

Factors Affecting Loan to Deposit Ratio at Regional Development Banks in Indonesia

Ernita Fatriawati

Faculty of Economics and Business
Universitas Sumatera Utara, Indonesia

ARTICLE INFO

Article history:

Received Aug 25, 2021

Revised Sep 21, 2021

Accepted Oct 30, 2021

Keywords:

Return on Assets (ROA)
Capital Adequacy Ratio (CAR)
Nonperforming loans (NPLs)
Net Interest Margin (NIM)
Operating Expenses to Operating Income (OEOL)
Loan to Deposit Ratio (LDR).

ABSTRACT

The purpose of this study was to analyze the effect of Return on Assets (ROA), Capital Adequacy Ratio (CAR), Non-performing loans (NPLs), Net Interest Margin (NIM), and Operating Expenses to Operating Income (OEOL) of the Loan to Deposit Ratio (LDR) to the Regional Development Bank in Indonesia. Population and sample in this research is the Regional Development Bank (BPD) in Indonesia, which is registered in the Financial Services Authority 2011-2016 period as many as 26 banks. The samples in this study using saturated sampling. The data analysis technique used is descriptive statistical analysis and regression of multiple panel data. Selection of panel data used is the Fixed Effects Model (FEM). The results of this study indicate that the Return on Assets (ROA) significant negative effect on the Loan to Deposit Ratio (LDR), Capital Adequacy Ratio (CAR) has negative and not significant to the Loan to Deposit Ratio (LDR), Non Performing Loans (NPLs) positive and not significant to the Loan to Deposit Ratio (LDR), Net Interest Margin (NIM) negative and not significant to the Loan to Deposit Ratio (LDR), and Operating Expenses to Operating Income (OEOL) negative and not significant to the Loan to Deposit Ratio (LDR). The predictive ability of these five variables against the Loan to Deposit Ratio (LDR) in this study amounted to 20.94%, while the remaining 79.06% influenced other variables not examined in this study. and Operating Expenses to Operating Income (OEOL) negative and not significant to the Loan to Deposit Ratio (LDR). The predictive ability of these five variables against the Loan to Deposit Ratio (LDR) in this study amounted to 20.94%, while the remaining 79.06% influenced other variables not examined in this study. and Operating Expenses to Operating Income (OEOL) negative and not significant to the Loan to Deposit Ratio (LDR). The predictive ability of these five variables against the Loan to Deposit Ratio (LDR) in this study amounted to 20.94%, while the remaining 79.06% influenced other variables not examined in this study.

This is an open access article under the [CC BY-NC](https://creativecommons.org/licenses/by-nc/4.0/) license.



Corresponding Author:

Ernita Fatriawati,
Faculty of Economics and Business,
Universitas Sumatera Utara, Indonesia
Jl Dr. T. Mansur No.9, Padang Bulan, Kec. Medan Baru, Kota Medan, Sumatera Utara 20222, Indonesia
Email: ernitafatriawati@gmail.com

1. INTRODUCTION

A bank is a financial intermediary institution generally established with the authority to accept deposits, lend money, and issue promissory notes, also known as banknotes. According to Law No. 10/1998 regarding amendments to Law No. 7 of 1992 concerning Banking in terms of function, there are several types of conventional commercial banks, namely state banks, private banks, non-foreign national private banks, regional development banks, joint venture banks and foreign banks. The bank used in this study is the Regional Development Bank (BPD) in Indonesia consisting of 26 (twenty six) banks. The most important business activity of a bank is to collect and distribute funds. According to the Decree of the Director of Bank Indonesia, To assess banking finance, five aspects of bank assessment are used, namely Capital, Assets, Management, Earnings, and Liquidity. Where Capital is based on the Capital Adequacy Ratio (CAR), Assets aspects include Return on Assets (ROA) and Non Performing Loans (NPL), Earnings aspects include Net Interest Margin (NIM) and Operating Expenses to Operating Income (BOPO), while Liquidity aspects including Loan to Deposit Ratio (LDR) and Statutory Reserves (GWM).

