



The Effect of Loan to Deposit Ratio and Growth Opportunity on Return on Asset in Banking Companies in 2019-2022

Faizah Shofiyah Larasati R^{1*}, Usep Syaipudin²

¹⁻²University of Lampung

Address: Jl. Prof. Dr. Ir. Sumantri Brojonegoro No.1, Bandar Lampung

Author Correspondence: shofiyahlarasati@gmail.com*

Abstract. This study aims to analyze the contribution of loan to deposit ratio and growth opportunity to the condition of banking financial performance. The population of this study is banking companies. The total sample of this study includes 180 samples from 45 companies for a 4-year research period. The research variables used are loan to deposit ratio, growth opportunity, return on assets, and size. The analysis technique used multinomial logistic regression analysis. The results showed that loan to deposit ratio is able to positively effect on return on assets, while growth opportunity has not been able to effect on return on assets.

Keywords: Loan to Deposit Ratio, Growth Opportunity, Return on Asset

1. INTRODUCTION

In the current year, specifically in 2019, Indonesia's economy experienced a decline from 5.17% in 2018 to 5.02% in 2019. According to the Statistics Indonesia, the economic downturn in 2019 was due to high household consumption growth, uncertain political situations and stability, which led to weakened domestic investment. Additionally, the major trade war between two superpowers, which resulted in high import tariffs, affected the profitability of Indonesian banks.

Through a series of policies issued by the OJK, the Indonesian Government, Bank Indonesia, and other authorities to revive Indonesia's economy, the national banking sector has shown positive performance over recent years, as indicated by various key indicators such as Loan to Deposit Ratio, Growth Opportunity, and Return on Assets. According to (Kasmir, 2017), the loan to deposit ratio is used to calculate the composition of the amount of credit provided relative to the amount of public funds and equity used, with a limit set by the government of a maximum of 110%. Growth Opportunity reflects the company's potential for growth through actions taken to capitalize on existing growth opportunities. According to (Kasmir, 2019), a growth ratio is necessary to understand a company's ability to maintain its economic position and welfare in line with the currently developing business sector. Return on Assets is one of the most commonly used components to describe the quality of banking sector economic growth, as it reflects the bank's ability to maximize profit through efficient asset management, thus enhancing investor confidence and credibility for sustainable expansion.

This study aims to gain a deeper understanding of how the loan to deposit ratio and growth opportunity contribute to the stability and financial performance of banks in addressing various economic challenges and fluctuations during the period. By adopting a multinomial logistic regression analysis method, the study seeks to offer new insights. The dynamics of growth related to growth opportunity can illustrate how adaptive the banking sector is in responding to future growth challenges and its impact on maximizing banking performance. Through the various challenges faced by the banking sector, this research assists banks in managing risks more comprehensively, with the goal of strengthening financial system stability and using the ratios in this study to help banks achieve long-term sustainability

Based on this description, the author is encouraged to analyze this research, focusing on the issue titled “The Effect of Loan to Deposit Ratio and Growth Opportunity on Return on Asset in Banking Companies in 2019-2022”

2. LITERATURE REVIEW

Stakeholder Theory

The Stakeholder Theory was first introduced in an internal memorandum at Stanford Research Institute in 1963. The concept of stakeholders includes a group within an organization upon whose support the organization depends for its existence. This group includes shareholders, employees, customers, suppliers, lenders, and the community. The company is described as responsible to the board of directors, employees, the community, and other parties for its operational activities (Freeman, 1984).

This theory is projected to illustrate the return on assets used in this study, where an increase in return on assets has a good impact on banks to maximize high trust in stakeholders through increased banking services because of loyalty from various interested parties. An increase in return on assets can come from an increase in the loan to deposit ratio (Andhikatama et al., 2020).

Loan to Deposit Ratio

According to Bank Indonesia Regulation No. 15/15/PBI/2013, Loan to Deposit Ratio is defined as the ratio of loans provided to third parties in the form of rupiah and foreign currencies, including demand deposits, savings, and time deposits in rupiah and foreign currencies, and excluding interbank funds. Loan to deposit ratio is used as one of the indicators in assessing the health level of banks to maintain each bank's liquidity value.

