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ANALYSIS OF RECEIVABLE TURNOVER AND DEBT TO EQUITY RATIO ON RETURN ON ASSETS IN LQ45 INDEX ENERGY COMPANIES

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ABSTRACT

This research aims to analyze the effect of receivable turnover and debt to equity ratio (DER) on return on assets (ROA) in energy companies listed in the LQ45 index. The research sample consists of 45 observation data taken from 9 energy companies for 5 years. The analysis method used is multiple linear regression with classical assumption testing to ensure the validity of the model. The results showed that receivable turnover has no significant effect on ROA, while DER has a significant effect on ROA. Simultaneously, both independent variables have a significant effect on ROA, but the largest contribution comes from DER. This finding suggests that the funding structure, specifically the debt-to-equity ratio, plays an important role in determining the profitability of energy companies. This study implies that prudent debt management is necessary to increase profitability and attract investors' interest in the stock market.

Keywords: Debt to Equity Ratio (DER), Multiple Linear Regression Analysis, Receivable Turnover, Return on Asset (ROA)

ABSTRAK

Penelitian ini bertujuan untuk menganalisis pengaruh receivable turnover dan debt to equity ratio (DER) terhadap return on assets (ROA) pada perusahaan energi yang terdaftar dalam indeks LQ45. Sampel penelitian terdiri dari 45 data observasi yang diambil dari 9 perusahaan energi selama 5 tahun. Metode analisis yang digunakan adalah regresi linier berganda dengan pengujian asumsi klasik untuk memastikan validitas model. Hasil penelitian menunjukkan bahwa receivable turnover tidak memiliki pengaruh signifikan terhadap ROA, sedangkan DER memiliki pengaruh signifikan terhadap ROA. Secara simultan, kedua variabel independen berpengaruh signifikan terhadap ROA, namun kontribusi terbesar berasal dari DER. Temuan ini menunjukkan bahwa struktur pendanaan, khususnya rasio utang terhadap ekuitas, memainkan peran penting dalam menentukan profitabilitas perusahaan energi. Penelitian ini memberikan implikasi bahwa pengelolaan utang yang bijaksana diperlukan untuk meningkatkan profitabilitas dan menarik minat investor di pasar saham.

Kata Kunci: *Debt to Equity Ratio (DER), Analisis Regresi Linear Berganda, Receivable Turnover, Return on Asset (ROA)*

A. INTRODUCTION

The growth of Indonesia's energy sector continues to experience a significant increase, especially for companies listed in the LQ45 index. This sector is one of the main sectors in the economy because of its contribution to supporting national economic growth. One of the indicators that determine the performance of companies is the level of profitability, which is influenced by various internal factors, such as accounts receivable management (receivable turnover) and capital structure (debt-to-equity ratio) (Nabilla & Narundana, 2025). However, mixed results regarding the relationship between these variables and profitability leave room for further research. Thus, this study aims to empirically analyze the effect of receivable turnover and debt to equity ratio on profitability in the energy companies indexed in LQ45 (Andriani, Kusumastuti, & Hernando, 2023).

The relationship between accounts receivable turnover and profitability can be explained through financial management theory, where effective accounts receivable management contributes to the smooth cash flow of the company (Aldubhani, Wang, Gong, & Maudhah, 2022). The higher the receivables turnover ratio, the more quickly receivables can be converted into cash, which can increase profits. However, there are studies that show the opposite result, where too high accounts receivable management can reduce sales potential and have a negative

impact on profitability (Kuraesin, Santuri, & Mahyuni, 2022). This indicates a theoretical gap that needs to be explored further to comprehensively understand the relationship.

Meanwhile, the debt-to-equity ratio is an indicator that describes the capital structure of the company, especially in managing financial risks. Based on capital structure theory (Modigliani-Milleir), the optimal level of debt can increase a company's value through tax benefits (tax shield) (Bui, Nguyen, & Pham, 2023). However, if a firm has too high a proportion of debt, the risk of default will increase and decrease profitability. This feature raises an empirical challenge because not all studies have shown consistent results regarding the relationship between the debt to equity ratio and profitability, especially in the energy sector.

