HUMANIS
(Humanities,Management and Science Proceedings)

Vol. 5 • No. 1 • Desember 2024

Pege (*Hal.*) : **393 – 401**

ISSN (*online*) : 2746 - 4482
ISSN (*print*) : 2746 - 2250

Special Issue:
ICoMS 2024
The 5th International Confrence on Management and Science

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The Influence of Profitability and Liquidity on Debt Policy in State-Owned Construction Companies for the Period 2014 – 2023

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Abstract: This study aims to determine and analyze the effect of profitability and liquidity on debt policy in state-owned construction companies listed on the Indonesia Stock Exchange in the period 2014-2023. The sampling technique uses saturated samples so that four companies are obtained according to the predetermined population criteria. This study uses secondary data from the financial statements of state-owned construction companies. The data analysis technique used in this study is panel data regression. The results of the hypothesis test (t-test) show that profitability has a significant effect on debt policy. liquidity does not have a significant effect on debt policy. profitability and liquidity simultaneously have a significant effect on debt policy.

Keywords : Profitability, Liquidity, Debt Policy

INTRODUCTION

Debt policy is an important element in managing a company's capital structure, especially in construction sub-sector companies that have large funding needs to complete national-scale projects. Construction companies often rely on external funding, such as debt, to support working capital and investment needs. However, this decision must take into account various internal financial factors, such as profitability, liquidity, and asset growth, so that the capital structure remains optimal and financial risk is controlled.

Profitability reflects a company's ability to generate profits from its operational activities. Based on the pecking order theory, companies with high profitability prefer

internal funding to external funding. In state-owned construction companies, there is a significant variation in profitability. For example, PT Adhi Karya Tbk recorded a Return on Assets (ROA) of 1.2% in 2022, while PT Waskita Karya Tbk experienced pressure with negative ROA due to high debt burdens that were not balanced with revenue. This condition shows that profitability can influence a company's decision to use debt.

Liquidity, as measured by the current ratio, indicates a company's ability to meet its short-term obligations. Companies with high liquidity tend to have a greater ability to finance operations without relying on external funding. However, construction companies often face liquidity challenges due to long cash flow cycles. In 2022, PT Wijaya Karya Tbk recorded a current ratio of 1.1 times, indicating adequate liquidity. In contrast, PT Waskita Karya Tbk recorded a current ratio below 1, indicating a high dependence on external loans to maintain cash flow.

The debt to equity ratio of state-owned construction companies also shows a high trend, with an average reaching 2.5 times, indicating a high dependence on external funding. As a pillar of national infrastructure development, state-owned construction companies such as PT Adhi Karya Tbk, PT PP Tbk, PT Waskita Karya Tbk, and PT Wijaya Karya Tbk have a strategic role in supporting economic growth. However, this sector also faces major challenges, especially amid global economic uncertainty and liquidity pressures due to the COVID-19 pandemic. This makes the analysis of factors such as profitability and liquidity increasingly relevant to understanding decision-making patterns related to debt policy. The average value of the debt to equity ratio, return on assets and current ratio in state-owned construction companies can be seen in Figure 1 below:

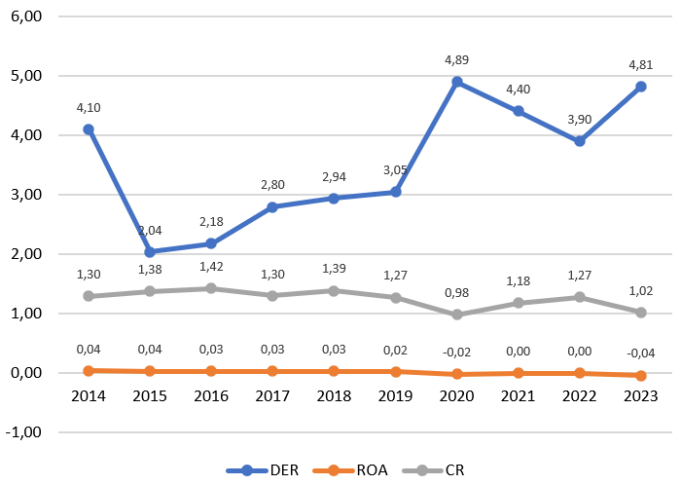


Figure 1 average values of DER, ROA and CR

Based on Figure 1, it can be seen that the average DER value fluctuates, the highest value in 2020 was 4.89 and the lowest value in 2015 was 2.04. The average DER value in BUMN in the construction sector from 2014 to 2023 is high, exceeding the ideal value for construction companies, this indicates that the company's capital is dominated by debt, according to Len Holm (2019) the ideal DER value for construction companies is between 1.0 and 2.0. The average ROA value experienced a decrease in the highest value in 2014 and 2015 by 0.04 while the lowest value in 2023 was -0.04. The average return on assets is low because the average value does not exceed 5%. According to Len Holm (2019) the ideal return on assets for construction companies is above 5%. The average CR value experienced the highest CR value fluctuation in 2015 of 1.42 and the lowest value in 2020 of 0.98. The CR value in state-owned construction sector companies in 2014-2015 was low because it was below the ideal current ratio value for construction companies, a low current ratio value indicates low company liquidity, according to Len Holm (2019) the ideal current ratio value for construction companies is 1.5 to 3.0. The average ROA value experienced the highest decline in value in 2014 and 2015 of 0.04 while the lowest value in 2023 was -0.04