A high Loan to Deposit Ratio for a bank indicates that the bank's interest income is also higher. According to (Kasmir, 2017), the loan to deposit ratio is a metric used to compare the amount of loans provided to the amount of public funds and equity used. Liquidity ratios entail two risks: the risk of insufficient funds and the risk of excess funds. The condition of insufficient funds occurs when the available funds are inadequate to meet short-term obligations, leading to penalties by the central bank. The condition of excess funds occurs when the funds held by the bank are idle. Both conditions can affect the health and performance of the bank's financial situation. Bank management is required to maintain its liquidity levels, including the loan to deposit ratio, as liquidity issues are a top priority to maximize investment portfolios and the company's market reputation (Arif and Nauman Anees, 2012).

Growth Opportunity

According to Hermuningsih (2013), companies with low growth opportunities are more likely to use long-term debt and exhibit differences in spending decisions made by individual financial managers. Growth opportunity provides companies with the chance to grow and achieve desired growth levels. Companies that continuously maximize opportunities for growth will be driven to expand and require significant funding, which will impact the company's financing structure (Bintara, 2018).

Return on Asset

Return on assets is a ratio that shows a high ratio value increasingly reflects the company's performance at a good level, showing that the company can effectively utilize its assets to maximize desired profits. This ratio demonstrates the company's success in maximizing profits and reflects the level of management effectiveness in managing the company (Febriani and Sari, 2019).

Hypothesis Development

The Effect of Loan to Deposit Ratio towards Return on Asset

According to Bank Indonesia Regulation No. 15/15/PBI/2013, the loan to deposit ratio has a lower limit of 78% and an upper limit of 92%. This limit implies that a high loan to deposit ratio results in low bank liquidity because the bank uses most of its customers' deposit funds for credit financing, leading to increased dependence on customer deposits to fund its operations.

A high loan to deposit ratio results in an increased amount of funds disbursed as loans to customers. Therefore, an increase in the loan to deposit ratio can contribute to increasing the return on assets through higher interest income from the higher lending. On the other hand, a low loan to deposit ratio indicates a high level of bank liquidity. A low loan to deposit ratio negatively impacts the return on assets because the bank does not fully utilize customer funds in lending, resulting in lower interest income. This condition allows the bank to have more funds available to meet other obligations and maintain high liquidity levels, helping to cope with challenging financial situations such as a financial crisis.

Based on Nurani (2020), the study shows that the loan to deposit ratio has a positive and significant effect on return on assets. This indicates that an increase in profit is accompanied by an improvement in the bank's performance. Studies conducted by Qurotulaeni & Dailibas (2022), Hakim et al., (2023), and Sasongko & Yusnita (2023) also show that the loan to deposit ratio has a positive effect on return on assets. Based on the above explanation, the research hypothesis can be formulated as follows:

H1: Loan to deposit ratio has a positive effect on return on asset

The Effect of Growth Opportunity towards Return on Asset

Companies with high growth opportunities are expected to attract large-scale investors. High growth opportunities can indicate that the company can generate or maximize the profit that will be obtained, while also enhancing the company's positive value. Bank shareholders are the main stakeholders responsible for maximizing the rate of return on investment. Improved company growth can increase the company's profitability.

Research conducted by Kopong and Nurzanah (2016) and Indriani et al., (2021) shows that growth opportunity affects return on assets. This indicates that the higher the growth opportunity of a company, the higher the profit it will generate. This value is adjusted according to the observed industrial sector.

