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Analysis of Capital Adequacy Ratio, Prime Lending Rate, and Third-Party Funds on Profitability of Commercial Banks in Indonesia, With Liquidity as Intervening Variable

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Abstract

This study aims to determine the effect of Capital Adequacy Ratio, Prime Lending Rate, and Third-Party Funds on Profitability of Commercial Bank with Liquidity as an intervening variable. The sample of this research is the banks of the BUKU IV category listed in Bank of Indonesia and its financial statements published by the Indonesia Financial Services Authority (OJK) period 2009-2018, using a cluster sampling method. There are 5 banks of the BUKU IV category as the samples. Hypothesis testing using path analysis technique. The results of this research show that Capital has a positive and significant effect on Liquidity, Third-Party Funds (bank deposits) and Prime Lending Rate has a negative and significant efect on Liquidity. Thus Third-Party Funds has a positive effect on Profitability, then Capital and Liquidity have a negative effect on Profitability, meanwhile, Prime Lending Rate does not affect Profitability. The implication of this research that the liquidity policy is a determining variable acting as an important intermediary for linking Capital Policy, interest rates, and Third-Party Funds in order to increase bank profits.

Keywords: Capital Adequacy Ratio, Prime Lending Rate, The Third Party Funds, Loan to Deposit Ratio, and Return on Assets

I.   INTRODUCTION

I.1. Introduction and research rationale

Since January 5, 2011, Bank Indonesia has made an instrument for assessing the soundness of banks, namely the regulation of bank soundness using the RGEC (Risk Profile, Good Corporate Governance, Earnings, and Capital) method. Through RGEC, Bank Indonesia wants banks to be able to identify problems early, by making appropriate and faster follow-up improvements, and to apply Good Corporate Governance (GCG) and better risk management so that banks are more resilient in facing crises (Bank Indonesia, 2011).

Lembaga Pengembangan Perbankan Indonesia (LPPI) (Yudistira & Dupla, 2017), noted a number of problems that occurred in Indonesian banking. Problems in the banking sector can be seen from several factors such as efficiency, profitability, capital, and problem loans.

Bank Indonesia (BI) must close national banks if the capital adequacy ratio (CAR) of banks is less than the BI regulation at 8% because this will only cause banks liquidity problems and cause problems. Reflecting on the Century Bank case, the banking regulator has changed the Bank Indonesia Regulation (PBI) which explains that the positive CAR has been able to receive the Short-Term Funding Facility (FPJP). Whereas in the previous PBI, only banks with a minimum CAR of two percent could only submit (Purwanto, 2016).

Chairman of the Board of Commissioners of the Indonesian Deposit Insurance Corporation (LPS) Halim Alamsyah expressed in a national seminar initiated by the Institute for Development of Economics and Finance (INDEF) in Jakarta in November 2017, that the level of bank profitability has continued to decline over the past five years due to the weak margins of lending, plus the high ratio of non-performing loans. For example, for a large asset bank or commercial bank Business Activity (BUKU) IV, the acquisition of ROA in December 2015 reached 4%, then decreased to the range of 2.5% to 3% in December 2016, and stagnated at around 3% in September 2017 (Baihaqi, 2017).

The same problem also befell banks with the category of Commercial Banks Business Activities (BUKU) III with a minimum capital of IDR 5 trillion to IDR 30 trillion, relatively stable from 1.84% in November 2017 to 1.82% in the same period in 2018. As a result, a number of BUKU III banks contacted by Kontan (Kontan.co.id) only set a stagnant ROA in 2019 (Sitanggang & Tendi, 2019).

Halim Alamsyah also highlighted slowing credit growth. In September 2017, loans grew by 7.9% or decreased compared to August 2017 which amounted to 8.4%. Another cause of bank profitability continues to decline, according to Halim, which is increasingly fierce banking competition, plus the entry of players in the financial services sector, such as the financial technology industry (fintech) (Rajagukguk, 2017).

Return on Assets (ROA) is a measure of bank profitability, which ratio is used to measure the performance and effectiveness of banks in obtaining profits by utilizing the assets they have. ROA calculation using the ratio between profit before tax to total assets owned.

In the annual Economic Report released by Bank Indonesia stated that aside from the aspect of profitability and financial ratios, banking performance can also be measured from the ability of banks to raise public funds (Third Party Funds) commonly referred to as DPK. The greater the funds owned by a bank, it is also accompanied by the large opportunities for the bank to carry out its activities in achieving its objectives (Nandadipa, 2010).

Several authors have conducted similar studies with research conducted by the author on the performance of this bank, including by (Parenrengi & Hendratni, 2018), (Pardede, 2016), (Haryoso & Kusdiasmo, 2016), (Yanti & Masdjojo, 2018), and (Widiarti, Siregar, & Andati, 2015), regarding the analysis of several variables, which influence different variables in each study of bank performance.

I.2. Research Objectives

This study aims to analyze how the direct influence of CAR, SBDK and DPK variables on LDR and ROA variables, as well as the LDR effect on ROA, and the indirect effect of CAR, SBDK, and DPK on ROA through LDR as intervening variable, on banks that were collected in the BUKU IV group 2009-2018.

II. LITERATURE REVIEW AND HYPOTHESIS FORMULATION

Theory, Empirical Evidence, and Hypothesis Formulation

Return On Assets (ROA)

According to Van Horne & Wachowicz (2005), ROA measures the overall effectiveness in generating profits through available assets; the power to generate profits from invested capital. Munawir (2010) gives an understanding of ROA is one form of profitability ratios aimed at measuring the ability of companies with all funds used for company operations to generate profits. Whereas Syamsudin (2011) defines ROA as a measurement of the ability of a company to produce overall profits by means of the overall available assets. So ROA is a ratio

that shows how much net income can be obtained from all the wealth owned by banks because that is what is used is the profit rate after tax and the average bank wealth.

According to Bank Indonesia (2011), ROA can be calculated with the following formula:

$$ROA = \frac{\text{Net Profit Before Taxes}}{\text{Total Assets}}$$

Table 1. ROA Component Rating

Ratio	Rating	Predicate
ROA > 1,5%	1	Very Good
1,25% < ROA ≤ 1,5%	2	Good
0,5% < ROA ≤ 1,25%	3	Sufficient
0% < ROA ≤ 0,5%	4	Not Good
ROA ≤ 0%	5	Very Unkind

Source: SE BI No. 13/24/ DPNP 2011

Capital Adequacy Ratio (CAR)

According to Bank Indonesia (SE BI No. 13/24/ DPNP 2011) CAR is the provision of minimum capital for banks based on active risk in the broadest sense, both assets listed in the balance sheet and administrative assets as reflected in obligations that are still contingent and/or committed provided by banks for third parties as well as market risk. It can be concluded that CAR is the bank's performance ratio to measure the capital adequacy of banks to support assets that contain or generate risk, such as loans given to customers.

