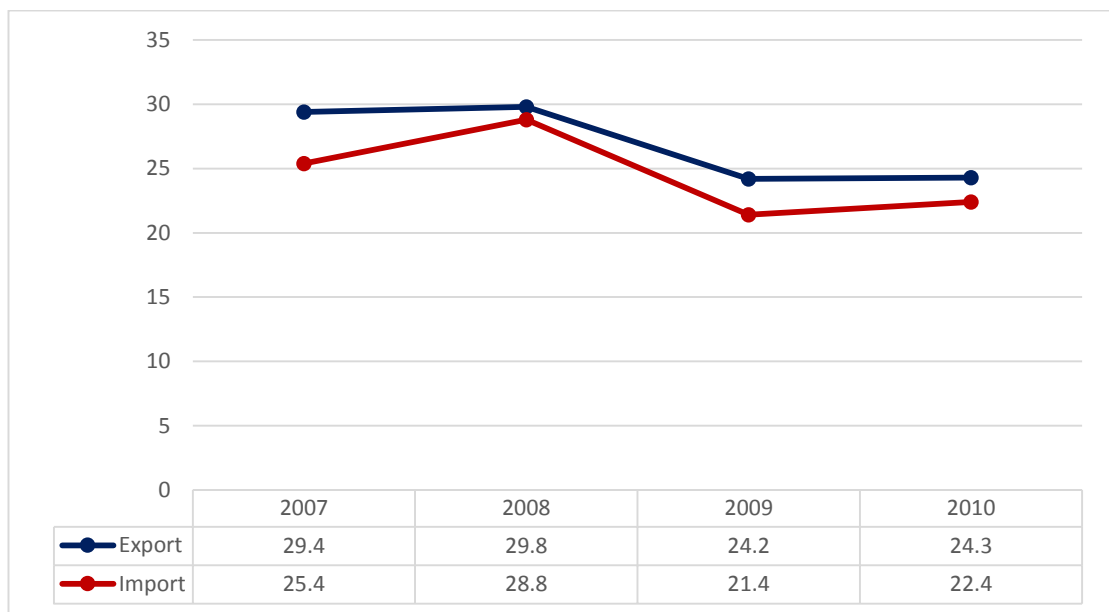


Figure 1.1. Indonesia Export Import Data, 2007-2010

(Source: World Bank, Indonesia Export and Import Data year 2007-2010)

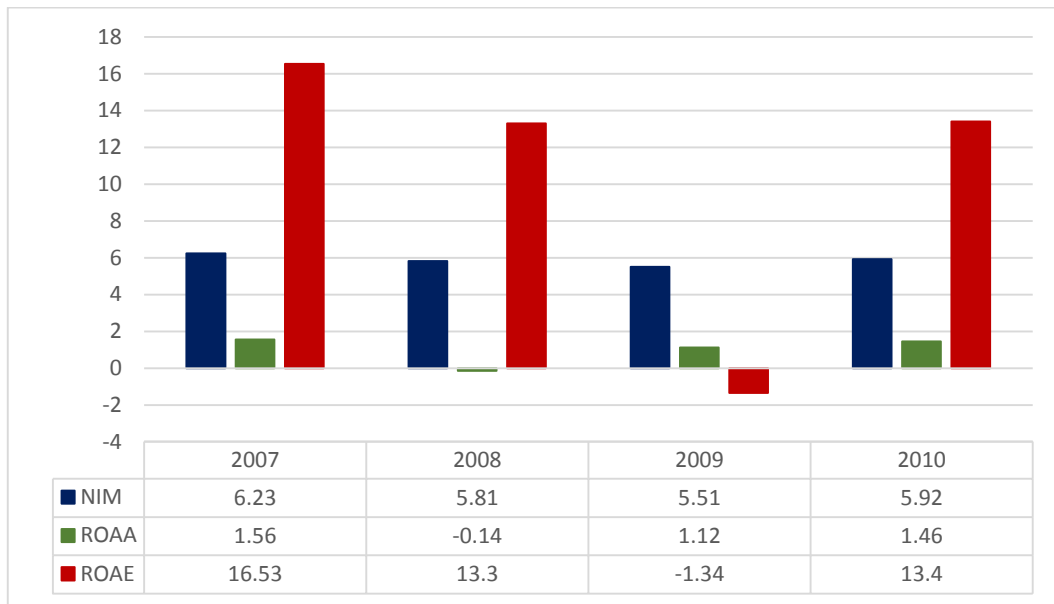


Figure 1.2. NIM, ROAA, and ROAE of Indonesian Banks, 2007 - 2010

(Source: Bankscope NIM, ROAA, and ROAE year 2007 – 2010)

