Analysis of the Effect of PER, ROA, ROE, NPM on Stock Returns on LQ45 Index Companies on the IDX in 2018-2020

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Abstract: Investment is an activity that aim to make a profit by buying shares in the capital market. Since stock returns represent the amount of return on investment that investors expect, they should be aware of these elements before making an investment. This can be used as a consideration for buying shares. This study was conducted to determine whether the variables PER, ROA, ROE, NPM partially and simultaneously had a significant effect on stock returns. The object of this study is the LQ45 index company on the Indonesia Stock Exchange for the 2018-2020 period. The analysis technique used in this study was multiple linear regression analysis by processing data on IBM SPSS Statistics 25. The samples used were 28 LQ45 index companies with purposive sampling as a sample selection method. The result of the study obtained in this study are that per partially has a significant positive effect on stock returns while ROA, ROE, NPM partially do not have a significant effect on stock returns. Simultaneously, that PER, ROA, ROE, NPM have a significant effect on the stock return of LQ45 index companies in 2018-2020.

Keywords: price earning ratio, return on assets, return on equity, net profit margin, stock return

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Introduction

The community has a variety of different possibilities outside of investing in order to generate profits that can be used as cash to make preparations for the future. The stock market is a popular investment platform due to the high profit potential it offers. So, it is very important for investors to really pay attention to the company to be purchased because the company's performance will determine the return of shares going forward. While there are numerous possible causes that could affect stock returns, this study will only focus on fundamental research approaches to stock returns including PER, ROA, ROE, NPM. Below are presented the average ratios of the LQ45 index.

Table 1. Average LQ45 Index Ratio 2018-2020

Ratio	Years		
	2018	2019	2020
PER	15,23 x	17,00 x	28,67 x
ROA	7%	6%	4%
ROE	13%	12%	8%
NPM	13%	13%	9%

Source: Data results processed by researchers, 2022

Table 1 shows that PER 2018 to 2019 increased 1.77 times and in 2019 to 2020 it increased by 11.67 times, which means an increase in the share price of 11.67 times the profit per share. From 2018-2020 the average ratio of ROA, ROE, NPM of the LQ45 index decreased. The decline indicates that the company has not been optimal in utilizing assets, equity and generating net sales against net profit after tax. The decline in the ratio that occurred in 2018-2020 allowed the intervention of investors to invest in LQ45 shares, as the supply and demand for the shares in question determined the price of those shares.

The LQ45 index is 45 stocks that have great liquidity and market capitalization. The 45 shares are adjusted every six months. The stocks on the list will constantly change according to how their liquidity and market capitalization are. However, the performance generated by the LQ45 company does not always result in an increase in profits. Based on information obtained through cnbcindonesia.com and kontan.co.id in 2018 it was noted that LQ45 shares experienced a significant decline at the level of 4.96 points at the level of 949.30. At the beginning of 2018 LQ45 experienced an increase at the level of 1,132 but this did not last long because in early July 2018 LQ45 touched the level of 871 (-23%). In 2019, the state of LQ45 was also not good judging from its weakened performance by more than 30%. In 2020, the state of LQ45 also experienced a decline due to theOvid-19 C virus in early March which showed that the decline in revenue of LQ45 issuers was between 3%-51% year on year (yoy) and a decrease in net profit between 2%-93%. Fluctuations in stock prices on the LQ45 index have an effect on reducing or increasing the return on shares received by investors.

Previous research conducted by Mayuni and Suarjana (2018) showed that PER had no significant effect on stock returns. Mangantar et al., (2020) and Hukmiyah et al., (2021) showed results thalt ROA partially had no significant effect on stock returns. Mangantar et al., (2020) showed results that ROE partly had no discernible impact on stock returns. Setiyono et al., (2018) obtained the result that NPM partially had no discernible impact on stock returns. There are differences between contemporary study assumptions and ideas and the findings of earlier investigations.

