

The Effect Of Car, Npm, Ldr On Stock Returns In Banking Companies Listed On The Idx In 2018-2022

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Abstract

The objective of this study is to examine and assess the relationship between the loan-to-deposit ratio (LDR), Net Profit Margin (NPM), and Capital Adequacy Ratio (CAR) and Stock Returns in Banking Companies Listed on the IDX in 2018–2022. The IDX website provided secondary data for this investigation. Using a purposive sampling approach, the sample is a banking firm listed on the IDX for the years 2018 through 2022. Using specified sample selection criteria, a total of 13 businesses were included in the sample. Following the data collection, several analyses were carried out, including partial and simultaneous hypothesis testing, multiple regression analysis, a study of the coefficient of determination, and traditional assumption tests. According to the study's findings, although Net Profit Margin (NPM) and loan-to-deposit ratio (LDR) had considerable negative effects on stock returns, Capital Adequacy Ratio (CAR) had a somewhat favorable and significant impact. Then, concurrently, the 2018–2022 stock returns of banking businesses listed on the IDX are positively and significantly impacted by the Capital Adequacy Ratio (CAR), Net Profit Margin (NPM), and loan-to-deposit ratio (LDR).

Keyword : Capital Adequacy Ratio, Net Profit Margin, Loan to Deposit Ratio, Stock Return

Introduction

The global economy continues to be depressed due to declining human business mobility, this is due to the Covid-19 outbreak in Indonesia in 2020. Not only that, in 2022, global economic growth will continue to slow in line with increasing global uncertainty, among others, due to global inflationary pressures and the ongoing Russia-Ukraine conflict.

The capital market is a place where securities (stocks, bonds, warrants and rights) and derivative products (options, futures, forwards, etc.) are traded (Joseph M J Renwarin, 2017). Understanding investment according to (Tandelilin, 2017: 2) is a commitment made in the present by providing a certain amount of capital to a company, with the aim of getting profits in the future. Investment is divided into several types, namely direct and indirect investment (Sri Handini, 2020).

Investors have a fairly high interest in the banking sector, because investing in the banking industry has a relatively high amount of risk, of course, with a higher potential share return. According to (Darmadji & M. Fakhruddin, 2012), shares serve as a symbol of membership in a corporation or limited liability firm. The amount of investment in the firm determines the ownership percentage. When investing, investors must pay attention to stock prices since this is one indicator that shows if a company has the potential to be successful or not. Stock prices in a company that is too low are often said to have poor performance. Therefore, every company that issues shares pays close attention to its stock price. The stock return obtained will continue to increase when the company has good ability or performance, and vice versa.

CAR, NPM, ROA, and LDR all had a small but non-significant impact on stock returns, according to Lubis (2020), who studied the impact of financial performance on stock returns. At the same time, CAR, NPM, ROA, and LDR had no discernible impact on stock returns. Setyarini and Rahyuda (2017) found that the Capital Adequacy Ratio (CAR) and Net Profit Margin (NPM) have a strong beneficial impact on stock returns in banking businesses listed on the Indonesia Stock Exchange. The loan-to-deposit ratio (LDR) thus has a favorable but minor impact on stock returns.

Financial ratios are just one of the numerous variables that might impact a company's performance now and in the future. There are many things that can happen to the value of stock returns obtained, and frequently there is a mismatch with what investors had anticipated. According to this methodology, the ratios of loan-to-deposit ratio (LDR), Net Profit Margin (NPM), and Capital Adequacy Ratio (CAR) were utilized in the analysis.

Research Methods

Data Type

In this study, quantitative data were employed as a source of information. Comparatively, quantitative data is data that is presented as numerical information and may be examined using statistics as a test tool for calculation.

Data Sources

The secondary data sources used in this study include financial statements or annual reports of banking businesses, which are accessible through the www.idx.co.id website and the official corporate website. Then stock return data is obtained from the www.yahoo.finance.com website in the historical stock price data report for each company.

Data Collection Techniques

In this study, documentation procedures and literature reviews were used to obtain data. Documentation is a way to obtain a number of data by recording documents related to the research being conducted. The documents used are financial statements and stock price data. Literature study is a collection of data carried out by reviewing various literature related to research.

Population and Sample

All of the 46 banking businesses that will be listed on the Indonesia Stock Exchange (IDX) through 2023 make up the study's population. The sampling technique uses the purposive sampling method, where sampling is determined by several criteria. The following criteria are used in sampling:

1. During the observation period, 46 banking businesses were listed on the Indonesia Stock Exchange.
2. Banking companies that issued financial statements actively during the observation period were 46 companies.
3. Banking companies included in the infobank15 stock index in December 2022 are 15 companies.
4. Banking companies include conventional banks as many as 13 companies.