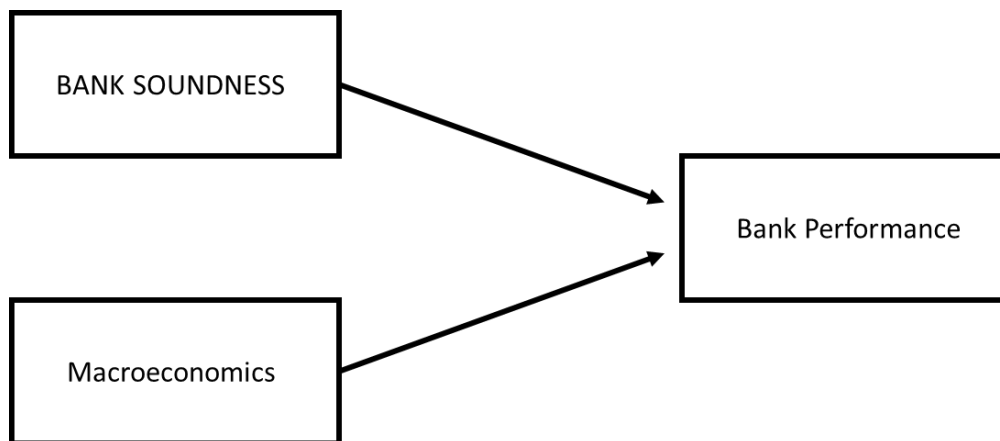


Figure 3.1: Theoretical Framework

(Source: Author's Conceptual)

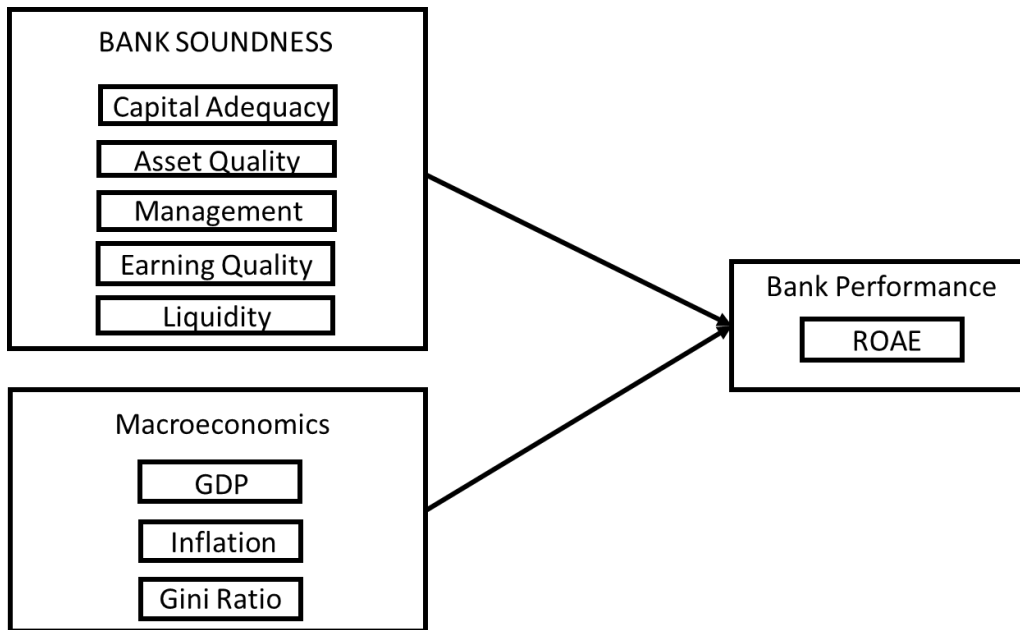


Figure 3.2: Detail Theoretical Framework

(Source: Author's Conceptual)

Tables

Table 3.3: Operational Definition Table

Research Variable	Operational Definition	Formula	Previous Study	Source
Dependent Variable (Y)				
ROAE	Measure the return to shareholders on their equity side	Net income/total average equity	<i>Mathuva, 2009</i>	Bankscope
Independent Variable (X)				
Capital Adequacy	Measure that bank was able to deal with any unexpected condition due to the risk	Tier 1 capital/risk-weighted assets	<i>Mathuva, 2009</i>	Bankscope
Asset Quality	Measure the risk of debtor's point of view	Impaired loan/gross loan	<i>Shehzad, 2010</i>	Bankscope
Management Efficiency	Measure the relation its cost that made to its total income earned by the company	Operating expenses/operating income	<i>Mathuva, 2009</i>	Bankscope
Earning Quality	Measure the quality of bank's profitability and its capability to maintain quality and earn consistently	(Investment return-interest expenses)/average earning assets	<i>Mishra and Aspal, 2013</i>	Bankscope
Liquidity	Measure bank's ability to pay its current obligations	Total loans/total deposits	<i>Ahsan, 2016</i>	Bankscope
GDP	Measure the economic growth of one country		<i>Said and Tumin, 2013</i>	World Bank
Inflation Rate	Measure the overall percentage increase in the consumer price index		<i>Hafferman and Fu, 2008</i>	World Bank
Gini Ratio	Measure income inequality in countries		<i>Harmse, 2014</i>	Indonesia Statistic Bureau

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

	ROAE_Y	CAR	IMPL	CINC	NIM	LDR	GDP	INF	GINI
Mean	10.7229	18.930	2.5979	58.5571	4.855	86.8956	5.800	5.520	0.403
Max	34.8900	46.380	12.890	123.64	9.4300	188.880	6.2000	6.4000	0.4100
Min	-19.420	10.440	0.0000	22.8200	1.3600	47.0700	5.0000	4.3000	0.3800
Std. Dev	8.35227	6.7673	2.1065	18.6491	1.5519	19.7074	0.4573	0.8057	0.0120
Numb Obs.	180	180	180	180	180	180	180	180	180