The level of Loan to Deposit Ratio (LDR) of a bank must be maintained so that it does not become too low or too high which aims to maintain the health of the bank, the Financial Services Authority as the monetary authority has an important role in determining the level of soundness of the bank as measured by the Loan to Deposit Ratio (LDR), is at the level of 78%-92% as stated in Bank Indonesia Regulation No. 18/14/PBI/2016 concerning the fourth amendment to Bank Indonesia Regulation No. 15/15/PBI/2013 concerning Statutory Reserves for Commercial Banks in Rupiah and Foreign Exchange for Conventional Commercial Banks. The provisions of this Bank Indonesia Regulation are old regulations that have not been replaced. In accordance with Article 2 of the transitional rule that the provisions of the old laws and regulations remain in effect as long as there is no new regulation as a replacement. Due to the limited data sourced from the Financial Services Authority and the Annual Report, the research period used is limited to 2016. The LDR value of each BPD Bank from 2011 to 2016 has changed every period. This is due to the unstable long-term growth rate of banks in Indonesia, so it is necessary to predict the factors that affect the Loan to Deposit Ratio (LDR). The objectives of this research are: This is due to the unstable long-term growth rate of banks in Indonesia, so it is necessary to predict the factors that affect the Loan to Deposit Ratio (LDR). The objectives of this research are: This is due to the unstable long-term growth rate of banks in Indonesia, so it is necessary to predict the factors that affect the Loan to Deposit Ratio (LDR). The objectives of this research are:

- a. Analyzing the effect of Return on Assets (ROA) on Loan to Deposit Ratio (LDR) at Regional Development Banks in Indonesia.
- b. Analyzing the effect of the Capital Adequacy Ratio (CAR) on the Loan to Deposit Ratio (LDR) at Regional Development Banks in Indonesia.
- c. Analyzing the influence of Non-Performing Loans (NPL) on Loan to Deposit Ratio (LDR) at Regional Development Banks in Indonesia
- d. Analyzing the effect of Net Interest Margin (NIM) on Loan to Deposit Ratio (LDR) at Regional Development Banks in Indonesia.
- e. Analyzing the effect of Operational Costs on Operating Income (BOPO) on Loan to Deposit Ratio (LDR) at Regional Development Banks in Indonesia.

2. RESEARCH METHOD

2.1 Types of research

The type of data used in this research is associative research, which is connecting two or more variables where in the research proposal, process, hypothesis, fieldwork, data analysis and data conclusions up to the writing use aspects of measurement, formula calculation, and certainty of numerical data.

2.2 Place and time of research

The data used in this study was taken from the statistics of the Financial Services Authority through its website www.ojk.go.id and on the website of each Regional Development Bank (BPD) in Indonesia through the internet. The study was conducted from April 2017 to July 2017.

2.3 Operational Limits

Operational limitations in this study are:

- The independent variables in this study are Return on Assets (ROA), Capital Adequacy Ratio (CAR), Non Performing Loans (NPL), Net Interest Margin (NIM), and Operating Costs to Operating Income (BOPO).
- The dependent variable in this study is the Loan to Deposit Ratio.
- The company under study is the Regional Development Bank in Indonesia which includes consecutive annual reports during the 2011-2016 period.

2.4 Variable Operational Definition

a. Independent Variable

The dependent variable in this study is the Loan to Deposit Ratio (LDR). This ratio provides an indication of the amount of third party funds disbursed in the form of credit and shows one of the bank's liquidity assessments. Liquidity risk using the Loan to Deposit Ratio (LDR) is calculated by the formula:

$$LDR = \frac{\text{Total Kredit}}{\text{Dana Pihak Ketiga}} \times 100$$

b. Independent Variable

1) Return on Assets (X1)

Return on Assets (ROA) is used to measure the ability of bank management to obtain overall profits. The higher the ROA of a bank, the greater the level of profit achieved by the bank and the better the position of the bank in terms of asset use.

$$ROA = \frac{\text{Laba Sebelum Pajak}}{\text{Rata - rata Total Aset}} \times 100$$

2) Capital Adequacy Ratio(X2)

This ratio is calculated using the ratio between own capital and Risk Weighted Assets (RWA). Follow-up Supervision of Commercial Banks) as follows:

$$CAR = \frac{\text{Modal Bang}}{\text{Aktiva Tertimbang Menurut Risiko}} \times 100$$

3) Non Performing Loans (X3)

NPL is measured from Anantara's ratio of non-performing loans to total loans, as formulated as follows:

$$NPL = \frac{\text{Jumlah Kredit Bermasalah}}{\text{Total Kredit}} \times 100$$

4) Net Interest Margin (X4)

