

Does Car Influence RoA? Evidence from State-Owned Banks

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ABSTRACT

This research aims to determine the effect of Capital Adequacy Ratio (CAR) against Return on Asset (RoA) in State-Owned Banks listed on the Indonesian Stock Exchange for the 2014-2021 period. The sample of this research is determined by saturation sampling method, so that the obtained sample of 4 banks, there are PT Bank Negara Indonesia Tbk, PT Bank Rakyat Indonesia Tbk, PT Bank Tabungan Negara Tbk, and PT Bank Mandiri Tbk. The research method is used the causal associative with a quantitative approach. The analysis techniques used in this research are classical assumption test (normality test, heteroscedasticity test, and autocorrelation test) simple linear regression analysis, and hypothesis test using the software SPSS 22. The result of the research using the t-test showed that Capital Adequacy Ratio has a significant effect against Return On Asset. So, the bank's chances of making a profit will be higher if the capital is managed properly.

Keywords : Capital Adequacy Ratio; Return on Asset; SOE Banks; Finance; Management

ABSTRAK

Tujuan dari penelitian ini adalah untuk mengetahui pengaruh Capital Adequacy Ratio (CAR) terhadap Return On Asset (ROA) pada bank BUMN yang terdaftar di Bursa Efek Indonesia periode tahun 2014-2021. Sampel yang digunakan dalam penelitian ini adalah bank BUMN, yaitu PT Bank Negara Indonesia Tbk, PT Bank Rakyat Indonesia Tbk, PT Bank Tabungan Negara Tbk, and PT Bank Mandiri Tbk. Metode yang digunakan pada penelitian ini yaitu menggunakan metode asosiatif kausal dengan pendekatan kuantitatif. Teknik analisis data yang digunakan dalam penelitian ini adalah uji asumsi klasik (uji normalitas, uji heterokedastisitas, dan uji autokorelasi), analisis regresi linear sederhana, dan pengujian hipotesis menggunakan software SPSS 22. Hasil penelitian dengan pengujian uji t menunjukkan bahwa secara parsial Capital Adequacy Ratio berpengaruh terhadap Return On Asset. Jadi, kemampuan bank untuk menghasilkan keuntungan akan lebih tinggi jika modal yang dimiliki dikelola dengan baik.

Kata Kunci : Capital Adequacy Ratio; Return on Asset; Bank BUMN; Keuangan; Manajemen

INTRODUCTION

A crucial part of a nation's economic operations is played by the business sector of banking in the financial sector (Nyolinda *et.al*, 2021). According to Ichan (2021) in Nyolinda *et.al* (2021), banks perform their duties as public money collectors and distributors with the intention of enhancing general welfare. According to Tiwari and Sontakke (2013) in Ayim dan Agyemang (2021), banks are stated to be crucial to the nation's economy since they may provide financing for other economic sectors including government, mining, industry, and manufacturing. State-owned banks are banks that have the most influence in the banking industry in Indonesia because 4 state-owned banks are the largest banks out of a total of 118 banks in Indonesia (Fordian, 2017).

State-owned banks are very well known by the general public, so these banks need to maintain public trust by maintaining their financial performance. Financial performance is the achievement of a company that is attached to a financial report that describes the financial condition of a company so that the wider community can know the good or bad financial performance of a company (Susilawati dan Dewi, 2022). In general, society assesses a company's performance based on its capital and the company's ability to generate profits (Setyarini, 2020).

The capital component help the bank obtain public trust. One way to maintain this trust is adequate capital (Marlina, 2022). Capital Adequacy Ratio (CAR) is a capital adequacy ratio that shows a bank's ability to provide funds to finance its operational activities (Susilawati dan Dewi, 2022).

According to Quyen *et.al* (2021) in Susilawati dan Dewi (2022), state-owned banks are considered to be more efficient than other banks since the government has a role in them. Therefore, state-owned banks have more opportunities to generate non-interest income from the government.