(Source: Panel Data Regression)

Table 4.2: Chow Test Result

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	6.305447	(35,136)	0.0000
Cross-section Chi-square	173.558511	35	0.0000

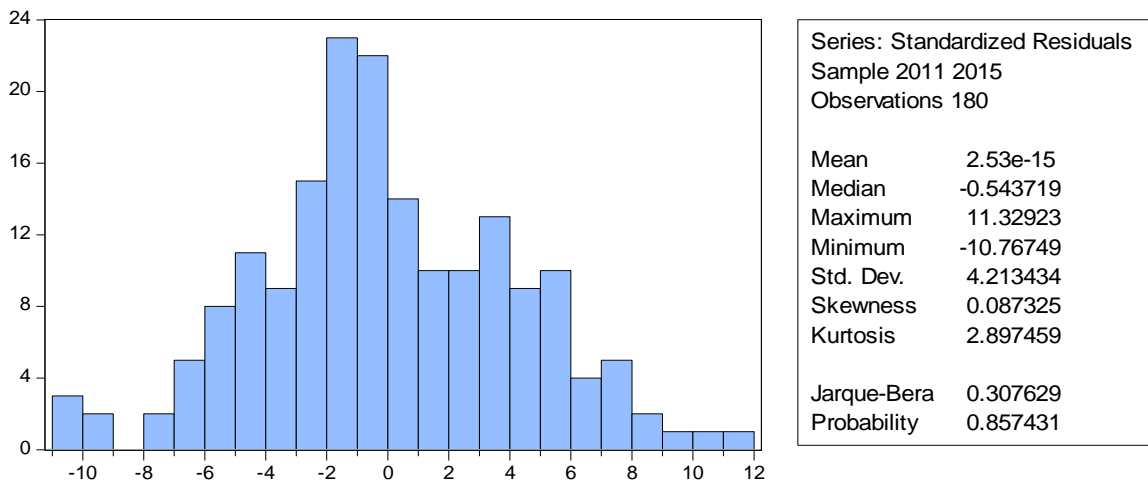
(Source: Panel Data Regression)

Table 4.3: Hausman Test Result

Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	0.000000	8	1.0000

(Source: Panel Data Regression)

Figure 4.4: Normality Test Result



(Source: Panel Data Regression)

Table 4.5: Matrix Correlation

	CAR	IMPL	CINC	LDR	NIM	GDP	INF	GINI
CAR	1	-0.04965	0.182948	-0.10159	0.328738	-0.03157	-0.0023	-0.02504
IMPL	-0.04965	1	0.034369	0.060245	-0.2015	-0.33931	0.284282	0.063776
CINC	0.182948	0.034369	1	0.047335	-0.31041	0.007315	0.027173	-0.02991
LDR	-0.10159	0.060245	0.047335	1	-0.24739	0.083778	-0.06397	-0.09776
NIM	0.328738	-0.2015	-0.31041	-0.24739	1	-0.03448	-0.02707	0.093383

GDP	-0.03157	-0.33931	0.007315	0.083778	-0.03448	1	-0.73134	-0.43058
INF	-0.0023	0.284282	0.027173	-0.06397	-0.02707	-0.73134	1	0.25639
GINI	-0.02504	0.063776	-0.02991	-0.09776	0.093383	-0.43058	0.25639	1

(Source: Panel Data Regression)

Table 4.6: Durbin-Watson Test

Weighted Statistics			
R-squared	0.697773	Mean dependent var	3.927049
Adjusted R-squared	0.683634	S.D. dependent var	5.204777
S.E. of regression	2.927501	Sum squared resid	1465.515
F-statistic	49.35006	Durbin-Watson stat	1.881197
Prob(F-statistic)	0.000000		

(Source: Panel Data Regression)

Figure 4.7: Data Panel Analysis Result

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CAR	-0.269748	0.055351	-4.873405	0.0000
IMPL	-0.547336	0.179875	-3.042864	0.0027
CINC	-0.286380	0.031742	-9.021994	0.0000
NIM	1.697503	0.318587	5.328220	0.0000
LDR	-0.072535	0.018251	-3.974324	0.0001
GDP	3.756841	0.356844	10.52798	0.0000
INF	-0.248572	0.079851	-3.112957	0.0022
GINI	9.787841	9.049233	1.081621	0.2809
C	7.710353	7.811507	0.987051	0.3250

(Source: Dated Panel Regression)

Table 4.8: F-Test Result

F-statistic	49.35006
Prob(F-statistic)	0.000000

(Source: Dated Panel Regression)

Table 4.9: Adjusted R-squared Result

R-squared	0.697773
Adjusted R-squared	0.683634

(Source: Dated Panel Regression)

