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Impact Profitability, Liquidity, and Credit Risk to Market Capitalization Banking Sector on the Indonesia Stock Exchange

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A B S T R A C T

This study aims to test and analyze impact profitability, liquidity, and credit risk on market capitalization of the banking sub-sectors listed on the Indonesia Stock Exchange from 2009-2018. This research method used panel data regression analysis. The sampling method of this research used a purposive sampling technique. The F-test results showed that profitability, liquidity, and credit risk simultaneously had a significant effect on market capitalization with a significance value of 0.0%. The test results with the t-test show that only profitability has a significant positive impact on market capitalization with a significance level of 0.0%. In contrast, other variables, namely liquidity and credit risk, had an insignificant effect.

INTRODUCTION

Banks have a critical role in the movement of a country's economy. Banks provide financial services that function as intermediary institutions between parties who have excess funds and those who experience a shortage of funds to improve the standard of living of the people as mandated by law.

The development of the banking sector is increasingly rapid and modern, marked by the creation of breakthroughs and innovations aimed at increasing the effectiveness of banking

operations. Modern activities are directed to support traditional banking activities further to create real sector growth supported by the banking sector.

One of the efforts that can be made to make bank operations more effective is to obtain funds from investors (Glanfrate & Gouigoux, 2015). The greater the equity of a bank, the company's operations will be encouraged to be more effective. Therefore, one way to get funds from investors more broadly is by entering the capital market.

A capital market is where companies that need capital get capital from investors interested in investing their funds in the company. Companies that need capital must show good prospects so that investors are interested in investing their funds in the company. The purpose of investors investing their funds is to get a return to increase their wealth. The indicator most often seen by investors to see the prospects of a company is the market capitalization value of a company.

For public companies, the value of market capitalization is significant because market capitalization provides information related to the quality of a company as a stock issuer, the potential for development and benefits provided, and the risks that can be known. The greater the market capitalization, the higher the company is valued by the market. The amount of market capitalization for shareholders will affect the value of shareholders' wealth. The higher the Capitalization of the company's shares, the greater the wealth or shareholder assets.

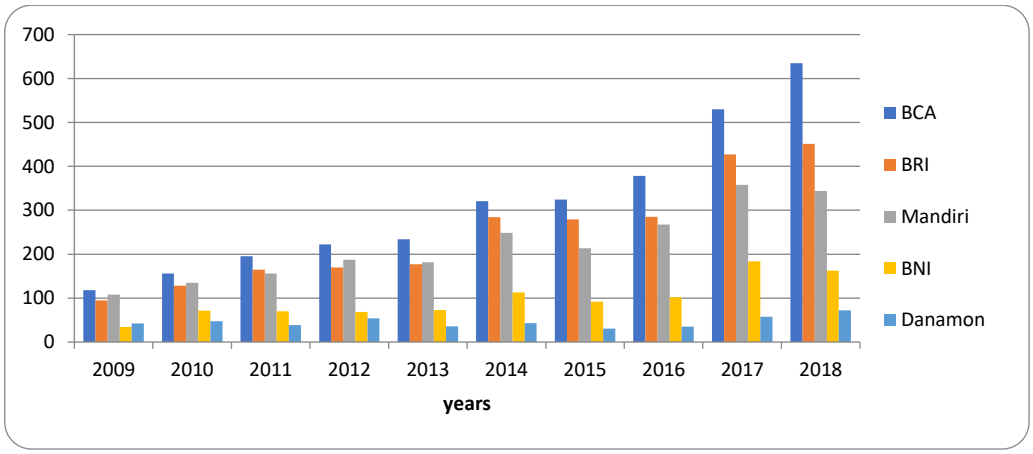


Image 1. Development of market capitalization of the five largest banks in Indonesia
Source: Indonesia Stock Exchange, 2019

During the research period from 2009 to 2018, three banks with capitalization values fluctuated, namely BNI, Mandiri, and Danamon banks. This fact shows that there are still problems with the bank's financial performance because good economic performance is indicated by stock prices that always increase, followed by an increase in market capitalization.

The competitive competition in the banking industry encourages banks to be more creative and innovative to survive and excel in the competition; they can achieve the company's goal of maximizing the prosperity of shareholders by maximizing company value. Banks must pay attention

to the quality of their earning assets by reducing the NPL (Non-Performing Loan) ratio. NPL is a ratio to measure non-performing loans compared to total loans.

