



Pengaruh Struktur Modal Terhadap Kinerja Keuangan Perusahaan Pertambangan Sektor Batu Bara

THE EFFECT OF CAPITAL STRUCTURE ON THE COMPANY FINANCIAL PERFORMANCE IN THE COAL MINING SECTOR

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ABSTRAK

Penelitian ini bertujuan untuk menganalisis struktur modal terhadap kinerja keuangan. struktur modal diukur dengan rasio leverage (solvabilitas) melalui proksi *total debt to total assets ratio* (DAR), *total debt to total equity ratio* (DER), dan *long term debt to equity ratio* (LDER), sedangkan kinerja keuangan diukur dengan rasio profitabilitas menggunakan proksi *Return on Asset* (ROA). Populasi penelitian adalah perusahaan pertambangan sektor batubara yang terdaftar di Bursa Efek Indonesia tahun 2014-2019. Metode Sampling dipilih sebagai metode pengambilan sampel dengan kriteria tertentu. Besar sampel akhir berdasarkan kriteria yang telah ditentukan adalah 96 (16 perusahaan dengan masa observasi 6 tahun). Regresi linier berganda digunakan untuk menguji hipotesis. Hasil penelitian membuktikan bahwa DAR dan LDER berpengaruh negatif terhadap ROA, sedangkan DER terbukti tidak berpengaruh terhadap ROA.

Kata kunci: DAR, DER, LDER, ROA

ABSTRACT

The aim of this study was to analyze the capital structure on financial performance. Capital structure is measured by the leverage ratio (solvability) through the total debt to total assets ratio (DAR), total debt to total equity ratio (DER), and long-term debt to equity ratio (LDER) proxies, while financial performance is measured by the profitability ratio using the Return on Asset (ROA) proxy. The study population is a coal mining company listed on the Indonesia Stock Exchange in 2014-2019. The purposive sampling method was chosen as a sampling method with certain criteria. The final sample size based on predetermined criteria was 96 (16 companies with an observation period of 6 years). Multiple linear regression was used to test the hypothesis. The results showed that DAR and LDER had a negative effect on ROA, while DER did not affect ROA.

Keywords: DAR, DER, LDER, ROA

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INTRODUCTION

The company as an institution engaged in the business world. Intense competition in the business world between companies requires company managers to increase the profitability of their companies to maintain the survival of the company. Working capital is needed as one of the supports to achieve company goals because companies need funds to finance operational activities for the survival of the company. The company's funding decisions are related to determining the source of funds used to finance investment proposals that have been previously decided (Hanafi, 2018). The capital structure is related to the long-term spending of a company as measured by the comparison of long-term debt with its own capital (Sudana, 2019). Decisions about capital structure involve a "pecking order theory" analysis between risk and return. Companies that have a high level of profit usually have a low level of debt (Hanafi, 2018). The optimal capital structure is expected to produce an optimal rate of return so that it is not only the company that benefits, but the shareholders also benefit (Khotimah, 2016).

Companies need financial reporting to measure the company's financial performance. Financial reporting is a communication tool to inform the financial condition and results of the company's operations

to interested parties (Jumingan, 2014). Financial performance is an analytical tool to see the extent to which a company has implemented financial implementation rules properly and correctly. The financial performance can be assessed through several aspects using several techniques, one of which is financial ratios. These financial ratios are designed to help identify the company's strengths and weaknesses (Fahmi, 2017). Profitability ratios are financial ratios that are often used by investors to measure the extent to which companies are able to manage their assets (Maulita & Tania, 2018). There are several ratios to measure profitability ratios, one of which is Return on Assets (ROA), ROA is a ratio to measure how much profit is generated on company assets.

Optimization of financial performance is a company goal that can be achieved through the financial management function, where one financial decision was taken can affect other financial decisions that can have an impact on the company's financial performance. One of the factors that can affect the company's financial performance is the capital structure (Fama & French, 1998). Coal sector companies and their supporters listed on the Indonesian Stock Exchange (IDX) are industrial companies that have gone public, where the sector companies are growing very rapidly and it is possible

to always require large sources of funds to finance their operations. In addition, coal sector companies are one of the companies that have an important role for industrial companies that still use coal as their energy source. Coal sector companies and their supporters throughout 2019 experienced a decline in performance, for example, PT Bukit Asam Tbk (PTBA), PT Bumi Resource Tbk, and PT Delta Makmur Tbk in the third quarter of 2019 experienced a decrease in profit by respectively 21.08%, 63%, 43.5% (Suryahadi, 2019). In 2019 the mining sector index growth was negative 12.83% (Suryahadi, 2020). Based on reports published by the Indonesia Stock Exchange (IDX) in 2014 - 2019 the value of ROA in coal mining companies fluctuated. Most of the ROA values in coal mining companies also decreased in 2019 compared to the previous year.

