

**THE EFFECT OF CAPITAL ADEQUACY RATIO (CAR), LIQUIDITY,
LEVERAGE, AND SIZE ON PROFITABILITY IN BANKING SECTOR**



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I. INTRODUCTION

A. Background

The role of banking greatly affects a country's economic activities. Therefore, the progress of a bank in a country can also be used as a measure of the progress of the country concerned. The more advanced a country, the greater the role of banks in controlling the country is. This means that the existence of the banking world is increasingly needed by the government and society. So important is the world of banking, so that there is an assumption that banks are the foundation of the state to drive the wheels of the economy. This assumption is certainly not wrong considering the function of banks as financial institutions is very vital for circulating money, providing money to support state activities, securing money, conducting investment activities and other financial services (Damayanti: 2012)

Assessment of the performance of a bank can be done by analyzing financial statements. The bank's financial statements in the form of a balance sheet provide information to parties outside the bank such as the central bank, the general public, and investors. Regarding the description of its financial position, it can be further used by external parties to assess the amount of risk that exists in a bank. The income statement provides an overview of the development of the bank concerned. The measurement of bank soundness must be carried out by all banks, both conventional banks and Islamic banks. This is because they are related to the interests of all related parties, both the

owner, management of the bank, community of bank service users, Bank Indonesia as the bank supervision authority, and other parties. Information regarding the condition of a bank can be used by these parties to evaluate its performance in applying the precautionary principle, compliance with applicable provisions and risk management.

The development of the bank condition appraisal methodology is always dynamic, so that the bank's soundness rating system needs to be reviewed periodically to adjust current conditions. The goal is to better reflect the current and future conditions of the bank. It is in the context that Bank Indonesia continues to revise the soundness rating system which includes improving the qualitative and quantitative assessment approaches and adding assessment factors. For banks, the final result of the assessment of the condition can be used as a means in determining the business strategy in the future. Meanwhile, for Bank Indonesia, among others is used as a means in determining and implementing a bank supervision strategy.

Data released by the Financial Services Authority in its publication entitled "Indonesian Banking Statistics" shows that the banking industry's financial ratios in Indonesia fluctuate from year to year. Shown in Table I, some banking financial ratios profitability is measured by return on assets, then capital adequacy ratios and liquidity ratios are measured using a loan to deposit ratio.

Table 1.1 Financial Ratio in Banking Industry in 2013-2017

Ratio	2013	2014	2015	2016	2017
Return on Asset	3.08	2.38	1.62	1.66	1.51
Capital Adequacy Ratio	18.13	29.97	23.05	23.72	25.32
Loan to Deposit Ratio	89.70	101.72	97.81	98.04	91.13

Source: Indonesian Banking Statistic: 2017, processed

Based on Table 1.1 the profitability ratio for Banking in Indonesia in 2014 was 2.38 percent, but experienced a decline in 2015, to 1.62 percent. Then, it experienced a rebound in 2016 to 1.66 percent, but in 2017 it declined again to 1.51 percent. It can be seen that the adequacy of banking capital in Indonesia also fluctuated as in 2014 the CAR was 29.97 percent, but it declined in 2015 to 23.05 percent. Further, it experienced an increase in 2016 to 23.72 percent, and increased again in 2017 to 25.32 percent. Banking Loans to Deposit Ratio also fluctuated as it was down from 2014 at 101.72 percent to 97.81 percent in 2015, then it experienced a rebound in 2016 to 98.04 percent, and experienced a decline in 2017 to 91.13 percent.

The occurrence of fluctuations or even a decline at the end of 2017 in banking financial ratios was because Indonesia's economic growth rate was relatively stagnant at 5.07% year on year (yoy), a slight increase compared to 2016 which grew by 5.02%. This impacted the banking industry which experienced a slowdown reflected in the growth of bank credit. Growth in the distribution of National Banking Loans in December 2017 was 8.35% (yoy), up slightly from the December 2016 with growth of 7.9% (yoy). In terms of funding, National banking Third Party Funds in December 2017 was able to grow by 9.35% (yoy), slightly smaller than in December 2016 which grew by 9.6% (yoy).

Financial statement analysis specifically devotes attention to the calculation of ratios in order to evaluate the financial situation in the past, present and project the future. Rational analysis is a form or method commonly used in financial statement analysis. In other words, among the analytical tools used to measure the strengths or weaknesses faced by the market in the financial sector, is ratio analysis (financial ratio analysis). The ratio is a tool expressed in relative and absolute terms to explain a particular relationship between factors one another from a financial report. Financial ratios are generally classified into 4 types namely liquidity ratio, leverage ratio, activity ratio or activity ratio, and profitability ratio (Alwi, 1989).

Profitability ratios measure management effectiveness based on returns generated from loans and investments. The indicator commonly used to measure bank profitability performance is ROE (Return on Equity), which is a ratio that describes the amount of return on total capital to generate profits. The other indicator is ROA (Return on Assets), which is the ratio that shows the ability of all existing assets and used to produce profit. In this study, the proxy used to measure profitability ratios is ROA. The selection of ROA ratios because they are more reflective of the return results of all assets owned by the company, while ROE is only from equity.

This research is a development research from a previous study conducted by Damayanti (2012), which examined the effect of firm size, CAR and Liquidity (LDR) towards the banking sector for the period 2005-2009. This research adds leverage variable by renewing the year period from

2013 to 2017. The addition of the leverage ratio aims to see its effect on banking profitability. Through the leverage ratio, it can also see the proportion of debt and capital owned by the banking sector in Indonesia.

According to Usman (2001), CAR is a ratio that shows the level of capital owned by a bank. Banks that have a good level of capital adequacy show the healthy bank indicators. CAR is measured by comparing the bank's capital with risk-weighted assets. CAR reflects the equity capital of the company. This shows that the greater the CAR, the greater the chance that banks in Indonesia generate profits. This is because of large capital, so that bank management is very flexible to place their funds profitable investment activities. This also reflects the ability of banks to bear the risk that can emerge and shows versatility in anticipating the asset's decline customer protected and enhanced public trust. Therefore, compliance with the capital adequacy ratio (CAR) that must be provided by banks is important to measure and maintain the security of funds, especially the owners of public funds against possible losses from investment in property (Arifin, 2005). Capital adequacy ratio (CAR) have functions to accommodate the risk of losses that might be faced by banks. The higher the CAR, the better owns's ability to bear the risk of each risk credit.

According to Moore (2009), the level of bank liquidity can be measured by loan to deposit ratio (LDR). LDR is the ratio between the amount of credit channeled and third party funds collected by the bank. The greater the amount of funds channeled to customers in the form of credit, the

amount of unemployed funds decreases and the interest income earned will increase. This will increase the LDR so that bank profitability also increases (Setiadi, 2010).

According to Kasmir (2008), leverage is a ratio used to measure the extent to which a company's assets are financed by debt. In this study leverage is measured by the Debt Equity Ratio (DER). This ratio aims to assess debt with equity. A high DER will cause a high risk for the company because the company must pay a fixed fee in the form of principal loans and interest costs. High interest costs will have an impact on decreasing company profits.

According to Riyanto (2001), the size of a company is a scale which can be classified as the size of the company according to various methods, including the total assets. The size of the company will affect the ability to bear the risks that may arise from various situations faced by the company.

Several previous studies that have been conducted showed that the capital adequacy ratio has a positive effect on profitability (Ervani, 2010) and Purwana (2009). Research conducted by Ponco (2008) also showed that the LDR has a positive and significant influence on profitability. Another study conducted by Akinlo and Asaolu (2012), suggested that leverage has a negative influence on profitability. Ultimately, Adawiyah (2017), in her research results showed that the size of the company measured by total assets has a positive effect on profitability.

B. Problem Formulation

The formulation of the problems in this study is as follows:

1. Whether the CAR has a partial effect on the profitability of the banking companies listed on the IDX for the 2013-2017 period?
2. Whether liquidity has a partial effect on the profitability of the banking companies listed on the IDX for the 2013-2017 period?
3. Whether leverage has a partial effect on the profitability of the banking companies listed on the IDX for the 2013-2017 period?
4. Whether company size affects partially on the profitability of the banking companies listed on the IDX for the 2013-2017 period?

C. Research Objectives

The purposes of this research are:

1. Knowing and analysis the influence of CAR on the profitability of the banking companies listed on the IDX for the 2013-2017 period
2. Knowing and analysis the effect of liquidity on the profitability of the banking companies listed on the IDX for the 2013-2017 period
3. Knowing and analysis the influence of leverage on the profitability of the banking companies listed on the IDX for the 2013-2017 period
4. Knowing and analysis the effect of companysize on the profitability of the banking companies listed on the IDX for the 2013-2017 period

D. Research Benefits

1. The benefits for theory:

The results of this study are expected to add references and enrich scientific studies in the field of banking profitability.

2. Practical benefits:

The results of this study are expected to add information to investment players to assess companies that have good profitability, so that investment actors can produce the right decisions in their investment decisions.

E. Limitation of Problems

Limitation of problems is needed to prevent the topic of the research extends and deviates from the objectives set. The research formulates the problem boundaries as follows:

1. The object of this study is all companies in the banking sector listed on the Indonesia Stock Exchange in the period 2013 to 2017. The selection of the banking sector is based on the fact that the banking industry has a very large role in facilitating the process of transferring funds from parties with excess funds toward those who need funds for more productive activities. This can have an impact on improving the country's economy
2. Variables used are CAR, liquidity, leverage, size, and profitability

II. LITERATURE REVIEW, HYPOTHESIS FORMULATION, AND RESEARCH MODEL

A. Literature Review

1. Agency Theory (Agency Theory)

Jensen and Meckling (1976), defined agency relations as a contract in which one or more people (principals) involve other people (agents) to perform services on their behalf which involve delegating decision-making authority to the agent. Ross et. al. (2015), stated that the relationship between shareholders and management is called an agency relationship. The relationship will occur whenever someone (owner) will employ another party (agent) to represent his/her interests. In all agency relationships, there is a possibility of a conflict of interest between the owner and his/her agent. The conflict of interest is called agency problem.

The existence of different interests between the agent and the principal will cause an Agency Problem caused by Asymmetric Information, namely information that is not balanced (asymmetric). In this case, the principal should get all the information produced by the agent, but the agent does not report all information needed by the principal. So, the principal does not get information about the actual performance of the agent in managing the principal's wealth. As a result, this unbalanced information raises 2 problems in controlling and

monitoring agents. Jensen and Meckling (1976), stated that these problems are:

- a. Moral Hazard, which is a problem that arises when the agent does not implement things that have been agreed upon in the employment contract.
- b. Adverse selection, which is a condition where the principal cannot know whether a decision taken by an agent is really based on the information he/she has obtained, or occurs as an omission in the task.