Research on the effect of profitability and liquidity on debt policy has been conducted by several previous researchers, including in the research of Rahmi H (2024) the results of the study showed that profitability had a positive and significant effect on debt policy. According to Santika M (2024) it is said that Liquidity / CR has no effect and is not significant on debt policy. And according to Nurmasita, S., Siska, E., & Indra, N. (2023) the results show that simultaneously the profitability and liquidity variables have a positive and significant effect on debt policy.

This study aims to analyze the effect of profitability and liquidity on debt policy in state-owned construction companies listed on the Indonesia Stock Exchange (IDX) for the period 2014 - 2023.

LITERATURE REVIEW AND DEVELOPMENT HYPOTHESIS

Profitability

Profitability is the ratio of a company's ability to gain high profits in terms of the use of sales, assets, and capital (Hanafi and Halim 2018). Profitability is a ratio that measures a company's ability to generate profits by using the total assets (wealth) owned by the company after being adjusted for the costs to mark the assets Pandia in Ano, et al (2014). ROA is used to measure the effectiveness of a company in generating profits by utilizing its assets.

Companies that have high profitability will attract investors to invest their capital in the hope of getting profits that will get bigger dividends. The bigger ROA shows the company's performance is getting better, because the rate of return on investment is also getting bigger. ROA is calculated by dividing the rate of profit after tax by its total assets Brigham in Janifairus (2013).

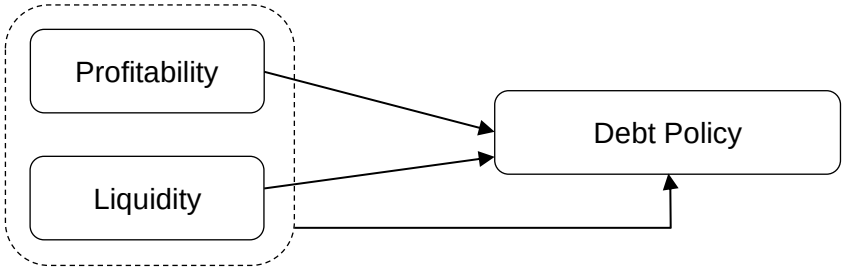
Liquidity

Liquidity is a ratio that refers to the short-term ability to fulfill company obligations and can be measured from current assets relative to current liabilities (Hanafi and Halim 2018).

Debt Policy (DER)

Debt policy is the ratio of debt to equity. Debt policy is a ratio that describes the comparison of debt and equity in company funding and shows the company's own capital ability to meet all its obligations. This ratio measures how far the company is financed by debt, where the higher the value of this ratio describes a debt policy that is not good for the company. The greater the value indicates the greater the level of dependence of the company on external parties and the greater the burden of debt costs or obligations that must be paid by the company than to pay dividends.

Framework



Hypothesis:

1. Profitability has a significant effect on debt policy

2. Liquidity has a significant impact on debt policy
3. Profitability and liquidity simultaneously have a significant effect on debt policy.

METHODS

Population and sample

The population in this study is a state-owned construction company consisting of 4 companies, namely Adhi Karya (Persero) Tbk, PP (Persero) Tbk, Wijaya Karya (Persero) Tbk, Waskita Karya (Persero) Tbk. The sample in this study uses a saturated sample, which means that all members of the population are used as samples. The type of data used in this study is secondary data. Data were collected from the official website of the Indonesian Stock Exchange (https://www.idx.co.id/id) and the official websites of the companies used as samples.

Operational Variables

This study uses one dependent variable, namely debt policy, and two independent variables, namely profitability and liquidity.

Dependent variable

Debt Policy

In this study, debt policy is measured using the debt to equity ratio. is a ratio used to assess debt with equity. To find this ratio by comparing all debts, including current debt with all equity. This ratio is useful for knowing the amount of funds provided by borrowers (creditors) with company owners.

$$DER = \frac{Total\ utang\ (debt)}{Equitas\ (Equity)}$$

Independent variables

Profitability

In this study, profitability is measured using Return on Total Assets, which is a ratio that shows the results (return) on the amount of assets used in the company.

$$ROA = \frac{Earning\ after\ intrest\ and\ tax}{Total\ asset}$$

Liquidity

In this study, liquidity is measured using the Current Ratio, which is a ratio to measure the company's ability to pay short-term liabilities or debts that are due immediately when billed in full.

$$Current\ ratio = \frac{Aktiva\ lancar\ (current\ Asset}{Utang\ lancar\ (current\ libilitie)}$$

Data analysis methods

The data analysis method used is panel data regression analysis. Data processing in this study uses Econometric Views software (Eviews-12). To conduct panel data analysis, researchers first conduct a model selection test using the Chow test,

Hausman test and Lagrange multiplier test. Then continued with a hypothesis test, namely a partial test (t test) and a simultaneous test (f test).

