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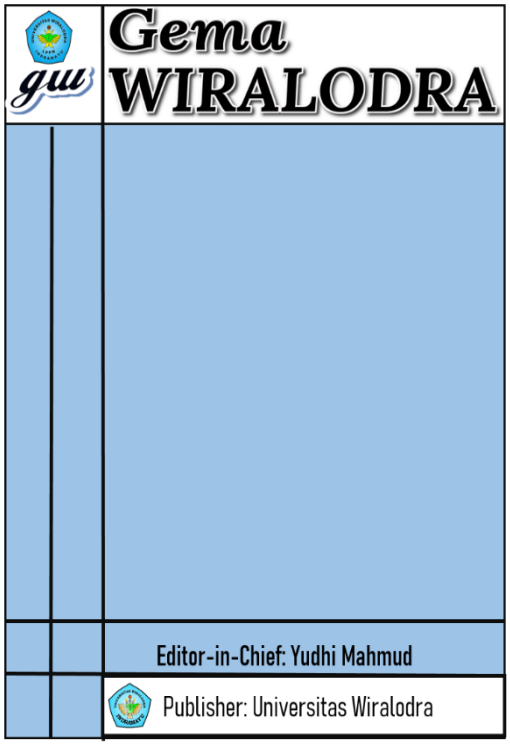

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The effect of profitability and liquidity on stock returns: a study of food & beverage sub-sector companies listed on the Indonesia stock exchange

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Abstract
This study aims to determine the effect of profitability and liquidity on stock returns. With a sample of 30 annual reports of food & beverage sector companies listed on the Indonesia Stock Exchange (IDX) for 2019-2021, the model was selected using a purposive sampling technique. In this study, the population is 30 food & beverage sub-sector companies listed on the Indonesian stock exchange for 2019-2021. The sample passion in this study is 30 food & beverage sub-sector companies listed on the Indonesian stock exchange for 2019-2021. Furthermore, the method of data collection carried out by this study's authors itching secondary data with literature and documentation. The collected data were analyzed using multiple linear regression analysis. Based on the study's results, it can be concluded that (1) profitability (ROA) has a significant effect on stock *returns*, meaning that changes in the ups and downs of profitability will affect stock *returns.* (2) liquidity (CR) has a significant effect on stock *returns*, meaning that changes in the ups and downs of liquidity values will affect stock *returns.*
Keywords: Profitability, Liquidity, Stock Return, Return on Assets, Current Ratio, Capital Gain

1. Introduction

In the existing capital market in Indonesia, namely the Indonesia Stock Exchange, with the existence of the IDX, parties with excess funds can invest their funds in the hope of getting rewards in the form of *returns* on their investment (Mulya & Ritonga, 2017). To obtain the expected *return, every investor must consider several important aspects of the company, where investors invest, and buy these securities, both financial and non-financial, which can affect the size of the rate of return* (Sinambela, 2013). Investing in stocks in the capital market requires sufficient knowledge. Otherwise, it is a very high risk for the sustainability of the investment.

Currently, a popular capital market instrument is the stock**.** According to Fahmi (2012: 81) stocks are one of the capital market instruments that are in great demand by investors, because they can provide an attractive rate of *return.* Meanwhile, according to Darmadji & Fakhruddin (2012), the meaning of shares is "Shares (*stock*) are a sign of equity participation from investors or entities in a company or limited liability company.

One of the things that must be taken into consideration by an investor before investing in stocks is the stock price (Prayoga, 2019). Investors must look at stock price movements in historical data, which can also be seen from various indicators and the company's financial condition to show a development in stock prices that have been recorded and listed on the Indonesia Stock Exchange. In investing in stocks, an investor wants stocks that provide high *returns.* Investors can assess the company's performance by paying attention to the financial performance reports of each company; when investors already know the company's financial performance is good, these investors can expect that the company will get an increase in profits and the dividends be distributed will also increase (Muhamad & Rahim, 2019). The high purchasing power of shares will have an increasing impact on the company's stock price. Conversely if the company's financial performance is poor, the company's stock price will fall (Rahmadewi & Abundanti, 2019).

Investors investing their funds in the capital market aim to enjoy the benefits of distributed dividends and stock *returns* obtained (Mutia & Martaseli, 2018). If a positive stock

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return can provide benefits, it is called a *capital gain. This capital gain* is obtained after the investor sells his shares above the purchase price or initial price. However, it must be noted that investing in stocks in the capital market also carries risks. The price of shares in the capital market will always move, fluctuate, or permanently change. This will cause difficulties for investors when deciding the right time to buy and sell shares. The factors that affect affecting stock prices are divided into internal actors. Internal factors occur within the company, for example, profitability ratios (*return on assets*) and liquidity (*current ratios*). Where these two ratios are used in this study (Erari, 2014). External factors come from outside the company and cannot be controlled by the company, such as the rupiah exchange rate, inflation rate, and deposit interest rate (Suryantini & Arsawan, 2014). Both internal and external factors are market forces that influence stock market transactions which result in stock price movements. To assess whether a company's performance is good or not, use company performance measurement tools, one of which is a company's financial statements. According to Harahap (2013) financial statements reflect the financial position and results of operations of a company at a certain time. In the analysis of financial statements, by looking at the financial ratios contained in the financial statements.