The primary source of income for banks is interest income from loans. Credit risk becomes very large if the credit application assessment process is not carried out correctly. The Financial Services Authority, as the banking supervisory agency, sets the maximum NPL ratio at 5% to mitigate credit risk and maintain banking stability and soundness. The higher the NPL, the worse the banking system's resilience because the bank cannot receive back the funds that have been disbursed in the form of credit as projected.

Yurttadur, Celiktas, & Celiktas (2019) in his research found that NPLs had an impact on the banking sector, specifically on capital adequacy, asset quality, and profitability.ROE is Ratioprofitability that can assess the company's ability to seek profit or profit in a certain period. This ratio can also provide a measure of the effectiveness of the company's management which can be shown by the profit earned from sales or investment income.

In theory, one factor that affects the profitability ratio is income; an increase in revenue can increase the profitability ratio of a company as measured by the ROE variable. Empirical findings by Sufian and Habibullah (2010) show that income diversification has a positive effect on bank profitability*,* so increasing income which affects the increase in ROE will boost stock prices.

The signaling theory explained the study's results that investors take ROE into account. If the ROE increases, the demand for a company's shares will increase, and the stock price will automatically improve, where the stock price can reflect the market capitalization value.

The target of increasing company value, especially the market capitalization value, can be realized if there is a cooperation between company management and stakeholders in making financial decisions to maximize their working capital for maximum profit. The availability of liquid funds is also crucial in the banking sector. The cash ratio can calculate liquid funds.

The cash ratio shows the company's ability to meet its short-term obligations. The cash ratio reflects a company's ability to pay its maturing debts using available money. The *cash ratio* is one of the keys to growing investor confidence to invest because it will be related to customer trust. Customers tend to choose liquid banks because they feel more secure, and they will have an effect in the long term (Ibbotson et al., 2013). Liquidity is a significant economic indicator of long-term returns. Investors will have more confidence in liquid companies than illiquid companies in meeting their short-term debt.

THEORETICAL REVIEW

Capital market

A capital market is a place where various parties, especially companies, sell shares and bonds with the aim that the proceeds from these sales will later be used as additional funds or to

strengthen the company's capital (Fahmi, 2017). Orlowski T. (2015)stated that the capital market is essential to support economic acceleration and reduce demand and systematic risk so that it can encourage a counter-cyclical and sustainable real economy.

Market Capitalization

Shares prove an investor's capital ownership in a company (Fatihudin, 2017). A company's success in utilizing managed resources can be predicted by its market capitalization value (Yogaa & Muharrami 2016). That is why the company's market capitalization is an important consideration to attract investors to invest in a company. Market capitalization can be calculated by multiplying the outstanding shares by the most recent share price in the market. According to Robert Ang, Market capitalization is the multiplication of the share price by the number of shares outstanding. The formula is as follows. Market Capitalization = Number of Shares x Latest Share Price (Siyamto & Pravasanti 2019).

Profitability

Profitability is the company's ability to generate profits. Profitability can be seen from the assets and equity owned by the company. Return On Equity (ROE) is a ratio that shows how much capital contributes to creating profit (Herry, 2015). The increase in ROE will boost the company's selling value, which will impact stock prices (Carlo, 2014). ROE shows how effective and efficient the company is in managing capital to provide maximum profit for investors.

Liquidity

Liquidity is the company's ability to pay off its short-term obligations. Liquidity can be measured from *the cash ratio.* Cash ratio is a ratio that can be used for how much cash is available to pay debts (Cashmere, 2016).

Credit Risk

Credit risk is the risk that arises from the debtor's inability to pay his obligations as agreed. Non-Performing Loans (NPLs) are non-performing loans or bad loans in which there are obstacles caused by two elements, namely from the banking side in analyzing and with customers who intentionally or unintentionally do not make payments on their obligations. (Cashmere, 2013).