Research conducted by Febriani and Sari (2019) and Fuada (2023) shows that growth opportunity has a positive but not significant effect on return on assets. This suggests that increasing growth opportunity does not significantly affect return on assets. A company will not be at an optimal value if all operations are funded by debt or if no debt is used at all. Based on the above explanation, the research hypothesis can be formulated as:

H2: Growth Opportunity has a positive effect on return on asset

3. METHODS

This research is part of quantitative research. The population of this study is banking companies included in the financial sector listed on the Indonesia Stock Exchange for the period 2019-2022. The samples include state-owned and national private banks listed on the Indonesia Stock Exchange with a total sample of 180 samples from 45 companies with a 4-year research period. The research data used includes secondary data sourced from the Indonesia Stock Exchange website and the company's official website related to the research sample.

This study involves 2 independent variables, namely loan to deposit ratio and growth opportunity, 1 dependent variable, namely return on assets, and 1 control variable, namely company size.

The analysis model used is multinomial logistic regression analysis. According to Roflin et al., (2023) logistic regression is a form of non-linear regression consisting of dependent variables that are categorical variables and independent variables that are numerical or categorical variables. The multinomial logistic regression analysis method can flexibly connect independent variables and dependent variables with diverse values. According to Ghozali & Ratmono (2017), logistic regression is used to test whether there is a possibility of related variables occurring with their independent variables, making this regression method quite similar to discriminant analysis. The phases of the research include descriptive statistical analysis, overall model fit, coefficient of determination, goodness of fit test, multinomial logistic regression model analysis, and partial test. The following is the logistic regression model equation used in the study, for example:

$$\ln \frac{P(M_i)}{P(M_j)} = \alpha + \beta_1 (LDR) + \beta_2 (GO) + \beta_3 (Size) + e$$

Description:

P	: probability of the dependent variable (<i>return on asset</i>)
M_i	: category (i)
M_j	: category (reference)
α	: constant
β_1, β_2	: independent variable
e	: error

4. RESULTS

Descriptive Statistical Analysis

Descriptive statistical analysis is used to provide a general description of the sample data through the mean, standard deviation, minimum, and maximum. The following table shows the results of the descriptive statistical analysis processed using SPSS:

Table 1. Descriptive Statical Analysis Results

	N	Minimum	Maximum	Mean	Std. Deviation
Loan to Deposit Ratio	180	12,35	355,00	87,9532	37.25233
Growth Opportunity	180	-39,80	464,82	17,9928	41,55799
Size	180	5,45	9,07	7,3994	0,80549
Return on Asset	180	1	5	2,83	1,509
Valid N (listwise)	180				

Source: Data processed from SPSS 27

Based on the table of descriptive statistical analysis results above, it can be obtained that the dependent variable return on assets shows a minimum value of 1, a maximum value of 5, a mean of 2.83, and a standard deviation value of 1.509. The independent variable loan to deposit ratio has a minimum value of 12.35, a maximum value of 355.00, a mean of 87.9532, and a standard deviation value of 37.25233. The independent variable growth opportunity has a minimum value of -39.80, a maximum value of 464.82, a mean of 17.9928, and a standard deviation value of 41.55799. The size control variable has a minimum value of 5.45, a maximum value of 9.07, a mean of 7.3994, and a standard deviation value of 0.80549.

Overall Model Fit

Table 2 Overall Model Fitt Result

Model	Model Fitting Criteria -2 Log Likelihood	Likelihood Ratio Tests		
		Chi-Square	df	Sig.
Intercept Only	526,079			
Final	440,456	85,624	12	,000

Source: Data processed from SPSS 27

Based on the overall model fit test table above, there is a decrease in the model fitting criteria -2 Log likelihood from the intercept-only value to the final value, specifically from 526.079 to 440.456. This is accompanied by a decrease in the Chi-Square value by 85.624 and a significance value of 0.000 ($p < 0.05$). This reduction from intercept-only to the final value indicates that the regression model used is a good model or that the model is fit.