That way it can be seen to assess the company's performance can be seen from the company's financial statements which consist of a balance sheet, income statement, statement of changes in equity, and statement of cash flows. But from financial reports alone is not enough to know the right information. So a deeper analysis is needed, namely related to financial ratios in the company's financial statements. There are several financial ratios that can be used to analyze financial statements, the financial ratios used in this study are the profitability ratio (*return on assets*) and the liquidity ratio (*current ratio*). The profitability ratio, according to Kasmir (2019) , is the ratio used to assess a company's ability to gain a profit or profit in a certain period. Profitability is a group of ratios that show profit in the current year and a picture in the future. The liquidity ratio, according to Kasmir (2019) is the ratio used to measure the company's liquid level. There are two results in measuring this ratio, namely, a company can be said to be in a liquid state if the company can pay its obligations, and the company will be said to be illiquid if the company is unable to fulfill its obligations.

The research results of Geriadi & Wiksuana (2017) show that the profitability ratio peroxide by *return on assets* has a positive and significant effect on stock returns, but the results of research from Mangantar, Mangantar & Baramuli (2020) show different results, namely *return on assets* has a negative effect and not significant on stock returns.

The research conducted by Pratiwi & Putra (2015) stated that the liquidity ratio peroxide by *the current ratio* (CR) has a positive and significant effect on stock returns, in contrast to the results of Choirurodin & Taman's (2018) study, which explained that *current ratio* (CR) has a negative and insignificant effect on stock returns. Based on this background, the researcher is interested in studying the Effects of Profitability and Liquidity on Stock *Return*: Studies of Food & Beverage Sub-Sector Companies Listed on the Indonesia Stock Exchange in 2019-2021.

2. Method

This research approach includes a quantitative research type, with the variables namely profitability and liquidity on stock *returns* in food & beverage sub-sector companies listed on the Indonesian stock exchange in 2019-2021. The research was conducted on "Food & Beverage Sub-Sector Companies listed on the Indonesia Stock Exchange in 2019-2021", which data was collected on www.idx.co.id and on other sites that can support this research. In this study, the population is 30 food & beverage sub-sector companies listed on the Indonesian stock exchange for 2019-2021. The sample is the population in this study are 30 food & beverage sub-sector companies listed on the Indonesian stock exchange for 2019-2021. Furthermore, the

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method of data collection carried out by the authors in this study is through searching secondary data with literature and documentation. The collected data were analyzed using multiple linear regression analysis.

3. Research Results and Discussion

Data processing in this study uses Eviews. Following are the results of data analysis in this study.

Descriptive Statistical Analysis

According to Ghozali (2011: 19) , descriptive statistics provide an overview or description of a data seen from the mean, median, average value, standard deviation, variant, maximum, minimum, sum, range, curricular, and skewness. In this study the descriptive statistical test was intended to see an overview of the distribution of data from the annual reports of the companies tested in this study.

Table 1
Descriptive Statistics

	RT	ROA	CR
Means	0.510407	0.100881	2.107852
Median	-0.025050	0.099767	1.744646
Maximum	13.87070	0.416211	4.444074
Minimum	-0.374200	-0.010226	0.731924
std. Dev.	2.548589	0.086143	1.019295
Observations	30	30	30

Source: Data Processed 2023

Based on Table 1, the number of observational data is 30 company annual report data for the 2019-2021 period. The annual report consists of 10 companies during the 3 year study period. Descriptive statistical data shows that the stock *return variable* has an average value of 0.510 with a spread or standard deviation of 2.548 meaning that the dependent variable data is spread out or varies. The highest score was obtained by PANI in 2021 with a value of 13.870 and the lowest score was obtained by MLBI in 2020 of -0.3742.

For the first independent variable (X_1) is profitability peroxide by ROA, has an average value of 0.100 with a standard deviation of 0.086 which means that the data X_1 is data that does not vary. In this variable the highest ROA value was obtained by MLBI in 2018 of 0.416 and PANI obtained a minimum value of -0.01 in 2019. The next independent variable is liquidity as X_2 which is provide by *the current ratio* with an average value of 2.107 by standard deviation of 1.019 which means that this variable is group. The maximum value for this variable is 4.444 in 2019 obtained from ULTJ and the minimum value obtained from MLBI in 2019 is 0.731.