Analysis Model

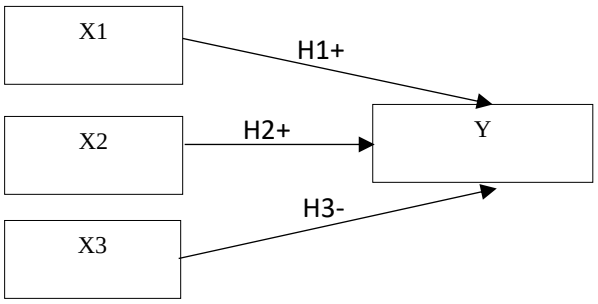


Figure 2. Analysis Model

Hypothesis:

H1: Profitability has a positive effect on the market capitalization of the banking sub-sector

H2: Liquidity has a positive impact on the market capitalization of the banking sub-sector

H3: Credit risk has a negative impact on the market capitalization of the banking subsector

RESEARCH METHODS

This type of research is causal associative, which aims to determine the effect between several independent variables and the dependent variable. The data collection technique is non-participant observation. The research approach uses a quantitative approach. The population of all banking sub-sector companies listed on the Indonesia Stock Exchange (IDX) from 2009 to 2018 in 36 companies. The sampling technique used in this study was the purposive sampling method, intending to get a representative sample according to the specified criteria so that five samples were obtained (Fatihudin, 2019). The data processing technique uses the E-views software tool. The analysis technique used is panel data analysis. The panel data analysis approach can be used as an unbiased estimation tool if it meets the Best Linear Unbiased Estimation (BLUE) requirements.

The data used is panel data. The panel data method on Eviews is generally divided into four parts, namely (1) data preparation/input, (2) panel data regression estimation, (3) model selection (4) classical assumption test. In the panel data regression model selection section. Several tests can be done to select the best model for estimating panel data from the three models (comment effect model, fixed effect model, random effect model), namely the chow test, Hausman test, and Lagrange multiplier test. Panel data analysis testing can be done if it meets the classical assumption test. Classic assumption test; normality test, multicollinearity test, heteroscedasticity test.

Hypothesis testing aims to determine the effect of the dependent variable, profitability, liquidity, and credit risk, on the independent variable, namely market capitalization. Testing this hypothesis using panel data analysis, partial regression test (t-test), coefficient of determination test (R2), and partial determination coefficient test (r2).

The mathematical equations of panel data analysis in this study are:

$$Y_{it} = \alpha + \beta 1X1_{it} + \beta 2X2_{it} + \beta 3X3_{it} + e$$

Note: Y is market capitalization; X1 is profitability; X2 is liquidity; X3 credit risk; α is a constant; is the coefficient estimate; e standard error

RESEARCH RESULTS AND DISCUSSION

1. Panel Data Regression Model Selection Test

a. Chow test

Table 1. Chow test results

Redundant Fixed Effects Tests

Equation: FEM

Test cross-section fixed effects

Effects Test	Statistics	df	Prob.
Cross-section F	21.114956	(4.42)	0.0000
Cross-section Chi-square	55.112752	4	0.0000

Based on Table 1. probability value *cross-section* of 0.0000 < significance levelα= 0.05, it can be concluded that the fixed effects model is better.

b. Hausman test

Table 2. Hausman test results

Correlated Random Effects - Hausman Test

Equation: REM

Test cross-section random effects

Test Summary	Chi-Sq. Statistics	Chi-Sq. df	Prob.
Cross-section random	4.556459	3	0.2073

Table 2 shows that the p-value is 0.2073 > 0.05, so the better model is the random effect model.

c. *Lagrange Multiplier Test*

Table 3. LM test results

Lagrange Multiplier Tests for Random Effects
Null hypotheses: No effects
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives

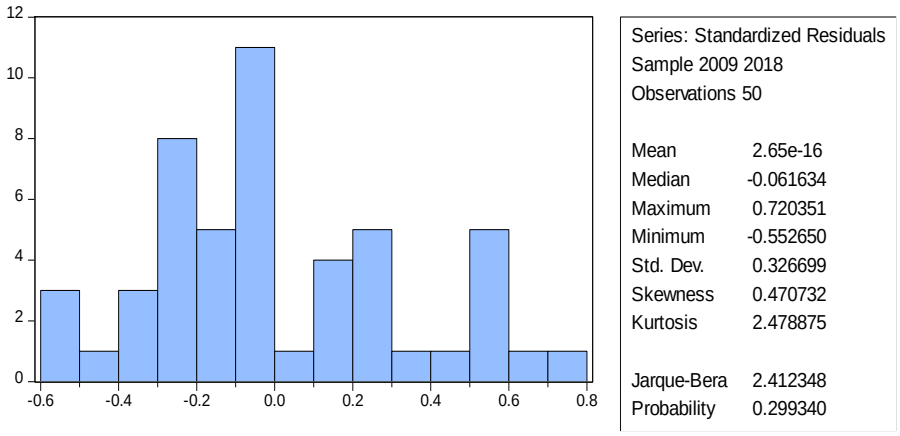
	Hypothesis Test		
	Cross-section	Time	Both
Breusch-Pagan	63.06655	1.059155	64.12570
	(0.0000)	(0.3034)	(0.0000)

Cross-section probability valuebreusch-paganis 0.0000 < significance level = 0.05 thena better model is the random effect model.