Differences in the results of previous studies on factors affecting stock returns have prompted current researchers to review the factors that may affect future stock returns. The difference between the current research and the previous research lies in the variables, research time, and research objects used by current researchers, namely PER, ROA, ROE and NPM which are included in the LQ45 index for 2018-2020. The objectives of the study are: 1) To ascertain whether PER, has a sizable favorable impact on stock returns in LQ45 Index firms in 2018–2020, 2) To ascertain whether ROA, at least in part, has a materially favorable impact on stock returns in LQ45 Index businesses between 2018 and 2020, 3) To ascertain whether, in part, ROE has a materially favorable impact on stock returns in LQ45 Index businesses in 2018–2020, 4) To ascertain whether NPM, to some extent, has a materially favorable impact on stock returns in LQ45 Index businesses in 2018–2020, 5) To determine whether PER, ROA, ROE, and NPM in general have a sizable impact on stock returns in LQ45 Index businesses between 2018 and 2020. Based on this phenomenon and research gap, researchers are considering carrying out research with the following title "Analysis of the Effect of PER, ROA, ROE, NPM on Stock Returns on LQ45 Index Companies on the IDX in 2018-2020".

Methods

This type of research is quantitative research by taking data on the IDX website (www.idx.com), www.investing.com and www.indopremier.com. The stock prices of businesses that are LQ45 index members and yearly financial statements were the primary sources of secondary data for this study, which was conducted between 2018 and 2020. The collected data will be processed using IBM SPSS Statistics 25 and analyzed by multiple linear regression analysis. Companies that are LQ45 Index members in 2018–2020 make up the population of this study, and a total of 28 companies that employ the purposive sampling approach and meet the following three criteria constitute the sample.

1. Companies that are members of the LQ45 index which are members of the LQ45 index that posted a complete annual financial report for the period 2018-2020
2. Companies that joined the LQ45 index consecutively for the period 2018-2020
3. Companies that are members of the LQ45 index that do not conduct a stock split.

Results And Discussion

Normality Test

Table 2. Normality Test Results

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		84
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	.17619696
Most Extreme Differences	Absolute	.051
	Positive	.051
	Negative	-.043
Test Statistic		.051
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.
b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
Source: Data results processed by researchers, 2022

Table 2 shows that the result of Asymp. Sig. (2-tailed) was 0.200. The significance value obtained > 0.05. This shows that the data used is normally distributed.

Multicollinearity Test

Table 3. Multicollinearity Test Results

Coefficients[a]

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	PER	.873	1.146
	ROA	.199	5.013
	ROE	.186	5.384
	NPM	.951	1.051

a. Dependent Variable: *Stock Return*
Source: Data results processed by researchers, 2022

The multicollinearity test results shown in Table 3 show the tolerance and variance inflation factor (VIF) values for each variable. The variance expansion factor (VIF) < 10 with tolerances > 0.10. There is no evidence of multicollinearity in the regression model used.

Heteroskedasticity Test

Table 4. Heteroskedasticity Test Results

Coefficients[a]

Model		Sig.
1	(Constant)	.000
	PER	.550
	ROA	.267
	ROE	.636
	NPM	.223

a. Dependent Variable: ABS_RES
Source: Data results processed by researchers, 2022

According to table 4, the Sig. Values for the variables PER, ROA, ROE, and NPM are 0.550, 0.267, 0.636, and 0.223 respectively. A Sig. Each variable's value is greater than 0.05, indicating that there are no signs of heteroskedasticity.

Autocorrelation Test

Table 5. Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.356[a]	.127	.082	.18060	1.485

a. Predictors: (Constant), NPM, PER, ROA, ROE

b. Dependent Variable: Stock Return

Source: Data results processed by researchers, 2022

In table 5, Durbin Watson's value is 1.485. The value is between -2 to +2 which means there is no positive or negative correlation.