The Buffer Theory of Capital Adequacy presented by Berger and DeYoung in 1997 is used as the theory of capital adequacy in this study. According to the principle, banks can hold enormous quantities of cash in order to invest it in highly profitable investments. To avoid the occurrence of capital less than the percentage set by the government, banks need to have a "buffer" or additional capital (Anastasia *et.al*, 2022). If the CAR percentage is high, the bank is considered capable of funding its operational activities and bears the risk of each risky credit getting better. Table 1 shows the percentage of CAR held by state-owned banks.

Table 1. State-owned Bank CAR Percentage Data

No	Tahun	Capital Adequacy Ratio (CAR)			
		BBNI	BBRI	BBTN	BMRI
1	2014	16,20%	18,31%	14,64%	16,60%
2	2015	19,50%	20,59%	16,97%	18,60%
3	2016	19,40%	22,91%	20,34%	21,36%
4	2017	18,50%	22,96%	18,87%	21,64%
5	2018	18,50%	21,21%	18,21%	20,96%
6	2019	19,70%	22,55%	17,32%	21,39%
7	2020	16,80%	20,61%	19,34%	19,90%
8	2021	19,70%	25,28%	19,14%	19,60%

Source: Annual Report BNI, BRI, BTN, and Mandiri, 2022

Table 1 illustrates that the CAR of state-owned banks is changeable, indicating that each bank's management is less capable of dealing with the risk of losses that arise. Table

1 shows that the state-owned bank with the highest CAR percentage in 2021 is BBRI, with a 4.67% rise from 2020.

Meanwhile, the profitability ratio, as proxied by Return On Assets, can be used to evaluate the bank's capacity to produce profits (ROA). ROA is a ratio that can assess the effectiveness and efficiency of bank management in generating profits. A high percentage of ROA indicates a bank's level of success in managing its assets (Ayim dan Agyemang, 2021). The company's performance is regarded to be excellent if the ROA percentage is greater because the rate of return on assets grows (Dewi, 2017). Furthermore, if ROA is consistently maintained and increased, future earnings will rise (Rerung, 2022). Table 2 shows the ROA percentage data for state-owned banks.

Table 2. State-owned Bank ROA Percentage Data

No	Tahun	<i>Return On Asset (ROA)</i>			
		BBNI	BBRI	BBTN	BMRI
1	2014	3,50%	4,73%	1,14%	3,57%
2	2015	2,60%	4,19%	1,61%	3,15%
3	2016	2,70%	3,84%	1,76%	1,95%
4	2017	2,70%	3,69%	1,71%	2,72%
5	2018	2,80%	3,68%	1,34%	3,17%
6	2019	2,40%	3,50%	0,13%	3,03%
7	2020	0,50%	1,98%	0,69%	1,64%
8	2021	1,40%	2,72%	0,81%	2,53%

Source: Annual Report BNI, BRI, BTN, and Mandiri, 2022

Table 2 illustrates that the proportion of ROA in each bank fluctuates, that is, it increases and decreases every year, implying that each company's management is less capable of managing its assets to make profits. In the 2014-2021 period, BBRI had the greatest ROA percentage in 2014, at 4.73%, while BBTN had the lowest at 0.13%.

If the CAR percentage is higher, then the opportunity for banks to increase the percentage of ROA in obtaining profits will also be higher because the availability of large capital will make company management able to assign funds to more profitable investment activities (Tenriola, 2019).

From several previous studies, it is known that there are differences in research results. The results of the study (Kumar *et.al*, 2020), (Utami *et.al*, 2021), and (Bata *et.al*, 2021) explain that CAR has an effect on ROA. However, the results of this study are in contrast to studies (Madhushani W.I. dan Perera, 2022) and (Wiranthie dan Putranto, 2020) which explain that CAR has no significant effect on ROA. Because the existence of this study gap reflects inconsistency in the research results, researchers are interested in conducting further research on the effect of financial ratios using the causal associative method represented by CAR on ROA with the following hypothesis, [H₀] There is no effect of CAR on ROA in state-owned banks listed on the Indonesia Stock Exchange for the period 2014 - 2021; [H_a] There is an effect of CAR on ROA in state-owned banks listed on the Indonesia Stock Exchange for the period 2014 - 2021.