2. Classic assumption test

a. Normality test

Table 4. Normality test results



Based on table 4. the probability value of bark-fallen is 0.2993 > 0.05. It can be concluded that the data are typically distributed.

b. Multicollinearity Test

Table 5. multicollinearity test results

	X1	X2	X3
X1	1.0000000	-0.208083	-0.636315
X2	-0.208083	1.0000000	0.121868
X3	-0.636315	0.121868	1.0000000

The results of data processing do not show a relationship between independent variables with a value of more than 0.8. The data is said to be identified with multicollinearity if the correlation coefficient between independent variables is more than 0.8. So it can be concluded that there is no multicollinearity in the variable data in this study.

c. Heteroscedasticity Test

Table 6. Heteroscedasticity test results

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistics	0.708497	Prob. F(3.46)	0.5519
Obs*R-squared	2.208280	Prob. Chi-Square(3)	0.5303
Scaled explained SS	1.980002	Prob. Chi-Square(3)	0.5766

The results of data processing show the prob value. Chi-Square is 0.5303 > 0.05. This means that the regression model is homoscedasticity.

3. Multiple Linear Regression Analysis

Table 7. Multiple linear regression test results

Dependent Variable: Y
Method: Panel EGLS (Cross-section random effects)
Date: 07/23/20 Time: 17:06
Sample: 2009, 2018
Periods included: 10
Cross-sections included: 5
Total panel (balanced) observations: 50
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	62.91813	59.65199	1.054753	0.2970
X1	40.10507	4.217696	9.508762	0.0000
X2	-162.3335	164.7326	-0.985436	0.3296
X3	10.69078	10.84613	0.985676	0.3294

From the results of multiple linear regression, it can be seen that the multiple linear regression equation is as follows:

Yit=62.9181+40.1051(X1) – 162.3335 (X2) + 10.6908(X3) + e

The regression equation above can be described as follows:

a. Constant (a) of 62.9181, meaning that if the ROE, cash ratio, and NPL are 0 or not increasing or decreasing, then the market capitalization value is 62.9181%.

b. Profitability regression coefficient

The value of the profitability regression coefficient is 40.1051, which means that it shows a positive (unidirectional) relationship between profitability and market capitalization value. This indicates that if the profitability variable increases by 1%, the market capitalization value will increase by 40.1051%, assuming that the other variables have a fixed value.

c. Liquidity regression coefficient

The value of the liquidity regression coefficient is -162.3335, indicating the direction of the negative relationship (opposite direction) between liquidity and market capitalization value. This shows that if the liquidity variable increases by 1%, the market capitalization value will decrease by 162.3335%, assuming the other variables are fixed.

d. Credit risk regression coefficient

The credit risk regression coefficient value is 10.6908 means indicating the direction of a positive (unidirectional) relationship between credit risk and market capitalization value. This indicates that if the credit risk variable increases by 1%, the market capitalization value will increase by10.6908%assuming the other variables are fixed values.

4. Hypothesis test

a. F test

Table 8. F . test results

	Weighted Statistics		
R-squared	0.732949	Mean dependent var	36.43185
Adjusted R-squared	0.715533	SD dependent var	99.16655
SE of regression	52.89097	Sum squared resid	128682.9
F-statistics	42.08389		
Prob(F-statistic)	0.000000		

The results of the F test statistic obtained the value of $_{count}$ 42.08389 dan $F_{table}$of 2.81 (F_{count}> Ftable) with a significance of 0.0000 < 0.05 so that there is a simultaneous influence of ROE, cash ratio, and NPL on market capitalization.

b. T test

Table 9. t-test results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	62.91813	59.65199	1.054753	0.2970
X1	40.10507	4.217696	9.508762	0.0000
X2	-162.3335	164.7326	-0.985436	0.3296
X3	10.69078	10.84613	0.985676	0.3294

ROE; The results of the t-test statistic for the ROE variable obtained the value oft_{count}9.508762 > valuet_{table}2.01290 with a significance value of 0.0000 < 0.05. Then the hypothesis which states "ROE has a significant positive effect on market capitalization" is accepted.

cash ratio;The statistical results of the t-test of the cash ratio variable obtained the t-value $_{count}$ -0.985436 <t_{table}2.01290 with significance value0.3296 > 0.05. So the hypothesis that "cash ratio has a significant positive effect on market capitalization value" is rejected.