Agency theory states that companies that separate management and ownership functions will be vulnerable to agency conflict (Jensen and Mackling, 1976). In the agency model, a system is designed to involve both parties, namely management and owner. Furthermore, management and owners make work contracts to achieve the expected benefits (utilities). Lambert (2001), stated that the agreement is expected to maximize the utility of the owner (principal), and can satisfy and guarantee management (agent) to receive rewards. Benefits received by both parties are based on company performance. In general, company performance is measured by profitability (Penman, 2003). The amount of profitability, then informed by management to the owner through the presentation of financial statements.

2. Profitability

Profitability is a specific measure of a bank's performance, where the goals of the company's management are maximizing the value of the

shareholders, optimizing the various levels of return, and minimizing existing risks (Hasan, 2003). The higher the return, the better the condition. Meant, dividends distributed or reinvested as retained earnings are also greater (Kuncoro, 2002).

According to Meythi (2011) the profitability ratio provides a comprehensive evaluation of the company's performance and management. This ratio measures how much profit the company can get. So, the profitability calculation is intended to find out how far the company management controls the business efficiently. The benefits of profitability are:

- a. knowing the level of profit obtained by the company in a period,
- b. knowing the company's profit position in the previous year and the current year,
- c. knowing the development of profits from year to year,
- d. knowing the amount of net profit after tax and own capital,
- e. knowing the amount of productivity of all company funds used both loan capital and own capital.

According to Riyanto (2001), the way to assess the profitability of a company is various and depends on which profit and assets or capital will be compared with each other. Regarding the methods that will be used to assess the profitability, it depends on the policy of the company concerned. Profitability is the ratio of measuring management effectiveness as a whole which is indicated by the size of the profits

obtained in relation to sales and investment. The profitability of a company is measured by the company's success and the ability to use its assets productively. So, the profitability of a company can be known by comparing the profit obtained with the amount of assets or total capital of the company (Munawir: 2002).

Based on the definition of the two experts above regarding profitability, it can be concluded that the performance of a company that is measured through profitability has a relationship to the value of the company through stock price indicators and capital structure with the size of the composition of debt assessed each period.

According to Harahap (2008), the advantages of profitability ratios compared to other financial ratios are:

- a. Ratio analysis is easier to read and interpret,
- b. It is a simpler substitution for detailed and complex financial statement information,
- c. Can provide information about the position of the company in the middle of other industries,
- d. It is easier to see periodic developments or time series,
- e. It is easier to see company trends and make predictions in the future.

While the weakness of this ratio is:

- a. The results of the analysis cannot stand alone but must be compared with the ratio of similar companies that have almost the same level of risk and an analysis of trends in each ratio of the previous year,

- b. In conditions of inflation, the ratio cannot indicate the actual condition and cannot be compared with the previous year's situation.

The profitability ratios that are the focus of this study are: Return On Assets (ROA). One of the indicators used to see financial performance is Return on Assets (ROA). Return on Assets (ROA) describes the company's ability to obtain overall profits. The greater the Return on Assets (ROA), the greater the level of profit achieved by the bank and the better performance of the company. In accordance with Bank Indonesia Circular Letter No. 23/67 / KEP / DIR, the minimum ROA limit is 1%. If the ROA value is below 1%, the company is in an unsafe or unhealthy zone.

According to Munawir (2002), ROA reflects how many the company has obtained results on financial resources invested. Rafika (2014), explained that ROA is a profitability ratio that shows how much the company's ability to manage assets owned to generate profits. If ROA has a high value, then the company's performance in managing assets becomes a profit for the company very well. The ability of the company will be seen by investors. The better the ability of the company, the more interested investors will invest in the company. ROA has goals and benefits not only for business owners or management, but also for parties outside the company, especially those who have a relationship or interest with the company

Measurement of the company's financial performance with ROA shows the ability of the capital invested in the overall assets owned to generate profits. ROA is the ratio of net profit after tax to assess the level of return on assets owned by the company. Negative ROA is caused by the company's profit in a negative condition or loss. This indicates the ability of the invested capital as a whole has not been able to generate profits. According to Sutrisno (2009) ROA is calculated by the following formula:

$$\text{Return On Assets} = \frac{\text{Earning Before Interest and Tax}}{\text{Total Assets}} \times 100\%$$

3. Capital Adequacy Ratio (CAR)

Capital Adequacy Ratio serves to accommodate the risk of losses that may be faced by the bank. The higher the CAR, the better the bank's ability to bear the risk of any risky credit / productive assets. If the CAR is high then the bank is able to finance operational activities and make a substantial contribution to profitability.

Capital Adequacy Ratio (CAR) is the ratio of own capital to weighted assets according to risk. CAR (Capital Adequacy Ratio) is used to measure the capital adequacy of a bank to support assets that contain or generate risk (Suryani et al, 2016). The Capital Adequacy Ratio (CAR) is used to measure the existing capital capabilities to cover possible losses in financing and trading of securities. Banks that have high capital adequacy will increase confidence in channeling financing or funding. In accordance with Bank Indonesia regulations No 9/13 / PBI /

2007, a good minimum CAR limit is 8%. If the CAR value of a company is below 8% then the company is not healthy. The following is the formula used to calculate CAR:

$$\text{CAR} = \frac{\text{Capital}}{\text{Risk-Based Balanced Asset}} \times 100\%$$

4. Liquidity

Liquidity is a ratio that shows the company's ability to pay all its short-term debt with the liquid assets it controls (Hasibuan, 2008). Esthirahayu (2014), explained that the importance of liquidity ratios for financial performance as liquidity has a close relationship with the company's ability to obtain profit (profitability). Liquidity shows the level of availability of working capital needed in operational activities. The existence of working capital is quite possible for the company to operate optimally and does not experience difficulties due to the financial crisis. However, excessive working capital actually shows that there are funds that are not productive and impressed the company to release to make a profit. Ideally, the company's working capital should be available in sufficient amounts to finance various company activities, which means there is no shortage of capital and no idle resources. Thus, the company's ability to improve financial performance of assets owned to a maximum,

Liquidity is often used by companies and investors to determine the level of the company's ability to meet short-term obligations. But, sometimes some companies are unable to pay the debt at a predetermined time with the reason that they do not have enough funds to cover the

maturing debt. This will disrupt the relationship between the company and creditors. In the long run, these problems will affect customers. This means that in the end the company will experience an economic crisis. This is because the company does not gain trust from customers.

Liquidity is a company's ability to meet short-term obligations. Liquidity is very important for a company because it relates to changing assets into cash. Sartono (2001), said that the liquidity ratio shows the ability to pay short-term financial obligations on time.

According to Brigham and Houston (2006), liquid assets are assets traded in an active market so that they can be converted quickly into cash at the prevailing market prices. Meanwhile, the liquidity position of a company is related to the question of whether the company is able to repay its debt when the debt is due in years next.

Liquidity is an indicator of a company's ability to pay all short-term financial liabilities at maturity using current assets available. Liquidity is not only related to the overall state of the company's finances, but also relates to the ability to convert certain current assets into cash.

According to Munawir (2002), a company is said to have a strong financial position if it is able to:

- a. Fulfil its obligations on time (financial obligations to external parties);

- b. Maintain sufficient working capital (liquidity) for normal operations (financial obligations to internal parties);
- c. Pay the interest and dividends needed;
- d. Maintain a favorable credit level.

According to Moore (2009), the level of bank liquidity can be measured by the Loan to Deposit Ratio (LDR). LDR is the ratio between the amount of credit disbursed to third party funds collected by banks. The greater the amount of funds distributed to customers in the form of credit, the amount of idle funds will decrease and the interest earned will increase. This will certainly increase the LDR so that bank profitability also increases (Setiadi, 2010).

According to BI Circular No. 3 / 30DPNP dated December 14, 2001, LDR can be measured from the comparison between the total amount of loans granted to third party funds. The amount of credit disbursed will determine the bank's profit. If the bank is unable to channel credit while the funds collected are a lot, it will cause the bank to lose. So, the higher the LDR, the more the company's profit will increase (assuming the bank is capable channeling credit effectively, so the amount of bad credit will be small). Credit is given by the bank which the bank has withdrawn. Credit provided does not include credit to other banks (Kasmir, 2008).

The LDR ratio illustrates the ability of banks to repay withdrawals made by depositors' customers by relying on loans provided

as a source of liquidity. So, the higher this ratio, the lower the bank's liquidity ability. This is as a result of the greater amount of funds needed to finance credit (Veithzal et al., 2007). Based on Bank Indonesia provisions, the size of the standard LDR is between 80% -100% (Lukman, 2005). Calculations to find LDR are as follows (Veithzal, et al, 2007):

$$\text{LDR} = \frac{\text{Amount of Credit Given}}{\text{Total Third Party Funds}} \times 100\%$$

5. Leverage

According to Kasmir (2008), leverage is the ratio used to measure the extent to which a company's assets are financed by debt. The use of corporate financing sources, both those which are sources of short-term financing and sources of long-term financing, will create an effect commonly referred as leverage. According to Sutrisno (2009), leverage is the use of assets or sources of funds for which the company must bear a fixed cost or pay a fixed fee. In addition, Schall and Haley (1991) defined leverage as "the degree of firm borrowing", meaning leverage as the level of corporate loans.

According to Zamri (2016), funding made by companies usually comes from the company's own capital (equity) or obtained from debt, both short-term and long-term debt. The size of the company's funding from debt is a reflection of the level of leverage. There are two reasons behind using leverage, including:

1. Because interest can be a tax deduction, the use of debt will reduce tax liabilities and leave a greater operating profit for corporate investors.
2. If operating profit as a percentage of assets exceeds the interest rate on debt as is generally expected, then the company can use to buy assets, pay interest on debt, and get the remaining "bonus" for shareholders (Brigham and Houston, 2006).

This leverage will later affect the large or small amount of EPS that will be received on each share, so it can be known the company's profitability in generating earnings per share (Putra, 2013). Commonly used leverage ratios are debt to asset ratio, debt to equity ratio, times of interest earned ratio, fixed charge coverage ratio, and debt service coverage

Based on the above meanings, it can be concluded that leverage is a level of the company's ability to use assets and or funds that have a fixed burden (debt and / or special shares) in order to realize the company's goal to maximize the wealth of the owner.