Bank Indonesia sets the minimum standard on CAR, which is 8%. This regulation is written in PBI No. 10/15 / PBI / 2008 article 2 paragraph 1 (BI: 2017). Based on Bank Indonesia Circular No. 3/30 / DPNP 2001 (BI: 2017). The CAR formula is as follows:

$$CAR = \frac{\text{Bank Capital}}{\text{Total of ATMR}} \times 100\%$$

Risk-Weighted Assets (ATMR) according to Sudirman (2013) is the total risk balance of bank balance sheets and administrative accounts. Balance sheet assets and administrative assets have been weighted according to a predetermined risk weighting level. Each item in an asset is assigned a risk weighting, the amount of which is based on the level of risk contained in the asset itself or the class of customers or the nature of the collateral. Supervision regarding the provisions on ATMR is to ensure that the maximum ATMR is based on the weighting set by Bank Indonesia. Risk weight ranges from 0-100% depending on the level of liquidity, the more liquid the assets, the smaller the risk weighting. The purpose of ATMR is to control the growth of bank assets that provide high returns with low risk.

Table 2. CAR component rating

Ratio	Rating	Predicate
CAR ≥ 12%	1	Very Good
9% ≤ CAR < 12%	2	Good
8% ≤ CAR < 9%	3	Sufficient
6% < CAR ≤ 8%	4	Not Good
CAR ≤ 6%	5	Very Unkind

Source: SE BI No. 13/24/ DPNP 2011

Prime Landing Rate (SBDK)

Judisseno (2002) said that interest rates are income earned by people who give excess money or surplus spending units to be used temporarily by people who need and use the money to cover their deficits or deficit spending units. Interest rates are the price of using investment funds (loanable funds). The interest rate is one indicator in determining whether someone will invest or save (Boediono, 2014).

Third-Party Funds (DPK)
According to Undang–Undang RI No. 10 1998 concerning Banking, third party funds (deposits) are funds entrusted by the public to banks based on fund storage agreements in the form of demand deposits, deposits, certificates of deposit, savings and or other similar forms. The bank obtains these funds from three sources namely, first-party funds from owners and bank profits; second party funds obtained through the money market; and third party funds sourced from public deposits in the form of demand deposits, savings, time deposits, certificates of deposit, and guarantee deposits. Of the three bank funding sources, third party funds contributed the most. Third-party funds are the most important source of funds for bank operations. These funds can be used to be placed in posts that generate income, one of which is credit.

The source of bank funds according to Kasmir (2014) is the bank's efforts to raise funds from the public. The acquisition of these funds depends on the bank itself, whether from community deposits or from other institutions. This is in accordance with the function of the bank that the bank is a financial institution in which its daily activities are engaged in finance, so the sources of bank funds are also inseparable from the financial sector itself. To support the bank's activities as a seller or provide loans, banks must first buy money or raise funds so that the difference in the interest the bank gets a profit.

Loan to Deposit Ratio (LDR)
According to Darmawi (2011), liquidity is a term used to indicate a stock of cash and other assets that are easily converted into cash. The banking health assessment tool in terms of liquidity factor that is often used is the LDR ratio.

In theory, the greater the amount of credit given, the higher the LDR and the smaller the amount of credit disbursed, the lower the LDR. This shows that the amount of credit given from a high LDR value will increase the amount of profit received by banks from interest income (Hamidah, Goldan, & Mardiyati, 2014).

The ability of banks to repay withdrawals of funds made by relying on loans provided as a source of liquidity is measured using the LDR ratio. LDR ratio comparison will be inversely proportional to bank liquidity, the higher the ratio, the lower the bank liquidity, and vice versa if the lower the LDR ratio, the higher the bank liquidity. According to Sudirman (2013), the LDR ratio can be formulated as follows:

$$LDR = \frac{Credit}{Third - Party\ Funds} \times 100\%$$

Table 3. LDR Component Ranking Criteria

Ratio	Ranking	Criteria
LDR ≤ 75%	1	Very Good
75% < LDR ≤ 85%	2	Good
85% < LDR ≤ 100%	3	Sufficient
100% < LDR < 120%	4	Not Good
LDR > 120%	5	Very Unkind

Source: SE BI No. 13/24/ DPNP 2011.

Relationship of Capital Adequacy Ratio (CAR) to Loan to Deposit Ratio (LDR)
According to Hersugondo & Tamtomo (2012), it was found that during the research period partially, the Capital Adequacy Ratio variable had a positive and significant effect on LDR. This is intended so that the banking companies in Indonesia can make an optimal liquidity policy strategy so that the banking companies can still exist for now and in the future.

The results of data analysis proving that there is a positive and significant influence of CAR variables on LDR are also supported by the research of Ratu Edo & Wiagustini (2014), the greater the minimum capital (CAR) to overcome problems arising from bank assets that contain risks, the liquidity of a bank will get higher

The provisional hypothesis of the study is as follows:

H1: Capital Adequacy Ratio (CAR) affects the Loan to Deposit Ratio (LDR)

Relationship of Prime Lending Rate (SBDK) to Loan to Deposit Ratio (LDR)

According to Kasmir (2014), LDR is the ratio used to measure the composition of the amount of credit given compared to the number of public funds and own capital used. The higher the interest rate on credit, the less public interest in taking credit and vice versa, the lower the interest rate on loans, the higher the demand for credit from the public.

In a previous study, Fahruna (2018) found that loan interest rates had a positive but not significant effect on loans.

Provisional hypothesis formulation of these variables is as follows:

H2: Prime Lending Rate (SBDK) affects Loan to Deposit Ratio (LDR)

Relationship of Third Party Funds (DPK) to Loan to Deposit Ratio (LDR)

An increase in third party funds will result in credit growth, therefore the growth of DPK has a positive effect on LDR (Nandadipa, 2010).

Delsy Setiawati Ratu Edo's research (2014) proves that there is a positive and significant influence of the variable Third Party Fund (DPK) on Loan to Deposit Ratio (LDR). This hypothesis is also supported by Sharvina (2017) which shows that Third Party Funds (DPK) has a positive and significant effect on Loan to Deposit Ratio (LDR).

Provisional hypothesis formulation of these variables is as follows:

H3: Third Party Funds (DPK) affects Loan to Deposit Ratio (LDR)

Relationship of Loan to Deposit Ratio (LDR) to Return on Assets (ROA)

According to Nusantara (2009) the higher the LDR shows the higher the funds disbursed and the lower the LDR shows the lack of effectiveness of banks in lending.

Research conducted by Kasbal (2011), Ramdany (2012), Agustiningrum (2013) shows that LDR has a positive effect on profitability. The same results with research according to Dewi, Herawati, & Sulindawati (2015) that the Loan to Deposit Ratio (LDR) affects profitability either partially or simultaneously.

Provisional hypothesis formulation of these variables is as follows:

H4: Loan to Deposit Ratio (LDR) affects Return on Assets (ROA)

Relationship of Capital Adequacy Ratio (CAR) to Return on Assets (ROA).

The higher the CAR, the better the bank's ability to bear the risk of any risky productive credit/assets. If the CAR value is high, the bank is able to finance operational activities and make a significant contribution to profitability (Dendawijaya, 2009).

The results of research conducted by Mawardi (2005), Nusantara (2009), Bilal (2013), Wityasari (2014), Sudiyanto & Suroso (2010) show that CAR has a positive effect on profitability (ROA).

Provisional hypothesis formulation of these variables is as follows:

H5: Capital Adequacy Ratio (CAR) affects the Return on Assets (ROA).

Relationship of Prime Lending Rate (SBDK) to Return on Assets (ROA).