Panel Data Regression Model

Chow test

To determine the right panel data regression test, the first thing to do is to test the data with all test models. The first test model is the chow test to compare the *common effect model* with the *fixed effect model*. The guidelines that will be used in drawing conclusions from the chow test are as follows:

1) If the value of the *Probability Cross-section* Chi-square <α (5%), then H_0 is rejected, which means the selected fixed effect model
2) If the value of the *Probability Cross-section* Chi-square > α (5%), then H_0 is accepted, which means the common effect model is selected.

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Table 2
Chow test

Redundant Fixed Effects Tests Equation: FEM Test cross-section fixed effects			
Effect Test	Statistics	df	Prob.
Cross-section F	1.182253	(9,18)	0.3625
Chi-square cross-sections	13.933263	9	0.1247

Source: Data Processed 2023

In Table 2, namely the results of the chow test above, the cross-section probability results are *greater* than 0.05, namely 0.1247, Lagrange multiplier test will be carried out to determine the best result between the CEM or REM models.

Lagrange Multiplier Test

The next test used to determine the best model is the lagrange multiplier test. This test was conducted to compare the CEM and REM models with the provision that if the probability value of both Breusch-pagan is more than alpha 5% then the selected model is CEM and if it is less than alpha 5% then the selected model is REM.

Table 3
Lagrange Multiplier Test

Lagrange Multiplier Tests for Random Effects Null hypotheses: No effect Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
	Test Hypothesis		
	Cross-section	time	Both
Breusch-Pagan	0.096497 (0.7561)	0.632489 (0.4264)	0.728987 (0.3932)

Source: Data Processed 2023

From the results of the Lagrange multiplier test above, the probability results for both Breusch-pagan are greater than 0.05, namely 0.3932, it can be concluded that the best model in this study is the *common effect model* (CEM).

Classic assumption test

Normality test

The normality test aims to test whether the dependent variable and independent variables are normally distributed or not. A good model is a model that has a normal data distribution. There are two ways to test the normality of data using Eviews, namely by using a histogram and the Jarque-Bera test. Jarque-bera is a statistical test to find out whether the data is normally distributed or not. According to Gujarati (Herawaty & Yustien, 2019) detection is by looking at jarque fallow which is asymptotic (large sample and based on residual *ordinary least squares*). Test this by looking at the probability of Jarque fallow (JB) as follows:

1) If the probability > 0.05 then the data is normally distributed
2) If the probability <0.05, then the data is not normally distributed

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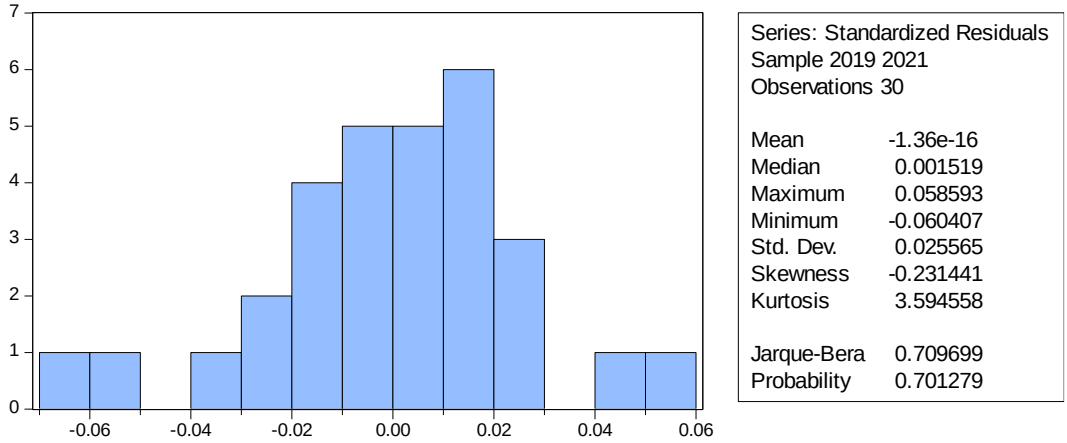
Figure 1
Normality test



Source: Data Processed 2023

In Figure 1 above it can be seen that the Jarque-bera value is 0.709 with a probability value of 0.701, which more significant than α 5% or 0.05. So it can be concluded that the model in this study is normally distributed, because the probability value of 0.701 is greater than 0.05.

Multicollinearity Test

The multicollinearity test aims to test whether the regression model found a correlation between the independent (independent) variables. A good regression model requires the absence of multicollinearity problems (Ghozali & Ratmono, 2022) . To find out whether or not multicollinearity exists, a *correlation test is used* using VIF, so the basis for making a decision is as follows:

1) VIF value < 10 indicates no symptoms of multicollinearity among the independent variables.
2) VIF values > 10 indicate multicollinearity symptoms occur among the independent variables.