A review of the previous literature shows mixed results regarding the two variables. Werdiningtyas (2018) found that receivable turnover has a significant positive effect on profitability in companies listed in the Jakarta Islamic Index (JII). Meanwhile, Febriani, Sirait, Sitorus, and Malau (2023) showed a negative effect of the debt-to-equity ratio on profitability in the chemical industry sector. However, few studies have specifically examined the relationship in the context of the energy sector listed on the LQ45 index. Therefore, this study has novelty value in establishing a more specific study of the sector. In addition, methodological gaps were identified in the literature. Most previous studies used cross-sectional observations without considering panel data covering the time dimension (Suyanto & Bilang, 2023). Fluctuations in the economy and economic policy in recent years may affect the relationship between research variables. Thus, this study uses panel data binding to produce more in-depth and robust results.

This study aims to analyze the effect of receivable turnover and debt-to-equity ratio on profitability in energy companies listed in LQ45 during the 2019-2023 period. This study is expected to make a theoretical contribution by increasing the richness of literature studies in the field of financial management, especially in the context of the energy sector. Practically speaking, this research can be a reference for the management of energy companies in managing receivables and capital structure more optimally to increase the profitability of the company. Accordingly, this study not only provides new insights into the academic literature but also offers relevant policy implications for the energy sector. The novelty of this research lies in the specific context of the energy sector in the LQ45 index, the use of panel data binding, and the analysis of a more comprehensive relationship between receivable turnover, the debt-to-equity ratio, and profitability. This makes this study useful for academics, practitioners, and policymakers in understanding and managing the challenges in the engineering sector.

B. THEORICAL BACKGROUND AND HYPOTHESIS RESEARCH

Profitability

Profitability shows a company's ability to generate profits from its operational activities during a certain period. It shows how efficiently a company uses its resources, both assets and capital, to generate profits; therefore, it is a key indicator of a company's financial health and business success (Anh & Gan, 2020). Profitability can be measured by the gross profit generated from sales less direct costs of production (gross profit margin), the operating efficiency of the company in generating profits from its main activities less interest and taxes (operating profit margin), the ability of net profit earned from revenue (net profit margin), the efficiency of the company in using assets to earn net profit (Return on Asset), and measuring the rate of return of shareholders on invested capital (Return on Equity) (Yantri, 2022).

According to Febriani et al. (2023), profitability is important for companies because if the company does not generate profits, it will be difficult to attract outside investors. Profitability is defined as the ability of a company to generate profits with all its capabilities and sources, including sales activities, cash, capital, the number of employees, and branches. According to Werdiningtyas (2018), every entity strives to increase profitability. High profitability indicates a company's ability to manage its resources effectively and efficiently to generate high profits. Conversely, low profitability indicates that the company cannot manage its resources effectively and efficiently, so it cannot generate high profits. Profitability is the ability of a company to generate profits over a period of time, called the profitability ratio. The profitability ratio is used to measure the effectiveness of management as a whole by balancing the range of the level of profit earned in relation to investment and sales. In this study, profitability is measured using ROA (Alarussi & Alhaderi, 2018).

Return on Asset (ROA)

According to Werdiningtyas (2018), the Return on Asset (ROA) ratio is a measure of the level of investment return that has been made by the company by considering its total assets and the company's ability to generate

profit after tax. The higher this ratio, the better the condition of the company and the profit it earns. Conversely, if the company's profit is in a loss or negative condition, the return on asset (ROA) will be low (Heryaman & Anasta, 2024). This indicates that the invested capital cannot generate a profit. The industry standard for Reiturn On Asseit (ROA) is thirty persen. The ROA formula is as follows:

$$\frac{\textbf{Net Profit After Tax}}{\textbf{Total Assets}}$$

Receivable Turnover

Accounts Receivable Turnover describes how effectively a company manages its accounts receivable by measuring the rate at which customer receivables are converted into cash in a given period (Yusup & Hariani, 2023). This ratio shows a company's ability to collect receivables efficiently, which reflects the quality of its credit management and sales policy (Pradnyawati, 2024). The receivable ratio is said to be high if the higher the receivable turnover value, the more quickly the receivables are converted into cash. This usually indicates that the company has an effective collection policy and good credit-management. Conversely, a low receivable turnover ratio indicates that the company may have problems collecting receivables or is allowing too much time for customers to pay, which can affect cash flow.