LIST OF COMPANY NAME

No.	BANK NAME
1	Bank Artha Graha Internasional Tbk
2	Bank Bumi Arta
3	Bank Central Asia
4	Bank Danamon Indonesia Tbk
5	Bank DBS Indonesia
6	Bank Ekonomi Rahardja
7	Bank Mandiri (Persero) Tbk
8	Bank Maspion Indonesia
9	Bank Mega TBK
10	Bank Negara Indonesia (Persero) - Bank BNI
11	Bank OCBC NISP Tbk
12	Bank Pan Indonesia Tbk PT-Panin Bank
13	Bank Permata Tbk
14	Bank QNB Indonesia Tbk., PT
15	Bank Rabobank International Indonesia
16	Bank Rakyat Indonesia (Persero) Tbk
17	Bank SBI Indonesia PT
18	Bank Sinarmas TBK., PT
19	Bank Tabungan Negara (Persero)
20	Bank Victoria International TBK (PT)
21	PT Bank Andara
22	PT Bank ANZ Indonesia
23	PT Bank Bukopin
24	PT Bank CIMB Niaga Tbk
25	PT Bank CTBC Indonesia

26	PT Bank ICBC Indonesia
27	PT Bank KEB Hana
28	PT Bank Mayapada Internasional TBK
29	PT Bank Maybank Indonesia Tbk
30	PT Bank Mizuho Indonesia
31	PT Bank Rakyat Indonesia Agroniaga Tbk
32	PT Bank Resona Perdania
33	PT Bank Sahabat Sampoerna
34	PT Bank Sumitomo Mitsui Indonesia
35	PT Bank UOB Indonesia
36	PT Bank Woori Saudara Indonesia 1906 Tbk

RAW DATA

YEAR	BANK NAME	ROAE	CAR	IMPL	CINC	NIM	LDR	GDP	INF	GINI
2011	Bank Artha Graha Internasional Tbk	9.09	12.65	1.81	71.69	3.60	79.85	6.2	5.1	0.38
2012	Bank Artha Graha Internasional Tbk	8.62	16.45	0.85	71.32	4.73	87.11	6.2	5.4	0.41
2013	Bank Artha Graha Internasional Tbk	9.80	17.31	2.04	65.78	5.54	87.67	6	4.3	0.41
2014	Bank Artha Graha Internasional Tbk	4.24	15.76	1.81	76.12	5.00	86.26	5.6	6.4	0.41
2015	Bank Artha Graha Internasional Tbk	2.61	15.20	4.57	82.19	4.87	79.59	5	6.4	0.41
2011	Bank Bumi Arta	9.30	19.96	1.07	69.86	5.54	66.43	6.2	5.1	0.38
2012	Bank Bumi Arta	11.44	19.18	0.64	65.89	6.17	76.88	6.2	5.4	0.41
2013	Bank Bumi Arta	10.34	16.99	0.22	71.1	6.01	83.72	6	4.3	0.41
2014	Bank Bumi Arta	8.88	15.07	0.25	71.33	5.44	79.27	5.6	6.4	0.41
2015	Bank Bumi Arta	6.21	25.57	0.78	66.93	5.52	82.31	5	6.4	0.41
2011	Bank Central Asia	28.42	13.27	0.22	44.06	5.46	61.56	6.2	5.1	0.38
2012	Bank Central Asia	24.95	14.69	0.22	46.57	6.04	69.13	6.2	5.4	0.41
2013	Bank Central Asia	24.61	16.03	0.18	43.38	6.37	75.53	6	4.3	0.41
2014	Bank Central Asia	23.64	17.24	0.05	44.45	6.94	76.76	5.6	6.4	0.41
2015	Bank Central Asia	21.82	19.03	0.05	45.36	7.38	80.87	5	6.4	0.41
2011	Bank Danamon Indonesia Tbk	15.35	17.55	3.14	51.64	9.26	100.34	6.2	5.1	0.38
2012	Bank Danamon Indonesia Tbk	15.12	18.90	2.98	50.84	9.43	107.52	6.2	5.4	0.41
2013	Bank Danamon Indonesia Tbk	13.80	17.86	3.03	52.43	8.66	103.64	6	4.3	0.41
2014	Bank Danamon Indonesia Tbk	8.36	17.78	3.97	55.52	8.12	100.23	5.6	6.4	0.41