Based on the results of Kurniawati's research (2012), lending and interest rates together with have a significant effect on profitability (ROA). The magnitude of the effect of lending and interest rates on profitability (ROA) is 19.9% in a positive direction, while the remaining 80.1% is influenced by other factors outside this study.

Provisional hypothesis formulation of these variables is as follows:
H6: Prime Lending Rate (SBDK) affects the Return on Assets (ROA).

Relationship of Third Party Funds (DPK) to Return on Assets (ROA).
Sudiyanto (2010) examined DPK using time series data on a sample of banks listing on the IDX and concluded that Third Party Funds had a significant effect on bank profitability. While Nasution (2011), Anggreni & Suardika (2014), and Permatasari (2017) who conducted research on state-owned banks in Indonesia also produced findings that Third Party Funds had a positive and significant effect on ROA.

Provisional hypothesis formulation of these variables is as follows:
H7: Third Party Funds (DPK) affect the Return on Assets (ROA).

Relationship of Capital Adequacy Ratio (CAR) to Return on Assets (ROA) through the mediation of Loan to Deposit Ratio (LDR).
According to the Indonesian economic report, the main source of profit of a bank is obtained from the distributed credit. The amount of credit extended will determine bank profits (Kasmir, 2014). Banks that have a high CAR will also have a lot of credit, so if CAR increases it will increase the LDR (Nandadipa, 2010).

The reverse results in the study of Wityasari & Pangestuti (2014) that from the mediation test with the Sobel test found that CAR does not have an indirect effect on ROA through LDR, in other words, LDR variables cannot mediate between the independent variable (CAR) and the dependent variable (ROA). Similar to the results of research conducted by the Pangestika (2018) shows that the variable Loan to Deposit Ratio (LDR) was not found to mediate the effect of Capital Adequacy Ratio (CAR) on Return On Assets (ROA).

So that the hypothesis can be drawn as follows:
H8: Capital Adequacy Ratio (CAR) has no effect on Return on Assets (ROA) through the mediation of the Loan to Deposit ratio (LDR).

Relationship of Prime Lending Rate (SBDK) to Return on Assets (ROA) mediated by the Loan to Deposit Ratio (LDR).
In the business world will certainly affect if interest rates rise, namely in sectors that rely on financing from loans (credit). When there is an increase in credit interest, the value of the customer's business is not proportional to the financing provided and the customer objects to a high-interest rate, hence the occurrence of bad credit that will affect the bank's profit. (Syaichu & Wibowo, 2013).

So the temporary hypothesis is as follows:
H9: Prime Lending Rate (SBDK) affects the Return on Assets (ROA) mediated by the Loan to Deposit Ratio (LDR).

Third-Party Funds (DPK) affect the Return on Assets (ROA) mediated by the Loan to Deposit Ratio (LDR).
An increase in third party funds will result in credit growth, therefore the growth of DPK has a positive effect on LDR (Nandadipa, 2010). Research conducted by Harmanta & Ekananda (2005), Meydianawati (2006), Pratista (2010) produced a positive and significant DPK influence on LDR. The lower LDR shows the lack of effectiveness of banks in lending so that banks lose the opportunity to make a profit (ROA) (Rusdiana, 2012).

So from the above studies, hypotheses can be built as follows:
H10: Third Party Funds (DPK) affect the Return on Assets (ROA) mediated by the Loan to Deposit Ratio (LDR)

III.RESEARCH METHODS

III.1 RESEARCH METHODS

The object of this study is the Banking Companies listed central bank of Indonesia (BI), which has published a financial report in financial service authority (OJK) Period 2009 - 2018. Types of data used in this study are secondary data, namely in the form of panel data for all related variables. The population in this study is banking with a total of 50 companies.

Based on sample selection, the total sample of BI listed that meets the criteria is 5 companies listed on OJK in 2009-2018.

III.2. POPULATION AND SAMPLE

The population in this study is conventional commercial banks whose existence is directly monitored by the OJK, especially those included in the Commercial Banks Business Activity (BUKU) IV group with a total of 5 banks, from 2009 to 2018. Sampling using the cluster sampling method based on bank groups as the following:
1. Conventional commercial banks that are included in the BUKU IV group are published in the OJK for the period of 2009 to 2018.
2. Conventional commercial banks that have financial statement data available during the study period from 2009 to 2018.

III.3 METHOD OF ANALYSIS

In this study, the analysis method is carried out by path analysis which is a development of the regression model. Through this path analysis, the regression equation involves independent and dependent variables by testing intervening variables. Path analysis can also measure the relationship between variables in the model both directly and indirectly.

III.4. DEFINITION ON OF OPERATIONAL VARIABLES

Dependent Variables
The definition of operational variables is very important in research. This is intended to avoid misunderstandings or differences in perceptions regarding the data to be collected. In this study Return On Assets are used as dependent variables.
Return On Assets is a ratio used to measure a company's ability to generate profits.

Independent Variables
Capital Adequacy Ratio (CAR)
Capital Adequacy Ratio is the ratio of the adequacy of capital owned by banks to support assets that contain or generate risk, for example, loans granted.

Prime Lending Rate (SBDK)
Prime Lending Rate (SBDK) is a price that must be paid by debtors to banks for loans that have been given. For banks, the loan interest rate is the selling price that will be charged to debtors.

Third-Party Funds (DPK)
Third-Party Funds (DPK) are funds obtained from the community, in the sense of the community as individuals, companies, governments, households, cooperatives, foundations, etc. both in rupiah and in foreign currencies.

Intervening Variable
Loan to Deposit Ratio (LDR) is the ratio between the total volume of credit extended by banks and the number of funds received from various sources. LDR is the company's financial ratio related to liquidity.

III.5. DATA ANALYSIS

The analysis technique used in this study is path analysis. Before the path analysis is carried out, the assumption of path analysis must first test. The test consists of normality, multicollinearity, and heteroscedasticity. The path analysis model is as follows:
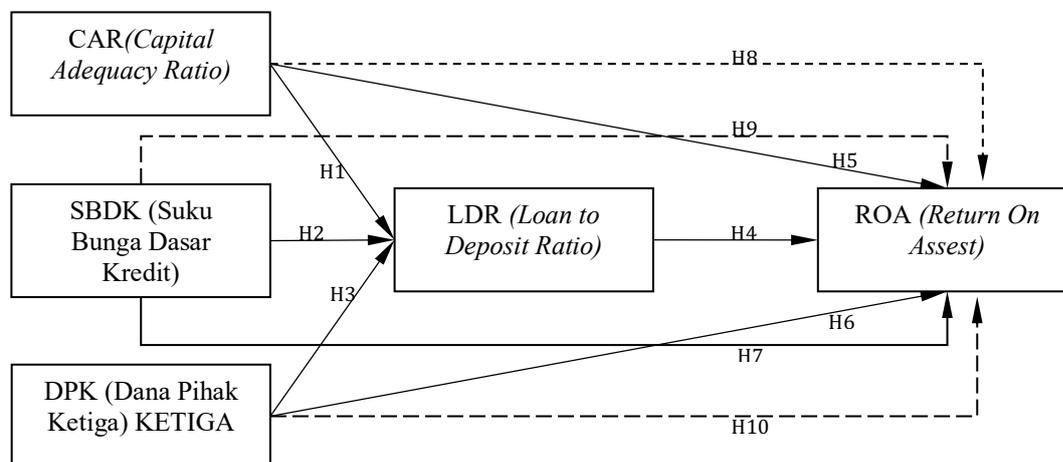
Substructure Equation 1:
$$Z = \mathcal{P}zx_1\, x_1 + \mathcal{P}zx_2\, x_2 + \mathcal{P}zx_3\, x_3 + \text{€}1$$
Substructure Equation 2:
$$Y = \mathcal{P}yx_1.X_1 + \mathcal{P}yx_2.X_2 + \mathcal{P}yx_3.X_3 + \mathcal{P}yz.Z + \text{€}2$$

