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The Role of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR) and Company Size on Profitability

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Abstract

The aim of this research is to determine the influence of Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR) and company size on the profitability of banks listed on the Indonesia Stock Exchange for the 2019-2023 period. The population of this research is banking companies listed on the Indonesian Stock Exchange within the research period (2019 to 2023). as many as 42 banks. Sampling used purposive sampling. Based on these sample criteria, the number of samples that meet the criteria for use in this research is 50 financial reports from 10 companies listed on the Indonesia Stock Exchange for the period 2019 to 2023. The econometric model used is a panel data regression analysis model using Eviews 12 The research results found that the Capital Adequacy Ratio (CAR) had a positive and significant effect on profitability, while the Loan to Deposit Ratio (LDR) and company size did not have a positive and significant effect on profitability.

Keyword :Capital Adequacy Ratio(CAR), Loan to Deposit Ratio (LDR), Company size, profitability

A. INTRODUCTION

Globalization has an impact on public activities and the economy, namely trade. The facility that plays a fundamental role in the economy is the banking sector. Banking acts as a financial intermediary institution or what is often called a financial intermediary, therefore it is important to assess the good or bad health of a bank which can be seen from the bank's financial performance(Mukti & Suprayogi, 2019).

Financial performance is an important thing that must be achieved by a bank, because financial performance is a reflection of the economic results that have been achieved by a banking company in a certain period through bank activities to generate profits efficiently and effectively (Ibrahim et al., 2022). Profitability is considered to be an indicator of a bank's financial performance. Where the level of bank profitability is greatly influenced by internal factors(Syakhrun et al., 2019), (Setiawan et al., 2021).

This research uses Return On Assets (ROA) on profitability to measure financial performance, so that increasing ROA means that profits in a company increase, which has an impact on increasing profitability itself. The profitability ratio is a ratio to assess a company's ability to make a profit(Amin et al., 2022). This ratio also provides a measure of the level of effectiveness of a company’s management. The point is that the use of this ratio shows the company’s efficiency.

Based on data from the Financial Services Authority (OJK) on Indonesian Banking Statistics (SPI) for the 2019-2023 period, the ROA ratio is recorded as follows:

Table 1. Banking ROA in Indonesia for the 2018-2022 period

Year	2019	2020	2021	2022	2023
ROA	2.47%	1.59%	1.85%	2.45%	2.23%

Source :https://ojk.go.id(2024)

There have been fluctuations in the ROA value of banking in Indonesia over a period of five years, where in 2019 the ROA value was 2.47% then decreased in 2020 by 1.59%, in 2021 it experienced an increase of 1.85%, in 2022 it increased by 2 .45% but in 2023 it will again decrease by 2.23%. The occurrence of fluctuations in ROA in banking can be caused by economic developments in Indonesia which tend to be less stable. Several factors have influenced the rise and fall of profitability, but in this research the variables that are thought to influence are the Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR) and company size.

CAR is a financial ratio that shows a company's ability to obtain capital that will be used to cover the risk of losses in credit activities or securities transactions(Iqbal & Anwar, 2021). Public trust is very important for banks because in this way the bank will be able to raise funds for operational needs(Darmawi, 2011). This means that the bank's authorized capital will be used to maintain its liquidity position and investment in fixed assets. Based on data from the Financial Services Authority (OJK) in Indonesian Banking Statistics (SPI) for the 2019-2023 period, the CAR ratio in 2019 was 23.40%, then increased in 2020 by 23.89%, increased in 2021 by 25.66% , then decrease in 2022 by 25.60% and in 2023 increase by 27.65%. This reflects the optimal banking ability to face possible risks of loss compared to the Capital Adequacy Ratio (CAR) in 2022.

Banks with a large CAR ratio will be able to support the operational development and survival of the bank and be able to bear the risks that will arise, including credit risk, so that it is hoped that it can increase bank profits.(Almunawwaroh & Marliana, 2018). Research resultAlmunawwaroh & Marliana (2018), Mangantar & Tulung (2019) and Pratama et al., (2021) found that CAR has a positive and significant effect on profitability. The higher the CAR achieved by a bank shows the better the bank's performance can protect its customers. Different from research results (Syakhrun et al., 2019) and (Nanda et al., 2019) found that CAR does not have a positive and significant effect on profitability.