The leverage ratio that is the focus of this research is: Debt to Equity Ratio (DER). According to Octavia (2010), DER shows the percentage of fund provision by shareholders to lenders. This ratio shows a comparison between total debt and total equity. The higher this ratio (the higher the debt), the higher the risk of using the fund will reduce the estimated return of investors. The higher the level of debt owned, the

greater the interest expense that must be borne. This will lead to smaller profits, thus affecting the low dividends that can be paid to shareholders. Companies in financing operations or expanding businesses often use debt. As a result, companies need funds to repay their debts that will be taken from retained earnings. Meant, the company must hold most of its profits for these purposes so that only a small portion of the profits are paid as dividends. DER reflects the company's ability to fulfill all of its obligations, which is indicated by how much part of its own capital is used to repay debt. The greater the DER shows the greater the level of company dependence on external parties and the greater the interest costs that must be paid by the company. According to Sutrisno (2009), the leverage ratio in this case DER can be measured using the following formula:

$$\text{DER} = \frac{\text{Total Debt}}{\text{Total Capital}} \times 100\%$$

6. Company Size (Size)

According to Sawir (2004) firm size is expressed as a determinant of financial structure in almost every study for different reasons. The main factors that affect the size of the company are: (1) the amount of total assets, (2) the amount of sales, (3) the amount of market capitalization.

Company size can be interpreted as the size of the company seen from the value of equity, the value of the company, or the results of the total value of assets of a company (Riyanto, 2001). The same definition

is also expressed by Sujianto (2001), company size describes the size of a company shown by total assets, total sales, average total sales, and average total assets.

Company size is seen from the total assets owned by the company that can be used for the company's operations. If the company has a large total assets, the management is more free to use the assets in the company. If viewed from the management side, the ease with which it controls the company will increase the value of the company. The size of large companies makes it easy for them to overcome the funding problems. Companies generally have high flexibility and accessibility in funding issues through the capital market. This convenience can be captured as good information. Large size and growing can reflect future profit levels (Suharli, 2006).

Companies that have a large total assets show that they have reached the stage of maturity where in this stage the companys' cash flow is positive and is considered to have good prospects in a relatively long period of time. This is also reflecting that the companies are relatively more stable and better able to generate profits compared to companies with small total assets (Basuki, 2006).

B. Hypothesis Formulation and Research Model

1. The relationship between CAR and Profitability

CAR is a financial ratio that aims to measure the adequacy of capital owned by a bank that is useful to bear all the risks of granting credit (Puspitasari, 2009). CAR is one of the important ratios to be considered by the bank. This is because through CAR the bank can measure its ability to bear all the risks that will occur due to the lending, so that it can maintain its profitability.

Ervani (2010), in her research suggested that CAR has a positive and significant relationship to ROA. Research conducted by Yuwono (2012), stated that a bank will be able to finance its operational activities and can contribute substantially to its profitability if it has a high CAR value. Research conducted by Purwana (2009), showed that CAR has a positive and significant relationship to profitability.

Based on the explanation above, the following hypothesis can be formulated:

H1: CAR has a positive effect on the profitability of the banking companies listed on the IDX for the 2013-2017 period

2. Relationship between Liquidity and Profitability

According to Hasibuan (2008), liquidity is the ability of the bank to pay all its short-term debt with the liquid assets it controls. Meanwhile, according to Kasmir (2008), liquidity is a ratio to measure a bank's ability to meet its short-term obligations when billed. In other words, it

can repay the depositor funds disbursement when billed and can meet the credit requests that have been submitted. One way to measure bank liquidity is by LDR (Loan to Deposit Ratio). LDR reflects the main activities of a bank that can be interpreted as the level of credit distribution. It also affects the value of ROA, where the ratio measures the ratio of the amount of credit provided by the bank to the funds received by the bank.

According to Veithzal, et al (2007), the higher this ratio, the higher the funds channeled to third party. Research conducted by Agustiningrum (2013), revealed that if the LDR increases, the profitability (ROA) of banking companies will increase. Another study conducted by Ponco (2008), also showed that the LDR has a positive and significant influence on profitability.

Based on the explanation above, the following hypothesis can be formulated:

H2: Liquidity has a positive effect on the profitability of the banking companies listed on the IDX for the 2013-2017 period

3. Relationship between Leverage and profitability

Leverage ratio is a ratio that measures how much a company uses funds from debt or loans (Martono: 2001). Leverage ratio is the ratio used to show the extent to which the company's assets are financed by debt. In other words, how much debt the company is liable to compared to its assets. So, with this ratio, it can be known the position of the

company and its obligations that are fixed to the other party and the balance of the value of fixed assets with existing capital (Nugrahani, 2016). Funding policies that are reflected in the DER greatly affect the achievement of profits obtained by the company. The higher the DER shows the greater the trust of outsiders. This is very possible to improve the financial performance of the company, because with large capital, the opportunity to gain profit levels is also large (Esthirahayu, 2014).

Dewi and Wisadha (2015), in their research stated that DER has a negative and significant effect on profitability. This is also in accordance with research conducted by Akinlo and Asaolu (2012), which suggested that leverage has a negative influence on profitability

Based on the explanation above, the following hypothesis can be formulated:

H3: Leverage has a negative effect on the profitability of the banking companies listed on the IDX for the 2013-2017 period

4. Relationship between Company Size and Profitability

Valeiras et al. (2016), stated that the argument used to justify a positive direct relationship between firm size and profitability is because companies with larger assets have opportunities to reach economies of scale. Achieving economies of scale will give companies greater profits. This shows that large companies are more promising good profitability. This is because large companies usually have large assets too, and large assets can support the company in achieving good profitability. Large

companies also have greater negotiating power with customers and suppliers and easier access to international markets, so as to provide greater benefits for the company.

Adawiyah (2017), in the results of her research found that the size of the company as measured by total assets has a positive effect on profitability. The greater the total assets owned by the company will encourage an increase in company profits. Damayanti and Savitri (2012) also examined the effect of firm size on profitability. In the results of the analysis found that firm size has a positive effect on profitability

Based on the explanation above, the following hypothesis can be formulated:

H4 : The size of the company has a positive effect on the profitability of the banking companies listed on the IDX for the 2013-2017 period

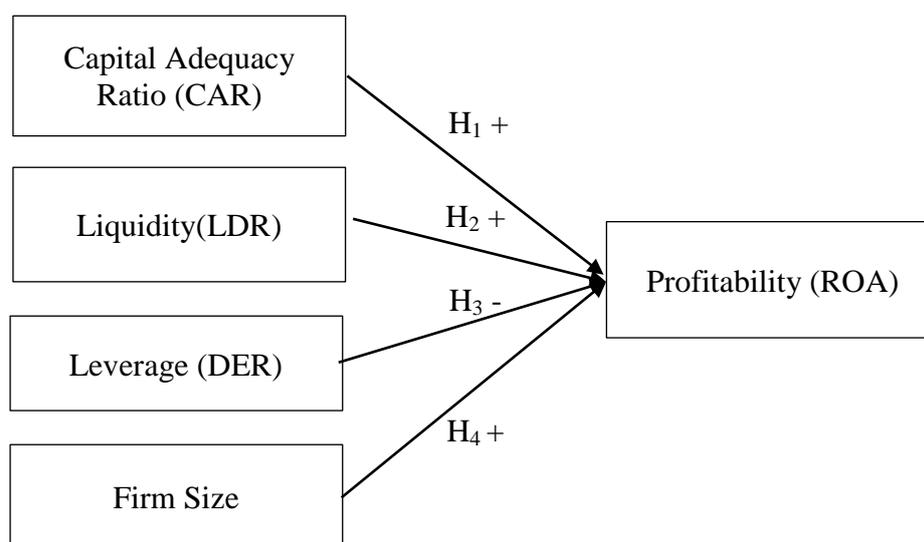


Figure 1. Research Model

III. RESEARCH METHOD AND DATA ANALYSIS

A. Research Methods

1. Type of Research

This research is a causality research which is research that wants to find an explanation in the form of a causal relationship between several concepts or variables in management, which then will then be tested for hypotheses (Ferdinand, 2014: 7)

2. Research Object

The object of research in this study is the variables studied which consist of CAR, liquidity, leverage, size, and profitability.

3. Population and Sampling Method

a. Population

This study takes a population in the banking sector companies listed on the Stock Exchange in the period 2013-2017.

b. Sampling Method

Sampling technique used in this study is purposive sampling method, that is the company will become a sample if it meets certain criteria.

The criteria for this research sample are as follows.

- 1) The company publishes financial reports / annual reports in the 2013-2017 period.
- 2) The company presents variable data needed in this study in a complete and consistent manner for the period 2013-2017.

- 3) The company does not experience delisting in the 2013-2017 period.
- 4) The Company has not suffered consecutive losses during the 2013-2017 period.

4. Data Sources

The research data in this study are obtained from secondary data, namely data that have been already available in financial statements or annual reports published by companies in the banking sector. Financial reports are available on the official website of the Indonesia Stock Exchange, www.idx.co.id.

5. Conceptual Definition and Operational of Variables

a. Profitability

1) Conceptual Definition

Harmono (2009), stated that profitability is an ability which describes the company's fundamental performance in terms of the level of efficiency and effectiveness of the company's operations in gaining profits.

2) Operational definition

Profitability in this study is measured using the ratio of return on assets (ROA), while the formula for calculating ROA is as follows:

$$\text{Return On Assets} = \frac{\text{Net Profit}}{\text{Total Assets}} \times 100\%$$

b. Capital Adequacy Ratio (CAR)

1) Conceptual Definition

CAR is a ratio that shows the extent all the bank assets that contain risks (credit, participation, securities, bills on other banks) financed by their own capital funds (Dendawijaya, 2000).

2) Operational definition

CARs are calculated by dividing the total capital with risk-weighted assets, as reflected in the following formula:

$$\text{CAR} = \frac{\text{Capital}}{\text{RWA}} \times 100\%$$

c. Liquidity

1) Conceptual Definition

Liquidity is a ratio that shows the company's ability to pay for all its short-term debt with the liquid assets it controls (Hasibuan, 2008).

2) Operational definition

Liquidity is measured using the ratio of LDR (Loan to Deposit Ratio) which is obtained by dividing the credit value given to the total third party funds, as reflected in the following formula

$$\text{LDR} = \frac{\text{Total Loan Given}}{\text{Total Third Party Fund}}$$

d. Leverage

1) Conceptual Definition

Leverage is a ratio used to measure the extent to which a company's assets are financed by debt (Kasmir, 2008)

2) Operational definition

Leverage is measured using the DER (Debt to Equity Ratio) ratio which is calculated by dividing the total debt by total equity, as reflected in the following formula:

$$\text{DER} = \frac{\text{Total Debt}}{\text{Total Capital}} \times 100\%$$

e. Company Size (Size)

1) Conceptual Definition

Company size is the size of a company which is shown by total assets, total sales, average total sales and average total assets (Sujianto, 2001).

2) Operational Definition

The size of the company in this study is measured using total assets.

B. Data Analysis Techniques

1. Descriptive Statistical Analysis

Descriptive statistical analysis is an information and an introduction to the information data owned and cannot be used in hypothesis testing. This descriptive statistical analysis is used to present

and analyze data accompanied by calculations to clarify the conditions or characteristics of the data concerned. According to Ghozali (2011), descriptive statistics provide an overview or description of a data that is seen from the average value (mean), standard deviation, minimum value, and maximum value.