Based on the literature review and strengthened by previous research it is suspected that variables such as CAR, SBDK, and DPK directly influence LDR and LDR also directly influences ROA. It is also assumed that CAR, SBDK, and DPK indirectly influence ROA which is mediated by the LDR variable. Thus the writer can formulate the research framework as follows:

Figure 1: Framework for Research Models

IV. RESULTS AND DISCUSSION

Before conducting statistical analysis, the data to be processed first must meet the regression analysis assumptions (Ghozali,2013).

TESTING OF THE REGRESSION ANALYSIS ASSUMPTION AND RESULT

Substructure Equation 1:
Before conducting statistical analysis, the data to be processed first must meet the regression analysis assumptions.

Table 4. One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		50
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	9.23691499
Most Extreme Differences	Absolute	.152
	Positive	.066
	Negative	-.152
Kolmogorov-Smirnov Z		1.075
Asymp. Sig. (2-tailed)		.198

a. Test distribution is Normal.
b. Calculated from data.

In table 4 above, the Asymp value is obtained. Sig (2- tailed) of 0.198 or can be written as a probability value (P-value) = 0.198 > 0.05 or Ho is accepted. Thus, residual data are normally distributed.

Table 5. Autocorrelation Test (Durbin- Watson) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,564[a]	,318	,274	9,53336	,398

Source: data processed

From Table 5 above, the results of autocorrelation with Durbin - Watson are 0.398, which means that the autocorrelation category does not occur because the D-W number is between -2 to 2 (Singgih, 2013).

Table 6. Tolerance dan VIF (Multicollinearity Test)

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	CAR	.418	2,391
	SBDK	.652	1,533
	DPK	.465	2,149

Source: data processed

Based on the results of testing the tolerance value (see Table 6 above) also shows that there is no independent variable that has a tolerance value below or less than 0.10, which means that there is no correlation between the independent variables whose value is more than 95%. The results of the calculation of Variance Inflation Factor (VIF) also showed the same results, namely, there are no independent variables that have a VIF value >10. So it can be said and concluded that there is no multicollinearity between the independent variables in the regression model.

Figure 2: Scatterplot graph (Heteroscedasticity Test)
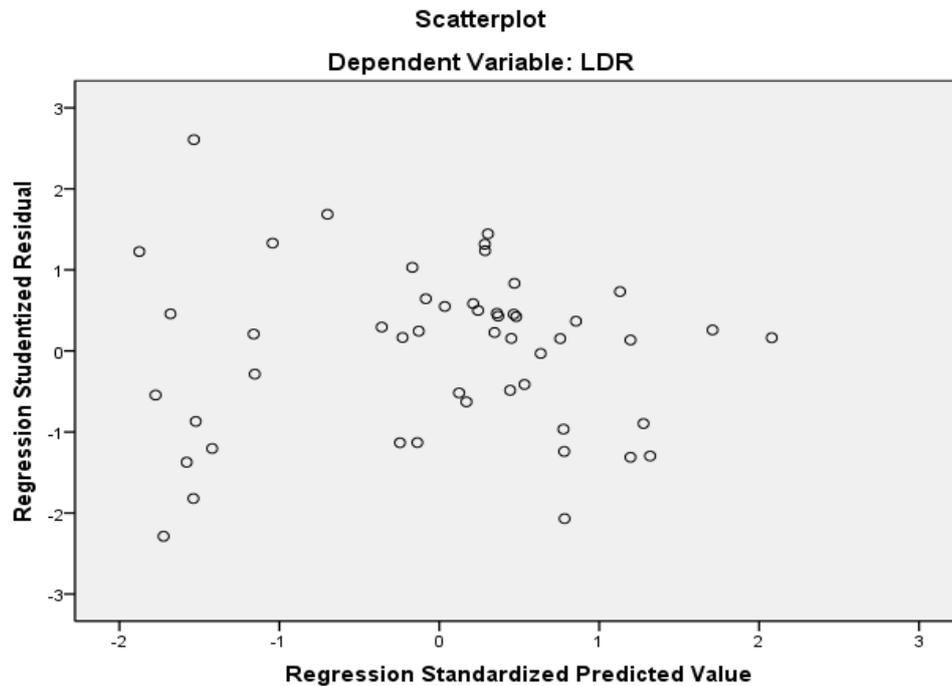
Based on Figure 2 above, there is a scatterplot graph that shows the points of diffuse and does not form certain clear patterns. So it can be concluded that there are no symptoms of heteroscedasticity.

Table 7. Summary of Results: Substructure Equation 1

Model	Standardized Coefficients	t-test Sig	Description	F-test and Sig.	R-Square
CAR → LDR	.339	.078	Significant		
SBDK→ LDR	-.493	.002	Significant	0,000	0,318
DPK→ LDR	-.386	.036	Significant		

Table 7 above is a summary table for substructural model equations 1. The data information contained in table 7 is derived from the processing of multiple regression analysis data. Table 7 will be used to assess whether the substructural 1 equation model is good enough (fit model) or not. Then the results in table 7 will be used to see the direct or non-direct effect on ROA in Figure 4.

Based on the table, the substructural 1 equation model is considered to be quite good (fit model) because all the independent variables (CAR, SBDK, and DPK) are significant. The R-squares are quite moderate. So overall the substructural 1 equation model and its coefficient information are valid and unbiased. Therefore we can draw conclusions using the data in table 7. Furthermore, the results can be used for the path analysis that is the basis of this research analysis (see Figure 4).

Substructure Equation 2:

Table 8. One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		50
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.74739162
Most Extreme Differences	Absolute	.074
	Positive	.070
	Negative	-.074
Kolmogorov-Smirnov Z		.523
Asymp. Sig. (2-tailed)		.947

a. Test distribution is Normal.
b. Calculated from data.

In table 8 above, the Asymp value is obtained. Sig (2- tailed) of 0.947 or can be written as a probability value (P-value) = 0.947 > 0.05 or Ho is accepted. Thus, residual data are normally distributed.

Tabel 9. Autocorrelation Test (Durbin- Watson) Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,660[a]	,435	,385	.77990	.726

a. Predictors: (Constant), LDR, DPK, SBDK, CAR
b. Dependent Variable: ROA

From Table 9 above, it can be seen that the Durbin-Watson value is 0.726 in the autocorrelation free region because it is between -2 to +2. So the decision taken in the autocorrelation test is accepted Ho, reject H1. It means that this test does not contain an autocorrelation problem. Thus it can be concluded that the regression equation model is free from autocorrelation symptoms.