Variable Operational Definition

Stock Return

According to Jogiyanto (2017), the return on a stock investment is the sum of the profits realized by investors. If the purchase price is less than the selling price, the investor will realize a capital gain (a positive outcome), and if the purchase price is higher than the selling price, the investor will realize a capital loss (a negative outcome). Realized return and Expected return are the two categories that stock returns fall under. Realized return is the outcome of an investment that has already taken place, whereas expected return is the outcome of an investment that has not yet taken place but is still anticipated to be realized in the future. You can use the following calculation to get the stock return amount:

$$\text{Stock Return} = \frac{P_t - P_{t-1}}{P_t} \times 100\%$$

Capital Adequacy Ratio (CAR)

The capital adequacy ratio (CAR) is a ratio used to determine if a company has enough capital to sustain losses and comply with any applicable CAR rules (Ismanto et al., 2019). A company can be considered to have been more successful in managing capital satisfaction so that all operations and companies can function smoothly when CAR values are higher. The following formula can be used to calculate CAR :

$$\text{CAR} = \frac{\text{Capital}}{\text{Risk Weighted Asset}} \times 100\%$$

Net Profit Margin (NPM)

As a profitability ratio, net profit margin (NPM) measures how well a firm runs its operations by comparing its net profit to other expenditures incurred by the organization (Hantono, 2018). The associated firm

may be deemed to operate with a high level of operational effectiveness with a higher NPM value. Formula for figuring the NPM value :

$$NPM = \frac{Net\ Income}{Sales}$$

Loan to Deposit Ratio (LDR)

The loan-to-deposit ratio is a ratio used to determine how much credit is being offered in comparison to the quantity of public and private capital being offered (Kasmir, 2011). A company's relative degree of liquidity is deemed to be higher the higher the LDR value. The following formula may be used to compute LDR:

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

Data Analysis Methods

The following data analysis methods were used with Eviews 12 to analyze the data: (1) panel data regression analysis, (2) classical assumption test, (3) multiple regression analysis, (4) coefficient of determination, and (5) hypothesis test with t test and F test.

Results

Panel Data Regression Analysis

Test Chow

Table 1 Chow Test Results

Redundant Fixed Effect Test			
Equation: Untitled			
Test cross-section fixed effects			
Effect Test	Statistic	d.f.	Prob.
Cross-section F	1.99674	(12,49)	0.045
Cross Chi-square	25.876701	12	0.0112

Source : Eviews Processing Results, 2023

The findings of the Chow Test were used to determine a significance value of $0.0450 < 0.05$. As a result, this study should employ the Fixed Effect Model. The Hausman Test, which rejects H_0 , is applied to the data after the Chow test.

Hausman Test

Table 2 Hausman Test Results

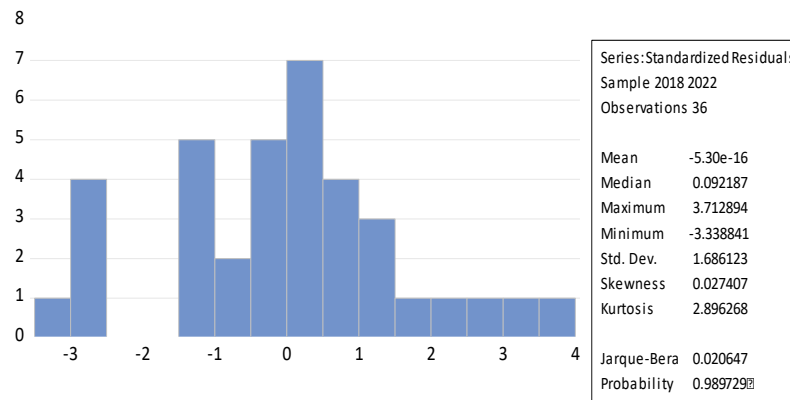
Correlated Random Effects - Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Statistic	d.f.	Prob.
Cross-section Random	19.539206	3	0.0002

Source : Eviews Processing Results, 2023

The results of the Hausman test revealed a significance value of $0.0002 < 0.05$. So the Fixed Effect Model should be used in this investigation.



Classical Assumption Test
Normality Test



Source : Eviews Processing Results, 2023

Image 1 Normality Test Results

The data may be deemed to be normally distributed since, according to the preceding figure, the Jarque-Bera probability value (J-B) is $0.989729 > 0.05$.

Multicollinearity Test

Table 3 Multicollinearity Test Results

Variabel	Centered VIF	Information
C	NA	
CAR	2.140343	No multicollinearity occurs
NPM	2.007892	No multicollinearity occurs
LDR	1.483765	No multicollinearity occurs

Source : Eviews Processing Results, 2023

Given that each variable's VIF value is less than 10, which is inferred from the results of the table above, it can be said that this research does not exhibit any signs of multicollinearity.

Heteroscedasticity Test

Table 4 Glejser Test Results

Heteroskedasticity Test Glajser			
Null hypothesis: Homoskedasticity			
F-statistic	0.357148	Prob.F(3,32)	0.7843
Obs*R-squared	1.166322	Prob. Chi-Square(3)	0.7611
Scaled explained SS	1.206086	Prob. Chi-Square(3)	0.7515

Source : Eviews Processing Results, 2023

The data are homoscedastic since the Obs*R-Squared Prob. Chi-Square value, which can be determined from the table above, is $0.7611 > 0.05$.