RESEARCH METHOD

The method used is causal associative with a quantitative approach. In order to perform the research, secondary data in the form of annual reports with CAR and ROA were used for the state-owned banks listed on Indonesia Stock Exchange for the years

2014 through 2021. Collecting data through literature study to get a comprehensive theoretical basis.

The population is composed of state-owned banks that are listed on the Indonesia Stock Exchange, including PT Bank Negara Indonesia (Persero) Tbk, PT Bank Rakyat Indonesia (Persero) Tbk, PT Bank Tabungan Negara (Persero) Tbk, and PT Bank Mandiri (Persero). Meanwhile, the sampling technique uses saturated sampling or census so that there are 4 samples of companies with 8 years of research period. The data analysis technique used classical assumption test, simple linear regression analysis, and hypothesis testing.

The independent variable used in this study is the Capital Adequacy Ratio (CAR). According to Daendawijaya (2011: 121) in Tenriola (2019), CAR is the ratio of a bank's ability to cover the risk of losses caused by risky assets. According to Tenriola (2019), CAR can be calculated using the following formula.

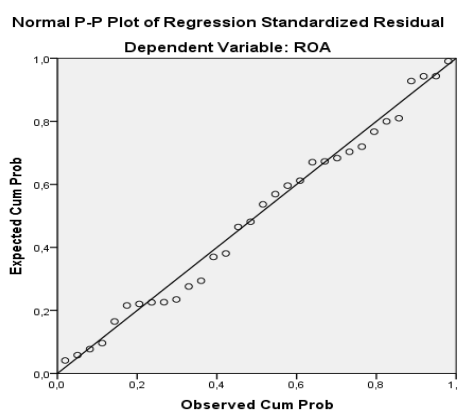
$$CAR = \frac{\text{Capital}}{\text{Risk Weighted Assets}} \times 100\% \tag{1}$$

The dependent variable in this study uses the Return on Assets (ROA). ROA is a ratio used to measure a company's effectiveness in generating profits by utilizing its total assets (Rerung, 2022). ROA can be calculated using the following formula (Setyarini, 2020).

$$ROA = \frac{\text{Earning Before Tax}}{\text{Total Asset}} \times 100\% \tag{2}$$

RESULTS AND DISCUSSION

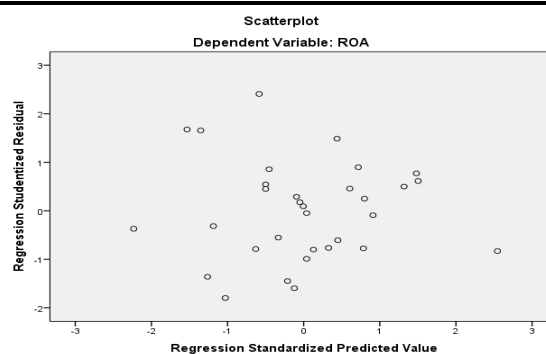
The results of the normality test using the Normal Probability-Plot graph can be seen in Figure 1.



Source: *Processed data, 2022*

Figure 1. Normal P-Plot Graph

Figure 1 shows that the data distribution is in the same direction and spreads around the diagonal line, so it can be concluded that the data is normally distributed. Heteroscedasticity test aims to determine the presence or absence of variance inequality from one observation to another observation. The results of the heteroscedasticity test are presented in Figure 2.



Source: Processed data, 2022

Figure 2. Scatterplot Graph

Figure 2 shows if the data meets the assumption of homoscedasticity because the data is randomly distributed without forming a certain pattern. The autocorrelation test aims to determine whether or not there is a relationship between residuals in period t and residuals in period $t-1$. The results of the autocorrelation test can be seen through the Durbin-Watson value as displayed in table 3.

Table 3. Autocorrelation Test

Model	R	R Square	Model Summary ^b		
			Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	,367 ^a	,135	,106	1,07814	1,136

a. Predictors: (Constant), CAR

b. Dependent Variable: ROA

Source: Processed data, 2022

The Durbin-Watson value in table 3 with a value of 1.136 with a sample of 32 (n) and the independent variable 1 (k), then the D-W table obtained the value of $d_U = 1.5019$. From these data, the results of the analysis of $D-W < d_U$, namely $1.136 < 1.5019$, which means that the data has symptoms of autocorrelation. To overcome the problem of autocorrelation, the Cochrane-Orcutt method is used by calculating the rho coefficient using the error value in the regression model as displayed in table 4.