Tabel 10. Tolerance dan VIF (Multicollinearity Test)

Model	Collinearity Statistics	
	Tolerance	VIF
1 (Constant)		
CAR	.391	2,560
SBDK	.529	1,890
DPK	.422	2,367
LDR	.682	1,467

Source: data processed

Based on Table 10, the results of testing the tolerance value also shows that there is no independent variable that has a tolerance value below or less than 0.10, which means that there is no correlation between the independent variables whose value is more than 95%. The results of the calculation of Variance Inflation Factor (VIF) also showed the same results, namely, there are no independent variables that have a VIF value >10.

Figure 3: Scatterplot graph (Heteroscedasticity Test)

Scatterplot
Dependent Variable: ROA
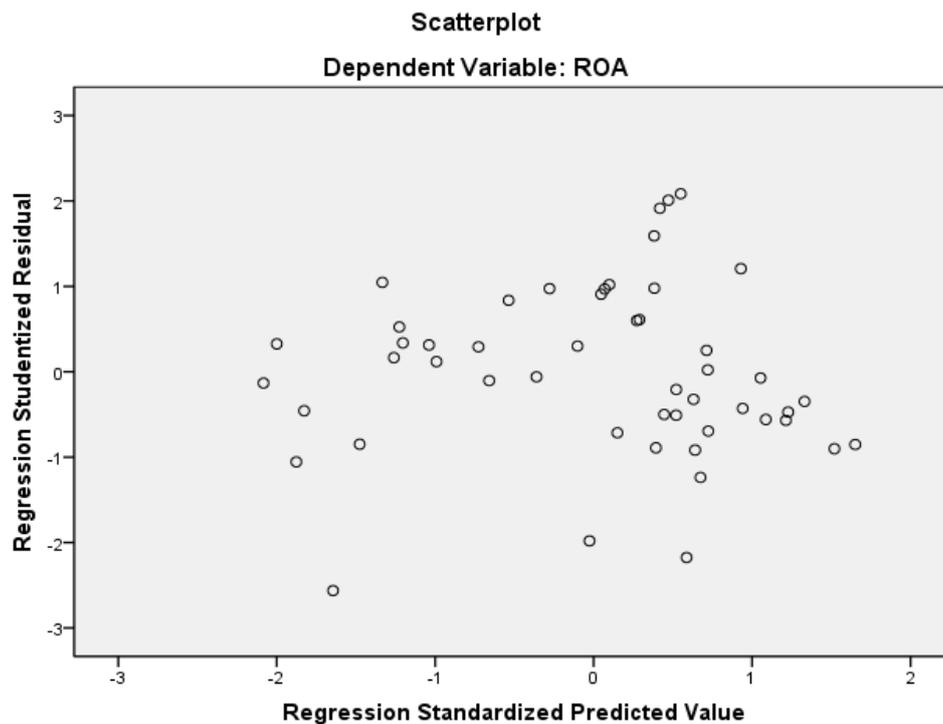
Based on Figure 3 above, there is a Scatterplot graph that shows the scattered points do not form a certain clear pattern. So it can be concluded that there are no symptoms of heteroscedasticity.

Table 11. Summary of Results: Substructure Equation 2

Model	Standardized Coefficients	t-test Sig	Description	F-test and Sig.	R-Square
CAR → ROA	-.458	.014	Significant		
SBDK→ ROA	-.166	.286	Not significant	0,000	0,435
DPK→ ROA	.732	.000	Significant		
LDR → ROA	-.337	.017	Significant		

Table 11 above is a summary table for substructural model equations 2. The data information contained in table 11 is derived from the processing of multiple regression analysis data. Table 11 will be used to assess whether the substructural 2 equation model is good enough (fit model) or not. Then the results in table 11 will be used to see the direct or non-direct effect on ROA in Figure 3.

Based on the table, the substructural 2 equation model is considered to be quite fit because all the independent variables (CAR, DPK, and LDR) except SBDK are significant. SBDK not significant because SBDK has no effect on ROA because banks included in BUKU IV are not under the influence of the lure of the interest rate. Facilities in the form of good service are an attraction of this bank group. The R-squares are quite moderate. So overall the substructural 2 equation model and its coefficient information are valid and unbiased. Therefore we can draw conclusions using the data in table 11. Furthermore, the results can be used for the path analysis that is the basis of this research analysis (see Figure 4).

Figure 4: Coefficient of Path Analysis
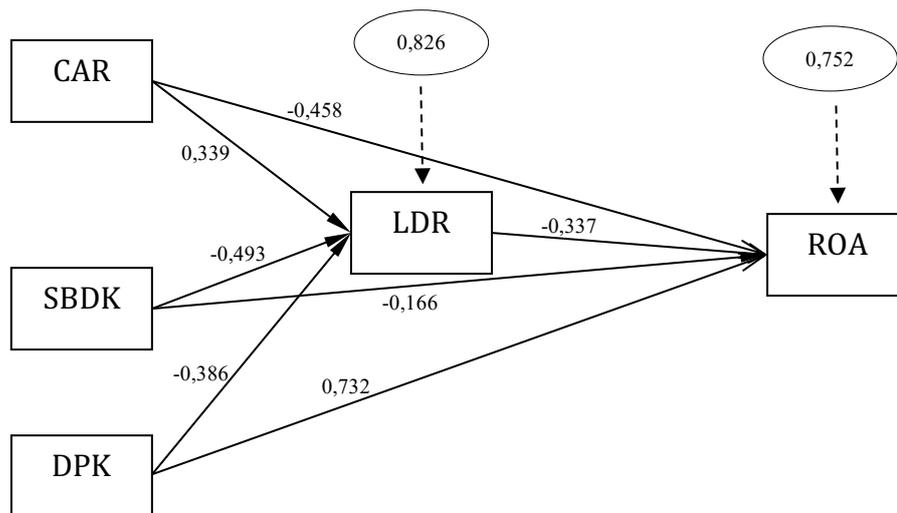
Source: data processed

The path coefficient interpretation is as follows:
- Effect of CAR on ROA :
  Direct influence = -0,458
  Indirect influence (through LDR) = 0,339 x -0,337 = - 0,114
  Total influence = -0,458 + (-0,114) = -0,572
- Effect of SBDK on ROA:
  Direct influence = -0,166
  Indirect influence (through LDR) = -0,493 x -0,337 = 0,166
  Total influence = -0,166 + 0,166 = 0,000
- Effect of DPK on ROA
  Direct influence = 0,732
  Indirect influence (through LDR) = -0,386 x -0,337 = 0,130
  Total influence = 0,732 + 0,130 = 0,862
- The effect of LDR on ROA = -0,337

The above results are summarized in Table 12. Table 12 will be able to show the role of each variable influencing the ROA and the role of LDR as an intervening variable.

