



Analysis of The Influence of ROA, Asset Growth, and Company Age on The Stock Price of Companies Listed in The Main Category Energy Sector

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Abstract. Various factors influence the survival of all mankind, with energy playing a crucial role in sustaining life. The need for energy is getting bigger every day. Indonesia has abundant resources, thus opening up opportunities for many energy companies to stand. The stock price reflects market confidence in a company's future sustainability. Thus, analyzing the factors that affect stock prices is crucial to maintaining stability and positively impacting a company's reputation. Previous research has shown inconsistencies in the variables being studied, necessitating further refinement for more reliable results. This study examines 99 financial and annual reports, along with statistical data from 33 companies in the main category of energy, to identify the determinants of stock prices in this sector. The independent variables investigated are ROA, Asset Growth, and Company's Age. The findings indicate that ROA influences stock prices in energy sector companies. Companies must pay more attention to variables that affect stock prices in order to increase profits.

Keywords: Asset Growth, Company's Age, ROA, Stock price.

1 Introduction

1.1 Background and Problem Statement

One of the natural goods that has an influence on the sustainability of all mankind is energy. The energy sector itself is a capital- and technology-intensive sector. Indonesia, which is located in the *Ring of Fire*, greatly benefits from the potential for abundant and diverse energy resources [1]. Stocks in energy companies have received a lot of attention and are targeted by investors, because of stable stock prices, and often increase [2].

As a measure of a company's worth and its attractiveness to investors, stock prices fluctuate in response to market forces such as supply and demand. Investors will feel more comfortable investing and will be more motivated to seek out significant rewards as stock prices rise [3]. One key indicator of a company's stock price movement is ROA, this assesses the company's capacity to produce profits within a certain timeframe by utilizing its assets [4]. The company's Return on Assets (ROA) directly affects the stock

price, so when the ROA increases by one unit, the stock price rises by one unit [5]. However, some argue that while a higher ROA indicates greater profitability, it does not necessarily impact the company's stock price [6].

Asset growth can be shown by changes in both an increase or a decrease in the number of company assets. Asset growth has no impact on the volatility of stock prices [7]. Asset growth negatively and insignificantly impacts the company's value, as a larger asset base frequently results in higher debt levels [8]. Furthermore, the value of a company is negatively and insignificantly influenced by its age. As a company matures, its capacity to keep up with newer companies may diminish, which can have a negative impact on its value. The incapacity to compete with a new company can have a poor impact on the company [9]. This perspective is further supported by the reality that the business's age has a negligible and slight effect on its value, indicating that it has minimal influence on changes in the company's value [10].

Based on the above research background, the main goals of this study are:

1. To find out how ROA affects the stock prices of companies in the energy industry.
2. Determine how publicly traded energy firms' stock prices react to increases in their total assets.
3. Determine how the average age of energy sector businesses affects their stock prices.

2 Literature Review

2.1 The stock price

The stock price is price that formed from demand and supply on the Indonesian Stock Exchange [11]. Investors will be interested in selling their shares when they see a tendency for stock prices to decline and will acquire them when stock prices are good [12]. The stock price is a key indicator of a company's success, influenced by the supply and demand dynamics in the capital market.

2.2 The effect of ROA on the stock price of companies listed in the main category energy sector

ROA is a measure of a company's operational effectiveness [6]. A higher ROA suggests that the company can generate more profits, attracting more investors and driving up stock prices [13]. ROA positively influences stock prices by driving investor interest in the company's profitability [14]. ROA significantly impacts stock returns because it can evaluate company's productivity [15].

H1: ROA affects the stock price of companies listed in the main category energy sector

2.3 The effect of asset growth on the stock price of companies listed in the main category energy sector

Increased asset growth shows the company's progress and is a positive sign because the company can reduce the uncertainty of returns [16]. The number of assets is considered to be a potential to obtain cash flow, efficiency, and increase sales in the future and can increase public trust [17]. When asset growth is accompanied by improved operating results, external stakeholders, including investors, gain greater confidence in the company [18]. Asset growth positively affects the company's value, leading to an increase in the stock price [19].

H2: Asset growth affects the stock price of companies listed in the main category energy sector

2.4 The effect of the company's age on the stock price of companies listed in the main category energy sector

Firm age states how long a company has been around and its ability to compete to protect a business that has been run to generate profits. This shows that companies with a longer establishment period tend to have stronger financial performance compared to newer companies. As a result, this can enhance investor confidence and interest in investing their capital, which in turn leads to an increase in stock prices [20].

H3: The age of the company affects the stock price companies listed in the energy sector main category

Several previous studies on stock prices, which used a range of variables and similar samples, have produced differing results. This inconsistency necessitates a review to ascertain the accurate findings. In addition, we chose a research sample on companies in the energy sector listed on the IDX, where there are still no previous studies that have researched with similar samples. Therefore, we would like to conduct a study entitled "The Effect of ROA, Asset Growth and Company Age on the Stock Price of Companies Listed on the IDX of the Main Category Energy Sector".