Several factors affect Return on Assets (ROA), including total debt to total assets ratio (DAR), total debt to total equity ratio (DER), and long-term debt to equity ratio (LDER). DAR, DER, and LDER are solvency ratios that are often associated with return on assets (ROA). The total debt to total asset ratio (DAR) is the ratio of debt to total assets by comparing the company's total debt with the company's total assets and then multiplied by 100%. DAR is the percentage of the company's assets or

assets financed by debt. This ratio is used to measure how much assets are financed with debt (Fahmi, 2017). If the funds borrowed by the company are small, they will receive small costs, so that the income or profits obtained by the company will increase and thus the ROA obtained by the company will also increase. This is in line with research by Gunde et al. (2017), Zulvia, (2019) and Ariani & Bati (2020) show that capital structure through DAR proxy has a negative effect on financial performance as proxied by ROA value.

H1 : Capital structure, as measured by DAR, has a negative effect on the company's financial performance as measured by ROA.

The total debt to total equity ratio (DER) is the ratio between the total debt (current debt and long-term debt) and own capital. This ratio is used to measure the balance between the company's liabilities and its own capital (Fahmi, 2017). The high and low DER will affect the level of achievement of ROA obtained by the company. If the costs incurred by the loan are less than the cost of own capital, then the risk borne by the company on the debt will be smaller so that it will increase the achievement of ROA obtained by the company. Zulvia (2019), (Wikardi&Wiyani (2017) and Ramadita and Suzan (2019) whose

research results show that the capital structure as measured by DER has a negative effect on the company's financial performance as measured by ROA.

H2: Capital structure, as measured by DER, has a negative effect on the company's financial performance as measured by ROA.

Long term debt to equity ratio (LDER) is a ratio used to measure own capital which is used as collateral for long-term debt. This ratio is used to show the relationship between the amount of long-term loans provided by creditors and the amount of own capital provided by the owner of the company (Fahmi, 2017). The high and low LDER will affect the level of achievement of ROA obtained by the company. If the smaller the source of funds used comes from loans (debt) can reduce the costs incurred, then the profits earned by the company will increase, thereby increasing the ROA value obtained by the company. This is in line with the results of research by Laksono & Pangestuti (2018), Wardani & Dewi, (2015) and (Jati and Sudaryanto (2016) which shows that the capital structure proxied by the LDER value has a negative effect on the company's financial performance as proxied by ROA.

H3: Capital structure, as measured by LDER, has a negative effect on the company's financial performance as measured by ROA.

Based on the description above, the authors are interested in examining the capital structure and its effect on the company's financial performance. This research was implemented in a group of coal mining companies listed on the IDX with an observation period of 2014-2019.

RESEARCH METHODS

The research method used is a case study hypothesis testing method for coal mining companies listed on the Indonesia Stock Exchange in 2014-2019. The hypothesis testing in this study was to determine the effect of the independent variables (DAR, DER, and LDER) on the dependent variable (ROA) in coal mining companies. The population in this study is the coal sector mining companies listed on the IDX in 2014-2019 as many as 21 companies with an observation time of 6 (six) years, sampling using purposive sampling technique with certain criteria so that the number of samples obtained is 16 samples with observation time 6 (six) years so that the final sample obtained is 96. The data used in this study is secondary data taken through documentation techniques in the form of financial reports issued

by the IDX. The data analysis method used in this research is multiple linear regression analysis.

RESULTS AND DISCUSSION

Table 1. Descriptive Statistics

	N	Min	Max	Mean	Std.Dev.
DAR	96	9,78	189,12	45,9266	29,74293
DER	96	-717,41	1190,71	113,0235	221,40418
LDER	96	-183,24	725,49	45,3714	104,73250
ROA	96	-64,39	39,41	4,8350	14,69468
Valid N (listwise)	96				

Source: Results of data processing using SPSS 24

Financial performance as measured using Return on Assets (ROA) as the dependent variable has a minimum value of -64.39, a maximum value of 39.41, while the average value of the ROA variable from 2014-2019 is 4.84% with a standard deviation of 14.69%. Capital structure is measured using total debt to total asset ratio (DAR), total debt to equity ratio (DER), and long-term debt to equity ratio (LDER) as independent variables. The DAR variable has a minimum value of 9.78, a maximum value of 189.12, while the average value of the DAR variable from 2014-2019 is 45.92% with a standard deviation of 29.74%. The DER variable has a minimum value of -717.41 and a maximum value of 1190.71, while the average value of the DER variable from 2014-2019 is 113.02% with a standard deviation of 221.40%. The LDER variable has a minimum value of -183.24, and a

The results of descriptive statistical data seen from the average (mean), minimum (minimum), maximum (maximum), and standard deviation (standard deviation) values can be seen in Table 1 below.

maximum value of 725.49, while the average value of the LDER variable from 2014-2019 is 45.37% with a standard deviation of 104.73%.