2015	Bank Danamon Indonesia Tbk	7.39	19.67	5.49	49.8	8.28	94.66	5	6.4	0.41
2011	Bank DBS Indonesia	10.73	12.39	2.47	56.66	3.76	87.78	6.2	5.1	0.38
2012	Bank DBS Indonesia	15.16	12.13	1.49	48.53	4.06	82.99	6.2	5.4	0.41
2013	Bank DBS Indonesia	12.88	13.43	2.12	43.71	3.92	88.09	6	4.3	0.41
2014	Bank DBS Indonesia	5.18	16.15	6.40	51.91	4.34	83.23	5.6	6.4	0.41
2015	Bank DBS Indonesia	0.58	19.44	7.50	60.62	4.11	84.01	5	6.4	0.41
2011	Bank Ekonomi Rahardja	10.01	16.37	0.75	66.55	4.33	65.74	6.2	5.1	0.38
2012	Bank Ekonomi Rahardja	7.34	14.21	0.28	82.39	4.04	77.67	6.2	5.4	0.41
2013	Bank Ekonomi Rahardja	8.54	13.10	0.91	72.7	4.52	78.80	6	4.3	0.41
2014	Bank Ekonomi Rahardja	2.21	13.41	3.14	79.87	4.34	79.14	5.6	6.4	0.41
2015	Bank Ekonomi Rahardja	0.55	18.59	4.99	80.71	4.40	80.47	5	6.4	0.41
2011	Bank Mandiri (Persero) Tbk	24.25	14.95	5.53	45.59	5.13	69.22	6.2	5.1	0.38
2012	Bank Mandiri (Persero) Tbk	23.18	15.25	4.62	44.5	5.16	75.22	6.2	5.4	0.41
2013	Bank Mandiri (Persero) Tbk	22.89	14.76	4.50	42.43	5.22	79.15	6	4.3	0.41
2014	Bank Mandiri (Persero) Tbk	21.33	16.13	4.63	42.71	5.59	76.56	5.6	6.4	0.41
2015	Bank Mandiri (Persero) Tbk	18.86	17.99	7.02	41.02	6.06	81.55	5	6.4	0.41
2011	Bank Maspion Indonesia	12.91	15.84	0.54	84.72	4.84	79.40	6.2	5.1	0.38
2012	Bank Maspion Indonesia	6.42	13.46	0.18	79.07	4.53	89.25	6.2	5.4	0.41
2013	Bank Maspion Indonesia	6.26	21.00	0.00	75.26	4.30	84.45	6	4.3	0.41
2014	Bank Maspion Indonesia	3.96	19.45	0.03	81.68	3.94	75.61	5.6	6.4	0.41
2015	Bank Maspion Indonesia	5.42	19.33	0.06	74.26	3.98	91.15	5	6.4	0.41
2011	Bank Mega TBK	23.23	12.84	0.98	61.32	6.99	57.60	6.2	5.1	0.38
2012	Bank Mega TBK	24.73	17.60	2.10	59.27	6.80	47.07	6.2	5.4	0.41
2013	Bank Mega TBK	8.48	16.11	2.17	73	4.81	50.57	6	4.3	0.41

2014	Bank Mega TBK	8.68	16.26	2.09	69	4.81	57.42	5.6	6.4	0.41
2015	Bank Mega TBK	11.39	23.92	2.81	57.92	5.87	57.69	5	6.4	0.41
2011	Bank Negara Indonesia (Persero) - Bank BNI	16.36	17.91	5.54	52.98	5.44	65.60	6.2	5.1	0.38
2012	Bank Negara Indonesia (Persero) - Bank BNI	17.33	16.53	2.81	53.29	5.42	71.67	6.2	5.4	0.41
2013	Bank Negara Indonesia (Persero) - Bank BNI	19.86	14.92	2.16	49.2	5.78	77.39	6	4.3	0.41
2014	Bank Negara Indonesia (Persero) - Bank BNI	19.92	16.33	1.96	46.49	6.32	81.82	5.6	6.4	0.41
2015	Bank Negara Indonesia (Persero) - Bank BNI	13.11	19.34	2.67	49.04	6.57	78.36	5	6.4	0.41
2011	Bank OCBC NISP Tbk	12.12	13.75	1.22	58.59	4.64	85.26	6.2	5.1	0.38
2012	Bank OCBC NISP Tbk	11.78	16.49	0.36	56.95	4.14	79.63	6.2	5.4	0.41
2013	Bank OCBC NISP Tbk	10.16	19.28	0.73	55.34	4.02	85.26	6	4.3	0.41
2014	Bank OCBC NISP Tbk	9.35	18.74	1.34	55.49	4.26	84.66	5.6	6.4	0.41
2015	Bank OCBC NISP Tbk	9.57	17.32	1.30	53.45	4.49	88.46	5	6.4	0.41
2011	Bank Pan Indonesia Tbk PT-Panin Bank	14.06	19.35	3.45	49.24	4.92	72.92	6.2	5.1	0.38
2012	Bank Pan Indonesia Tbk PT-Panin Bank	13.59	16.31	3.13	46.86	4.38	83.26	6.2	5.4	0.41
2013	Bank Pan Indonesia Tbk PT-Panin Bank	13.05	16.74	3.42	47.82	3.96	84.50	6	4.3	0.41
2014	Bank Pan Indonesia Tbk PT-Panin Bank	12.06	17.30	3.42	50.58	3.65	87.26	5.6	6.4	0.41
2015	Bank Pan Indonesia Tbk PT-Panin Bank	5.82	20.13	4.35	53.92	4.05	89.85	5	6.4	0.41
2011	Bank Permata Tbk	13.49	14.95	1.25	61.88	5.03	81.09	6.2	5.1	0.38
2012	Bank Permata Tbk	12.65	16.73	1.27	61.97	4.61	87.64	6.2	5.4	0.41

