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Analysis of Profitability and Leverage on Earnings Management in Manufacturing Companies in the Industrial Sector Listed on the Indonesia Stock Exchange in 2020-2023

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Abstract

This study analyzes the effect of profitability and leverage on earnings management in manufacturing companies listed on the Indonesia Stock Exchange during the 2020–2023 period. The background of this study is the importance of the quality of earnings information in financial reports as a basis for stakeholder decision-making, as well as the potential for managers to manipulate earnings for personal or specific party interests. The purpose of this study is to examine the extent to which profitability, measured by return on assets (ROA), and leverage, represented by the debt-to-asset ratio (DAR), influence earnings management practices. This study uses a quantitative approach with secondary data in the form of financial reports of manufacturing companies on the IDX, with a population of 166 companies and a sample of 10 companies selected through purposive sampling, resulting in 40 observations. The analysis instruments include normality tests (Kolmogorov-Smirnov), multicollinearity, autocorrelation, F-tests, and partial t-tests in multiple linear regression models. The results of the study indicate that profitability and leverage simultaneously have a significant effect on earnings management, with a calculated F value of 9.090 (p = 0.007) and each independent variable has a positive and significant coefficient (ROA β = 0.033; DAR β = 0.026). This finding indicates that increasing profitability and debt ratios tend to increase the level of earnings management, thus supporting agency theory about managers' incentives to manipulate earnings for contract and reputation interests. The implication of this study is the need for strengthened supervision by regulators, auditors, and audit committees to limit earnings management practices, especially in manufacturing companies with high profitability and large debt ratios, in order to maintain the quality of financial information disclosure and investor confidence.

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Keywords: Agency Theory, Debt To Assets Ratio, Earnings Management, Manufacturing Firm, Return On Assets

INTRODUCTION

The growth of the Indonesian business world has led to rapid economic development and change, and business competition is intensifying in efforts to attract foreign capital. Financial information within a company from an accounting period is documented in the company's financial statements, which serve as a useful tool for analyzing business success. For any business, financial statements are a crucial decision-making tool. Financial statements include information about the business's financial condition and performance, as well as management's accountability for the use of allocated resources. Most people who utilize financial statements find that they provide information about a company's cash flow and assist in decision-making. A company's success in the past year and its current state can be evaluated using financial statement performance data. These statements are available to help stakeholders learn more about a company and use financial statements to guide their decisions. Therefore, assessing a company's business requires careful consideration of well-presented financial statements.

A profit and loss statement is a type of loan used to reduce employee costs in a business during the period when the business is acquired. One of the important rights that are highlighted in a company's report is profit. Any weaknesses allow the company to manage its profits. Profit is generally used by external parties as a measure of an organization's productivity and serves as a guide for investors in determining whether to invest.

Hypothesis

Based on the research questions and desired objectives, the following hypotheses are proposed:

Ha1 : Profitability has a significant impact on the management of company profit management,

H01 : Profitability does not have a significant impact on the company's profit management.

Ha2 : Leverage has a significant impact on the management of company profits,

H02 : Leverage does not have a significant impact on the management of company profits,

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METHOD

The author employed quantitative research. The secondary data used were manufacturing companies listed on the Indonesia Stock Exchange (IDX), which were the subjects of this study, which ran from 2020 to 2023. The focus population was 166 manufacturing companies listed on the IDX during that time period. Purposive sampling was used as the sampling method for 40 observations over a four-year period, and 10 companies met the criteria.

The data analysis techniques applied in the research are:

1) Normality Test, where the distribution of residual values is examined to determine whether the research is normally distributed (Duli (2019:114-115))
2) The multicollinearity test is a linear relationship between independent variables in multiple regression (Widarjono, 2010)
3) The Autocorrelation Test attempts to determine whether the residual error in period t and the error in period t-1 (previous) are correlated in a linear regression.
4) Partial Test, a test that determines whether the partial influence of the dependent variable on the independent variable is truly significant (Sugiyono (2018:206))

RESULTS AND DISCUSSION

Analysis Results

1. Normality Test

One step in the classical assumption testing process involves applying the Kolmogorov-Smirnov normality test. This test analyzes residual values to determine whether the distribution is normal. A distribution is considered normal when its significance value exceeds the 0.05 threshold, while a distribution is considered abnormal if its significance value is significantly below 0.05. The results of the normality test are shown in the following table.