2. Classic Assumption Test

According to Gujarati (2006), when regression model is not biased or to meet the BLUE concept (Best Linear Unbiased Estimator) it is necessary to test the classical assumptions. In this study, three assumptions used are normality, multicollinearity, and heteroscedasticity.

a. Normality test

In accordance with the test name, the normality test is intended to detect whether the regression model formed has a residual data that is normally distributed or not. The data tested are standardized residual data, residual values that have a normal distribution are usually most of the values close to their average values. According to Gujarati (2006), the violation of the assumption of normality in the regression model will cause predictive values that are biased and inconsistent. Suliyanto (2011), also described methods that can be used to detect data normality. The methods that can be used are graphical methods, skewness and kurtosis, Jarque-Bera, and Kolmogorov Smirnov.

This study uses the Kolmogorov Smirnov method to test data normality. The normal determination of the residual data tested is done by looking at the asymp sig value. If the asymp sig value is greater than 0.05, then it can be stated that standardized residual data is normally distributed.

b. Multicollinearity Test

Regression models that meet BLUE requirements must fulfill the assumption of multicollinearity. The assumption of multicollinearity means there cannot be a high or perfect correlation between the independent variables in the model. If detected a high correlation between independent variables, it will cause the regression coefficient of the independent variable to be uncertain and the standard error becomes infinite. In addition, high correlation between independent variables can cause high R² values, but no independent variables are significant to the dependent variable (Gujarati, 2006).

One of the methods that is common and often used by researchers to detect the presence or absence of multicollinearity symptoms in the regression model is to see the tolerance value and Variance Inflation Factor (VIF) on each independent variable. Gujarati (2006), stated that the criteria for concluding that the model is free of multicollinearity symptoms is that if the tolerance value is greater than 0.1 and VIF is less than 10. Conversely, if there is an

independent variable that has a tolerance value less than 0.1 and VIF above 10, it means that there is an indication of multicollinearity in the regression model.

c. Heteroscedasticity Test

Heteroscedasticity means there are variants of variables in the regression model that are not the same (constant). A good regression model is that homoscedasticity or variant variables in the regression model have the same value (constant). Violation of the heteroscedasticity assumption causes a variant of OLS estimation in general to be biased, so that hypothesis testing based on t test and F distribution value cannot be trusted (Gujarati, 2006).

According to Gujarati (2006), there are many methods that can be used to determine whether or not there is heteroscedasticity in the model, namely graph method, glejser, park, white, rank Spearman, and Bresch-Pagan-Godfrey. The methods that are quite popular and often used by researchers is the glejser method and the park method. This is because both methods are quite easy in technical compared to other methods mentioned. This study uses the Park Method to detect the presence or absence of heteroscedasticity. Park method is done by expressing the independent variable to the residual value squared that is transformed into the form of Ln (natural logarithm). The statistical criteria used are if the significance value of each

independent variable is greater than 0.05, the regression model is declared free from heteroscedasticity symptom.

3. Multiple Regression Analysis

Multiple linear regression analysis is a linear relationship between two or more independent variables (X_1, X_2, \dots, X_n) with the dependent variable (Y). This study consists of four independent variables, namely CAR, liquidity, leverage, and firm size. Meanwhile, the dependent variable is profitability. Then, the regression equation model that will be formed in this study is as follows.

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + \varepsilon$$

Note :

Y = company performance

a = Constants

b_1 = Regression coefficient for X_1

b_2 = Regression coefficient for X_2

b_3 = Regression coefficient for X_3

b_4 = Regression coefficient for X_4

X_1 = CAR

X_2 = Liquidity

X_3 = leverage

X_4 = Company size

ε = residual value

4. Feasibility Test Model (Goodness of Fit Model)

a. Test F

The use of the F test is intended to see the accuracy of the model (goodness of fit). The F test can also be used to see the effect simultaneously or influence together the independent variables on the dependent variable. The criteria for concluding the model that is formed fit or not, it can be done by looking at the significance value of F. If the significance value is less than alpha (0.05) then the model is declared fit, or simultaneously independent variables can influence the dependent variable. Another way is to compare the calculated F value with F table with df: α , (k-1), (n-k). If F statistic is greater than F table then the model is declared fit. F statistic can be calculated by the following formula (Gujarati, 2006).

$$F = \frac{R^2/(k - 1)}{1 - R^2/(n - k)}$$

Note:

F = F_{statistic} value

R² = coefficient of determination

k = Number of variables

n = Number of observations (sample size)

b. Determination Coefficient (R²)

The coefficient of determination (R²) is used to measure how far the ability of the independent variable in explaining the dependent variable. The coefficient of determination is between zero

and one. A small R^2 value means the ability of the independent variable to explain the dependent variable is limited. The R^2 can also be used to assess whether or not a model is good. The higher the R^2 value indicates the better the model.

The disadvantage of R^2 is the bias towards the addition of independent variables included in the regression model. Each addition of one independent variable in the model will increase the R^2 value even though the entered variable does not have a significant effect on the dependent variable. To reduce this weakness, Adjusted R Square (R^2_{adj}) is used as the adjusted coefficient of determination. The adjusted coefficient of determination means that the coefficient has been corrected by entering the number of variables and the sample size used. The formula for calculating the adjusted coefficient of determination is as follows (Suliyanto, 2011):

$$R^2_{adj} = R^2 - \frac{P(1 - R^2)}{N - P - 1}$$

Note:

R^2 = coefficient of determination

N = sample size

P = Number of independent variables

5. Hypothesis Testing

To test the hypothesis, this study uses the test of individual parameter significance (Test Statistics t). The statistical test t basically

shows how far the influence of one independent variable on the dependent variable (Ghozali, 2009). The Ho hypothesis criteria: Ho is rejected and Ha is accepted if t statistic > t table, while Ho is accepted and Ha is rejected if t statistic \leq t table.

a. First Hypothesis Testing

To test the significance of the influence of CAR on profitability. The steps are to use one-tailed t test (Gujarati, 2006).

$$t_j = \frac{\beta_j}{S_e}$$

Note:

t_j = t statistic value

β_j = regression coefficient

S_e = standard deviation

With a degree of freedom (n-k) and a 95% confidence level (α) = 0.05, then:

Statistical hypothesis:

Ho: $\beta_j = 0$: CAR does not affect profitability

Ha: $\beta_j \neq 0$: CAR has an effect on profitability

Testing criteria:

Ha is accepted if t statistic > t table and sig. < 0.05

Ha is rejected if t statistic and sig. \geq 0.05

b. Second Hypothesis Testing

To test the significance of the effect of liquidity on profitability, the following criteria used are:

Ho: $\beta_j = 0$: Liquidity has no effect on profitability

Ha: $\beta_j \neq 0$: Liquidity affects profitability

Testing criteria:

Ha is accepted if t statistic $>$ t table and sig. $<$ 0.05

Ha is rejected if t statistic and sig. \geq 0.05

c. Third Hypothesis Testing

To test the significance of the effect of leverage on profitability, criteria used are:

Ho: $\beta_j = 0$: Leverage has no effect on profitability.

Ha: $\beta_j \neq 0$: leverage affects profitability.

Testing criteria:

Ha is accepted if t statistic $>$ t table and sig. $<$ 0.05

Ha is rejected if t statistic and sig. \geq 0.05

d. Fourth Hypothesis Testing

To test the significance of the effect of firm size on profitability, criteria used are:

Ho: $\beta_j = 0$: The size of the company has no effect on profitability

Ha: $\beta_j \neq 0$: Company size affects profitability.

Testing criteria:

Ha is accepted if t statistic $>$ t table or sig. $<$ 0.05

Ha is rejected if t statistic \leq t table or sig. \geq 0.05

IV. RESEARCH RESULTS AND DISCUSSION

A. Description of Research Samples

This research was conducted in the banking industry listed on the Indonesia Stock Exchange (IDX) within the period 2013-2017. Based on search results on the official Indonesian stock exchange website (idx.co.id), there are 41 companies including in the banking industry sector. Sampling using purposive sampling technique, obtained as many as 41 companies that meet the sample criteria. The following is presented the sample process with the criteria that have been determined.

Table 4.1 Sampling process

Information	Total
Number of companies included in the banking sub-sector	43
Publication of the company having incomplete annual report for the period 2017	2
The number of companies sampled	41

The following is a list of companies sampled in this study that have passed through a selection from the population.

Table 4.2. The Research Sample Companies

No	Company name	Company Code
1	PT Bank Rakyat Indonesia Agroniaga Tbk	AGRO
2	PT Bank Agris Tbk	AGRS
3	PT Bank Artos Indonesia Tbk	ARTO
4	PT MNC Bank Tbk	BABP
5	PT Bank Capital Tbk	BACA
6	PT Bank Central Asia Tbk	BBCA
7	PT Bank Harda Internasional Tbk	BBHI
8	PT Bank Bukopin Tbk	BBKP
9	PT Bank Mestika Tbk	BBMD
10	PT Bank Negara Indonesia (Persero) Tbk	BBNI

No	Company name	Company Code
11	PT Bank Nusantara Parahyangan Tbk	BBNP
12	PT Bank Rakyat Indonesia (Persero) Tbk	BBRI
13	PT Bank Tabungan Negara (Persero) Tbk	BBTN
14	PT Bank Yudha Bhakti, Tbk.	BBYB
15	PT Bank Danamon Indonesia, Tbk.	BDMN
16	PT Bank Pembangunan Daerah Banten, Tbk	BEKS
17	PT Bank Ganesha Tbk	BGTG
18	PT Bank Ina Perdana Tbk	BINA
19	PT Bank Pembangunan Daerah Jawa Barat dan Banten Tbk	BJBR
20	PT Bank Pembangunan Daerah Jawa Timur Tbk	BJTM
21	PT Bank QNB Indonesia Tbk	BKSW
22	PT Bank Maspion Tbk	BMAS
23	PT Bank Mandiri (Persero) Tbk	BMRI
24	PT Bank Bumi Arta Tbk	BNBA
25	PT Bank CIMB NIAGA Tbk	BNGA
26	PT Bank Maybank Indonesia Tbk	BNII
27	PT Permata Bank Tbk	BNLI
28	PT Bank Sinarmas Tbk	BSIM
29	PT Bank Of India Indonesia Tbk	BSWD
30	PT Bank Tabungan Pensiunan Nasional Tbk	BTPN
31	PT Bank Victoria International Tbk	BVIC
32	PT Bank Dinar Indonesia Tbk	DNAR
33	PT Bank Artha Graha Internasional Tbk	INPC
34	PT Bank Mayapada Tbk	MAYA
35	PT Bank China Construction Bank Indonesia Tbk	MCOR
36	PT Bank Mega Tbk	MEGA
37	PT Bank Mitraniaga Tbk	NAGA
38	PT Bank OCBC NISP Tbk	NISP
39	PT Bank Nationalnobu Tbk	NOBU
40	PT Panin Bank Tbk	PNBS
41	PT Bank Woori Saudara Indonesia 1906 Tbk	SDRA

B. Descriptive Statistics

The data of this study consist of 5 variables. Four are independent variables, namely capital adequacy ratio, liquidity proxied by loan to deposit ratio, leverage proxied by debt to equity ratio, company size, and one dependent variable namely profitability proxied by return on assets. Based on the sampling method, the companies that were sampled were 41 banks, with a period of 5 years, the data studied (n) was 205 data, but because there were

several outlier data, the data outliers were eliminated. Data that experienced these outliers were ARTO in 2016, BABP in 2017, BEKS in 2016, BNLI in 2016, and BSWD in 2016. So that the observation or the amount of data in this study were 200 data.