According to Fauziah, Lismawati, and Zien (2025), accounts receivable turnover can be defined as the relationship between net sales and net receivables, which can be calculated by dividing average net sales by net receivables (Warrein et al., 2014:464). The higher the accounts receivable turnover, the better; conversely, the slower the accounts receivable turnover, the worse. The accounts receivable turnover rate depends on how long the company pays (Fauziah et al., 2025). Sulawati and Angka (2023) state that the accounts receivable turnover (RTO) is a ratio used to determine how long accounts receivable collection takes place during one period or how many times the funds invested in these receivables turn around during the next period. Receivables turnover is the time during which receivables are tied up from the time they are created until they can be collected in cash and then turned into goods or sold as credit as receivables. The receivables turnover rate can be calculated by dividing the amount of net sales over time by the average receivables. The higher the turnover rate, the lower the capital invested in accounts receivable to maintain net sales. The formula is as follows:

$$\frac{\textbf{Sales on Account}}{\textbf{AR Collection}}$$

H1: Receivable turnover has a significant positive effect on ROA.

Debt to Equity Ratio

The debt to Equity Ratio (DER) describes the extent of the use of debt (debt) compared to equity (equity) in the company's funding structure. This ratio shows the level of leveragei of the company, namely, the extent to which the company uses funds from external parties (debt) compared to its own capital (equity) to finance its assets or operations (Kavcic et al., 2017). A low DER indicates that a company uses more of its own capital than debt. This reduces the risk of default but can also indicate an increase in financial risk if liquidity difficulties arise. A high DER indicates that a company has a high proportion of debt compared to its liquidity (Aminah, 2019). This can indicate that the company is very agreeable in utilizing debt to increase the scale of operations or investment (Firmansyah, Suryana, Susetyo, & Mandasari, 2021).

According to Rahayu and Mahirun (2025), DER is a leverage ratio shown by DER showing that compares total debt and equity. This ratio calculates the amount of funds established by creditors to company owners and this ratio also calculates every rupiah of equity capital used as collateral for debt (Abeywardhana, 2015). A higher ratio indicates a higher failure ratio that may occur in the company. Conversely, if this ratio is higher, the risk of failure that may occur in the company is higher. According to Umaryadi and Jaya (2024), the DER describes the potential, benefits, and risks arising from the use of debt. The debt equity ratio (DER) is a ratio that shows how much debt can be covered by the capital itself. If the DER is low, the company's share price will be low because the company has debt to pay (Vo, 2017). As a result, investors are not interested in buying company shares. The DER formula is as follows:

$$\frac{\textbf{Total Liabilities}}{\textbf{Total Equity}}$$

H2: The debt-to-equity ratio has a significant positive effect on ROA.

C. RESEARCH METHOD

Research Design

This study uses a causal research type, which investigates the causal relationship between two or more variables based on theoretical studies that have been carried out by researchers to solve research problems. This study used a documentary study method. This method collects data from previous research documented in the form of books, reports, journals, and others. Company financial report data were obtained from the Indonesia Stock Exchange. The period of financial report analysis was carried out using the 2019 annual report to the 2023 annual report.

Population and Sampling

This research is an analytical study conducted on publicly listed companies in Indonesia, which are energy companies listed in the LQ45 as the population and sample. A total of 11 e-commerce companies that are listed in LQ45, of the 11 companies, 9 companies were used as samples for the study with the following criteria: e-commerce companies that are listed in LQ45, e-commerce companies that have issued financial reports for 2019-2023, and reports that are not in draft form.

Table 1. Company Data Sample

No	Code	Company Name
1	ADRO	Alamtri Resources Indonesia Tbk PT
2	BRPT	Barito Pacific Tbk PT
3	PGAS	Perusahaan Gas Negara Tbk PT
4	ANTM	Aneka Tambang Tbk
5	AKRA	AKR Corporindo Tbk PT
6	PTBA	Bukit Asam Tbk PT
7	ITMG	Indo Tambangraya Megah Tbk PT
8	MEDC	Medco Energi Internasional Tbk PT
9	HRUM	Harum Energy Tbk PT

Research and Measurement Variables

There is one dependent variable and two independent variables. Return on Asseit (ROA) is measured by dividing net income after tax by total assets (Y), receivable turnover is measured by dividing credit sales by average receivables (X1), and the Debt to Equity Ratio (DER) is measured by dividing total debt by total equity (X2).