NPL;The t-test statistic for the NPL variable obtained the value of $_{count}$ 0.985676 <2.01290 with a significance value of 0.3294> 0.05. Then the hypothesis, "NPL has a significant negative effect on market capitalization," is rejected.

c. Coefficient of Determination Test

Table 9. Results of the coefficient of determination

		Mean dependent	
R-squared	0.732949	var	36.43185
Adjusted R-squared	0.715533	SD dependent var	99.16655
SE of regression	52.89097	Sum squared resid	128682.9
F-statistics	42.08389		
Prob(F-statistic)	0.000000		

The results of the R2 test in this study obtained a value of 0.732949(73.29%). This shows that the contribution of the independent variable of ROE, cash ratio, and NPL to the dependent variable, namely market capitalization, is 73.29%. Other variables outside the regression model influence the remaining 26.71%.

1. Effect of ROE, Cash Ratio, and NPL on Market Capitalization

Companies with a high ROE, cash ratio, and NPL tend to be more attractive to investors investing in the company because the higher the ROE, it can be said that the company will also provide high stock returns to investors. The higher the cash ratio, the higher the opportunity for the company to provide returns or returns to investors, and for banks that can reduce the NPL ratio, the potential profits to be obtained will be even more significant because they can streamline the reserve fund for non-performing loans or Allowance for Earning Assets Losses (PPAP), so that company can optimize profit.

2. Effect of ROE on Market Capitalization

A high ROE indicates the company will provide high profits to investors. This indicates that the company can provide a level of prosperity to shareholders. Therefore, ROE analysis is often used by investors because it reflects the possible level of profit earned by shareholders, according to investors(Lubis, Sinaga, and Sasongko, 2017). A high ROE will provide a positive signal for investors so that it will provide an attraction for owning company shares. This will also affect the company's market capitalization.

3. Effect of Cash Ratio on Market Capitalization

The cash ratio in the banking world should have a positive impact because the cash ratio will affect customer trust. Still, in banking, there are also regulations issued by BI (Bank Indonesia) regarding the Statutory Reserves (Giro Requirements). If the statutory reserve requirement is too high, it

can cause banks to be less productive in channeling their funds. On the other hand, too low a statutory reserve requirement is also not reasonable because it will endanger the bank.

4. The Effect of NPL on Market Capitalization

The more non-performing loans, the less opportunity for banks to generate profits, so a high NPL in banks will cause investors to be less interested in buying shares. (Cam 2016). The lack of interest from investors in stocks will reduce stock prices, affecting the market capitalization value.

The test results, which show no effect of NPL on banking market capitalization, can be due to the average sample of research objects having the highest proportion of long-term lending, such as housing loans, working capital loans, and investments in SMEs and corporations. In addition, the sample of 5 banks in this study has a solid liquidity and capital position and a relationship management team that is grouped based on particular expertise and experience in each field to minimize the risk of bad loans.

CONCLUSION

The following conclusions can be obtained based on the research and analysis results. Profitability, liquidity, and credit risk have a simultaneous effect on the market capitalization value of the banking sub-sector on the Indonesia Stock Exchange. Profitability positively affects the market capitalization value of the banking sub-sector on the Indonesia Stock Exchange. Liquidity has no effect on the market capitalization value of the banking sub-sector on the Indonesia Stock Exchange. Credit risk has no effect on the market capitalization value of the banking sub-sector on the Indonesia Stock Exchange.

Based on the results of the study, the nests are given as follows. First, it is suggested to the next researcher to increase the number of variables related to market capitalization, in addition to the variables that have been studied in this study, because there are still 27% variations in market capitalization values that cannot be explained in the model. Second, it is suggested to the next researcher to extend the research period and use a different model to measure the market capitalization value so that the research results can describe the overall state of banking in Indonesia.

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