The greater this ratio, the higher the interest income obtained from productive assets managed by the bank, so that the probability of the bank being in a problematic condition is getting smaller.

$$NIM = \frac{\text{Pendapatan Bunga Bersih}}{\text{Rata - rata Aktiva Produktif}} \times 100$$

5) Operational costs are calculated based on the sum of the total operating expenses. Mathematically, BOPO can be formulated as follows:

$$BOPO = \frac{\text{Biaya (Beban) Operasional}}{\text{Pendapatan Operasional}} \times 100$$

2.5 Variable Operation

In order for this research to be carried out properly, it is necessary to understand the various elements that form the basis of a scientific research contained in the operationalization of research variables.

2.6 Population and Research Sample

The population and sample in this study were all Regional Development Banks (BPD) in Indonesia registered with the Financial Services Authority for the period 2011-2016, a total of 26

banks. Sampling in this study used the Saturated Sampling method, which is a sampling technique when all members of the population are used as samples. The sample criteria in this study are as follows:

- a. BPD which has announced the 2011-2016 Annual Report on its official website.
- b. BPD which has announced its Published Financial Report through the official website of the Financial Services Authority (www.ojk.go.id).

2.7 Type of Data Data Collection Method

The type of data used in this study is secondary data in the form of annual data with a research period starting from 2011 to 2016 at Regional Development Banks in Indonesia. The data collection method used in this study is a documentation study by collecting secondary data in the form of financial reports obtained from the website of each Regional Development Bank (BPD) in Indonesia.

2.8 Data analysis technique

a. Descriptive Statistical Analysis

Analysis that describes the data in general and tries to explain or describe various characteristics of the data, such as looking at the mean, variance, mode, median, and frequency distribution.

b. Panel Data Regression Analysis

The analytical technique used in this study is panel data regression analysis to determine the effect of Return On Assets (ROA), Capital Adequacy Ratio (CAR), Non Performing Loans (NPL), Net Interest Margin (NIM) and Operating Costs on Operating Income (BOPO). to the Loan to Deposit Ratio (LDR). Data analysis was carried out with the help of Eviews. The panel data regression model used to test the hypothesis with the following basic model:

$$Y_{it} = \alpha + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \beta_5 X_{5it} + \epsilon_{it}$$

Information:

- Y = Loan to Deposit Ratio (LDR)
- α = Constant
- X1 = Return On Assets (ROA)
- X2 = Capital Adequacy Ratio (CAR)
- X3 = Non-Performing Loan (NPL)
- X4 = Net Interest Margin (NIM)
- X5 = Operational Cost to Operating Income (BOPO)
- $\beta_1 - \beta_5$ = Regression Coefficient of Independent Variable
- i = entity i
- t = t-th entity
- it = t-th entity

To estimate the model parameters with panel data, there are several approaches used, namely:

- 1) *Common Effect Model* (CEM) or Pooled Least Square (PLS)
- 2) Fixed Effect Model (FEM)
- 3) Random Effect Model (REM)

The steps for selecting a panel data model are as follows:

- 1) Estimation with Fixed Effect Model
- 2) Chow test (Pooled Least Square or Fixed Effect Model). With the test criteria H_0 = Pooled Least Square and H_1 = Fixed Effect Model. Reject H_0 if p-value < significance value (0.05); then H_1 is accepted.
- 3) Estimation with Random Effect Model
- 4) Hausman test (Random Effect Model or Fixed Effect Model). With the test criteria H_0 = Random Effect Model H_1 = Fixed Effect Model. Reject H_0 if p-value < significance value (0.05); then H_1 is accepted.

2.9 Classic assumption test

a. Normality test

In this study, the normality test of the residuals used the Jarque-Bera (JB) test. the significance level used = 0.05. The basis for decision making is to look at the probability number from the JB statistic, provided that if the probability value is p 0.05, then the normality assumption is met, and if the probability is < 0.05, then the normality assumption is not met.

b. Multicollinearity Test

To detect whether there are indications of multicollinearity symptoms, a correlation matrix approach from the independent variables can be used. If there is a correlation value between each independent variable is greater than 0.8 then multicollinearity occurs.

c. Autocorrelation Test

In addition to using Durbin-Watson to determine whether this autocorrelation occurs, the Runs Test can be used. This study uses the Runs Test, where if the Asymp value. Sig (2-tailed) > 0.05 then the null hypothesis is accepted, and it means that the residual is not affected by autocorrelation.

d. Heteroscedasticity Test

The basis for decision making is to look at the probability numbers provided that if the probability of the regression coefficient of the independent variable is > 0.05, then there is no heteroscedasticity and if the probability of the regression coefficient of the independent variable is < 0.05, then there is heteroscedasticity.