Table 2. Research and measurement variables

Variabel	Definisi	Indikator	Formulasi
Return on Asset (Y)	The ability of a company to generate profit, or profit, from its operational activities during a particular period of time.	Net income after tax and total assets	ROA = Net income after tax / total assets
Receivable Turnover (X1)	how effectively a company manages its accounts receivable by measuring how often customer receivables are converted to cash in a given period.	credit sales and average receivables	Receivable turnover = credit sales / AR collection
Debt to Equity Ratio (X2)	how proportional is the use of debt (deibt) compared to equity (equity) in the company's financing structure	total debt and total equity	DER = Total liabilities/Total equity

Data Analysis Technique

Quantitative analysis was used to analyze the data. The research program used was SPSS version 30, which stands for Statistical Package for thei Social Scieinceis. The data analysis process of this research is as follows:

1. Descriptive statistical analysis

The variables examined in this study can be described using descriptive statistics, which can be seen from the average, maximum, average, and standard deviation values (Ghozali, 2018).

Classical Assumption Test

Normaly Test

This was done to determine whether the dependent and independent variables in a regression model had a normal distribution. A regression model is considered good if the data distribution is normal or approximately normal. Nonparametric statistical tests can be used to determine whether the data follow a normal distribution. We

used the one-sample Kolmogorov-Smirnov test, which is a nonparametric statistical test. Variables were considered normally distributed if the probability value was > 0.05 or 5%.

Multicollinearity Test

If the variable indicators have a clear linear relationship, it is said that there is multicollinearity. According to Nugroho and Haritanto (2022), the Variance Inflation Factory (VIP) value can be used to check for multicollinearity. A VIP value below 10 indicates no multicollinearity, whereas a VIP value greater than 10 indicates multicollinearity.

Heteroscedasticity

To ensure that the T-test and F-test are accurate, it is necessary to conduct a heteroscedasticity test to determine whether the residuals of the capital created have a constant variance. The Gleijser model was used for this test. If the significance value is greater than a = 0.05, then it is considered that there is no heteroscedasticity. Conversely, if the significance value is less than α = 0.05, then it is concluded that there is heteroscedasticity (Nugroho & Haritanto, 2022).

Autocorrelation Test

To determine whether the error in the current observation period t and the error in the previous observation period t-1 are correlated in a linear regression model, an autocorrelation test can be performed (Ghozali, 2018). This evaluation was based on the Durbin-Watson test.

2. Multiple linearized regression analysis

This study employs multiple linear regression analysis to examine the effects of several independent variables on the dependent variable. Multiple linear regression was used because it allows the researcher to analyze the simultaneous influence of more than one independent variable on a single dependent variable while controlling for the effect of other variables in the model. The regression model used in this study is expressed as follows:

$$\mathbf{Y = a1 + b1X1 + b2X2 + b3X3e + b4Z + e}$$

3. Hypothesis Test

T-test

By comparing the t-count with 0.05, the t-test can determine whether the index variable has a partial effect on the index variable. There is an effect if the significance is less than 0.05 and no effect if the significance is greater than 0.05 (Sugiyono, 2019).

F-test

To determine whether the reignition mode is feasible for use in the research, a feasibility test of the mode was conducted, which is in line with the F test. The significant value at the 5% significance level (or 0.05) reveals the F-test. According to Sugiyono (2019), the regression model is considered feasible if the significance value is less than 0.05.

D. ANALYSIS AND DISCUSSION

Based on the financial statements of each entity that participated in the study, the following variables were calculated.