Description of research variables can be seen in table 4.3.

Table 4.3. Descriptive Statistics Results

Variable	N	Minimum	Maximum	Mean	Std. Deviation
CAR	200	8.02	87.49	20.16	8.05
LDR	200	42.02	140.72	84.28	13.62
DER	200	159.37	3047.12	676.17	304.22
LnSize	200	26.93	34.66	30.60	1.88
ROA	200	-10.77	5.42	1.37	1.73
Valid N (listwise)	200				

The first variable is the capital adequacy ratio (CAR), that is the ratio that shows the capital owned by a bank. The minimum CAR variable shown in table 4.3 which is equal to 8.02% is identified in Banten Regional Development Bank, Tbk in 2012. This shows that the minimum capital adequacy owned by Banten Regional Development Bank, Tbk is the lowest compared to other banks. Despite the CAR value is the lowest, but the value is still above the minimum CAR determined by BI regulations, which is 8%. The maximum value of CAR shown in table 4.3 which is equal to 87.49% is identified in PT Bank National Nobu Tbk in 2013. This indicates that PT Bank National Tbk has the highest capital adequacy compared to other banks. Capital adequacy ratio owned by PT Bank National Nobu Tbk is 10 fold above the minimum CAR value required by BI Regulations. The average

value of the CAR from the total sample in this study is 20.16%. This indicates that the adequacy of Indonesian banking capital in general is considered good because it is 2 times larger than the minimum CAR value required by BI regulations.

The second variable is the Loan to Deposit Ratio, which is then abbreviated as LDR. LDR is a ratio to measure the level of liquidity of banks. LDR is obtained by dividing the total credit value against third party funds. Based on table 4.3, it is known that the LDR variable minimum value is 42.02% found in PT Bank Mitraniaga Tbk in 2017. This indicates that the ability of PT Bank Mitraniaga Tbk to channel loans from its total third party funds is 42.02% which is the lowest compared to other banking institutions. This is an indication that PT Bank Mitraniaga Tbk is less effective in channeling loans because its LDR ratio is still less than of Bank Indonesia regulations. According to Bank Indonesia regulations, the fair provision for an LDR value is between 80% -100%. The maximum value for the LDR variable is equal to 140.72% found in PT Bank Woori Saudara Indonesia 1906, Tbk in 2013. This indicates that the ability of PT Bank Woori Saudara Indonesia 1906, Tbk to channel loans from its total third party funds is amounted to 140.72%. The LDR value of PT Bank Woori Saudara Indonesia 1906, Tbk is considered too high. This is because according to Bank Indonesia the provisions recommended fair value does not exceed 100%. LDR value that is too high means that the credit given to customers is greater than the funds collected from customers. If the LDR value is too high, it is

worried that when a customer takes funds at a time, the bank does not have enough funds to fulfill the request,. This is because the funds are already given to other customers in the form of credit. The average LDR value of the total sample in this study is amounted to 84.28%, and this indicates that in general the LDR value of banks in Indonesia is in accordance with the criteria determined by Bank Indonesia, as the LDR value is between 80% -100%.

The third variable, namely leverage, is proxied by the debt to equity ratio, which is then abbreviated as DER. The DER ratio is used to measure the proportion of debt and equity owned by banks. Based on table 4.3, it is known that the minimum value for the DER variable of 159.37% is found in PT Bank Ina Perdana Tbk in 2017. This indicates that the debt owned by PT Bank Ina Perdana Tbk is 1.59 times greater than the equity held. The maximum DER variable value of 3047.12% is found in PT Panin Bank Tbk in 2017. This is an indication that PT Panin Bank Syariah Tbk has a debt proportion of 30.47 times greater than the equity held. The average value of the DER variable from the total banking sample in this study is 676.17%. There is no standard rule issued by Bank Indonesia to assess a good DER for a bank. A large average banking value is because debt in banks constitutes customer funds collected by banks. So, when compared with equity, the value is certainly many times over the value of equity owned by banks.

The fourth variable is the size of company. The size of company is proxied by total assets. Because the total assets of each company are varied, some companies have small assets and some others have very large total

assets, so in order that there is no data gap that can cause the data not normal, it is converted into a natural logarithm. Based on table 4.3, it is known that the Lnsiz value ranges from 26.93 to 34.66 with an average of 30.60. PT Bank Central Asia Tbk in 2013 was the bank with the lowest Lnsiz value of 26.93. If it is transformed back into Rupiah, the total value of assets owned by PT Bank Central Asia Tbk is IDR 496,849,000,000. The highest Lnsiz value is owned by PT Bank Rakyat Indonesia (Persero) Tbk in 2017 with a Lnsiz value of 34.66 which if transformed into rupiah is worth Rp1,126,248,000,000,000. The average Lnsiz value of the company in the banking sector is equal to 30.60, if transformed into rupiah, it is IDR 100,528,628,110,000.

The fifth variable is Return on Asset which is then abbreviated as ROA. ROA is a ratio that shows the ability of banks to generate net income from the total assets they manage. Shown in table 4.3, the minimum value for ROA equal to -10.77% is found in PT Panin Bank Tbk in 2017. The negative ROA value indicates that PT Panin Bank Tbk suffered a loss in 2017. The maximum value for the ROA variable of 5.42% was owned by PT Bank Mestika Tbk in 2013. This indicates that PT Bank Mestika Tbk in 2013 was able to generate a substantial net profit. According to Bank Indonesia regulations, the value of 1.5% ROA has been categorized very well. The average value of the total ROA of the sample in this study is 1.37%, indicating that in general the value of banking ROA is slightly lower than the provisions of Bank Indonesia.

C. Classical Assumption Test

Classic assumption test is an assumption that must be fulfilled when going to do multiple regression analysis, so that the model formed meets the BLUE (Best Linear Unbiased Estimator) concept. In this study there are three assumptions that must be fulfilled, namely the assumption of normality, multicollinearity, and heteroscedasticity. The explanation is as follows:

1. Normality Test

Normality testing is done to identify whether standardized residual values in the model are normally distributed or not. The method used to determine the normal or not data used in this study is by using the Kolmogorov-Smirnov method. Criteria for determining the normal or not data is by looking at the Asymp.Sig value. If the Asymp.Sig value is greater than 0.05, then the data is declared normal. The results of testing the normality of data can be seen in Table 4.4

Table 4.4. Normality Test Results

		Standardized Residual
N		200
Normal Parameters ^{a,b}	0E-7	0E-7
	.98989873	0.98874261
Most Extreme	.094	0.116
Differences	.075	0.116
	-.094	-0.064
Kolmogorov-Smirnov Z		1.329
Asymp. Sig. (2-tailed)		0.059

Based on table 4.4, it appears that the value of Asymp.Sig of 0.059 is greater than 0.05. Thus, it can be concluded that the residual data in this study spread normally.

2. Multicollinearity Test

Regression analysis assumes that the model must be free from the symptoms of multicollinearity, or there should not be a high relationship between independent variables, in other words the independent variable must be independent. The method used to detect the presence or absence of multicollinearity in this study is by looking at the value of Variance Inflation Factor (VIF), the determination criteria for the presence or absence of multicollinearity if the tolerance value is greater than 0.1 and the VIF value is less than 10, the model is free from multicollinearity. The multicollinearity test results are presented in table 4.5 below.

Table 4.5. Results of Multicollinearity Test with Tolerance Method and VIF

Variable	Collinearity Statistics	
	Tolerance	VIF
CAR	0.630	1.586
LDR	0.829	1.206
DER	0.652	1.533
LnSize	0.904	1.107

Based on table 4.5, the tolerance value of each independent variable is greater than 0.1 and the VIF value of each independent variable is less than 10. Thus, it can be concluded that there are no symptoms of multicollinearity in this research model..

3. Heteroscedasticity Test

Regression analysis assumes that the model must be free from the symptoms of heteroscedasticity. The model that is free from the

symptoms of heteroscedasticity if the residual variants from one observation to another are constant. The method used to detect the presence or absence of heteroscedasticity symptoms in this study using the Glejser Park Method. Determination of criteria for the presence or absence of heteroscedasticity in the model is by viewing the significance value of each independent variable. If the significance value is greater than 0.05, then it can be stated that there is no symptoms of heteroscedasticity in the model. The results of heteroscedasticity testing can be seen in table 4.6

Table 4.6. Results of Heteroscedasticity Test Using the Glejser Park Method

Variable	Significance
CAR	0.915
LDR	0.602
DER	0.062
LnSize	0.674

Based on table 4.6, it can be seen that the significance value for each independent variable is greater than alpha 0.05. So, it can be concluded that the model is free from the symptoms of heteroscedasticity.

D. Multiple Regression Analysis

1. Regression Equations

Regression analysis is used to test the research hypothesis about CAR, Liquidity (LDR), leverage (DER), and firm size (Lnsize) on

profitability (ROA) in banking sector companies in the period 2013-2017. The results of multiple regression analysis can be seen in table 4.7.

Table 4.7. Results of Multiple Regression Analysis

Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	-5.919	1.829		-3.237	0.001
CAR	-0.028	0.016	-0.129	-1.781	0.076
LDR	0.003	0.008	0.027	0.422	0.674
DER	-0.003	0.000	-0.567	-7.990	0.000
LnSize	0.319	0.056	0.346	5.739	0.000

Based on table 4.7 the regression equation that can be made is as follows:

$$Y = -5,919 - 0.028 \text{ CAR} + 0.003 \text{ LDR} - 0.003 \text{ DER} + 0.319 \text{ LnSize} + e$$

$\beta_0 = -5.919$. From the regression equation, it can be seen that the constant value is -5,919. Meant, if the capital adequacy ratio, loan to deposit ratio, debt to equity ratio, and company size are constant, then return on assets will be -5,919.