Table 4. Runs Test

Runs Test	
	Unstandardized Residual
Test Value ^a	-,05452
Cases < Test Value	15
Cases \geq Test Value	16
Total Cases	31
Number of Runs	12
Z	-1,457
Asymp. Sig. (2-tailed)	,145
a. Median	

Source: Processed data, 2022

Table 4 shows that Asymptotic Sig. is 0.145 which means that the data in the regression model does not experience autocorrelation symptoms because $0.145 > 0.05$.

Simple linear regression analysis test aims to determine the effect of CAR on ROA. The simple linear regression analysis test table can be seen in table 5.

Table 5. Simple Linear Regression Analysis

Model		Coefficients ^a			t	Sig.
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	-1,254	1,716		-,731	,471
	CAR	,188	,087	,367	2,163	,039

a. Dependent Variable: ROA

Source: Processed data, 2022

From table 5, we get a simple regression equation as follows.

$$Y = 1.254 + 0.188X + e \quad (3)$$

From equation (1) it can be seen that the value of the coefficient of the constant is -1.254. If the CAR (X) is constant or has a zero value, then the ROA (Y) value will remain at -1.254 and will not increase or decrease.

The coefficient of the CAR variable in equation (1) is 0.188, which means that there is a positive or unidirectional effect on CAR on ROA. It can be explained that when CAR increases by 1%, ROA will increase by 0.188 and vice versa if CAR decreases by 1%, the ROA value will decrease by 0.188.

The correlation coefficient test (R) aims to determine the level of closeness and the direction of the relationship between two or more variables. The results of the correlation coefficient test can be seen through the value of 3 which shows an R value of 0.367, which means that CAR has a positive relationship with ROA. At this value, it can be concluded that the relationship between CAR and ROA has a low level of closeness because it is in the range of 0.200 – 0.399.

Testing the coefficient of determination (R²) aims to determine the extent to which CAR can explain ROA. The results of the R² test can be seen in the R Square value. Table 3 shows the R Square value of 0.135, which means that CAR affects ROA by 13.5%, of which the remaining 86.5% is influenced by other factors not included in the regression model. Hypothesis testing using t test aims to determine the effect of CAR on ROA.

Table 6. T-Test Result

Model		Coefficients ^a			t	Sig.
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	-1,254	1,716		-,731	,471
	CAR	,188	,087	,367	2,163	,039

a. Dependent Variable: ROA

Source: Processed data, 2022

The value of t_{table} with $\alpha = 5\%$ and $df = (n-2) = (32-2) = 30$ is 2.04227. Table 6 shows t_{count} of 2.163, which means that the hypothesis H_a is accepted so that the CAR affects ROA because $t_{statistic}$ is $2.163 > t_{table}$ 2.04227 with a significance value of $0.039 < 0.05$, which means it is significant.

The results show that CAR has a significant effect on ROA at state-owned banks listed on the Indonesia Stock Exchange for the period 2014-2021. The effect of CAR on ROA shows that when the capital of state-owned banks increases, the income will also increase because the capital is well managed and used in profitable investment activities. With a high level of capital, state-owned banks can carry out all their operational activities effectively and efficiently so that they can provide high profits. In addition, the availability of high capital will be able to finance assets that contain risks from each credit. The results of the study are directly proportional to the results of research (Kumar *et.al*, 2020), (Utami *et.al*, 2021), and (Bata *et.al*, 2021) which state that CAR has an effect on ROA.

CONCLUSIONS

The results showed that CAR had a significant effect on ROA. This means that the bank's chances of making a profit will be higher if the capital is managed properly. This research useful for banks as reference for maintaining the CAR ratio because the higher CAR ratio, the greater the profit of bank will get.

RECOMMENDATION

This study has limitations by using only one variable that can affect ROA, namely CAR. To overcome these limitations, it is hoped that further research can add other variables that are thought to affect ROA. In addition, potential investors need to consider CAR when investing in state-owned banks because based on research results, CAR has an effect on ROA.

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