Autocorrelation Test

Table 5 Autocorrelation Test Results

Durbin-Watson stat	2.104504
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Source : Eviews Processing Results, 2023

When the Durbin-Watson value of 2.104504 is paired with the value of (k: N), which is (3: 65), dU: 1.5305 and 4-dU: 2.4695 are produced, the following requirements are met. Because $1.5305 < 2.104504 < 2.4695$, it is claimed that there is no autocorrelation symptom.

Multiple Regression Analysis

Table 6 Multiple Regression Analysis Results

Variable	Coefficient	Direction of Influence
C	480.7291	Positive
CAR (X ₁)	6.660294	Positive
NPM(X ₂)	-0.559522	Negative
LDR(X ₃)	-7.161039	Negative

Source : Eviews Processing Results, 2023

$$Y = 480,72 + 6,660X_1 - 0,559 X_2 - 7,161X_3$$

According to the equation above:

1. The constant value is 480.72, which indicates that the Stock Return value is 480.72 if the independent variables, CAR, NPM, and LDR, remain constant.
2. The positive value of the CAR coefficient, 6.660, indicates a one-way association between CAR and stock return. When other factors are assumed to be constant, the stock return rises by 6,660% for every increase of one unit of CAR.
3. The opposing association between NPM and Stock Return is seen by the negative NPM coefficient value of -0.559. If all other factors are taken to be constant, then every rise in one unit of NPM results in a 0.559 reduction in stock return.
4. The opposing association between LDR and stock return is seen by the negative LDR coefficient value of -7.161. Every additional unit of LDR causes the stock return to decrease by 7.161% if all other factors are considered to be constant.

Coefficient of Determination

Table 7 Coefficient of Determination Results

Adjusted R-squared	0.644817
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Source : Eviews Processing Results, 2023

The R-Squared value is 0.728, based on the research's Fixed Effect Model results. This illustrates how the factors Capital Adequacy Ratio (CAR), Net Profit Margin (NPM), and Loan to Deposit Ratio (LDR) to Stock Return affect 64.4% (0.644 x 100%). On the other hand, the remaining 35.6% (100-64.4) of the sample were affected by other variables that were not explored in this study.

Test the hypothesis
T Test (Partial Test)

Table 8 T Statistic Test Results

Variable	Coefficient	t-statistic	Prob.	Explanation
C	480.7291	3.360229	0.0015	
CAR (X)	6.660294	4.86335	0.0000	Significant
NPM(X)	-0.559522	-2.50132	0.0158	Significant
LDR(X)	-7.161039	-3.830771	0.0004	Significant

Source : Eviews Processing Results, 2023

Based on the aforementioned research:

1. The significance value for the Capital Adequacy Ratio (CAR) of 0.0000 is less than 0.05. The Capital Adequacy Ratio (CAR) partly positively and significantly affects Stock returns, even if the t computed value of 4,863 is higher than the t table value of 1,670.
2. A net profit margin (NPM) of 0.0158 has a significance level below 0.05. Although the t computed value of 3.501 is higher than the t table value of 1,670, the effect of the Net Profit Margin (NPM) on stock returns is only partially negative and substantial.
3. Less than 0.05 is the significance level for the loan-to-deposit ratio (LDR) of 0.0004. While the t computed value of 3.830 is higher than the calculated value of 1,670 in the t table, the loan-to-deposit ratio (LDR) has a considerable and largely negative impact on stock returns.

Test F (Simultaneous Test)

Table 9 Simultaneous Test Results

F-statistic	8.745906
Prob(F-statistic)	0.000000

Source : Eviews Processing Results, 2023

According to the findings of the fixed effect model's regression test, the $F_{calculate}$ value of 8.745 is higher than the F_{table} value of 2.523. While 0.00 has a lower importance than 0.05. Therefore, when H_0 is rejected and H_a is approved, the stock return is positively and significantly impacted by the Capital Adequacy Ratio (CAR), Net Profit Margin (NPM), and loan-to-deposit ratio (LDR) as a whole.

Conclusion

Conclusions may be drawn based on the research's findings, 1) which show that for the years 2018 to 2022, the capital adequacy ratio (CAR) has a positive and substantial impact on stock returns in banking businesses listed on the IDX. 2) For the years 2018–2022, Net Profit Margin (NPM) has a negative and large impact on Stock returns in banking businesses listed on the IDX. 3) For the years 2018–2022, the loan-to-deposit ratio (LDR) has a negative and substantial impact on Stock returns in banking businesses listed on the IDX. 4) For the period of 2018–2022, the following metrics have been deemed to have a positive and substantial impact on share return in banking businesses listed on the IDX: capital adequacy ratio (CAR), net profit margin (NPM), and loan-to-deposit ratio (LDR).

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