$\beta_1 = -0.028$ This indicates that variable of adequacy ratio regression coefficient is -0.028. Meant, if the variable capital adequacy ratio increases by 1% then profitability is predicted to decrease by -0.028%, with an assumption that the other variables are constant,

$\beta_2 = 0.003$. This shows that the variable of loan to deposit ratio regression coefficient is 0.003. Meant, if the loan to deposit ratio variable increases by 1% then the return on assets is predicted to increase by 0.003%, with an

assumption that the other variables are in constant condition

$\beta_3 = -0.003$ This indicates that regression coefficient variable of debt to equity ratio is -0.003. Meant, if the debt to equity variable increases by 1% then the return on assets is predicted to decrease by 0.003%., with an assumption that the other variables are in constant condition

$\beta_4 = 0.319$. This shows that regression coefficients of company size proxied with total assets is 0.319. Meant, if the variable size of the company increases by 1% then return on assets is predicted to increase by 0.319%, with an assumption that other variables are in constant state.

2. Determination Coefficient Test (R^2)

The coefficient of determination test is used to identify how much the dependent variable is explained by its independent variables. The higher the value of R Square means the better. It means that the independent variable further explains the dependent variable. The value of R Square can be seen in table 4.8

Table 4.8. The Coefficient of Determination Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.599	0.359	0.346	1.40293

Based on table 4.8 the R Square value is 0.359. This value can be interpreted that the variable capital adequacy ratio (CAR), liquidity

(LDR), leverage (DER), and company size (LnSize) can explain the profitability variable (ROA) of 35.9%, while the other 64.1% are influenced by other variables not included in this research.

3. Simultaneous Regression Test (Test F)

The F test is used to identify whether the independent variables jointly have an influence on the dependent variable. The decision criterion is that if the significance value F is smaller than alpha 0.05, it is stated that the independent variables simultaneously influence the dependent variable. The results of the F test are shown in table 4.9.

Table 4.9. F test results

	Sum of Squares	df	Mean Square	F	Sig.
Regression	215.179	4	53.795	27.332	0.000
Residual	383.804	195	1.968		
Total	598.982	199			

Based on table 4.9, the F value is 27.332 with a significance value of 0.000. Because the significance value is less than alpha 0.05, it can be concluded that simultaneously the capital adequacy ratio, liquidity (LDR), leverage (DER), and firm size (LnSize) variables affect the profitability (ROA).

4. Partial Regression Test (t Test)

The t test is used to determine the effect of independent variables on individual dependent variables. The statistical criteria used to see the effect of independent variables on the dependent variable are by looking at the significance values of each independent variable. If the

significance value is ≤ 0.05 , then the hypothesis is accepted. This means that the independent variable has a significant influence on the dependent variable, whereas if the probability value is > 0.05 , the hypothesis is rejected because the independent variable does not have a significant effect on the dependent variable. The value of t statistic and the significance value of each independent variable can be seen in the following table.

Table 4.10. The Value of t Statistic and the Value of Significance

Variable	t Value	Significance	Alpha	Remarks
CAR	-1.781	0.076	0.05	Rejected
LDR	0.422	0.674	0.05	Rejected
DER	-7.990	0.000	0.05	Accepted
LnSize	5.739	0.000	0.05	Accepted

a. Testing the First Hypothesis

The first hypothesis testing aims to examine the effect of capital adequacy ratio on profitability. Based on table 4.10, it is identified that the value of the t statistic of variable of capital adequacy ratio is -1.781 with a probability value of 0.076. Using df ($n-k = 200-4 = 196$) and alpha 5% obtains t table of 1.972. Because the value of t statistic is smaller than t table and supported by a probability value greater than 0.05, it can be concluded that the variable capital adequacy ratio partially does not affect profitability. This means that in this study profitability is not affected by capital adequacy ratio . Thus, the first hypothesis which states that CAR

affects the profitability of banking sector companies listed on the Stock Exchange for the period 2013-2017 is rejected

b. Testing of the Second Hypothesis

The second hypothesis testing aims to examine the effect of liquidity as measured by loan to deposit ratio toward profitability. Based on table 4.10, it is identified that the value of t statistic of loan to deposit ratio variable is 0.422 with a probability value of 0.674. Using df ($n-k = 200-4 = 196$) and alpha 5% obtains t table of 1.972. Because the value of t statistic is smaller than t table and supported by a probability value which is greater than 0.05, it can be concluded that partially the loan to deposit ratio variable does not affect profitability. This means that, in this study, profitability is not affected by loan to deposit ratio. Thus, the second hypothesis which states that liquidity influences the profitability of the banking sector companies listed on the IDX for the period 2013-2017 is rejected.

c. Testing the Third Hypothesis

The third hypothesis testing aims to examine the effect of leverage proxied by the debt to equity ratio toward profitability. Based on table 4.10, it is identified that the value of the t statistic of leverage variable is -7.990 with a probability value of 0.000. Using df ($n-k = 200-4 = 196$) and alpha 5% obtains t table of 1.972. Because the value of t statistic is greater than t table and supported by a probability value that is smaller than 0.05, it can be concluded that

the leverage variable partially affects profitability. This indicates that increased leverage can reduce profitability. Thus, the third hypothesis which states Leverage influences the profitability of banking sector companies listed on the Stock Exchange in the period 2013-2017 is acceptable

d. Testing of the Fourth Hypothesis

The fourth hypothesis testing aims to examine the effect of company size (LnSize) on profitability. Based on table 4.10, it is identified that the value of the variable t statistic of the company size is 5.739 with a probability value of 0.000. Using df ($n-k = 200-4 = 196$) and alpha 5% obtains t table of 1.972. Because the value of t statistic is greater than t table and supported by a probability value smaller than 0.05, it can be concluded that partially the size of the company variable affects profitability. This means that the greater the company or the increase in total assets owned by the company will increase profitability . Thus, the fourth hypothesis which states that the size of the company affects the profitability of the banking companies listed on the Stock Exchange for the period 2013-2017 can be accepted.

E. Discussion

1. The Effect of Capital Adequacy Ratio on Profitability

CAR reflects the company's equity capital. This shows that the greater the CAR, the more likely the bank enters to make a profit, because of the large amount of capital, bank management is very flexible to place funds into investment activities that benefit and reflect the ability of the bank to bear the risk and show flexibility in anticipating the asset's decline in funds customer protected and enhanced public trust. Therefore, compliance with the capital adequacy ratio (CAR) that must be provided by banks is important to be measured to maintain the security of funds, especially the owners of public funds for possible losses from property investment (Zainul Arifin, 2005: 135). But in this study, based on the results of the analysis, capital adequacy ratio does not affect profitability. This indicates that the increase or decrease in capital adequacy ratio does not significantly influence profitability. This is possible because the capital adequacy ratio only shows the amount of capital available to a bank, not too influential on increasing the company's income that can increase profitability. Descriptive statistics shows that the banking sector's average capital adequacy ratio is 20.16 percent. Although this ratio can be interpreted that the company has sufficient capital available, but it does not affect the increase in income. The results of this study are different from previous studies conducted by Ervani (2010) and Purwana (2009) which concluded that the capital adequacy ratio has a significant

effect on profitability. However, there is a previous study that identified the same results with this study. That is, a research carried out by Ismaulina and Zulfadhli (2016) which concluded that the capital adequacy ratio has no effect on profitability.

2. The Effect of Liquidity (LDR) on Profitability

LDR is a measure of liquidity to measure the amount of funds placed in the form of loans from funds collected by banks (especially public funds). Loan to Deposit Ratio (LDR) is an important factor in the smooth running of a business, especially in a banking company. Banking companies are very concerned about liquidity issues because they are the basis of public trust in the wealth and smoothness and business capabilities of banks, among others, lies in the smooth flow of payment traffic in serving the public (Norris and Floerkemeier, 2008). Based on the analysis results, loan to deposit ratio does not affect profitability. This indicates that the increase or decrease in loan to deposit ratio does not significantly influence profitability. Descriptive statistics shows that the banking sector's average loan to deposit ratio is 84.28 percent. Even though the ratio is in accordance with Bank Indonesia criteria which ranges from 80 to 100 percent, this means that Indonesian banks have sufficient liquidity but do not have a significant effect on increasing income that can increase profitability. The result of this study is different from previous studies conducted by Agustiningrum (2013) and Ponco (2008), which concluded that loan to deposit ratio has a positive and

significant effect on profitability. However, there is a previous study that identified the same results as this study. That is one conducted by Ratnasari (2016), which concluded that loan to deposit ratio has no effect on profitability.

3. The Effect of Leverage (DER) on Profitability

According to Kasmir (2011: 151) leverage is a ratio used to measure the extent to which a company's assets are financed by debt. In this study leverage is measured by the Debt Equity Ratio (DER). This ratio aims to assess debt with equity. A high DER will cause a high risk for the company because the company must pay a fixed fee in the form of principal loans and interest costs. High interest costs will have an impact on corporate profits (Zanora, 2013). Based on the results of the research, leverage variables measured by debt to equity ratio influence profitability with a negative direction. This indicates that increasing the proportion of debt to equity will have an impact on decreasing return on assets. This is because the debt that is too large will bring about a large debt interest risk as well, so that it will add to the burden and reduce revenue. So, it will affect the decrease in the company's net profit which results in a decrease in return on assets. The result of this study supports the previous research conducted by Dewi and Wisadha (2015) which DER has a negative and significant effect on profitability. This is also in accordance with the research conducted by Akinlo and Asaolu (2012)

which suggested that leverage has a negative influence toward profitability.

4. The Effect of Company Size on Profitability

Company size is a variable used to determine the size of wealth owned by a bank. The size of a bank's wealth can be seen from the total assets it has. According to Campbell (2002) companies with large asset ownership have economical scale and flexibility which causes a positive relationship between company size and profitability. Based on the results of the analysis, company size proxied by total assets has a positive influence on profitability. This indicates that the size of a company or increase the total assets of the company can have a significant effect on increasing profitability. The larger companies have greater access to funding sources from various sources, so that getting loans from creditors will be easier because large-sized companies have a greater probability of winning the competition or staying in the industry. The banking industry is an industry with substantial asset ownership. Descriptive statistics identify that the average total assets owned by bank companies is Rp100,528,628,110,000. The result of this study supports the results of previous studies conducted by Adawiyah (2017), which recognized that company size as measured by total assets has a positive effect on profitability. Damayanti and Savitri (2012) who examined the effect of firm size on profitability proved that the size of the company has a positive effect on profitability.

V. CONCLUSIONS AND SUGGESTIONS

A. Conclusion

1. Capital adequacy ratio does not affect the profitability of banking sector companies listed on the IDX for the period 2013-2017.
2. Liquidity (LDR) does not affect the profitability of the banking sector companies listed on the IDX for the period 2013-2017.
3. Leverage (DER) affects the profitability of banking sector companies listed on the IDX for the period 2013-2017.
4. The size of the company (LnSize) affects the profitability of the banking sector companies listed on the IDX for the period 2013-2017.