Table 12. Summary of the Value of Direct Effects, Indirect Effects and Total Effects Between Variables

Influence of Variables	Direct influence	Indirect influence (through LDR) : Intervening variable	Total influence
CAR (X1) → ROA (Y)	-0,458	0,339 x -0,337 = -0,114	-0,458+ -0,114 = -0,572
SBDK (X2) → ROA (Y)	-0,166	-0,493 x -0,337 = 0,166	-0,166 + 0,166 = 0,000
DPK (X3) → ROA (Y)	0,732	-0,386 x -0,337 = 0,130	0,732 + 0,130 = 0,862
LDR (Z) → ROA (Y)	-0,337	-	-0,337
CAR (X1) → LDR (Z)	0,339	-	0,339
SBDK (X2) → LDR (Z)	-0,493	-	-0,493
DPK (X3) → LDR (Z)	-0,386	-	-0,386

Source: data processed

Based on the above calculation Table 12, it can be concluded as follows:

1. Capital Adequacy Ratio has an indirect effect on Return On Assets, from the calculation results that the direct effect of -0.458 is smaller than the indirect effect - 0.114 (through LDR). Because CAR to ROA directly has no significant effect based on table 8. So it is better to influence CAR on ROA through LDR (intervening variable) than directly. This means that CAR in influencing ROA through LDR can be seen LDR as an intervening variable and here plays a role in increasing ROA. This role is due to LDR policy improving capital management (CAR). So that the overall total CAR effect on ROA increases when managing LDR better.

2. Prime Lending Rate (SBDK=X2) has an indirect effect on Return On Assets, from the results of calculations that the direct effect of -0.166 (lowers ROA). But the indirect effect of 0.166 (through LDR). This path also shows that LDR acts as an intervening variable from SBDK to ROA. Like the CAR to ROA path. SBDK has an effect on increasing ROA through the policy of LDR. So here the role of LDR as an intervening variable between SBDK and ROA is clearly seen because it increases ROA. The role of LDR has also been shown in the upper path between the influence of CAR on ROA through LDR. LDR here shows its role in reducing smaller ROA decreases due to an increase in SBDK when there is LDR as an intervening variable.

3. Third-Party Funds (DPK) has a direct effect on Return On Assets, from the calculation results that the direct effect of 0.732, and this increase in ROA will increase if the bank applies LDR. The addition of ROA due to DPK (through LDR) is 0.130. So that overall ROA increases higher than not applying a good policy of LDR. In the conception of credit/financing management, third party funds (DPK) is the basis for decisions or policies in the Bank. If DPK in a stable condition, then this will provide a degree of certainty decision in granting credit. Because of the increase, DPK lending decisions will be even higher. DPK influential was positive towards Credit Distribution. When funds are collected from high society, then the decision to extend credit will be increasingly too high.

4. The role of LDR can improve ROA. And that role can be seen by comparing the direct influence of each variable and indirectly through intervening. By intervening in a good policy of LDR, the effect of through good policy of LDR is higher than aggressive LDR. This shows that LDR has a role in increasing ROA due to changes in CAR, SBDK, and DPK variables. This means that if a bank wants to increase profits, not only loans, bad loans and capital should be considered, but the Loan to Deposit Ratio must also be maintained.

V. CONCLUSION

Based on the results of statistical tests obtained after data collection, data processing, hypothesis testing, and analysis and discussion related to the research hypothesis, the researcher draws the conclusions as follows:
1. Partially the independent variables in this study affect the intervening variable (LDR).
2. Partially all the independent variables affect the dependent variable (ROA) except the SBDK variable which does not show influence.
3. Independent variables except DPK show an indirect effect on the dependent variable (ROA) through mediating the intervening variable (LDR).

VI. RECOMMENDATION

Based on the results of research and discussion, there are several suggestions that can be given, including:

1. For bank BUKU 4 (which is a sample), it must be prudent to manage its credit (LDR) because this variable is proven in this study as an intervening variable that mediates the influence of Capital (CAR), Third-Party Funds (bank deposits) and bank interest (Prime Lending Rate) on profit achievement (ROA) bank.
2. CIMB NIAGA as a new member in the BUKU IV bank group, as a "new child" has the smallest ratio numbers among other old BUKU IV members. Core capital is also at the threshold of entry requirements in the BUKU IV group, as well as the average annual profit being the smallest. For this reason, it is recommended that CIMB NIAGA be able to increase the ratio, profit, and core capital figures so that they do not "downgrade" from the BUKU IV bank group.
3. For the community as the owner of the funds, if they want to channel their funds to the bank in the form of investments or deposits in order to consider important variables that influence the bank where the investment

is to achieve optimal profits. And for people who need funds from banks to be wiser in making decisions to receive credit or loans from banks.

4. For future researchers, it is better to include other independent variables that contribute more to the bank's profitability variables, such as core capital variables (with regard to size), external factors (economic and political).

References

Undang-undang Republik Indonesia No. 10 tahun 1998 tentang Perubahan atas Undang-undang no. 7 tahun 1992 tentang Perbankan. (1998). *Presiden Republik Indonesia*.

Aji, T. W., Susyanti, J., & Slamet, A. R. (2017). Pengaruh Suku Bunga Kredit, Risiko Kredit dan Kecukupan Modal terhadap Profitabilitas. *e – Jurnal Riset Manajemen Prodi Manajemen, Fakultas Ekonomi Unisma, website : www.fe.unisma.ac.id (email : e.jrm.feunisma@gmail.com)*.

Anggreni, M. R., & Suardhika, I. S. (2014). Pengaruh Dana Pihak Ketiga, Kecukupan Modal, Risiko Kredit dan Suku Bunga Kredit pada. *ISSN: 2302-8556 E-Jurnal Akuntansi Universitas Udayana. 9.1*, 27-38 .

Aryaningsih, N. (2008). Pengaruh suku bunga, inflasi, dan jumlah penghasilan terhadap permintaan kredit di PT. BPD Cabang Pembantu Kediri. *Lembaga Penelitian Undiksha : Jurnal penelitian dan pengembangan sains dan humaniora*.

Baihaqi, B. (2017, Nopember 23). *Tingkat Profitabilitas Perbankan Terus Menurun*. Retrieved from Harian Ekonomi Neraca: http://www.neraca.co.id/article/93427/tingkat-profitabilitas-perbankan-terus-menurun

Bank Indonesia, D. (2011). Penilaian Tingkat Kesehatan Bank Umum. *Surat Edaran Bank Indonesia (SE BI) No.13/ 24 /DPNP*. Jakarta, Indonesia: Bank Indonesia.

Bank, I. (2013, Januari 15). Transparansi Informasi Suku Bunga Dasar Kredit. *Surat Edaran Bank Indonesia (SEBI) no. 14/1/DPNP*. Jakarta, Jakarta, Indonesia: Bank Indonesia.

Boediono. (2014). *Seri Sinopsis Pengantar Ilmu Ekonomi no. 5 Ekonomi Makro.* Yogyakarta: BPFE.

Brigham, & Houston. (2010). *Dasar-dasar Manajemen Keuangan, Buku I, Edisi II.* Jakarta: Salemba Empat.

Budiawan. (2008). Analisis Faktor - Faktor yang Mempengaruhi Penyaluran Kredit pada Bank Perkreditan Rakyat (Studi Kasus pada BPR di Wilayah Kerja BI Banjarmasin). *Tesis Program Studi Magister Manajemen Universitas Diponegoro Semarang*.

Christiano, M., Parengkuan, T., & Saerang, I. (2014). Analisis Terhadap Rasio-rasio Keuangan untuk mengukur Profitabilitas pada Bank-bank Swasta yang Go Public. *Jurnal EMBA Vol.2 No.4 Desember*, 817-830.