Table 4
Multicollinearity Test Results

	coefficient	Uncentered	Centered
Variables	Variances	VIF	VIF
X 1_ROA _	0.029286	2457,900	3.256971
X2_CR _ _	0.016176	1235681	3.256971

Source: Data Processed 2023

Based on the results of the correlation test in the table above, it can be seen that none of the independent variables has a *centered* VIF value above 10. This suggests that this regression model does not contain multicollinearity problems, so these variables are free from multicollinearity problems.

Heteroscedasticity Test

The Hetroscedasticity test is used to test whether in the regression model there is an inequality of variance from the residuals of one observation to another (Ghozali & Ratmono, 2022) . To find out whether there is a heteroscedasticity problem, the Breusch-pagan godfrey test is used, so the basis for making a decision is as follows.

1) If the Prob. Chi Square < 0.05, it is concluded that there is an indication of heteroscedasticity problems.
2) If the Prob. Chi Square > 0.05, it is concluded that there is no indication of heteroscedasticity problems.

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Table 5
Heteroscedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistics	1.855971	Prob. F(2,27)	0.1757
Obs*R-squared	3.625895	Prob. Chi-Square(2)	0.1632
Scaled explained SS	3.810075	Prob. Chi-Square(2)	0.1488

Source: Data Processed 2023

Based on the table above, it can be seen that the probability chi-square value of Obs*R-Squared is 0.1632 which is greater than α 5% or 0.05. So it can be concluded that the model in this study did not have heteroscedasticity problems.

Autocorrelation Test

The autocorrelation test is a condition where there is a correlation from the residuals for one observation with another observation which is arranged according to a time series (Ghozali & Ratmono, 2022) . To find out whether or not there is autocorrelation using the Langrange-Multiplier test. Then the basis for decision making is as follows:

a) If the Prob. Chi Square Obs*R-Squared <0.05, it can be concluded that there is an autocorrelation problem.
b) If the Prob. Chi Square Obs*R-Squared > 0.05, it can be concluded that there is no autocorrelation problem.

Table 7
Autocorrelation Test Results

Breusch-Godfrey Serial Correlation LM Test:			
F-statistics	0.350944	Prob. F(2,25)	0.7074
Obs*R-squared	0.819264	Prob. Chi-Square(2)	0.6639

Source: Data Processed 2023

Based on the results in the table above, it can be seen that the chi-square probability value is 0.663, which is greater than 0.05. This means that the data in the regression model used does not have autocorrelation problems.

Panel Data Regression Analysis

Panel data regression analysis is used in research to determine whether there is influence of the independent variable on the dependent variable using *the common effect model*.

Table 8
Common Effect Model Test Results

Dependent Variable: Y_RS
Method: Panel Least Squares
Date: 02/23/23 Time: 12:55
Sample: 2019 2021
Period included: 3
Cross-sections included: 10
Total panel (balanced) observations: 30

Variables	coefficient	std. Error	t-Statistics	Prob.
C	-0.310956	0.136162	-2.283711	0.0305
X1_ROA	0.494198	0.171131	2.887841	0.0075
X2_CR	0.710990	0.127186	5.590150	0.0000
R-squared	0.889108	Mean dependent var		1.330467
Adjusted R-squared	0.880893	SD dependent var		0.076771
SE of regression	0.026495	Akaike info criterion		-4.329067
Sum squared residue	0.018954	Schwarz criterion		-4.188948
Likelihood logs	67.93601	Hannan-Quinn criter.		-4.284242
F-statistics	108.2398	Durbin-Watson stat		1.487459
Prob(F-statistic)	0.000000			

Source: Data Processed 2023

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In the regression model that has been obtained using CEM, the equation formula is as follows:
$\hat{y}$= -0.310 + 0.494.ROA + 0.710.CR
Based on the equation that has been obtained above, the explanation is as follows:

1. A constant value of -0.310 states that if the profitability and liquidity variables have a value equal to zero (0), then the dependent variable stock *return will have a value of -0.310.*
2. The regression coefficient value of the profitability variable is 0.494 and is positive, which means that if the profitability variable increases by 1 unit, then the dependent variable, namely stock *returns*, will also increase by 0.494.
3. The regression coefficient value of the liquidity variable is 0.710 and is positive, which means that if the liquidity variable increases by 1 unit, then the dependent variable, namely stock *returns*, will also increase by 0.710.

4. Conclusion

Based on the results of the study it can be concluded as follows: the conclusion is (1) the variable profitability (ROA) has a significant effect on stock *returns*, meaning that changes in the ups and downs of the profitability value will affect stock *returns.* (2) the variable liquidity (CR) has a significant effect on stock *returns*, meaning that changes in the ups and downs of liquidity values will affect stock *returns.*

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