Coefficient of Determination

Table 3 Coefficient of Determination Result

Pseudo R-Square	
Cox and Snell	0,379
Nagelkerke	0,400
McFadden	0,163

Source: Data processed from SPSS 27

Based on the Pseudo R-Square test results in the table, the Cox and Snell value is 0.379 (37.9%), the Nagelkerke value is 0.400 (40%), and the McFadden value is 0.163 (16.3%). This study uses the Nagelkerke model, indicating that the independent variables, Loan to Deposit Ratio and Growth Opportunity, can explain 40% of the variance in the dependent variable, Return on Asset, while the remaining 60% is influenced by other variables not included in this study.

Goodness of Fit Test

Table 4 Goodness of Fit Test Result

Goodness-of-Fit			
	Chi-Square	df	Sig.
Pearson	652,433	704	,918
Deviance	440,456	704	1,000

Source: Data processed from SPSS 27

The goodness of fit test is used to test the null hypothesis of whether the empirical data fits the model, which can be referred to as a fit model, through the Hosmer and Lemeshow's Goodness of Fit Test. Based on the table, the significance values are 0.918 and 1.000. This indicates that the model used in this study is acceptable or can be considered a fit model, as evidenced by the significance values of $0.930 > 0.05$ and $1.000 > 0.05$.

Multinomial Logistic Regression Analysis

Table 5 Multinomial Logistic Regression Analysis

Parameter Estimates					
Return on Asset ^a		B	Std. Error	Sig.	Exp(B)
Sangat Sehat	Intercept	-18.903	3.612	.000	
	Loan to Deposit Ratio	.000	.009	.987	1.000
	Growth Opportunity	.013	.009	.167	1.013
	Size	2.661	.498	.000	14.308
Sehat	Intercept	-19.357	5.421	.000	
	Loan to Deposit Ratio	-.007	.017	.696	.993
	Growth Opportunity	-.014	.030	.649	.986
	Size	2.555	.707	.000	12.871
Cukup Sehat	Intercept	-8.814	3.494	.012	
	Loan to Deposit Ratio	-.023	.010	.026	.978
	Growth Opportunity	.003	.011	.784	1.003
	Size	1.554	.494	.002	4.731
Kurang Sehat	Intercept	-3.554	3.479	.307	
	Loan to Deposit Ratio	-.017	.009	.068	.983
	Growth Opportunity	.014	.009	.113	1.014
	Size	.734	.495	.139	2.083

Source: Data processed from SPSS 27

The analysis table shows four prediction columns from the dependent variable, return on asset. The following is the equation model in the study, which are:

$$\ln = \frac{P(\text{Sangat Sehat})}{P(\text{Tidak Sehat})} = -18,903 + 0,00_{(LDR)} + 0,013_{(GO)} + 2,661_{3(Size)}$$

$$\ln = \frac{P(\text{Sehat})}{P(\text{Tidak Sehat})} = -19,357 - 0,007_{(LDR)} - 0,014_{(GO)} + 2,555_{(Size)}$$

$$\ln = \frac{P(\text{Cukup Sehat})}{P(\text{Tidak Sehat})} = -10,019 - 0,019_{(LDR)} + 0,002_{(GO)} + 1,688_{(Size)}$$

$$\ln = \frac{P(\text{Kurang Sehat})}{P(\text{Tidak Sehat})} = -4,770 - 0,015_{(LDR)} + 0,011_{(GO)} + 0,898_{(Size)}$$

Partial Test

Table 6 Partial Test

Effect	Model Fitting Criteria -2 Log Likelihood of Reduced Model	Likelihood Ratio Tests		
		Chi-Square	df	Sig.
Intercept	506.255	65.799	4	.000
Loan to Deposit Ratio	450.676	10.221	4	.037
Growth Opportunity	445.870	5.415	4	.247
Size	503.582	63.126	4	.000

Source: Data processed from SPSS 27

Based on the table, it can be concluded that the loan to deposit ratio variable has a significance value of 0.037, where $0.037 < \alpha 0.05$. Thus, H_0 is rejected and H_a is accepted. This indicates that the loan to deposit ratio has a significant effect on return on assets.