Loan Deposit Ratio (LDR) is a ratio that compares credit distribution funds and funds obtained by the company. Credit becomes problematic for several reasons, such as the risk of loss. Delay in payment by major breach of contract is a frequent problem in loan repayment by companies or individuals(Fuadi, 2021). Distribution of credit to the public will determine how big the bank's profit level will be. If the bank cannot distribute credit while there are a lot of funds accumulated in the bank, it will cause losses. If the total funds for credit disbursed are greater, this will result in increased risk coverage for banking companies(Hamenda & Manengkey, 2022), this is in line with the research results (Setyarini, 2020) and (Pratama et al., 2021) found that LDR had a positive and significant effect on profitability. Different from research results (Sari, 2018) and (Mustafa & Sulistyowati, 2022) found that LDR did not have a positive and significant effect on profitability.

Based on data from the Financial Services Authority (OJK) in Indonesian Banking Statistics (SPI) for the 2019-2023 period, the LDR ratio in 2019 was 94.43%, then decreased in 2020 by 82.54%, decreased again in 2021 amounted to 77.49 %, but in 2022 it will increase by 78.98% and increase in 2023 by 83.83%. This shows that banks in Indonesia are able to channel their credit effectively so it is hoped that the number of bad loans will be low, which will have an impact on increasing profitability (ROA). Based on Bank Indonesia provisions no. 15/7PBI/2013 dated 1 October 2013, the LDR figure should be around 78% - 100%. The higher the LDR, the profit earned by the bank will increase.

Company size has a role in disclosing dividends. Large-scale companies tend to be more mature and have convenience in the capital market. The larger the company size, the greater the resources managed, including: assets; technology; and intellectual property (Mustafa & Sulistyowati, 2022). The larger the size of a company, the easier it is to access the public because it is easier for the public to recognize it with its large assets(Amin et al., 2023). Research result(Octaviany et al., 2019) and (Natanael & Mayangsari, 2022) found that company size has a positive and significant effect on profitability. Different from research results (Fransisca & Widjaja, 2019) and (Mustafa & Sulistyowati, 2022) found that company size does not have a positive and significant effect on profitability.

Based on data from the Financial Services Authority (OJK) in Indonesian Banking Statistics (SPI) for the 2019-2023 period, the size of banking companies in 2019 was 15.92%, then increased in 2020 by 15.99%, then increased in 2021 by 16 .08%, in 2022 it will increase by 16.22% and increase in 2023 by 16.28%. For five years the size of banking companies has continued to increase, this condition is not in line with ROA which has actually fluctuated during the five years of observation.

Based on the research problems and gaps described above, the aim of this research is to determine the influence of the Capital Adequacy Ratio (CAR), Loan to Deposit Ratio (LDR) and company size on the profitability of banks listed on the Indonesia Stock Exchange for the 2019-2023 period.

Theory ReviewProfitability

One of the main revenues of banks comes from profits that are not distributed to shareholders. Information on bank profits can be seen from financial reports, especially in the profit/loss section. The company's ability to generate profits and can be found in the profit/loss financial report can be called profitability(Shofwatun et al., 2021). Profitability in this research is measured usingReturn on Assets (ROA).

Return on Assets (ROA) is a ratio that shows the results on the number of assets used in the Company(Lase et al., 2022). Return on Assets (ROA) itself is one of the ratios in the profitability ratio which can measure a company's ability to generate profits in the past and then project them into the future. The assets referred to here are all of the company's assets obtained from its own capital or from foreign capital which the company has converted into company assets which are used for the survival of the company. In addition, a higher Return on Assets (ROA) value reflects a bank's ability to use assets. According to SE BI Number 13/24/DPNP dated 25 October 2011, Return on Assets (ROA) can be calculated using the following formula:

$$\text{ROA} = \frac{\boldsymbol{labasebelumbungadanpajak}}{\boldsymbol{TotalAsset}}\ x\ 100\%$$

***Capital Adequacy Ratio*(CAR)**

Capital Adequacy Ratio(CAR) or what is usually called the capital adequacy ratio, which is a ratio that reflects the bank's ability to cover the risk of losses from the activities it carries out and the bank's ability to fund its operational activities(Sulistiyo & Yuliana, 2019). In accordance with the assessment of the Capital Adequacy Ratio (CAR) ratio based on Bank Indonesia Regulation