2013	Bank Permata Tbk	12.97	14.51	1.21	60.89	3.70	87.66	6	4.3	0.41
2014	Bank Permata Tbk	10.18	13.79	1.92	56.53	3.44	87.48	5.6	6.4	0.41
2015	Bank Permata Tbk	1.38	15.21	6.08	52.43	3.91	85.17	5	6.4	0.41
2011	Bank QNB Indonesia Tbk., PT	1.16	45.75	1.58	90.83	5.32	74.60	6.2	5.1	0.38
2012	Bank QNB Indonesia Tbk., PT	-3.36	27.76	0.73	122.87	4.37	86.36	6.2	5.4	0.41
2013	Bank QNB Indonesia Tbk., PT	0.28	18.73	0.23	102.41	3.06	90.11	6	4.3	0.41
2014	Bank QNB Indonesia Tbk., PT	6.43	15.10	0.31	73.78	2.74	83.74	5.6	6.4	0.41
2015	Bank QNB Indonesia Tbk., PT	6.66	16.18	2.59	67.54	3.24	95.85	5	6.4	0.41
2011	Bank Rabobank International Indonesia	3.29	16.82	2.40	85.85	4.82	87.11	6.2	5.1	0.38
2012	Bank Rabobank International Indonesia	2.98	14.71	4.14	69.21	4.89	93.17	6.2	5.4	0.41
2013	Bank Rabobank International Indonesia	2.79	14.77	2.40	85.48	4.75	95.49	6	4.3	0.41
2014	Bank Rabobank International Indonesia	1.65	15.06	3.54	85.54	4.91	85.98	5.6	6.4	0.41
2015	Bank Rabobank International Indonesia	-18.61	13.27	8.41	110.37	4.66	87.09	5	6.4	0.41
2011	Bank Rakyat Indonesia (Persero) Tbk	34.89	14.96	3.23	44.49	8.03	68.66	6.2	5.1	0.38
2012	Bank Rakyat Indonesia (Persero) Tbk	32.58	16.95	3.24	43.47	7.24	74.05	6.2	5.4	0.41
2013	Bank Rakyat Indonesia (Persero) Tbk	29.62	16.99	2.95	42.65	7.93	85.48	6	4.3	0.41
2014	Bank Rakyat Indonesia (Persero) Tbk	27.37	18.31	3.88	43.98	7.94	74.03	5.6	6.4	0.41
2015	Bank Rakyat Indonesia (Persero) Tbk	24.11	20.59	4.65	44.24	7.96	80.16	5	6.4	0.41
2011	Bank SBI Indonesia PT	11.08	15.35	3.52	48.18	4.70	64.03	6.2	5.1	0.38
2012	Bank SBI Indonesia PT	6.72	11.89	2.85	61.96	3.76	77.93	6.2	5.4	0.41
2013	Bank SBI Indonesia PT	5.16	22.33	2.23	52.92	4.45	83.30	6	4.3	0.41
2014	Bank SBI Indonesia PT	3.12	25.20	8.73	61.56	4.43	74.54	5.6	6.4	0.41
2015	Bank SBI Indonesia PT	-19.42	46.38	7.84	74	3.06	70.56	5	6.4	0.41
2011	Bank Sinarmas TBK., PT	10.22	13.98	3.10	70.19	4.40	66.78	6.2	5.1	0.38

2012	Bank Sinarmas TBK., PT	14.61	18.09	3.16	71.35	5.90	79.09	6.2	5.4	0.41
2013	Bank Sinarmas TBK., PT	9.66	21.82	2.52	75.7	5.88	77.50	6	4.3	0.41
2014	Bank Sinarmas TBK., PT	5.24	18.38	2.82	80.52	5.92	80.30	5.6	6.4	0.41
2015	Bank Sinarmas TBK., PT	5.42	14.37	3.73	76.88	6.49	73.37	5	6.4	0.41
2011	Bank Tabungan Negara (Persero)	16.25	15.03	2.76	62.5	5.34	86.17	6.2	5.1	0.38
2012	Bank Tabungan Negara (Persero)	15.50	17.69	4.16	61.48	5.02	90.45	6.2	5.4	0.41
2013	Bank Tabungan Negara (Persero)	14.31	15.62	4.19	59.98	4.81	97.75	6	4.3	0.41
2014	Bank Tabungan Negara (Persero)	9.62	14.64	0.38	64.98	4.24	99.16	5.6	6.4	0.41
2015	Bank Tabungan Negara (Persero)	14.18	16.97	0.44	57.9	4.77	97.90	5	6.4	0.41
2011	Bank Victoria International TBK (PT)	19.17	16.21	2.38	47.6	1.36	53.11	6.2	5.1	0.38
2012	Bank Victoria International TBK (PT)	15.33	18.53	1.76	42.33	2.85	61.96	6.2	5.4	0.41
2013	Bank Victoria International TBK (PT)	16.87	18.45	0.93	43.72	3.27	67.71	6	4.3	0.41
2014	Bank Victoria International TBK (PT)	6.21	18.25	4.87	66.37	1.83	66.49	5.6	6.4	0.41
2015	Bank Victoria International TBK (PT)	4.86	18.94	12.89	55.96	1.78	64.37	5	6.4	0.41
2011	PT Bank Andara	-11.60	32.67	0.27	108.22	4.66	87.92	6.2	5.1	0.38
2012	PT Bank Andara	-1.54	40.88	0.15	95.6	5.31	118.20	6.2	5.4	0.41
2013	PT Bank Andara	-18.43	33.87	2.15	108.95	5.48	119.20	6	4.3	0.41
2014	PT Bank Andara	-10.35	44.18	4.71	116.97	4.23	91.60	5.6	6.4	0.41
2015	PT Bank Andara	-10.83	28.60	4.29	123.64	4.11	88.20	5	6.4	0.41
2011	PT Bank ANZ Indonesia	12.41	13.01	1.27	51.59	8.05	76.75	6.2	5.1	0.38
2012	PT Bank ANZ Indonesia	22.27	14.26	0.77	46.04	7.63	84.98	6.2	5.4	0.41
2013	PT Bank ANZ Indonesia	16.94	15.18	2.08	45.62	7.26	86.13	6	4.3	0.41
2014	PT Bank ANZ Indonesia	15.56	17.06	2.88	42.35	6.99	88.61	5.6	6.4	0.41
2015	PT Bank ANZ Indonesia	3.56	17.50	9.38	40.87	6.49	79.91	5	6.4	0.41