The growth opportunity variable shows a significance value of 0.247, where $0.247 > \alpha 0.05$. Thus, H_0 is accepted and H_a is rejected. This indicates that growth opportunity does not have a significant effect on return on assets.

The control variable, size, shows a significance value of 0.000, where $0.000 < \alpha 0.05$. Thus, H_0 is rejected and H_a is accepted. This indicates that size has a significant effect on return on assets

5. DISCUSSION

The Effect of Loan to Deposit Ratio towards Return on Asset

Based on the output of the likelihood ratio tests, the significance value for the loan to deposit ratio variable is 0.037, which is less than 0.05 ($\alpha=5\%=0.05$). Similarly, the results from the multinomial logistic regression test show that the regression coefficient for the loan to deposit ratio variable has a positive regression coefficient value, indicating that the first hypothesis (H_1) is accepted, meaning that the loan to deposit ratio has a partial positive effect on return on assets

These results can be observed based on the descriptive statistical analysis, which shows that the mean value of the loan to deposit ratio variable is 87.9532, indicating that the loan to deposit ratio is in a good condition. This is in accordance with Bank Indonesia Regulation No.

15/15/PBI/2013, which sets the lower and upper limits of the loan to deposit ratio between 78% and 92%.

Stakeholder theory supports this hypothesis, as it posits that a company's responsibilities extend to various stakeholders. There needs to be a balance among these parties with diverse interests (Donaldson & Preston, 1995). The loan to deposit ratio serves as a reliable metric to ensure the stability and sustainability of banking among the interconnected parties. The results of this study are consistent with previous research by Nurani (2020), Hakim et al., (2023), and Qurotulaeni dan Dailibas (2022), which state that the loan to deposit ratio significantly positively affects return on assets.

The Effect of Growth Opportunity towards Return on Asset

Based on the output of the likelihood ratio tests, the significance value of the growth opportunity variable is 0.247. This significance value is greater than 0.05 ($\alpha=5%=0.05$). Therefore, the second hypothesis of this study is rejected (H2 is rejected). This result is not consistent with the research conducted by (Indriani et al., 2021), which found that growth opportunity affects return on assets. Similarly, the research by (Kopong & Nurzanah, 2016) concluded that growth opportunity significantly affects return on assets.

The large variation in data within the variable is shown through the descriptive statistical analysis results, indicating that the minimum and maximum values of Growth Opportunity are -39.80 and 464.82, respectively. The minimum value shows that the banks used as research samples experienced a significant decline during the observation period. The mean value of 17.9928 does not adequately reflect the overall condition of the observed samples due to the presence of extreme values. This indicates inconsistency in the data obtained

Growth opportunity is a ratio that describes companies with strong growth potential, which will positively impact their earnings (Brigham & Houston, 2007). Growth opportunity often does not align with an increase in return on assets because companies require more funds for business expansion. During the study period, several companies expanded into the digital era as the COVID-19 situation worsened. This result is consistent with the research conducted by Agustin & Suryani (2022), (Permadi Prasetyo & Sulastiningsih, 2022), dan (Said & Mande, 2020), which states that growth opportunity does not affect return on assets.

6. CONCLUSION AND SUGGESTION

Conclusion

The research aims to identify what are the factors that affect *return on assets* in the banking sector as the object of this research. The research model used connects the influence between the *loan to deposit ratio* and *growth opportunity* variables on the dependent variable, *return on assets*. The population used state-owned and private national banks and the sample involved in this study amounted to 180 research data with data analysis using multinomial logistic regression. Therefore, it can be concluded from the results of this study that the *loan to deposit ratio* has a positive effect on *return on assets* and *growth opportunity* has no effect on *return on assets*.

Suggestion

This study has limitations such as the relatively short research period used and occurred during the Covid-19 pandemic so that the conditions of state-owned and national private banks in this study are not fully described. Additionally, there is a limitation in the variable measurements, which do not comprehensively represent the factors affecting return on assets. For future research, it is recommended to involve a longer observation period and expand the scope of research variables so that the observed data can more stably represent the condition of the sample studied.

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