Return on Assets Period 2019-2023

Table 3. ROA Data 2019-2023

No	Code	Company Name	Return on Assets Periode 2019-2023				
			2019	2020	2021	2022	2023
1	ADRO	Alamtri Resources Indonesia Tbk PT	5,66	2,16	13,37	27,14	15,45
2	BRPT	Barito Pacific Tbk PT	0,62	0,57	1,29	0,02	0,27
3	PGAS	Perusahaan Gas Negara Tbk PT	0,88	-3,55	4,04	4,44	4,03
4	ANTM	Aneka Tambang Tbk	0,62	3,71	5,76	11,48	8,05
5	AKRA	AKR Corporindo Tbk PT	3,47	4,61	5,27	9,48	9,68
6	PTBA	Bukit Asam Tbk PT	16,14	9,52	26,28	30,85	14,52
7	ITMG	Indo Tambangraya Megah Tbk PT	9,76	3,33	33,67	55,73	20,73
8	MEDC	Medco Energi Internasional Tbk PT	-0,77	-3,25	0,81	8,42	4,59
9	HRUM	Harum Energy Tbk PT	4,04	12,48	10,80	28,03	10,37

Account Receivable Turnover Energi Period 2019-2023

Table 4. Receivable Turnover Data 2019-2023

No	Code	Company Name	Account Receivable Turnover Period 2019-2023				
			2019	2020	2021	2022	2023
1	ADRO	Alamtri Resources Indonesia Tbk PT	10,15	9,49	11,81	14,74	11,16
2	BRPT	Barito Pacific Tbk PT	9,21	9,36	12,40	11,48	10,92
3	PGAS	Perusahaan Gas Negara Tbk PT	7,33	5,88	6,85	7,33	7,17
4	ANTM	Aneka Tambang Tbk	33,62	23,33	27,54	28,00	28,05
5	AKRA	AKR Corporindo Tbk PT	4,97	5,30	7,50	9,09	6,80
6	PTBA	Bukit Asam Tbk PT	8,28	8,53	12,51	12,90	10,53
7	ITMG	Indo Tambangraya Megah Tbk PT	9,77	11,38	15,89	15,56	9,94
8	MEDC	Medco Energi Internasional Tbk PT	6,49	4,96	5,45	7,44	6,01
9	HRUM	Harum Energy Tbk PT	9,02	9,96	21,23	19,67	10,26

Debt Equity Ratio Energi Period 2019-2023

Table 5. DER Data 2019-2023

No	Code	Company Name	Debt Equity Ratio Period 2019-2023				
			2019	2020	2021	2022	2023
1	ADRO	Alamtri Resources Indonesia Tbk PT	49,12	38,16	36,05	24,25	19,43
2	BRPT	Barito Pacific Tbk PT	92,01	97,23	72,50	106,68	103,90
3	PGAS	Perusahaan Gas Negara Tbk PT	84,92	102,25	89,82	64,11	43,65
4	ANTM	Aneka Tambang Tbk	47,19	40,72	28,87	13,30	8,50
5	AKRA	AKR Corporindo Tbk PT	45,79	38,99	27,06	22,93	32,96
6	PTBA	Bukit Asam Tbk PT	3,42	5,50	4,32	4,71	6,04
7	ITMG	Indo Tambangraya Megah Tbk PT	1,20	7,65	4,33	2,56	3,01
8	MEDC	Medco Energi Internasional Tbk PT	240,12	251,39	261,24	190,98	174,29
9	HRUM	Harum Energy Tbk PT	0,00	0,51	15,41	0,23	17,73

From the data above, the following data analysis techniques were used:

Descriptive Statistical Analysis

From the descriptive statistics above, nine entities used five years of book reports, so that the research sample was 45. The average receivable turnover (X1) is 11.89, with a minimum value of 4.96 and a maximum of 33.62, indicating that the level of receivable efficiency varies between companies. The debt to Equity Ratio (X2) has an average of 56.11 with a standard deviation of 68.95, indicating a significant difference in the funding structure between companies, while return on assets (ROA) (Y) has an average of 9.75 with a minimum value of -3.25 and a maximum of 55.73, indicating a fairly high difference in profitability among the investigated energy companies.