No.15/12/PBI/2013, the Capital Adequacy Ratio (CAR) value itself is a minimum of 8%. The calculation of the Capital Adequacy Ratio (CAR) ratio in accordance with Bank Indonesia standards is as follows:

$$\text{CAR} = \frac{\boldsymbol{Modal}}{\boldsymbol{ATMR}}\ x\ 100\%$$

***Loan to Deposit Ratio* (LDR)**

Loan to Deposit Ratio(LDR) is a ratio that aims to measure the composition of the amount of credit given compared to the amount of public funds and own capital used(Fuadi, 2021). This ratio is also used to assess the liquidity of a bank by dividing the amount of credit provided by the bank against third party funds. The measurement of the Loan to Deposit Ratio (LDR) ratio is that the higher this ratio, the lower the liquidity capacity of the bank concerned so that the possibility of a bank being in trouble will be greater.(Muarif et al., 2021). On the other hand, the lower the Loan to Deposit Ratio (LDR), the less effective the bank is in distributing credit, resulting in the loss of the bank's opportunity to make a profit. According to PBI No. 17/11/PBI/2015 dated 25 June 2015, the standard Loan to Deposit Ratio (LDR) is 78% - 92%. The Loan to Deposit Ratio (LDR) measurement can be formulated as follows:

$$\text{LDR} = \frac{\boldsymbol{Kredit}}{\boldsymbol{Dana\ Pihak\ Ketiga}}\ x\ 100\%$$

Company Size

Bank size, which can usually also be referred to as company size, is a description of the scale of a business entity(Wahyuningsih & Yusnelly, 2021). Company size is a measurement to classify the size of a company in several ways, namely by total assets, total sales, share market value, and so on(Baros et al., 2022). The larger the company, the greater the tendency to use capital. Companies with large assets will be able to improve performance which can produce better profits(Amin et al., 2023). The measurement of company size can be formulated as follows:

Company Size = Ln (Total Assets).

Hypothesis

Based on theoretical studies and the results of previous research, the hypothesis can be formulated as follows:

Hypothesis 1:*Capital Adequacy Ratio*(CAR) influences profitability

Hypothesis 2:*Loan to Deposit Ratio*(LDR) influences profitability

Hypothesis 3: Company Size (Firm Size)influence on profitability

B. RESEARCH METHODS

The type of research used in this research is quantitative research with a descriptive approach. Quantitative research methods are a type of research whose specifications are systematic, planned and clearly structured from the start until the creation of the research design.The population of this research is banking companies listed on the Indonesian Stock Exchange within the research period (2019 to 2023). The number of banks in the population is 42 banks (source: https://www.idx.co.id/id, 2024).

The sample uses a purposive sampling method. The criteria used in selecting research samples are as follows:

Table 2.Research Sample Criteria

No.	Criteria	Amount Company
1.	Banking companies listed on the Indonesian Stock Exchange in 2019-2023	42
2.	Banking companies that experienced delisting in 2019-2023	(8)
3.	Banking companies that do not have complete financial report data during the 2019-2023 research period	(18)
4.	Companies that experience losses in 2019-2023	(6)
	Number of samples	10
	Total sample (5 Years)	50

Based on these sample criteria, the number of samples that meet the criteria for use in this research is 50 financial reports from 10 companies listed on the Indonesia Stock Exchange for the period 2019 to 2023. The econometric model used is a panel data regression analysis model using Eviews 12 .

C. RESEARCH RESULTS

Descriptive Statistical Analysis

The results of descriptive statistical analysis can be seen in the following table:

Table 3. Descriptive Statistical Analysis

	N	Mean	Std. Deviation
CAR	50	1.6592	0.71719
LDR	50	1.1148	0.07429
Firm Size	50	19.5716	0.94094
ROA	50	1.0150	0.1717
Valid N (listwise)	50		

CAR in this study shows a mean value of 1.6592 and a standard deviation value of 0.71719. These results provide an explanation of the mean value > the standard deviation value so it can be concluded that the CAR in this study is good to use as a data representation; Furthermore, based on the results of descriptive statistical tests in table 5.5 above. The LDR shows a mean value of 1.1148 and a standard deviation value of 0.07429. These results provide an explanation of the mean value > the standard deviation value so it can be concluded that the LDR in this study is good to use as a data representation; Furthermore, Company Size in this study shows a mean value of 19.5716 and a standard deviation value of 0.94094. These results provide an explanation of the mean value > standard deviation value so it can be concluded that Company Size in this study is good to use as a data representation; Furthermore, Profitability in this research shows a mean value of 1.0150 and a standard deviation value of 0.01717. These results provide an explanation of the mean value > the standard deviation value so it can be concluded that Profitability in this research is good to use as a data representation.