B. Implication

Based on the results of the analysis, variable that has a significant effect on profitability is leverage proxied by the debt to equity ratio and the size of the company proxied by total assets. From the results of the analysis it can be taken a suggestion that banking companies should focus on managing debt properly. Meant, companies need debt to expand and enlarge the scale of production, but yet also need to be aware that too large debt also has risks big interest. In addition, the company also needs to continue to increase its assets, as the larger assets indicate that the company has great control in industrial competition.

C. Suggestion

The suggestion of the research result are:

1. There are several implications for investors, the banking sector can be one alternative to invest, for investors who want to invest, referring to the results of this study, choose a bank with a good track record such as return on assets which tends to increase from year to year and choose companies that have profitability of more than 1.5 %.
2. For the development of accounting knowledge, it can provide insight about the factors that affect bank's profitability, explain the concepts and elements of bank's profitability, and showing the variables that can affect the profitability. And for others, this research expected can be used as a reference and consideration for further research.

D. Limitation

Researchers realize that the research that has been done now still has limitations. So from here the following will be given suggestions that are expected to be useful for joint interests. Suggestions that can be given by researchers are:

1. Similar advanced research with current research can consider several other factors that affect profitability such as non-performing loans (NPL), cost efficiency (BOPO), quality of productive assets (KAP) and so on because the current assessment of variables used by researchers unable to explain profitability, the r square value in this study is still fairly low at

35.9% so there are still many variables that can be investigated to better explain the variables that can affect bank profitability.

2. The next suggestion is for future researchers, so that further researchers can use the observation period of more than 5 years so that the number of samples obtained is more and more, and it is expected that the length of the period of research can provide better research results.

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Appendix 1. Data Tabulation

No	Tahun	Kode	CAR	LDR	DER	SIZE (Rp)	LnSize	ROA
1	2013	AGRO	21.60	87.11	512.26	5,124,070,000,000	29.26	1.66
	2014		19.06	88.49	614.03	6,388,305,000,000	29.49	1.47
	2015		22.12	87.15	518.49	8,364,503,000,000	29.76	1.55
	2016		23.68	88.25	487.63	11,377,961,000,000	30.06	1.49
	2017		29.58	88.33	424.71	16,325,247,000,000	30.42	1.45
2	2013	AGRS	18.66	85.47	574.56	2,509,281,000,000	28.55	0.77
	2014		18.36	70.02	769.73	4,111,036,000,000	29.04	0.26
	2015		18.23	78.84	643.68	4,217,368,000,000	29.07	0.17
	2016		17.17	84.54	609.15	4,059,950,000,000	29.03	0.15
	2017		18.64	84.46	589.97	3,892,516,000,000	28.99	-0.20
3	2013	ARTO	21.62	109.08	523.06	657,012,000,000	27.21	0.58
	2014		15.73	93.47	702.04	839,836,000,000	27.46	0.25
	2015		19.16	84.15	595.47	745,647,000,000	27.34	0.01
	2017		21.04	72.68	502.10	837,227,000,000	27.45	-1.48
4	2013	BABP	13.09	80.14	963.86	8,164,673,000,000	29.73	-0.93
	2014		17.79	80.35	664.73	9,430,716,000,000	29.87	-0.82
	2015		17.83	72.29	610.51	12,137,004,000,000	30.13	0.10
	2016		19.54	77.20	601.87	13,057,549,000,000	30.20	0.11
5	2013	BACA	20.13	63.35	687.66	7,139,276,000,000	29.60	1.59
	2014		16.43	58.13	849.69	9,251,776,000,000	29.86	1.33
	2015		17.70	55.78	1054.26	12,159,197,000,000	30.13	1.10
	2016		20.64	55.34	980.38	14,207,414,000,000	30.28	1.00
	2017		22.56	50.61	1060.87	16,349,473,000,000	30.43	0.79
6	2013	BBCA	15.70	75.40	697.10	496,849,000,000	26.93	3.80
	2014		16.90	76.80	630.47	553,156,000,000	27.04	3.90
	2015		18.70	81.10	563.18	594,373,000,000	27.11	3.80
	2016		21.90	77.10	500.40	676,739,000,000	27.24	4.00
	2017		23.10	78.20	471.01	750,320,000,000	27.34	3.90
7	2013	BBHI	15.78	89.99	687.40	1,639,444,000,000	28.13	1.01
	2014		15.66	92.84	593.57	2,020,527,000,000	28.33	0.94
	2015		21.90	94.23	460.16	2,079,034,000,000	28.36	-2.82
	2016		21.73	89.04	439.14	2,058,463,000,000	28.35	0.53
	2017		19.60	99.74	458.40	2,458,824,000,000	28.53	0.69
8	2013	BBKP	15.12	85.80	1017.93	69,458,000,000,000	31.87	1.75
	2014		14.21	83.89	1058.94	79,051,000,000,000	32.00	1.33
	2015		11.15	84.74	1491.69	92,653,000,000,000	32.16	0.75
	2016		11.62	83.61	1387.38	102,778,000,000,000	32.26	0.54
	2017		10.52	81.34	1474.83	106,443,000,000,000	32.30	0.09
9	2013	BBMD	26.99	102.35	309.72	7,911,550,000,000	29.70	5.42
	2014		26.66	101.30	306.98	8,672,084,000,000	29.79	3.86
	2015		28.26	101.61	315.65	9,409,597,000,000	29.87	3.53
	2016		35.12	80.93	294.81	10,587,951,000,000	29.99	2.30
	2017		34.68	81.02	283.43	11,817,844,000,000	30.10	3.19
10	2013	BBNI	15.20	85.30	710.87	386,655,000,000,000	33.59	3.40
	2014		16.20	87.80	582.67	416,574,000,000,000	33.66	3.50
	2015		19.50	87.80	548.40	508,595,000,000,000	33.86	2.60
	2016		19.40	90.40	575.64	603,032,000,000,000	34.03	2.70
	2017		18.50	85.60	602.98	709,330,000,000,000	34.20	2.70

No	Tahun	Kode	CAR	LDR	DER	SIZE (Rp)	LnSize	ROA
11	2013	BBNP	15.75	84.44	848.86	9,985,736,000,000	29.93	1.58
	2014		16.60	85.19	731.99	9,468,873,000,000	29.88	1.32
	2015		18.07	90.17	620.47	8,613,114,000,000	29.78	0.99
	2016		20.57	84.18	543.48	7,705,782,000,000	29.67	0.15
	2017		17.50	93.99	566.26	7,581,032,000,000	29.66	-0.90
12	2013	BBRI	16.99	88.54	573.71	626,101,000,000,000	34.07	5.03
	2014		18.31	81.68	720.81	801,984,000,000,000	34.32	4.73
	2015		20.59	86.88	676.50	878,426,000,000,000	34.41	4.19
	2016		22.91	87.77	583.62	1,003,644,000,000,000	34.54	3.84
	2017		22.96	88.13	573.00	1,126,248,000,000,000	34.66	3.69
13	2013	BBTN	15.62	104.42	1031.42	131,169,730,000,000	32.51	1.79
	2014		14.64	108.86	1079.99	144,582,353,000,000	32.60	1.14
	2015		16.97	108.78	1139.58	171,807,592,000,000	32.78	1.61
	2016		20.34	102.66	955.69	214,168,479,000,000	33.00	1.76
	2017		18.87	103.11	1033.71	261,365,267,000,000	33.20	1.71
14	2013	BBYB	15.95	76.58	830.22	2,291,194,000,000	28.46	0.69
	2014		15.23	85.71	879.13	2,691,129,000,000	28.62	0.69
	2015		15.70	88.95	835.16	3,417,884,000,000	28.86	1.16
	2016		21.38	95.74	542.98	4,134,764,000,000	29.05	2.53
	2017		18.18	94.57	640.15	5,004,795,000,000	29.24	0.43
15	2013	BDMN	17.90	95.10	483.90	184,237,000,000,000	32.85	2.50
	2014		17.90	92.60	492.73	195,709,000,000,000	32.91	1.40
	2015		19.70	87.50	450.44	188,332,000,000,000	32.87	1.70
	2016		20.90	91.00	379.51	174,437,000,000,000	32.79	2.50
	2017		22.10	93.30	355.06	178,257,000,000,000	32.81	3.10
16	2013	BEKS	11.56	88.46	1108.25	8,994,292,000,000	29.83	1.22
	2014		10.05	86.11	1300.15	9,040,859,000,000	29.83	-1.59
	2015		8.02	80.77	1820.75	5,967,186,000,000	29.42	-5.29
	2017		10.22	91.95	871.50	7,658,924,000,000	29.67	-1.43
17	2013	BGTG	13.81	72.88	863.82	1,991,762,000,000	28.32	0.99
	2014		14.18	62.03	939.24	2,135,887,000,000	28.39	0.21
	2015		14.40	72.98	838.13	1,974,416,000,000	28.31	0.36
	2016		34.93	87.94	296.68	4,235,925,000,000	29.07	1.62
	2017		30.10	75.59	309.70	4,581,932,000,000	29.15	1.59
18	2013	BINA	17.10	87.17	694.92	1,402,171,000,000	27.97	0.80
	2014		25.40	75.07	537.08	1,951,587,000,000	28.30	1.26
	2015		19.93	82.83	551.63	2,081,523,000,000	28.36	1.05
	2016		30.36	76.30	388.72	2,359,089,000,000	28.49	1.02
	2017		66.43	77.61	159.37	3,123,345,000,000	28.77	0.82
19	2013	BJBR	16.51	96.47	904.49	70,958,233,000,000	31.89	2.61
	2014		16.08	93.18	902.49	75,861,310,000,000	31.96	1.92
	2015		16.21	88.13	980.62	88,697,430,000,000	32.12	2.04
	2016		18.43	86.70	899.50	102,318,457,000,000	32.26	2.22
	2017		18.47	83.36	977.91	114,980,508,000,000	32.38	2.01
20	2013	BJTM	23.72	84.98	477.87	33,046,537,000,000	31.13	3.82
	2014		22.17	86.54	528.73	37,998,046,000,000	31.27	3.52
	2015		21.22	82.92	579.91	42,803,631,000,000	31.39	2.67
	2016		23.88	90.48	496.89	43,032,950,000,000	31.39	2.98
	2017		24.65	79.69	559.14	51,518,681,000,000	31.57	3.12