Table 6. Descriptive Statistics

Variable	N	Minimum	Maximum	Mean	Std. Deviation
X1_Receivable Turnover	45	4.9598	33.6244	11.895482	6.8621952
X2_DER	45	.0000	261.2410	56.111944	68.9530440
Y_ROA	45	-3.2500	55.7341	9.753320	11.4009658
Valid N (listwise)	45				

Classical Assumption Test

Normality Test

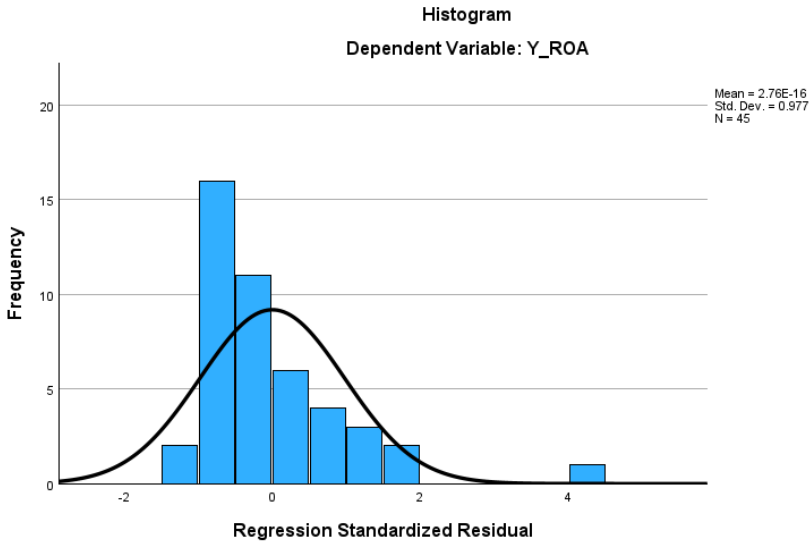

Figure 1. Normality Test

The histogram above shows the distribution of the residuals of the variable Y_ROA, with a mean of zero (2.78E-16) and a standard deviation of 0.977. Although the distribution pattern resembles a normal curve, there is a slight asymmetry in the data, which indicates a possible discrepancy with the assumption of normality. This supports the Kolmogorov-Smirnov test results that the residual data are not completely normally distributed.

Multicolineiarity Test

The results of data processing in the table show that the variables X1 (Receivable Turnover) and X2 (DER) have a VIF value of 1.164, with a tolerance of 0.859 each. VIF values below 10 and tolerance above 0.1 indicate that there is no multicollinearity problem among the independent variables. Therefore, both variables can be used in regression analysis without the risk of significantly affecting each other.

Heteroscedasticity Test

The results of data processing show that variable X1 (receivable turnover) has a regression coefficient of 0.163 with a significance value of 0.304, which means it is not significant at the 95% confidence level. The X2 variable (DER) has a regression coefficient of -0.010 with a significance value of 0.532, which is also insignificant. Thus, the two independent variables did not have a significant effect on the independent variable (ABRESID).

Autocorrelation Test

The analysis results show that the R Squarei value is approximately 0.245, which indicates that the model can explain 24.5% of the variation in the dependent variable (Y, ROA). The Adjusted R Squarei value of 0.209 indicates the level of conformity of the model while balancing the number of independent variables. In addition, the Durbin-Watson value of 1.062 indicates that there is no problem with residual autocorrelation.

Multiple Linearized Regression Test

Table 7. Regression Test

Coefficients[a]						
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	13.683	3.891		3.517	0.001
	X1_Receivable Turnover	.047	.240	0.028	0.195	0.846
	X2_DER	-.080	.024	-0.484	-3.344	0.002
a. Dependent Variable: Y_ROA						

The results of the analysis show that the X1-Reiceiable Turnover variable has no significant effect on Y-ROA, with a sig. value of 0.846 (> 0.05). In contrast, the X2-DER variable has a significant negative effect on Y-ROA, with a sig. value of 0.002 (<0.05) and a coefficient of -0.080. Overall, the results show that DER management has a significant impact on profitability (ROA), whereas accounts receivable turnover does not have a significant impact.

Hypotesis Test

Table 8. T-Test

Coefficients[a]						
Model		Unstandardized B	Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	13.683	3.891		3.517	.001
	X1_Receivable Turnover	.047	.240	.028	.195	.846
	X2_DER	-.080	.024	-.484	-3.344	.002
a. Dependent Variable: Y_ROA						

The regression analysis results show that the X1-Reiceiable Turnover variable has no significant effect on Y-ROA, with a significance value of 0.846 (> 0.05). In contrast, the X2-DER variable has a significant negative effect on Y-ROA, with a significance value of 0.002 (<0.05) and a coefficient of regression of -0.080. This indicates that an increase in the DER leads to a decrease in profitability (ROA), while receivables turnover is not significant in affecting profitability.