Table 1. One-Sample Kolmogorov-Smirnov Test for Normality

		Unstandardized Residual
N		10
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	1.66163409
Most Extreme Differences	Absolute	.199
	Positive	.199
	Negative	-.174
Test Statistic		.199
Asymp. Sig. (2-tailed)		.200[c,d]

a. Test distribution is Normal.

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b. Calculated from data.
c. Lilliefors Significance Correction.
d. This is a lower bound of the true significance.
Source: Data processed by SPSS

The findings table shows a significance value (Asymp. Sig 2-tailed) of 0.200, which is greater than the standard alpha value (0.05). Based on these results, it can be said that the remaining data values have a normal distribution.

2. Multicollinearity Test

The multicollinearity test will be used to detect whether the independent variables in the regression model have a strong linear relationship. A regression model that shows a correlation coefficient between independent variables of less than 0.5 is considered free of multicollinearity. The results of the multicollinearity test are shown in the table below:

Table 2. Multicollinearity Test
Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.087	.838		2.490	.038		
	ROA	.033	.032	.346	2.044	.027	1.000	1.000
	DAR	.026	.066	.281	2.446	0.65	1.000	1.000

a. Dependent Variable: ML
Source: Data processed by SPSS

The table above shows that the variance inflation factor (VIF) for each independent variable is less than 10, and the tolerance value is greater than 0.1. This concludes that there is no multicollinearity problem between the independent variables within a single variable. The reason for this regression model is that the tolerance and VIF values are greater than 0.1, which is the required threshold.

3. Autocorrelation Test

The autocorrelation test is used to determine whether the residuals in a regression model are correlated. The following table displays the results of the autocorrelation test:

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Table 3. Autocorrelation Test

Runs Test

	Unstandardized Residual
Test Value[a]	-.44407
Cases < Test Value	5
Cases >= Test Value	5
Total Cases	10
Number of Runs	6
Z	.000
Asymp. Sig. (2-tailed)	1.000

a. Median

Source: Data processed by SPSS

As in the table above, the signature value (2-tailed) is 1.00, which is greater than the generally accepted significance level of 0.05. The results above can be summarized as indicating that there are no problems related to autocorrelation in the regression model.

4. Anova F Test

Analysis of variance (ANOVA) was used to collectively test the regression coefficients (F test) to determine the significance of the influence of various independent factors on the dependent variable at a significance level of 0.05. The following F test results are displayed in the table:

Table 4. F Test

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.384	1	0.084	9.090	.007[b]
	Residual	0.849	8	0.006		
	Total	1.233	9			

a. Dependent Variable: ML

b. Predictors: (Constant), DRA, ROA

Source: Data processed by SPSS

F table = (2; 38) = (k; n) It can be seen that there are 40 data points and 2 basic variables. The F table value is 3.24 based on the results obtained. By using the ANOVA results, the calculated F value is 9.090 and the Sig value is 0.007,

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respectively. Considering that Sig. is less than or equal to 0.05 (0.007 < 0.05) and the F value is greater than or equal to the F table (9.090 > 3.24), it can be said that both profitability and employee leverage reduce the company's ability to manage the company. laboratory.

5. T-test

The T-test is used to assess whether variables X1 and X2 have an influence on variable Y at a significance threshold of 0.05. The following T-test results are displayed in the table:

Table 5. T-test
Coefficientsa

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	2.087	.838		2.490	.038		
	ROA	.033	.032	.346	2.044	.027	1.000	1.000
	DAR	.026	.066	.281	2.446	0.65	1.000	1.000

a. Dependent Variable: ML

Source: Data processed by SPSS

Testing the coefficient of profitability variables

The t-value is greater than the t-table value (2.044 > 2.024) and the relevant value is less than 0.05 (0.027 < 0.05) based on the data in the previous table. Therefore, H0 is rejected. We conclude that earnings management is somewhat influenced by profitability. Earnings management tends to increase along with profitability when there is a positive t-estimate value indicating a positive effect.