Darmawi, H. (2011). *Manajemen Perbankan.* Jakarta: Bumi Aksara.

Dendawijaya, L. (2009). *Manajemen Perbankan.* Jakarta: Ghalia Indonesia.

Dewi, L. E., Herawati, N. T., & Sulindawati, E. L. (2015). Analisis Pengaruh NIM, BOPO, LDR, DAN NPL terhadap Profitabilitas (Studi Kasus Pada Bank Umum Swasta Nasional Yang Terdaftar Pada Bursa Efek Indonesia Periode 2009-2013). *e-Journal S1 Ak. Universitas Pendidikan Ganesha Jurusan Akuntansi Program S1 (Volume: 3 No. 1)*.

Fahruna, H. (2018). Fkator-faktor yang Pengerahui Penyaluran Kredit pada Bank Umum Swasta Nasional Devisa di Indonesia. *Jurnal Ekonomi Daerah (JEDA) Vol 8, No 1 (2020)* .

Ferdinand, A. (2014). *Metode Penelitian Manajemen.* Semarang: BP Universitas Diponegoro.

Ghozali, I. (2013). *Aplikasi AnalisisMultivariate dengan Program IBM SPSS 21Update PLS Regresi.* Semarang: Badan Penerbit Universitas Diponegoro.

Gubernur Bank Indonesia. (2012). Tentang Kegiatan Usaha dan Jaringan Kantor Berdasarkan MOdal Inti Bank. *Peraturan Bank Indonesia Nomor 14/26/PBI/2012*.

Gudono. (2012). *Analisis Data Multivariate. Edisi 2.* Yogyakarta: BPFE.

Hamidah, Goldan, S. M., & Mardiyati, U. (2014). Analisis Pengaruh LDR, NPL dan Operational Efficiency Ratioterhadap Return On Assets pada Bank Devisa di Indonesia periode 2010-2012. *Jurnal Riset Manajemen Sains Indonesia (JRMSI) | Vol. 5, No. 1*.

Harjito, A., & Martono. (2010). *Manajemen Keuangan.* Yogyakarta: Ekonosia.

Haryoso, P., & Kusdiasmo, B. (2016). Capital Adequacy Ratio (CAR) dan Dana Pihak Ketiga (DPK) terhadap Return On Asset (ROA) dengan Penyaluran Kredit sebagai Variabel Intervening. *Advance Vol.4 No.1 Edisi Maret 2016, ISSN 2337 - 5221*.

Hasanudin, & Prihatiningsih, M. (2010). Analisis Pengaruh Dana Pihak Ketiga Tingkat Suku Bunga kredit Non Performing Loan (NPL) dan Tingkat Inflasi terhadap penyaluran Kredit Bank Perkreditan Rakyat (BPR) di Jawa Tengah. *Politektik Negeri Semarang, 5(1)*, 25-31.

Hersugondo, & Tamtomo, H. S. (2012). Pengaruh CAR, NPL, DPK, dan ROA terhadap LDR Perbankan Indonesia. *Dharma Ekonomi. Vol.XIX, No.36, Oktober*.

Idroes, F. (2008). *Manajemen Resiko Perbankan.* Jakarta: PT. Raja Grafindo Persada.

Ismail. (2013). *Manajemen Perbankan. Edisi Pertama.* Jakarta: Kencana.

Judisseno, R. K. (2002). *Sistem Moneter Dan Perbankan Di Indonesia.* Jakarta: PT Gramedia Pustaka Utama.

Kasmir. (2014). *Bank dan Lembaga Keuangan Lainnya, Edisi Revisi.* Jakarta: Raja Grafindo Persada.

Kieso, D. E., Jerry, J. W., & Terry, D. (2007). *Akuntansi Intermediete, Terjemahan Emil Salim, Jilid 1, Edisi Kesepuluh.* Jakarta: Erlangga.

Kontan, H., & Adi, T. (2019, Maret 28). *Struktur dan kinerja perbankan Indonesia.* Retrieved from Kontan.co.id: https://analisis.kontan.co.id/news/struktur-dan-kinerja-perbankan-indonesia

Kuncoro, M., & Suhardjono. (2011). *Manajemen Perbankan.* Yogyakarta: BPFE.

Lokollo, N. G. (2018). Pengaruh Dana Pihak Ketiga (Dpk), Dan Non Performing Loan (Npl) Terhadap Loan To Deposit Ratio (Ldr) Dan Dampaknya Pada Profitabilitas (Studi Pada Bank Pertanian Di Asia Tenggara Dan Asia Timur). *Masters thesis, Universitas Pamulang, http://eprints.unpam.ac.id/id/eprint/7254.*

Mishkin, F. S. (2008). *Ekonomi Uang, Perbankan, dan Pasar Keuangan, Edisi 8.* Jakarta: Salemba Empa.

Munawir. (2007). *Analisis Laporan Keuangan.* Yogyakarta: Liberty.

Munawir, S. (2010). *Analisa Laporan Keuangan.* Yogyakarta: Liberty.

Nandadipa, S. (2010). Analisis Pengaruh CAR, NPL, Inflasi, Pertumbuhan DPK,. *Skripsi.*

Novianto, A. (2011). Analisis Pengaruh Nilai Tukar (Kurs) Dolar Amerika/Rupiah (Us$/Rp), Tingkat Suku Bunga SBI, Inflasi, dan Jumlah Uang Beredar (M2) terhadap Indeks Harga Saham Gabungan (IHSG) di Bursa Efek Indonesia (BEI) periode 1999.1–2010.6. *Undergraduate thesis.*

Nugraha, R. E. (2014). Analisis Pengaruh CAR, NPL, BOPO, ROA, dan NIM terhadap LDR(Studi Empiris Pada Perbankan Syariah Di Indonesia Periode 2010-2012). *Naskah Publikas Universitas Muhammadiyah Surakarta.*

Otoritas Jasa Keuangan. (2017). Retrieved from www.ojk.go.id: https://www.ojk.go.id/id/kanal/perbankan/Pages/Bank-Umum.aspx

Otoritas Jasa Keuangan Republik Indonesia. (2016). Tentang Kegiatan Usaha dan jaringan Kantor Berdasarkan Modal Inti Bank. *Peraturan Otoritas jasa Keuangan Nomor 6/POJK.03/2016.*

Pardede, D. N. (2016). Analisis Pengaruh CAR, Dana Pihak Ketiga (DPK), NIM, DAN LDR terhadap Profitabilitas Perbankan dengan LDR sebagai Variabel Intervening (Studi Pada Bank Umum Go Public di Indonesia Periode 2010-2014). *Skripsi.*

Parenrengi, S., & Hendratni, T. W. (2018). PPengaruh dana pihak ketiga, kecukupan modal dan penyaluran kredit terhadap profitabilitas bank. *Jurnal Manajemen Strategi dan Aplikasi Bisnis, Vol 1, No.1,* 9 – 18.

Prasanjaya, A., & Ramantha, I. (2013). AnalisisPengaruh Rasio CAR, BOPO, LDR dan Ukuran Perusahaan terhadap Profitabilitas Bank yang terdaftar di BEI. *E-Jurnal Akuntansi Universitas Udayana 4.1, ISSN: 2302-8556,* 230-245.