No	Tahun	Kode	CAR	LDR	DER	SIZE (Rp)	LnSize	ROA
21	2013	BKSW	18.74	113.30	635.86	11,051,347,000,000	30.03	0.09
	2014		15.10	93.47	820.04	20,839,018,000,000	30.67	1.05
	2015		16.18	112.54	962.53	25,757,649,000,000	30.88	0.87
	2016		16.46	94.54	600.78	24,372,702,000,000	30.82	-3.34
	2017		20.30	70.37	517.39	24,635,233,000,000	30.84	-3.72
22	2013	BMAS	21.01	85.73	562.83	4,172,915,000,000	29.06	1.12
	2014		19.45	77.20	658.57	4,831,637,000,000	29.21	0.82
	2015		19.33	92.96	530.18	5,343,936,000,000	29.31	1.10
	2016		24.32	99.88	393.11	5,481,519,000,000	29.33	1.67
	2017		21.59	97.14	421.00	6,054,845,000,000	29.43	1.60
23	2013	BMRI	14.93	82.97	672.07	733,099,762,000,000	34.23	3.66
	2014		16.60	82.02	664.81	855,039,673,000,000	34.38	3.57
	2015		18.60	87.05	616.11	910,063,409,000,000	34.44	3.15
	2016		21.36	85.86	537.63	1,038,706,009,000,000	34.58	1.95
	2017		21.64	87.16	522.35	1,124,700,847,000,000	34.66	2.72
24	2013	BNBA	16.99	83.96	616.81	4,045,572,000,000	29.03	2.05
	2014		15.07	79.45	756.18	5,155,423,000,000	29.27	1.52
	2015		25.57	82.78	432.25	6,567,267,000,000	29.51	1.33
	2016		25.15	79.03	449.19	7,121,173,000,000	29.59	1.52
	2017		25.67	82.10	414.71	7,014,677,000,000	29.58	1.73
25	2013	BNGA	15.36	94.49	748.21	218,866,409,000,000	33.02	2.76
	2014		15.58	99.46	719.64	233,162,423,000,000	33.08	1.33
	2015		16.28	97.98	732.85	238,849,252,000,000	33.11	0.47
	2016		17.96	98.38	606.21	241,571,728,000,000	33.12	1.09
	2017		18.60	96.24	620.71	266,305,445,000,000	33.22	1.70
26	2013	BNII	12.74	87.04	876.80	140,600,863,000,000	32.58	1.74
	2014		15.76	92.67	702.75	143,365,211,000,000	32.60	0.68
	2015		15.17	86.14	733.56	157,619,013,000,000	32.69	1.01
	2016		16.77	88.92	617.10	166,678,902,000,000	32.75	1.60
	2017		17.53	88.12	583.83	173,253,491,000,000	32.79	1.48
27	2013	BNLI	14.28	89.24	1073.91	165,833,922,000,000	32.74	1.55
	2014		13.58	89.13	984.26	185,349,861,000,000	32.85	1.16
	2015		15.00	87.80	871.09	182,689,351,000,000	32.84	0.20
	2017		18.10	87.50	589.55	148,328,370,000,000	32.63	0.60
	28		2013	BSIM	21.82	78.72	533.66	17,447,455,000,000
2014		18.38	83.88		571.90	21,259,549,000,000	30.69	1.02
2015		14.37	78.04		659.45	27,868,688,000,000	30.96	0.95
2016		16.70	77.47		596.99	31,192,626,000,000	31.07	1.72
2017		18.31	80.57		527.64	30,404,078,000,000	31.05	1.26
29	2013	BSWD	15.26	93.76	691.74	3,601,336,000,000	28.91	3.80
	2014		14.27	88.06	923.98	5,203,577,000,000	29.28	3.37
	2015		23.85	82.06	446.02	6,087,483,000,000	29.44	-0.77
	2017		37.17	67.78	300.21	4,487,329,000,000	29.13	-3.39
30	2013	BTPN	23.10	88.00	612.38	69,702,580,000,000	31.88	4.50
	2014		23.20	97.00	540.53	75,059,223,000,000	31.95	3.60
	2015		23.80	97.00	494.37	81,039,663,000,000	32.03	3.10
	2016		25.00	95.40	473.92	91,371,387,000,000	32.15	3.10
	2017		24.60	96.20	473.63	95,489,850,000,000	32.19	2.10

No	Tahun	Kode	CAR	LDR	DER	SIZE (Rp)	LnSize	ROA
31	2013	BVIC	17.95	73.39	1013.15	19,153,131,000,000	30.58	1.97
	2014		18.35	70.25	1047.52	21,364,882,000,000	30.69	0.80
	2015		19.30	70.17	947.71	23,250,686,000,000	30.78	0.65
	2016		24.58	68.38	844.35	25,999,981,000,000	30.89	0.52
	2017		18.17	70.25	860.19	28,825,609,000,000	30.99	0.64
32	2013	DNAR	44.02	86.05	204.40	854,801,000,000	27.47	1.46
	2014		31.06	69.62	287.42	1,641,425,000,000	28.13	0.32
	2015		30.50	77.29	339.95	2,073,670,000,000	28.36	1.00
	2016		26.84	81.91	362.07	2,311,229,000,000	28.47	0.83
	2017		25.83	69.57	432.63	2,535,111,000,000	28.56	0.57
33	2013	INPC	17.31	88.87	719.18	21,204,251,000,000	30.69	1.39
	2014		15.95	87.62	771.90	23,462,770,000,000	30.79	0.79
	2015		15.20	80.75	808.22	25,119,249,000,000	30.85	0.33
	2016		19.92	86.39	492.62	26,219,918,000,000	30.90	0.35
	2017		17.44	82.89	515.07	27,727,008,000,000	30.95	0.31
34	2013	MAYA	14.07	85.61	911.22	24,027,644,000,000	30.81	2.53
	2014		10.44	81.25	1201.42	36,194,949,000,000	31.22	1.98
	2015		12.97	82.99	931.29	47,305,954,000,000	31.49	2.10
	2016		13.34	91.40	762.54	60,839,102,000,000	31.74	2.03
	2017		14.11	90.08	774.90	74,745,570,000,000	31.95	1.30
35	2013	MCOR	14.68	82.73	664.94	7,917,214,000,000	29.70	1.74
	2014		14.15	84.03	700.08	9,769,591,000,000	29.91	0.79
	2015		16.39	86.82	613.65	10,089,121,000,000	29.94	1.03
	2016		19.43	86.43	411.54	12,257,391,000,000	30.14	0.69
	2017		15.75	79.49	546.07	15,788,738,000,000	30.39	0.54
36	2013	MEGA	15.74	57.41	973.86	66,396,000,000,000	31.83	1.14
	2014		15.23	65.85	855.28	66,582,000,000,000	31.83	1.16
	2015		22.85	65.05	492.39	68,225,000,000,000	31.85	1.97
	2016		26.21	55.35	475.02	70,532,000,000,000	31.89	2.36
	2017		24.11	56.47	529.90	82,297,000,000,000	32.04	2.24
37	2013	NAGA	24.48	55.15	704.41	1,285,157,000,000	27.88	0.39
	2014		18.53	51.90	928.74	1,892,362,000,000	28.27	0.59
	2015		16.05	59.34	969.09	2,038,205,000,000	28.34	0.71
	2016		16.00	50.27	1041.25	2,212,095,000,000	28.42	0.76
	2017		20.16	42.02	1033.22	2,494,412,000,000	28.55	0.37
38	2013	NISP	19.28	92.49	620.17	97,510,106,000,000	32.21	1.81
	2014		18.74	93.59	590.01	103,111,114,000,000	32.27	1.79
	2015		17.32	98.05	634.13	120,480,402,000,000	32.42	1.68
	2016		18.28	89.86	608.46	138,196,341,000,000	32.56	1.85
	2017		17.51	93.42	605.89	153,773,957,000,000	32.67	1.96
39	2013	NOBU	87.49	45.72	279.82	3,892,207,000,000	28.99	0.78
	2014		48.38	53.99	388.56	5,777,122,000,000	29.38	0.43
	2015		27.48	72.53	463.47	6,703,377,000,000	29.53	0.38
	2016		26.06	53.02	575.22	8,992,244,000,000	29.83	0.52
	2017		26.83	51.57	691.59	11,018,481,000,000	30.03	0.48
40	2013	PNBS	20.83	90.40	545.69	4,052,701,000,000	29.03	1.03
	2014		25.69	94.04	473.16	6,207,678,000,000	29.46	1.99
	2015		20.30	96.43	517.42	7,134,235,000,000	29.60	1.14
	2016		18.17	91.99	637.24	8,757,964,000,000	29.80	0.37
	2017		11.51	86.95	3047.12	8,629,275,000,000	29.79	-10.77
41	2013	SDRA	27.91	140.72	277.55	6,221,880,000,000	29.46	5.14
	2014		21.71	101.20	320.89	16,432,776,000,000	30.43	2.81
	2015		18.82	97.22	384.04	20,019,523,000,000	30.63	1.94
	2016		17.20	110.45	412.95	22,630,634,000,000	30.75	1.93
	2017		24.86	111.07	343.53	27,086,504,000,000	30.93	2.37

Appendix 2. Descriptive Statistics

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
CAR	200	8.02	87.49	20.16	8.05
LDR	200	42.02	140.72	84.28	13.62
DER	200	159.37	3047.12	676.17	304.22
LnSize	200	26.93	34.66	30.60	1.88
ROA	200	-10.77	5.42	1.37	1.73
Valid N (listwise)	200				

Appendix 3. Classical Assumption Test

Normality test

One-Sample Kolmogorov-Smirnov Test

		Standardized Residual
N		200
Normal Parameters ^{a,b}	Mean	0E-7
	Std. Deviation	.98989873
Most Extreme Differences	Absolute	.094
	Positive	.075
	Negative	-.094
Kolmogorov-Smirnov Z		1.329
Asymp. Sig. (2-tailed)		.059

a. Test distribution is Normal.

b. Calculated from data.

Uji Multikolinearitas

Coefficients^a

Model	Collinearity Statistics		
	Tolerance	VIF	
1	CAR	.630	1.586
	LDR	.829	1.206
	DER	.652	1.533
	LnSize	.904	1.107

a. Dependent Variable: ROA

Heteroscedasticity Test

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
	(Constant)	-1.265	3.160		
1	CAR	-.003	.027	-.010	-.107
	LDR	.007	.014	.041	.523
	DER	.001	.001	.164	1.880
	LnSize	-.040	.096	-.031	-.421

a. Dependent Variable: LnRes2

Appendix 4. Multiple Regression Analysis

Variables Entered/Removed^a

Model	Variables Entered	Variables Removed	Method
1	LnSize, DER, LDR, CAR ^b	.	Enter

a. Dependent Variable: ROA

b. All requested variables entered.

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.599 ^a	.359	.346	1.40293

a. Predictors: (Constant), LnSize, DER, LDR, CAR

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	215.179	4	53.795	27.332	.000 ^b
	Residual	383.804	195	1.968		
	Total	598.982	199			

a. Dependent Variable: ROA

b. Predictors: (Constant), LnSize, DER, LDR, CAR

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-5.919	1.829		-3.237	.001
	CAR	-.028	.016	-.129	-1.781	.076
	LDR	.003	.008	.027	0.422	.674
	DER	-.003	.000	-.567	-7.990	.000
	LnSize	.319	.056	.346	5.739	.000

a. Dependent Variable: ROA