2.10 Hypothesis test

a. Simultaneous Effect Test (F-test)

The form of the test is as follows:

- 1) $H_0: 1 = 2 = 3 = 4 = 5 = 0$, meaning that all independent variables simultaneously have no significant effect on the dependent variable.
- 2) H_1 : at least one $i \neq 0$, meaning that all independent variables simultaneously have a significant effect on the dependent variable. In this study, the value of F_{count} will be compared with F_{table} at a significant level (α) = 5%. The decision-making criteria, namely if $F_{count} < F_{table}$, then H_0 is accepted and if $F_{count} \geq F_{table}$, then H_1 is accepted.

b. Partial Effect Test (t-test)

- 1) Formulating Hypotheses

- a) $H_0: i = 0$, meaning that there is no partial effect of the independent variable on Y (where $i = X_1, X_2, X_3, X_4$, and X_5).
- b) $H_1: i \neq 0$, meaning that there is a partial effect of the independent variable on Y. (where $i = X_1, X_2, X_3, X_4$, and X_5)

- 2) Decision Making Criteria

- a) Accepted H_0 if $t_{count} < t_{table}$ or Sig. $t = 5\%$ (0.05).
- b) Rejected H_0 (Accept H_1) if $t_{count} \geq t_{table}$ or Sig. $t < 5\%$ (0.05).

c. K. Adjusted R-squared . test

Adjusted R-squared has a value between 0 and 1. Used for regression with more than two independent variables as the coefficient of determination. The closer to 1, the model is said to be better because this means that the independent variable used is able to explain almost 100%.

3. RESULTS AND DISCUSSION

3.1 Descriptive Analysis

In this study, the variables used in the descriptive statistical calculations are ROA, CAR, NPL, NIM, BOPO, and LDR. Based on descriptive statistical analysis, the sample description is obtained as follows:

Table 1

Descriptive Statistics of ROA, CAR, NPL, NIM, BOPO, and LDR at Regional Development Banks in Indonesia

	LDR	ROA	CAR	NPL	NIM	BOPO
mean	89.84199	3.126218	20.53641	2.241026	8.037115	73.68038
Maximum	128.4300	7.020000	84.59000	15.03000	15.10000	99.38000
Minimum	47.34000	0.010000	9.570000	0.040000	2.060000	17.53000
Std. Dev	13.76372	1.014129	7.331803	2.149435	1.668445	8.629219
Observations	156	156	156	156	156	156

3.2 Panel Data Model Selection

- a. Determination of the Estimated Model between Common Effect Model (CEM) and Fixed Effect Model (FEM) with Chow . Test

Table 2

Results of the Chow Test

Effects Test	Statistics	df	Prob.
Cross-section F	2.489925	(25,125)	0.0005
Cross-section Chi-square	63.042865	25	0.0000

Based on the results of the Chow test in Table 2, it is known that the probability value is 0.0000. Because the probability value is $0.0000 < 0.05$, the estimation model used is the fixed effect model (FEM).

b. Determination of the Estimated Model between Fixed Effect Model (FEM) and Random Effect Model (REM) with Hausman Uji Test

Table 3

Results of Hausman's Test

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Cross-section random	16.214446	5	0.0063

Based on the results of the Hausman test in Table 3, it is known that the probability value is 0.0063. Because the probability value is $0.0063 < 0.05$, the estimation model used is the fixed effect model (FEM).