The panel data regression model for random effects can be seen in the test results in Table 4 below:

Table 4. Random Effect Model Panel Data Regression Results

Variable	Coefficient	Std. Error	t statistics	Prob.
C	0.0418	0.0260	4,226	0,000
Capital Adequacy Ratio(CAR)	0.0428	0.0163	3,082	0.001
Loan to Deposit Ratio(LDR)	0.1548	0.0264	1,831	0.104
Company Size (Firm Size)	0.1178	0.0182	1,914	0.116
R Squared	0.6131			
Adjusted R Squared	0.4835			
F-Statistics	42,283			
Prob (F Statistic)	0.004			

Based on Table 4, the Adjusted R-squared value is 0.4835 or 48.35%. This shows that the independent variable*Capital Adequacy Ratio*(CAR), Loan to Deposit Ratio (LDR) and Company

Size able to explain the dependent variable, namely profitability of 48.35%. The remaining 51.65% is influenced by other variables not included in this research. Then the probability number (F statistic) based on the results of data testing with the panel data random effect regression model in Table 4 is 0.004, which is smaller than 0.05. From this it can be concluded that the regression model can be used and can be used to predict profits. Based on the results of the random effect model panel data regression test above, the regression model equation in this research is as follows:

Profitability = 0.0418 +0.0428CAR+0.1548LDR +0.1178Firm Size + e

D. DISCUSSION

The Effect of Capital Adequacy Ratio (CAR) on Profitability (ROA)

Based on Table 4, the CAR probability is 0.001, which means the probability value is smaller than 0.05 or 5%. Furthermore, testing the relationship between variables shows that the regression coefficient for the CAR variable is 0.0428. Therefore, it is concluded that CAR has a positive and significant effect on profitability, and hypothesis one is accepted.

Capital Adequacy Ratio (CAR) has a significant positive effect on ROA, indicating that the higher the CAR, the greater the ROA obtained by the bank. As is known, CAR is the main proxy for bank capital, which means this ratio must be met because it is the basic capital in establishing a bank. Thus, bank management must be able to maintain or increase the CAR value in accordance with Bank Indonesia regulations, namely a minimum of 8%. This CAR level must be given great attention, because a CAR level that is in accordance with the minimum requirements will be very profitable for the bank and can increase public trust. So that people will have the desire to save their funds in banks which can have an impact on increasing bank profitability.

The results of this study support the research resultsAlmunawwaroh & Marliana (2018), Mangantar & Tulung (2019) and Pratama et al., (2021) who found that the higher the CAR achieved by a bank, the better the bank's performance can protect its customers. However, the results of this study are different from the results of research (Syakhrun et al., 2019) and (Nanda et al., 2019) found that CAR does not have a positive and significant effect on profitability. Whether the CAR value obtained is good or bad does not affect the level of profitability.

The Effect of Loan to Deposit Ratio (LDR) on Profitability (ROA)

Based on the results of the partial test that has been carried out, the Loan to Deposit Ratio (LDR) (X2) has no significant effect on the Return On Asset (ROA) variable (Y). This means that the absence of an effect on the LDR ratio indicates that banks have excess fund capacity which must be channeled in the form of credit. The absence of an effect on the LDR ratio indicates that banks have excess fund capacity which must be channeled in the form of credit.

The results of this study are in line with(Sari, 2018) and (Mustafa & Sulistyowati, 2022) found that LDR did not have a positive and significant effect on profitability. The large amount of credit disbursed causes the LDR value to be high so that banking performance is not optimal in obtaining profits from the funds that have been disbursed and also in its application there are still many banks whose limit values exceed the provisions set by Bank Indonesia so that many credits fail and only increase burden on banking companies. However, the results of this study do not support the research results (Setyarini, 2020) and (Pratama et al., 2021) found that LDR had a positive and significant effect on profitability.

The Effect of Company Size on Profitability (ROA)

Based on the results of the partial test that has been carried out, Firm Size (X3) has no significant effect on the Return On Asset (ROA) variable (Y). Size does not have a significant effect on ROA. This means that banks that have large total assets cannot have an influence in gaining profits because there are still many bad loans and the company's high operational costs are not commensurate with the returns obtained.

The results of this study support the research results (Fransisca & Widjaja, 2019) and (Mustafa & Sulistyowati, 2022) found that company size does not have a positive and significant effect on profitability. The size of the company's scale does not affect the increase in profitability. On the other hand, the results of this study do not support the research results (Octaviany et al., 2019) and (Natanael & Mayangsari, 2022) found that company size has a positive and significant effect on profitability. An increase in the size of the company indicates a greater capability to achieve profitability.

E. CONCLUSION

Based on the results of data analysis that has been carried out, the following conclusions can be drawn: Profitability as measured by *Return On Assets* (ROA) has a positive and significant effect on profit smoothing in banking companies listed on the Indonesia Stock Exchange, Company size has no influence on profit smoothing in banking companies listed on the Indonesia Stock Exchange, *Capital structure* measured by *Debt To Equity Ratio* (DER) does not significantly affect the flattening of profits in banking companies listed on the Indonesia Stock Exchange.

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