2011	PT Bank Bukopin	20.41	12.71	6.09	60.97	4.49	78.32	6.2	5.1	0.38
2012	PT Bank Bukopin	17.82	16.34	5.48	60.84	4.31	77.74	6.2	5.4	0.41
2013	PT Bank Bukopin	16.93	15.10	4.52	66.18	3.94	80.28	6	4.3	0.41
2014	PT Bank Bukopin	10.31	14.20	5.28	68.72	3.76	79.02	5.6	6.4	0.41
2015	PT Bank Bukopin	13.45	13.56	3.93	62.01	3.74	78.60	5	6.4	0.41
2011	PT Bank CIMB Niaga Tbk	19.73	13.20	3.60	50.3	5.97	91.37	6.2	5.1	0.38
2012	PT Bank CIMB Niaga Tbk	20.72	15.08	2.68	46.8	5.82	91.54	6.2	5.4	0.41
2013	PT Bank CIMB Niaga Tbk	17.70	15.38	3.22	47.88	5.40	91.18	6	4.3	0.41
2014	PT Bank CIMB Niaga Tbk	8.63	15.39	4.78	51.53	5.52	94.43	5.6	6.4	0.41
2015	PT Bank CIMB Niaga Tbk	1.50	16.16	5.02	56.01	5.62	88.92	5	6.4	0.41
2011	PT Bank CTBC Indonesia	10.60	34.19	2.84	47.88	6.51	104.66	6.2	5.1	0.38
2012	PT Bank CTBC Indonesia	8.91	36.27	2.45	47.69	6.11	111.42	6.2	5.4	0.41
2013	PT Bank CTBC Indonesia	11.90	31.46	2.36	40.77	5.51	108.99	6	4.3	0.41
2014	PT Bank CTBC Indonesia	10.41	29.24	3.23	41.8	4.93	92.58	5.6	6.4	0.41
2015	PT Bank CTBC Indonesia	4.68	26.28	3.40	46.24	4.62	91.84	5	6.4	0.41
2011	PT Bank ICBC Indonesia	4.71	18.89	0.30	62.94	2.28	70.50	6.2	5.1	0.38
2012	PT Bank ICBC Indonesia	9.26	13.98	0.42	64.17	1.91	71.19	6.2	5.4	0.41
2013	PT Bank ICBC Indonesia	9.39	20.11	1.55	52.46	2.25	82.81	6	4.3	0.41
2014	PT Bank ICBC Indonesia	8.26	16.73	1.37	52.62	2.27	80.65	5.6	6.4	0.41
2015	PT Bank ICBC Indonesia	10.65	14.38	8.19	40.68	2.75	101.92	5	6.4	0.41
2011	PT Bank KEB Hana	3.48	43.77	0.70	64.27	4.98	100.48	6.2	5.1	0.38
2012	PT Bank KEB Hana	4.55	28.93	0.24	64.33	4.71	95.56	6.2	5.4	0.41
2013	PT Bank KEB Hana	12.03	29.22	0.19	43.87	5.21	99.71	6	4.3	0.41
2014	PT Bank KEB Hana	8.75	18.47	0.08	45.26	3.46	82.21	5.6	6.4	0.41