3.3 Classic assumption test

a. Normality test

The probability value of the JB statistic is 0.264897. Because the probability value, which is 0.264897 greater than the significance level, 0.05. This means that the assumption of normality is met.

b. Multicollinearity Test

The conclusion is that there is no symptom of multicollinearity between independent variables. This is because the correlation value between independent variables is not more than 0.9.

c. Autocorrelation Test

Table 4

Autocorrelation Test with Durbin-Watson Test

Likelihood logs	-626.3049	Hannan-Quinn Criter.	8.154117
		Durbin-Watson stat	1.368655

Based on Table 4, the value of the Durbin-Watson statistic is 1.368655. Note that because the Durbin-Watson statistic is between 1 and 3, i.e. $1 < 1.368655 < 3$, the non-autocorrelation assumption is met. In other words, there is no high autocorrelation symptom in the residuals.

d. Heteroscedasticity Test

Table 5

Heteroscedasticity Test (Breusch-Pagan Test)

F-statistics	1.644773	Prob. F(5,150)	0.1516
Obs*R-squared	8.108278	Prob. Chi-Square(5)	0.1504
Scaled explained SS	8.065414	Prob. Chi-Square(5)	0.1527

Based on Table 5, it is known that the Prob Obs*R-Squared value is $0.1504 > 0.05$, which means that there is no heteroscedasticity.

3.4 Hypothesis test

Table 6

Statistical value of the Coefficient of Determination, F-Test, and tTest

Variable	Coefficient	Std. Error	t-Statistic	Prob
ROA?	-4.025262	1.997626	-2.015023	0.0460
CAR?	-0.019208	0.175516	-0.109439	0.9130
NPL?	0.317817	0.672557	0.472551	0.6374
NIM?	-0.541321	0.946348	-0.572011	0.5683
BOPO?	-0.154344	0.189209	-0.815730	0.4162
C	117.8308	20.13845	5.851040	0.0000
R-squared	0.362428	Mean dependent var		89.84199
Adjusted R-squared	0.209411	SD dependent var		13.76372
SE of regression	12.23802	Akaike info criterion		8.022865
Sum squared resid	18721.14	Schwarz criterion		8.628927

Variable	Coefficient	Std. Error	t-Statistic	Prob
Likelihood logs	-594.7835	Hannan-Quinn Criter.		8.269021
F-statistics	2.368545	Durbin-Watson stat		1.426329
Prob (F-statistic)	0.000494			

a. Simultaneous Effect Significance Test (F Test)

The F test aims to test the effect of the independent variables together or simultaneously on the dependent variables. Based on Table 3.7, it is known the value of Prob. (F-statistics), which is 0.000494 < 0.05, it can be concluded that all independent variables, namely ROA, CAR, NPL, NIM, and BOPO simultaneously, have a significant effect on the LDR variable.

b. Panel Data Regression Equation and Partial Effect Significance Test (t Test)

Based on Table 6, the panel data regression equation is obtained as follows:

$$Y = 117.83 + 4.02X_{ROA} + 0.01X_{CAR} + 0.31X_{NPL} + 0.54X_{NIM} + 0.15X_{BOPO}$$

c. Adjusted R-squared . test

Based on Table 4.7, it is known that the adjusted R-squared value is = 0.2094. This value means that ROA, CAR, NPL, NIM, and BOPO are able to influence/explain LDR simultaneously or together by 20.94%, the remaining 79.06% is influenced by other factors.

3.5 Discussion

a. Effect of Return on Assets (ROA) on Loan to Deposit Ratio (LDR)

Based on the test results in Table 3.7 shows that the Return on Assets (ROA) has a negative and significant effect on the Loan to Deposit Ratio (LDR). This is not in accordance with the theory where the greater the Return on Assets (ROA) of a bank, the greater the level of profit earned. achieved by the bank with a large profit then a bank can channel more credit and will increase the LDR itself. Thus, the hypothesis that ROA has a significant effect on LDR can be accepted. However, in this study, the results obtained by ROA have a negative and significant effect on LDR, and are not in accordance with the results of researchers Buchory (2014) which shows the results of ROA on LDR are significantly positive.

b. Effect of Capital Adequacy Ratio (CAR) on Loan to Deposit Ratio (LDR)

The results of the study based on Table 3.7 indicate that the increase or decrease in the Capital Adequacy Ratio (CAR) during the study period did not significantly affect the Loan to Deposit Ratio (LDR). The results of the regression equation show that the coefficient for this variable is negative and not significant. This study is supported by the results of researchers Buchory (2014), namely CAR has a negative and insignificant effect on LDR. so that it can be said that changes (increases and decreases) in the CAR value will not significantly affect the LDR at BPD Banks in Indonesia.

c. Effect of Non Performing Loan (NPL) on Loan to Deposit Ratio (LDR)