3 Results and Discussions

3.1 Research Methods

This investigation is phenomenological in nature and employs causality to investigate the impact of variables x on Y . The investigation encompasses variables that are both dependent and independent. ROA, growth in assets, and company age comprise the independent variables. The stock price is the dependent variable in this investigation.

This investigation is associative in nature, as it endeavors to evaluate the impact of ROA, asset growth, and business age on the stock prices for businesses published on the IDX in the primary energy sector category, based on the degree of explanatory level.

The stock price of the company is the dependent variable. The last remaining stock price is employed to quantify the stock market variable in the following manner:

Fair stock price = closing stock price in the year under review
(1)

The company's financial performance is measured using ROA, namely by the formula:

$$ROA = \frac{\text{net profit}}{\text{total asset}} \times 100\%$$

(2)

Asset growth is measured by looking at the gap between the total assets of the period under study and the total assets of the past period:

$$\text{Asset Growth} = \frac{\text{Asset Total in year } t - \text{Asset Total in year } t-1}{\text{Asset Total in year } t-1} \times 100\%$$

(3)

The age of the Company is measured by looking at the gap between the period of research and the period of establishment of the company

Company's age = years of research - year of establishment of the company (4)

According to the theory and hypothesis development, a regression model is built on the equation:

$$\text{Stock Price} = \alpha + \beta_1 ROA + \beta_2 PA + \beta_3 UP + e$$

(5)

Information:

1. ROA = Return on Asset
2. PA = Asset Growth
3. UP = Company's Age
4. HS= Stock price
5. e = error

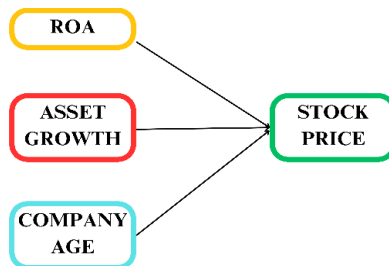


Fig. 1. Research Model

In the Energy sector, the population utilizes companies that are listed on the IDX. To conduct this study, we used a random selection of 2020–2022 financial statement and annual report publishers from the IDX Energy main category as our sample. From 2020 to 2022, the data was collected from company statistical reports, financial statements, and annual reports. The technique data analyse of research make use of multiple linear regression analysis with SPSS. With the stages,

- (a) Residual Normality Test;
- (b) Multicollinearity Test;
- (c) Autocorrelation Test;
- (d) Hypothesis Test;
- (e) Interpretation of results.

4 Results and Discussion

4.1 Normality Test

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Unstandardized Residuals	,112	59	,064	,973	59	,205

a. Lilliefors Significance Correction

Fig. 2. Result of the research normality test

Kolmogorov-Smirnov indicates a significant value of $0.064 > 0.05$, as seen in the findings of the study data processing mentioned above. In order to proceed with the data processing, this means that the study data follows a normal distribution.

4.2 Heteroscedasticity Test

Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1,175	,928		1,266	,211
	ROA	,098	,095	,138	1,025	,310
	PA	-.038	,049	-.105	-.780	,438
	UP	-.123	,263	-.063	-.469	,641

a. Dependent Variable: absRES_1

Fig. 3. Result of the research heteroscedasticity test

Each of the three variables have significant values (Sig.) greater than 0.05, as can be seen from the study data shown above. The absence of variability in the model of regression is confirmed by the decision-making criteria of the Glejser test.

4.3 Multicollinearity Test

Coefficients ^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4,900	1,404		3,490	,001		
	ROA	,911	,144	,655	6,319	,000	,974	1,027
	PA	-.018	,074	-.026	-.250	,803	,976	1,024
	UP	,011	,398	,003	,027	,979	,972	1,029

a. Dependent Variable: HS

Fig. 4. Result of the research autocorrelation test

According to the table of research data results above, it is known that the Durbin Watson (d) value is 1.282. The values $K=4$ and $N=99$, based on the values of k and N , the values $du=$ and $dl=$. So it is possible to concluded that the Durbin Waston value is in the doubt graph section, so it is necessary to carry out a run test.

4.4 Test Run test

Test Runs	
	Standardized Residuals
Test Value ^a	-.19981
Cases < Test Value	49
Cases >= Test Value	50
Total Cases	99
Number of Runs	41
Z	-1,919
Asymp. Sig. (2-tailed)	,055

a. Median

Fig. 5. Results of the research run test

The SPSS results show that the Asymp. Sig. (2-tailed) value is better than 0.05, coming in at 0.055. This indicates that autocorrelation or similar problems are not present. Thus, run tests may eliminate any autocorrelation issues not addressed by Durbin-Watson, enabling linear regression analysis to continue.