2015	PT Bank KEB Hana	11.86	21.06	0.21	40.63	3.58	89.64	5	6.4	0.41
2011	PT Bank Mayapada Internasional TBK	10.89	14.68	2.52	60.54	5.98	78.07	6.2	5.1	0.38
2012	PT Bank Mayapada Internasional TBK	15.01	10.93	0.55	52.5	5.82	79.64	6.2	5.4	0.41
2013	PT Bank Mayapada Internasional TBK	18.10	14.07	0.40	50.6	5.38	85.01	6	4.3	0.41
2014	PT Bank Mayapada Internasional TBK	16.53	10.44	1.46	55.51	4.09	80.97	5.6	6.4	0.41
2015	PT Bank Mayapada Internasional TBK	17.71	12.97	2.52	45.15	4.55	82.64	5	6.4	0.41
2011	PT Bank Maybank Indonesia Tbk	8.71	11.83	2.29	65.84	5.43	85.87	6.2	5.1	0.38
2012	PT Bank Maybank Indonesia Tbk	13.75	12.83	2.19	60.88	5.39	88.84	6.2	5.4	0.41
2013	PT Bank Maybank Indonesia Tbk	14.23	12.72	2.85	60.46	4.93	90.60	6	4.3	0.41
2014	PT Bank Maybank Indonesia Tbk	5.37	15.76	3.34	64.29	4.84	95.17	5.6	6.4	0.41
2015	PT Bank Maybank Indonesia Tbk	7.56	15.17	3.83	58.76	4.99	88.09	5	6.4	0.41
2011	PT Bank Mizuho Indonesia	8.76	17.27	2.55	28.98	2.41	171.07	6.2	5.1	0.38
2012	PT Bank Mizuho Indonesia	10.09	17.12	1.99	30.48	2.09	99.63	6.2	5.4	0.41
2013	PT Bank Mizuho Indonesia	10.96	19.26	1.37	24.94	2.21	117.88	6	4.3	0.41
2014	PT Bank Mizuho Indonesia	11.65	18.79	1.22	26.01	2.73	108.69	5.6	6.4	0.41
2015	PT Bank Mizuho Indonesia	11.62	21.21	0.30	26.77	2.92	118.08	5	6.4	0.41
2011	PT Bank Rakyat Indonesia Agroniaga Tbk	10.50	16.39	5.16	83.79	5.39	62.10	6.2	5.1	0.38
2012	PT Bank Rakyat Indonesia Agroniaga Tbk	9.18	14.80	5.71	60.56	5.16	68.24	6.2	5.4	0.41
2013	PT Bank Rakyat Indonesia Agroniaga Tbk	8.68	21.60	4.45	60.76	5.19	85.41	6	4.3	0.41
2014	PT Bank Rakyat Indonesia Agroniaga Tbk	6.86	19.06	4.67	63.16	4.90	85.53	5.6	6.4	0.41
2015	PT Bank Rakyat Indonesia Agroniaga Tbk	7.16	22.12	6.47	51.67	5.36	86.12	5	6.4	0.41
2011	PT Bank Resona Perdania	15.79	17.62	2.27	25.82	4.59	88.38	6.2	5.1	0.38
2012	PT Bank Resona Perdania	15.33	17.01	1.76	28.05	4.08	99.99	6.2	5.4	0.41
2013	PT Bank Resona Perdania	24.18	18.25	1.23	29.94	3.65	92.38	6	4.3	0.41

2014	PT Bank Resona Perdania	8.73	17.58	2.77	37.82	3.64	105.57	5.6	6.4	0.41
2015	PT Bank Resona Perdania	6.82	24.04	1.11	37.28	3.31	92.07	5	6.4	0.41
2011	PT Bank Sahabat Sampoerna	0.71	36.45	2.98	68.69	4.88	77.18	6.2	5.1	0.38
2012	PT Bank Sahabat Sampoerna	0.71	35.47	1.84	95.94	4.28	78.85	6.2	5.4	0.41
2013	PT Bank Sahabat Sampoerna	4.55	27.19	1.59	80.08	4.73	79.65	6	4.3	0.41
2014	PT Bank Sahabat Sampoerna	4.89	23.54	2.28	70.45	4.24	90.97	5.6	6.4	0.41
2015	PT Bank Sahabat Sampoerna	6.71	17.03	1.67	63.6	6.80	91.15	5	6.4	0.41
2011	PT Bank Sumitomo Mitsui Indonesia	12.11	40.13	0.69	24.52	2.68	188.88	6.2	5.1	0.38
2012	PT Bank Sumitomo Mitsui Indonesia	10.02	26.14	0.70	24.58	1.97	155.48	6.2	5.4	0.41
2013	PT Bank Sumitomo Mitsui Indonesia	11.91	25.81	0.38	22.82	1.62	175.65	6	4.3	0.41
2014	PT Bank Sumitomo Mitsui Indonesia	11.50	23.51	0.07	28.56	2.30	172.39	5.6	6.4	0.41
2015	PT Bank Sumitomo Mitsui Indonesia	10.53	24.76	0.05	31.67	2.46	142.88	5	6.4	0.41
2011	PT Bank UOB Indonesia	11.04	17.61	1.93	55.05	5.62	82.90	6.2	5.1	0.38
2012	PT Bank UOB Indonesia	13.85	16.77	1.81	54.64	5.42	89.58	6.2	5.4	0.41
2013	PT Bank UOB Indonesia	12.85	14.94	1.63	58.63	4.89	88.10	6	4.3	0.41
2014	PT Bank UOB Indonesia	7.11	15.72	3.72	61.32	4.56	86.48	5.6	6.4	0.41
2015	PT Bank UOB Indonesia	4.57	16.20	2.68	65.75	4.22	86.09	5	6.4	0.41
2011	PT Bank Woori Saudara Indonesia 1906 Tbk	20.78	13.38	1.69	63.77	8.70	77.12	6.2	5.1	0.38
2012	PT Bank Woori Saudara Indonesia 1906 Tbk	23.51	14.70	2.08	58.09	7.67	80.44	6.2	5.4	0.41
2013	PT Bank Woori Saudara Indonesia 1906 Tbk	18.49	27.91	0.48	27.85	3.30	119.24	6	4.3	0.41

2014	PT Bank Woori Saudara Indonesia 1906 Tbk	4.97	20.53	2.51	33.57	2.37	95.72	5.6	6.4	0.41
2015	PT Bank Woori Saudara Indonesia 1906 Tbk	6.60	18.82	1.98	60.06	5.32	90.91	5	6.4	0.4