It can be seen from the results of the study in Table 3.7 that Non-Performing Loans (NPL) have a positive but not significant effect on the Loan to Deposit Ratio (LDR). This is not in line with the theory where the NPL reflects credit risk, the higher the NPL level, the greater the credit risk borne by the bank. In other words, the higher the NPL of a bank, it will disrupt the bank's performance, which is reflected in its LDR value.

d. Effect of Net Interest Margin (NIM) on Loan to Deposit Ratio (LDR)

Based on the statistical test in Table 3.7, the Net Interest Margin (NIM) has a negative and insignificant effect on the Loan to Deposit Ratio (LDR). This ratio shows the bank's ability to obtain operating income from funds placed in the form of loans.

e. Effect of Operational Costs on Operating Income (BOPO) on Loan to Deposit Ratio (LDR)

From the results of the research above, it is known that Operational Costs on Operating Income (BOPO) have a negative and insignificant effect on the Loan to Deposit Ratio (LDR).

4. CONCLUSION

Based on the results of previous research and discussion, it can be concluded as follows:

- Simultaneously Return on Assets (ROA), Capital Adequacy Ratio (CAR), Non Performing Loans (NPL), Net Interest Margin (NIM), and Operating Costs to Operating Income (BOPO), have a significant effect on Loan to Deposit Ratio (LDR) in Regional Development Banks in Indonesia.
- Partially, Return on Assets (ROA) has a negative and significant effect on Loan to Deposit Ratio (LDR), Capital Adequacy Ratio (CAR) has a negative and insignificant effect on Loan to Deposit

Ratio (LDR), Non Performing Loans (NPL) has a positive effect and not significant to Loan to Deposit Ratio (LDR), Net Interest Margin (NIM) has a negative and insignificant effect on Loan to Deposit Ratio (LDR), and Operating Costs to Operating Income (BOPO) has a negative and insignificant effect on Loan to Deposit Ratio (LDR) at Regional Development Banks in Indonesia.

REFERENCES

- Budisantoso, T., dan Nuritomo. (2014). Bank dan Lembaga Keuangan Lain. Jakarta: Salemba Empat.
- Dendawijaya, L. (2009). Manajemen Perbankan. Jakarta: Ghalia Indonesia.
- Dendawijaya, L. (2009). Manajemen Perbankan. Jakarta: Ghalia Indonesia.
- Fahmi, I. (2015). Manajemen Perbankan Konvensional dan Syariah. Jakarta: Mitra Wacana Media.
- Ghozali, I. (2016). Aplikasi Analisis Multivariate. Semarang: Badan Penerbit Universitas Diponegoro.
- Hendro, T., dan Rahardja, C., T. (2014). Bank Dan Institusi Keuangan Non Bank Di Indonesia. Yogyakarta: UPP STIM YKPN.
- Ikatan Bankir Indonesia. (2015). Menguasai Fungsi Kepatuhan Bank. Jakarta: PT Gramedia Pustaka Utama.
- Kusuma, T., C. (2010). Analisis Faktor-faktor yang Mempengaruhi Intermediasi Perbankan Indonesia (Studi kasus pada Bank Devisa dan Bank Non Devisa Periode 2001-2009). Jurnal Ilmiah. pp. 1-26
- Merkusiwati. (2007). Evaluasi Pengaruh CAMEL terhadap Kinerja Perusahaan, Jurnal Buletin Studi Ekonomi. Vol. 12, No. 1, pp. 100- 108. Misbahuddi
- Merkusiwati. (2007). Evaluasi Pengaruh CAMEL terhadap Kinerja Perusahaan, Jurnal Buletin Studi Ekonomi. Vol. 12, No. 1, pp. 100- 108. Misbahuddi
- Sangadji, E., M., dan Sopiah. (2010). Metode Penelitian-Pendekatan Praktis dalam Penelitian. Yogyakarta: Penerbit Andi.
- Sangadji, E., M., dan Sopiah. (2010). Metode Penelitian-Pendekatan Praktis dalam Penelitian. Yogyakarta: Penerbit Andi.
- Sangadji, E., M., dan Sopiah. (2010). Metode Penelitian-Pendekatan Praktis dalam Penelitian. Yogyakarta: Penerbit Andi.
- Syafi'i, M. (2015). Analisis Faktor-faktor yang Mempengaruhi Loan to Deposit Ratio (Studi Pada 10 Bank Terbesar di Indonesia). Jurnal Ilmiah, pp. 1-12.