Table 9. F-Test

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1401.506	2	700.753	6.817	.003[b]
	Residual	4317.703	42	102.802		
	Total	5719.209	44			
a. Dependent Variable: Y_ROA						
b. Predictors: (Constant), X2_DER, X1_Receivable Turnover						

The ANOVA test results show that the regression model used is statistically significant with a sig. value of 0.003 (<0.05). This indicates that the variable indicators X1-Reiceiivable Turnover and X2-DER together have a significant effect on Y-ROA. With an F-value of 6.817, this model shows a fairly good fit in explaining the variability of Y-ROA.

Discussion

The results of the analysis show that receivable turnover (X1) does not have a significant effect on return on assets (ROA) in LQ45 companies; therefore, H1, which states that receivable turnover has a positive effect on ROA, is rejected. This can be seen from the significance value of 0.846, which is more than 0.05. The average accounts receivable turnover rate of 11.89 indicates that receivable management efficiency varies among companies. However, this variation is insufficient to affect profitability (ROA). This finding indicates that the efficiency of accounts receivable management is not the main factor in increasing the profitability of energy firms. In contrast, the debt to equity ratio (DER) (X2) has a significant negative effect on ROA, with a significance value of 0.002 (<0.05). The reignition coefficient of -0.080 indicates that an increase in the DER leads to a decrease in company profitability. The average DER of 56.11 with a standard deviation of 68.95 reflects a significant difference in the financing structure between energy companies; thus, H2, Debt on Equity Ratio has a positive effect on ROA is accepted. Companies with high DER levels may face high interest charges, which reduce their net profits. Therefore, managing the funding structure is crucial for increasing profitability.

Together, the variables receivable turnover and DER have a significant effect on ROA based on the results of the F-test. However, the largest contribution came from the DER, as seen in the significance value and coefficient of regression. This suggests that the financing structure has a greater influence on profitability than the effect of receivables turnover. The regression model used can explain 24.5% of the variation in ROA, while the rest is influenced by other factors that are not included in the model. This leaves room for further research that delves deeper into other factors affecting profitability in the engineering sector.

In the stock market, these results suggest that investors should be more cautious when valuing companies with high DER levels. A high DER may indicate a higher financial risk, which may affect investors' interest in the company's shares. Meanwhile, the insignificant return on profitability suggests that investors may not prioritize this measure when evaluating the shares of energy companies. However, operational efficiency is important for maintaining long-term business continuity. The combination of profitability and financial risk management is the main focus of stock market behavior. The implication of this study for energy companies is the need for prudent debt management to maximize profitability. Companies need to balance the optimal use of debt while considering their ability to meet financial obligations. The use of excessive debt not only negatively impacts profitability but can also reduce the company's attractiveness to investors. In addition, even though receivable turnover is not significant in this mode, improving operational efficiency is still a painting strategy to maintain competitiveness. These measures can help companies create long-term value in the stock markets (Shavkatovna, 2025).

As for the stock market, this study provides insight that the DER can be a risk indicator that investors need to consider when making investment decisions. A decrease in profitability due to a high DER can affect the performance of company shares on the stock exchange. Investors tend to avoid the stocks of companies with high financial risk, which can affect stock prices and market liquidity. Therefore, information related to DER is one of the factors in analyzing the fundamentals of the shares of energy companies. This study contributes to the literature by highlighting the effect of DER on profitability in the energy sector of the LQ45 index.

E. CONCLUSIONS AND SUGGESTIONS

Strong debt management and operational efficiency are key to energy companies'success in maintaining profitability and attractiveness in the stock market. The insignificant return on ROA indicates that investors pay more attention to financial risk than to operational efficiency in this sector. By optimizing the funding structure and maintaining a visible level of leverage, investment companies can increase profitability while reducing investment risk. This research is not only for companies but also for investors and policymakers who want to promote stability and growth in the energy sector. Further research should explore other factors that affect profitability, such as technological innovation and global economic policy.

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