Multiple Linear Regression Analysis

Table 6. Multiple Linier Regression

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.039	.045		-.867	.389
	PER	.002	.001	.268	2.383	.020
	ROA	.092	.757	.028	.121	.904
	ROE	-.419	.542	-.188	-.772	.442
	NPM	-.020	.085	-.025	-.235	.815

a. Dependent Variable: Stock Return

Source: Data results processed by researchers, 2022

The data processing results in Table 6 are used as a foundation to construct an equation for multiple linear regression.

$Y = -0{,}039 + 0{,}002X_1 + 0{,}092X_2 - 0{,}419X_3 - 0{,}020\ X_4 + e$

The constant coefficient for the regression equation is - 0.039, which indicates that the return on shares will drop by 0.039 if the free variables PER, ROA, ROE, and NPM are fixed or constant. The value of the constant coefficient in PER is 0.002 indicating that every 1X PER, the return on shares will increase by 0.002 assuming that ROA, ROE and NPM are fixed or constant. The significance of the constant coefficient for ROA is 0.092 indicating that every 1% of the ROA, the return on shares will increase by 0.092 assuming that per, ROE and NPM are fixed or constant. The worth of the constant coefficient on THE ROE is – 0.419 which indicates that every 1% of the ROE, the return on shares will decrease by 0.419 assuming that the PER, ROA and NPM are fixed or constant. The constant coefficient for npm is equal to – 0.020 which indicates that every 1% NPM, the return on shares will decrease by 0.020 assuming that PER, ROA and ROE are fixed or constant.

Hypothesis Testing

T-test

Table 7. t-test

Coefficientsa

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	-.039	.045		-.867	.389
	PER	.002	.001	.268	2.383	.020
	ROA	.092	.757	.028	.121	.904
	ROE	-.419	.542	-.188	-.772	.442
	NPM	-.020	.085	-.025	-.235	.815

a. Dependent Variable: Stock Return

Source: Data results processed by researchers, 2022

The PER in table 7 can affect stock returns on an individual basis. The return on shares, which had a value of 2.383 with a Sig was greatly increased by PER of 0.020 < of 0.05. However, ROA, ROE, and NPM partially have no impact on stock returns because the anticipated t value is less than the table t value with a Sig. value > 0.05.

F-test

Table 8. F-Test

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.373	4	.093	2.861	.029[b]
	Residual	2.577	79	.033		
	Total	2.950	83			

a. Dependent Variable: Stock Return

b. Predictors: (Constant), NPM, PER, ROA, ROE

Source: Data results processed by researchers, 2022

The data from Table 8's processing produced a test value for f of 2.861. The significance value of 0.029 < 0.05 and the value of 2.861 > 2.32 (Ftable) indicate that the simultaneous effects of PER, ROA, ROE, and NPM on stock returns in LQ45 Index businesses in 2018-2020 were significant.

Coefficient of Determination

Table 9. Coefficient of Determination

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.356[a]	.127	.082	.18060

a. Predictors: (Constant), NPM, PER, ROA, ROE

b. Dependent Variable: Stock Return

Source: Data results processed by researchers, 2022

Table 9 shows that the adjusted R-squared value is 0.082. This means that 8.2% of the variables PER, ROA, ROE, and NPM can explain stock returns, while the remaining 91.8% are influenced by factors not considered in this study.

Effect of Price Earning Ratio (PER) on Stock Returns

Results showed that PER has a large positive impact on stock returns in some cases. PER is used in terms of calculating the price per share. PER represents the cost in rupiah required to generate one rupiah of profit. Investors usually use PER to find out the high price of a stock. Per result shows that the impact of PER on stock returns is favorable, where the higher the PER, the more stock returns the investor will receive. A high PER is believed to provide a higher earnings per share outlook. Companies with high PER tend to have high growth, that way it will increase investor interest in terms of buying shares, later it will have an effect on increasing return on investment. Previous research, specifically Puspitadewi and Rahyuda (2016) in food and beverage sector businesses on the IDX, which found that PER partly had a large beneficial influence on stock returns, supports the findings of this study.