Prayudi, A. (2012). Pengaruh Capital Adequacy Ratio (CAR), Non-Performing Loan (NPL), BOPO, Return On Asset (ROA) dan Net Interest Margin (NIM) terhadap Loan to Deposit Ratio (LDR). *Gunadarma University E-Paper. http://papers.gunadarma.ac.id/.*

Purwanto, D. (2016, Januari 4). *CAR Perbankan Kurang dari 8% Harus Ditutup.* Retrieved from Oke Finance: https://economy.okezone.com/read/2010/01/04/320/290796/car-perbankan-kurang-dari-8-harus-ditutup

Puspitasari, D. (2009). Analisis Pengaruh CAR, NPL, NIM, BOPO, LDR, dan Suku BUnga BI terhadap ROA. *Tesis Prodi Magister Manajemen Universitas Diponegoro.*

Putra, A. P., & Anggoro. (2017). Pengaruh Suku Bunga SBI, CAR, LDR, ROA, dan NPL terhadap Penyaluran Kredit Modal Kerja (Studi Pada Perusahaan Perbankan Yang Terdaftar Di BEI Periode 2005 – 2010) . *Other thesis, UPN "VETERAN" YOGYAKARTA http://eprints.upnyk.ac.id/id/eprint/11093.*

Rajagukguk, R. (2017, Nopember 2017). *LPS: Profitabilitas Perbankan Turun, Rasio Kredit Bermasalah Tinggi.* Retrieved from iNews.id - Finance: https://www.inews.id/finance/bisnis/lps-profitabilitas-perbankan-turun-rasio-kredit-bermasalah-tinggi

Ratu Edo, D. S., & Wiagustini, N. P. (2014). Pengaruh Dana Pihak Ketiga, Non Performing Loan, dan Capital Adequacy Ratio terhadap Loan to Deposit Ratio dan Return On Asset pada sektor Perbankan di Bursa Efek ndonesia. *ISSN : 2337-3067 E-Jurnal Ekonomi dan Bisnis Universitas Udayana 3.11,* 650-673 .

Retherford, R. D. (1993). *Statistical Models For Causal Analysis. Program on Population.* Honolulu, Hawaii: East-West Center.

Retnadi, D. (2006). Perilaku Penyaluran Kredit Bank. *Jurnal Kajian Ekonomi.*

Romadhoni, E. N. (2014). Analisis Pengaruh CapitalL Adequacy Ratio (CAR), Non Performing Loan (NPL), Biaya Operasional Pendapatan Operasional (BOPO), Return On Asset (ROA) dan Net Interest Margin (NIM) tehadap Loan to Deposit ratio (LDR). *Universitas Muhammadiyah Surakarta.*

Sarwono, J. (2006). *Metode Penelitian Kuantitatif dan Kualitatif.* Yogyakarta: Graha Ilmu.

Sharvina, A. (2017). Pengaruh Dana Pihak Ketiga (Dpk) Dan Capital Adequacy Ratio (Car) Terhadap Loan To Deposit Ratio (Ldr) Pada Pt. Bank Negara Indonesia (Persero)Tbk. *http:// repository.ekuitas.ac.id/handle/123456789/456.*

Siamat, D. (2005). *Manajemen Lembaga Keuangan. "Kebijakan Moneter dan Perbankan" edisi kesatu.* Jakarta: Fakultas Ekonomi Universitas Indonesia.

Sinungan, M. (2000). *Manajemen Dana Bank.* Jakarta: Bumi Aksara.

Sipahutar, M. A. (2007). *Persoalan-persoalan Perbankan Indonesia.* Jakarta Pusat: Gorga Media.

Sitanggang, L. M., & Tendi. (2019, Pebruari 5). *Return on asset (ROA) dari bank BUKU III menyusut di tahun 2018 lalu*. Retrieved from Kontan.co.id: https://keuangan.kontan.co.id/news/return-on-asset-roa-dari-bank-buku-iii-menyusut-di-tahun-2018-lalu

Sitorus, R. (2017, Desember 12). *Profitabilitas Perbankan Diproyeksikan Kian Tergerus*. Retrieved from Bisnis.com: https://finansial.bisnis.com/read/20171212/90/717780/profitabilitas-perbankan-diproyeksikan-kian-tergerus

Sudirman, W. (2013). *Manajemen Perbankan – Menuju Bankir Konvensional yang Profesional.* Jakarta: Kencana Prenada Media Grup.

Sugiyono. (2007). *Statistik Untuk Penelitian.* Bandung: CV. Alfabeta.

Sunariyah. (2013). *Pengantar Pengetahuan Pasar Modal, Edisi 6.* Yogyakarta: UPP STIM YKPN.

Syaichu, M., & Wibowo, S. E. (2013). Analisis Pengaruh Suku Bunga, Inflasi, CAR, BOPO, NPF. *Diponegoro Journal of Management Volume 2, Nomor 2, ISSN (Online): 2337-3792*, 01-10.

Syamsudin, L. (2011). *Manajemen Keuangan Perusahaan.* Jakarta: Rajawali Pers.

Van horne, J. C., & wachowicz, J. J. (2005). *Fundamental of Financial Management/Prinsip-prinsip Manajemen Keuangan (Edisi Kedua belas).* Jakarta: Salemba Empat.

Widiarti, A. W., Siregar, H., & Andati, T. (2015). The Determinants of Bank's Efficiency in Indonesia. *Bulletin of Monetary, Economics and Banking, Volume 18, Number 2*.

Wityasari, M., & Pangestuti, I. R. (2014). Analisis Pengaruh CAR, DANA PIHAK KETIGA (DPK), NPL, dan LDR terhadap Profitabilitas Perbankan dengan LDR sebagai Variabel Intervening. *Diponegoro Journal of Manajemen*, 01-14.

Yanti, S. T., & Masdjojo, G. N. (2018). Pengaruh Capital Adequacy Ratio, Loan to Deposit Ratio, Net Interest Margin, dan Non Performing Loan terhadap Profitabilitas pada Bank Umum Swasta Nasional Devisa periode 2013-2017 . *Dinamika Akuntansi, Keuangan dan Perbankan, Vol. 7, No. 2*, 173 - 185 .

Yudistira, G., & Dupla, K. (2017). *LPPI ungkap persoalan di perbankan Indonesia*. Retrieved from Kontan.co.id: https://keuangan.kontan.co.id/news/lppi-ungkap-persoalan-di-perbankan-indonesia

Yudistira, G., & Kartika, H. (2018, Agustus 27). *Ini penyebab rasio profitabilitas bank swasta lebih rendah dari bank BUMN*. Retrieved from Kontan.co.id: https://keuangan.kontan.co.id/news/ini-penyebab-rasio-profitabilitas-bank-swasta-lebih-rendah-dari-bank-bumn

Yuliani. (2017). Hubungan Efisiensi Operasional dengan Kinerja Profitabilitas pada Sektor Perbankan yang Go Publik di Bursa Efek Jakarta. *Jurnal Manajemen & Bisnis Sriwijaya Vol. 5 No. 10*.

Zain, D. (2018). Riset Bisnis. *https://slideplayer.info/slide/12270081/*, (pp. 01-101).