4.5 Interpretation of Results

Model Summary ^b

Model	R	R Square	Adjusted Square	Std. Error of the Estimate	Durbin-Watson
1	,652 ^a	,425	,394	1.33470	1,282

a. Predictors: (Constant), UP, PA, ROA

b. Dependent Variable: HS

Fig. 6. Results of the research run test

R Squared is 0.425, or 42.5%, the coefficient of determination. What this means is that the three variables ROA, PA, and UP together explain 42.5% of the variance in stock prices. Factors beyond the scope of this regression analysis account for the remaining 57.5% (100% - 42.5%).

ANOVA ^a

Model		Sum Squares	df	Mean Square	F	Sig.
1	Regression	72,411	3	24,137	13,549	,000 ^b
	Residual	97,979	55	1,781		
	Total	170,389	58			

a. Dependent Variable: HS

b. Predictors: (Constant), UP, PA, ROA

Fig. 7. Results of the research run test

According to the "ANOVA" output table, the significance value (Sig.) for the F test is 0.000. Because Sig. 0.000 < 0.05, it can be inferred that, based on the F test, the ROA, PA, and UP variables have a significant combined effect on the stock prices of companies in the main energy sector category.

Coefficients ^a

Model		Unstandardized Coefficients	Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta		Tolerance	VIF
1	(Constant)	4,900	1,404		3,490	,001	
	ROA	,911	,144	,655	6,319	,000	,974
	PA	-.018	,074	-.026	-.250	,803	,976
	UP	,011	,398	,003	,027	,979	,972

a. Dependent Variable: HS

Fig. 8. Results of the research run test

The formula for the regression equation in this analysis or research is as follows:

$$Y = \beta_0 + \beta_1 \text{ROA} + \beta_2 \text{PA} + \beta_3 \text{UP} + e \text{ or } Y = 4,900 + 0.911X_1 - 0.018 X_2 + 0.011X_3 + e$$

The significance value (Sig) of the ROA variable is 0.000, with a regression coefficient of 0.911, as indicated by the research data processing results by SPSS. The first hypothesis, H1, is validated, as the Sig value is 0.000, which is less than the significance level of 0.05. This implies that the stock prices of energy companies in the primary category are influenced by ROA.

As indicated by the research data processing results by SPSS above, the PA variable has a significance level (Sig) of 0.803 and a regression coefficient of -0.018. Since the Sig value of 0.803 is greater than 0.05, it can be inferred that the second hypothesis or H2 is rejected. This implies that PA possesses an impact on the stock pricing of energy companies in the primary category.

The UP variable has a regression coefficient of 0.011 and a value of significance (Sig) of 0.979, as indicated by the research data processing results presented above (SPSS). It is possible to conclude that the third hypothesis, or H3, is denied due to the Sig value of 0.979. 0.05. This implies that the stock prices of energy companies in the primary category are influenced by UP.

4.6 Discussion

How return on equity affects the stock price of big energy firms. The ROA has a significant positive effect on the stock prices of primary energy firms, according to the SPSS findings of the study data processing. This agrees with what the study found [21]. Return on Assets (ROA) is a useful number for assessing a business's success. When a company's return on assets (ROA) is high, investors see it as a sign of better performance and are more likely to buy its shares.

The effect of expanding assets on the stock values of large energy companies. Evidence from SPSS-processed research shows that asset expansion does not affect the stock prices of main energy providers. This is in line with findings from a different field of study that found that manufacturing company stock prices are affected by asset expansion (ref. 10). Growth in investors' assets has a major impact on stock prices.

How the energy sector's stock price is affected by a company's age. Researchers found no correlation between company age and stock price performance in the main energy sector when using SPSS to analyze their data. It follows that other factors, not the length of time a firm has been around, determine how much its shares are worth.

5 Conclusion

5.1 Conclusion

Based on the previous research results and discussion, the analysis using the regression model led to the following conclusions:

1. ROA positively influences the stock prices of companies listed in the main category of the energy sector.
2. Asset growth does not impact the stock prices of companies in this sector.
3. Company's age has no impact on the stock prices of companies in this sector.
4. R-Square is 42.5% , meaning that the variables ROA, Asset Growth and Company's Age simultaneously (together) influence the stock price variable by 42.5% . While the remainder ($100\% - 42.5\% = 57.5\%$) affected by other variables outside this regression equation or variables not studied.
5. The results of the ANOVA test show that the significance value (Sig.) in the F test is 0.000. Because $\text{Sig. } 0.000 < 0.05$, it can be concluded that the variables ROA, Asset Growth and Company's Age simultaneously (together) have an effect significant to stock prices in companies listed in the main category of energy sector.

5.2 Suggestion

There are researcher limitations in research, where not all companies are registered in the energy sector the main category was included, because there was 1 company that could not find the financial report required in this research. Therefore, registered companies are expected to be able to provide media for the publication of their financial reports, so that they can be accessed by parties who need them.

For future researchers, if they use the same title, they can create output using all the variables in this proposal, but using a broader research object, both companies in the energy sector and other types of companies and also using a longer observation period.

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