The normality test used is a graphical analysis by looking at the Normal P-P Plot of Regression Standardized Residual graph. Tests in this study can be seen in figure 1.

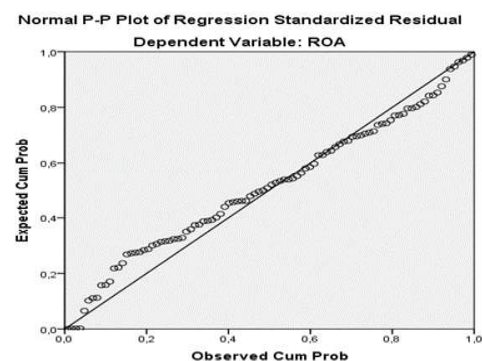


Figure 1. Normal Probability Plots Graph

From Figure 1, it can be seen that the dotted line spreads around the diagonal line and follows the direction of the diagonal line or

histogram graph. Thus it can be concluded that the regression model meets the normal assumptions or is normally distributed.

The multicollinearity test is seen from the value of the variance inflation factor (VIF) and the

tolerance value, where if the VIF value is < 10 and the tolerance value is > 0.10 , it can be stated that there is no multicollinearity problem. The results of the multicollinearity test in this study can be seen in table 2.

Table 2. Multicollinearity Test Results

Variabel	Tolerance	VIF	Information
DAR	0,943	1,061	Free of multicollinearity
DER	0,517	1,934	Free of multicollinearity
LDER	0,525	1,904	Free of multicollinearity

Source: Results of data processing using SPSS 24

Based on table 2, it can be seen that each independent variable does not have multicollinearity problems because it has a tolerance value above 0.10 and a VIP value below 10, thus it can be concluded that the regression model does not occur multicollinearity.

In this study, the heteroscedasticity test can be seen from the scatterplot graph in figure 2 as follows:

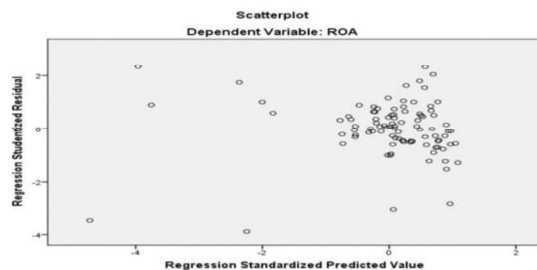


Figure 2. Scatterplot Graph

Based on Figure 2 above, it can be seen that the dots spread all over, namely above and below the number 0 on the Y-axis and do not form a certain clear pattern. Thus it can be concluded that there is no heteroscedasticity problem.

The autocorrelation test was carried out using the Durbin-Watson (DW) test with the following criteria: a D-W number below -2 means there is a positive autocorrelation, a D-W number between -2 and +2 means there is no autocorrelation, and a D-W number above +2 means there is a negative autocorrelation. The autocorrelation test in this study can be seen in table 3 below:

Table 3. Autocorrelation Test Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	0,444	0,197	0,171	13,37900	1,173

Source: Results of data processing using SPSS 24

Based on table 3 the Durbin-Watson value produced in the test is 1.173. So it can be concluded that the residuals from the regression are independent or there is no autocorrelation, because the Durbin-Watson value is between -2 and +2.

The resulting multiple regression equation model is as follows:

$$\text{ROA} = 13,723 - 0,200 \text{ DAR} + 0,017 \text{ DER} - 0,036 \text{ LDER} + \varepsilon$$

Based on the regression coefficients for each independent variable, it can be interpreted as follows:

1. Constant (a) = 13.723 this shows that if each variable DAR, DER, and LDER is equal to zero, then the financial performance of ROA is 13.723.
2. The DAR coefficient of -0.200 indicates that the relationship between DAR and ROA is

negative, meaning that every single increase in DAR causes a decrease in ROA in coal mining companies by -0.200.

3. The DER coefficient of 0.017 indicates that the relationship between the DER variable and ROA is positive, meaning that every one unit increase in DER causes an increase in ROA in coal mining companies of 0.017.
4. The LDER coefficient of -0.036 indicates that the relationship between the LDER variable and ROA is negative, meaning that every single increase in LDER causes a decrease in ROA in coal mining companies by -0.036.