Effect of Return On Assets (ROA) on Stock Returns

Partial ROA results do not have a material impact on stock returns. Analysis of the data shows that ROA has no meaningful influence on stock returns, suggesting that a high ROA is not a sufficient factor in luring investors to buy company shares because the very large size of the asset does not necessarily provide a high net profit because the company does not maximize the assets owned until the assets are abandoned without being utilized to the fullest. In addition, it is likely that investors not only pay attention to the internal conditions of the company in obtaining profits, but also need to pay attention to external risks and market conditions. Risks beyond the company's control are changes in political economy policy, inflation, tariff increases as well as demand and supply in the capital market that influence investment decisions, thus causing changes in stock prices (Egam et al., 2017). The findings of earlier studies, such as Pamungkas & Haryanto (2016) against mining businesses and Samalam et al., (2018) against insurance companies on the IDX, which showed that the ROA had little impact on stock returns, supporting the current study's findings.

Effect of Return On Equity (ROE) on Stock Returns

The partial ROE result has no significant effect on stock returns. ROE is a measure of a company's capacity to make a profit from its equity. Investors have no obligation to buy shares of the company simply because it has a high ROE. Profits are guaranteed, regardless of ROE, if the company is able to effectively increase capital through good management. If a business is profitable, shareholders will want to buy its shares. This can happen because ROE emphasizes more on measuring performance capabilities within the company without any external elements from the company concerned. According to Egam et al., (2017) states that ROE does not indicate the actual state of inflation, because with inflation, the value of equities is meaningless and cannot be used to make meaningful comparisons between time periods. The results of this study are supported by previous studies such as: Analysis of IDX-listed insurance companies by Samalam et al., (2018) and analysis of companies in the food and beverage industry by Mangantar et al., (2020). Both studies found that ROE had no impact on stock returns.

Effect of Net Profit Margin (NPM) on Stock Return

NPM's partial results do not have a significant impact on stock returns. NPM is a measure of an organization's capacity to make a profit from its sales volumes. Because high sales do not automatically result in a high net profit because it is necessary to pay the costs incurred. This implies that investors shouldn't automatically invest in the company in question just because it has a high NPM that is taken into account during the company's operating activities and is likely a portion of the retained earnings for the company's future growth. This means that the profits generated by the company are not always distributed to investors in the form of dividends. This demonstrates that NPM was not used as a benchmark for investment for investors during the time period, purportedly because the management of the company at the time received compensation from every sale the company made, which rendered NPM ineffective. So that a high NPM does not affect investor interest too much which then does not affect stock returns. The findings of this study are in line with the findings of previous researchers Effendi & Hermanto (2017), Setiyono et al., (2018) in the property and real estate sector on the IDX which resulted in NPM not having a significant effect on stock returns.

Effect of PER, ROA, ROE, NPM on Stock Returns

The findings of PER, ROA, ROE, and NPM are all major influences on stock returns at the same time. The results of the data process state that in this study if a company's PER is high and supported by observing ROA, ROE, and NPM, it can affect the increase in stock returns that will be obtained by investors, because a high PER indicates a higher stock price prospect against earnings per share. Furthermore, ROA, ROE and NPM show the company's performance in managing assets, own capital and total sales generated to obtain the company's net profit, when the company has good financial performance for the company's future growth can affect investors' interest in buying shares, so that it can have an effect on increasing stock returns.

Conclusion

Based on the results of the processing and discussion of data that have been explained earlier, that in this study, the following conclusions may be drawn: 1) PER partially has a significant positive effect on stock returns, 2) ROA partially has no significant effect on stock returns, 3) ROE partially has no significant effect on stock returns, 4) NPM partially has no significant effect on stock returns, 5) PER, ROA, ROE, NPM simultaneously have a significant effect on stock returns.

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