Leverage variable coefficient testing

Based on the information in the previous table, the estimated t-value is greater than the t-table value (2.446 > 2.024) and the relevant value is less than 0.05 (0.65 < 0.05). Therefore, H0 is rejected. We conclude that leverage has a minimal effect on earnings management. Earnings management tends to increase with leverage if the calculated t-value is positive, indicating a beneficial effect.

The multiple regression model shows that the following is the resulting equation.

ML = 2.087 + 0.033ROA + 0.026DAR

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If profitability and leverage are both zero, then earnings management has a value of 2.087 based on the constant value \(a\) of 2.087. The regression coefficient value of the profitability variable is positive, namely 0.033. This indicates that if the profitability variable increases gradually, earnings management will increase by 0.033 units if all other components remain constant. The regression coefficient value of the leverage variable is 0.26, meaning that earnings management will increase by 0.26 units if all other variables remain constant and the leverage variable increases gradually.

DISCUSSION

In basic chemical manufacturing companies listed on the Indonesia Stock Exchange, profitability and leverage play a significant role in earnings management. The F-test significance value is less than 0.05 (0.007 < 0.05). Consequently, hypothesis Ha1, which indicates that profitability significantly improves earnings management, is accepted.

Furthermore, the calculated t-value (2.446 > 2.024), which is greater than the t-table, indicates that leverage has a marginally relevant effect on earnings management. Therefore, Ha2 is also appropriate. This result is consistent with agency theory, which states that managers have the ability to alter financial reporting to suit their goals, which often conflict with investors' goals. Thus, this finding strengthens the hypothesis that in earnings management, profitability and leverage play significant roles, in line with the agency dynamics that exist within the firm. Profit maximization seeks to increase management compensation and is intended to produce superior business performance, thereby increasing firm value. Conversely, profit minimization aims to reduce taxes, particularly the firm's tax liability. Agency theory, on the other hand, explains how leverage affects earnings management. It asserts that managers of highly leveraged organizations often use accounting techniques that increase earnings to make the firm's performance appear more in line with future expectations. This is in line with the goal of ensuring creditors have confidence in the firm's performance capabilities. This research supports the notion that debt and profitability work together to influence earnings management (Tala & Karamoy, 2017).

CONCLUSION

This study found that profitability and leverage jointly had a significant effect on earnings management in manufacturing companies listed on the Indonesia Stock

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Exchange during the 2020–2023 period. The results of the F-test and t-test indicate that both ROA and the debt-to-equity ratio (DAR) have a positive and significant effect on earnings management practices, in line with agency theory which highlights the tendency of managers to manipulate earnings for the sake of compensation, corporate image, and creditor trust. The obtained regression equation also explains that increasing profitability and leverage will tend to increase the level of earnings management, although the magnitude of the effect of both variables is relatively small but remains material in the context of financial reporting policies.

As a limitation, this study only used a sample of 10 manufacturing companies with 40 observations. Therefore, generalization of the results should be done cautiously, given the limited sample size and coverage of industrial sectors. Furthermore, the study period was limited to 2020–2023, which still contained shocks from the pandemic and global economic recovery. Therefore, earnings management trends could be influenced by external conditions that are not directly measurable. For future research, it is recommended to increase the sample size, expand the period, and consider additional control variables such as deferred taxes, ownership structure, and corporate governance. The practical implication of these results is the need for increased oversight by capital market supervisors, auditors, and internal decision-makers to monitor potential earnings management abuses, especially in companies with high profitability and debt ratios, to ensure that earnings information remains relevant and reliable for investors.

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