The results of the hypothesis test or the results of the partial significance test (t-test) of this study are fully presented in the following table.

Table 4. Multiple Regression Analysis Calculation Results

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	constant	13,72	2,531		5,42	.000
	DAR	-0,20	0,048	-0,404	-4,20	.000
	DER	0,02	0,009	0,255	1,97	.052
	LDER	-0,04	0,018	-0,256	-1,99	.050

Source: Results of data processing using SPSS 24

1. The DAR variable has a t-count of -4.202 with a significance of 0.000, meaning that the DAR variable has a negative and significant influence on the company's financial performance as measured by ROA, so **hypothesis H1 is accepted.**
2. The DER variable has a t count of 1.965 with a significance of 0.052,

meaning that the DER variable has no effect on the company's financial performance as measured by ROA, so **hypothesis H2 is rejected.**

3. The LDER variable has a t-count of -1.988 with a significance of 0.050,

meaning that the LDER variable has a negative and significant effect on the company's financial performance as measured by ROA, so **hypothesis H3 is accepted.**

Table 5. F-Test ANOVA

	Model	Sum of squares	Df	Mean Square	F	Sig.
1	Regression	4045,920	3	1348,640	7,534	0,000
	Residual	16467,776	92	178,998		
	Total	20513,696	95			

Source: Results of data processing using SPSS 24

Based on table 5, it can be seen that the calculated F value is 7.534 with a significance level of $0,000 < \alpha$ (0,05). With the result of that it can be

concluded that the independent variables consisting of DAR, DER, and LDER together have a significant effect on financial performance as measured by ROA.

Table 6. Coefficient of Determination Test Results (R^2)

Model	R	R Squere	Adjusted R Squere	Std. Error of the Estimate
1	0,444 ^a	0,197	0,171	13,37900

Source: Results of data processing using SPSS 24

Based on table 6, it can be seen that the magnitude of the coefficient of determination (Adjusted R^2) is 0.171 or 17.1%. This shows that the magnitude of the influence of the DAR, DER, and LDER variables on financial performance, as measured by ROA in coal mining companies, is 17.1% and the remaining 82.9% is influenced by other factors outside the study.

Assets Ratio (DAR) on Financial Performance Measured by Return On Assets (ROA)

The capital structure variable as measured by DAR has a negative and significant effect on financial performance as measured by ROA, so the first hypothesis is accepted. The results of this study are in line with research conducted by Gunde et al., (2017), Zulvia, (2019), and Ariani & Bati (2020) that DAR has a negative effect on ROA. The greater the use of debt in

Effect of Capital Structure as Measured by *Total Debt to Total*

the capital structure, the lower the ROA value in coal sector mining companies listed on the BEI, this shows that coal mining companies use their own capital more than debt in carrying out company operational activities.

Effect of Capital Structure as Measured by *Total Debt to Equity Ratio* (DER) on Financial Performance Measured by *Return On Assets* (ROA)

The capital structure variable as measured by DER has no significant effect on financial performance as measured by ROA, so the second hypothesis is rejected. The results of this study are not in line with research conducted by Zulvia, (2019), Wikardi & Wiyani, (2017), and Ramadita & Suzan, (2019) stated that DER had a negative and significant effect on ROA. However this study is supported by Sutrisno, (2018) and Mawarsih et al., (2020) who argue that DER has no effect on ROA. A declining capital structure in this case DER will not increase the value of ROA in coal mining companies listed on the IDX. This shows that if there is an increase or decrease in the value of DER will not affect the company's ROA value.

The Effect of Capital Structure as Measured by *Long Term to Equity Ratio* (LDER) on Financial Performance Measured by *Return On Assets* (ROA)

The capital structure variable as measured by LDER has a negative and significant effect on financial performance as measured by ROA, so the third hypothesis is accepted. The results of this study are in line with those of Laksono & Pangestuti, (2018), Wardani & Dewi, (2015), and Jati & Sudaryanto (2016). That LDER has a negative effect on ROA. If there is an increment in LDER, it will reduce financial performance as measured by ROA. This shows that the size of the long-term debt owned by the company will affect the ROA value of coal mining companies listed on the IDX.

CONCLUSION

Based on the results of the study, it shows that 2 of the 3 independent variables, namely DAR and LDER, have a negative effect on financial performance as measured by ROA, while the DER variable has no effect on the ROA variable. This study only uses the variables DAR, DER, and LDER as a proxy for the capital structure to measure ROA as a proxy for financial performance. For further researchers should add other variables outside of this study that can affect the company's financial performance.

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