RESULT AND DISCUSSION

Model selection test results

Chow test

The Chow test is conducted to determine the most appropriate panel data model to use between the common effect model or the fixed effect model.

Effects Test	Statistic	d.f.	Prob.
Cross-section F	3.753840	(3,34)	0.0197
Cross-section Chi-square	11.443868	3	0.0096

Figure 1 Chow Test Results

Based on the results of the Chow test shown in Figure 1, it is known that the probability value in the cross-section F is 0.0197. This value is smaller than the significance level of α 5% (0.0197 > 0.05), so the selected model is the fixed effect model.

Hausman test

The Hauman test is conducted to determine the most appropriate panel data model to use between the fixed effect model and the random effect model.

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	5.634994	2	0.0598

Figure 2 Hausman Test Results

Based on the results of the Hauman test shown in Figure 2, it is known that the chi-square probability value is 0.0598. This value is greater than the significance level of α 5% (0.0598 > 0.05), so the selected model is the random effect model.

Lagrange multiplier test

The Lagrange multiplier test is carried out to determine the most appropriate panel data model to use between the common effect model and the random effect model.

	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	4.690415 (0.0303)	0.004400 (0.9471)	4.694814 (0.0303)

Figure 3 Results of the Lagrange Multiplier Test

Based on the results of the Lagrange multiplier test shown in Figure 3, the probability value of both Breush-Pagan is 0.0303. This value is greater than the significance level of α 5% (0.0303 < 0.05), so the selected model is the random effect model.

From the results of the Chow test, Hausman test and Lagrange multiplier test that have been carried out, it can be concluded that the best model to use in this study is the random effect model.

Panel Data Regression Analysis Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.823477	1.240781	3.887452	0.0004
ROA	-29.06013	6.511014	-4.463227	0.0001
CR	-0.742403	1.017181	-0.729863	0.4701

Figure 4 Results of Panel Data Regression Analysis

Based on Figure 4 which shows the results of processing the random effect model, the regression equation can be formed as follows:

$$DER = 4{,}823477 - 29{,}06013\text{ROA} - 0{,}742403\text{CR}$$

Based on the equation above, it can be interpreted as follows:

The constant value is 4.823477, which means that if the independent variables consisting of profitability and liquidity have a value of 0 (zero), then the debt policy variable will have a value of 4.823477.

The profitability coefficient value is -29.06013, which means that if the value of other variables is constant and the profitability variable increases by 1 (one) unit, the debt policy variable will decrease by 29.06013. Likewise, if the value of other variables is constant and the profitability variable decreases by 1 (one) unit, the debt policy variable will increase by 29.06013.

The liquidity coefficient value is -0.742403 , which means that if the value of other variables is constant and the liquidity variable increases by 1 (one) unit, the debt policy variable will decrease by 0.742403. Likewise, if the value of other variables is constant and the liquidity variable decreases by 1 (one) unit, the debt policy variable will increase by 0.742403.

Results of Determination Coefficient Test

The coefficient of determination measures how far the model's ability to explain the variation of the dependent variable. The results of the coefficient of determination test in this study are as follows:

R-squared	0.498733	Mean dependent var	2.687463
Adjusted R-squared	0.471638	S.D. dependent var	1.541600
S.E. of regression	1.120567	Sum squared resid	46.45978
F-statistic	18.40650	Durbin-Watson stat	1.094253
Prob(F-statistic)	0.000003		

Figure 5 Results of the Determination Coefficient Test

Based on Figure 5, the R-Squared value is known to be 0.498733. This indicates that the independent variables consisting of profitability and liquidity are able to explain the dependent variable, namely debt policy, by 0.498733 or 49.87%, while the remaining 0.501267 or 50.13% is explained by other variables outside the study.

Hypothesis Testing

Partial Test (t-Test)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	4.823477	1.240781	3.887452	0.0004
ROA	-29.06013	6.511014	-4.463227	0.0001
CR	-0.742403	1.017181	-0.729863	0.4701

Figure 6 t-test

Based on the results of the t-test shown in Figure 6, it is known that the probability value (t-statistic) of the profitability variable (ROA) is 0.0004 smaller from the significance level α 5% (0.0004 <0.05) then H0 is rejected and Ha is accepted which means that profitability has a significant effect on debt policy. The coefficient value shows a negative value which means that profitability has a negative effect on debt policy.

From Figure 6, it is also known that the probability value (t-statistic) of the liquidity variable (CR) is 0.4701, which is greater than from the significance level α 5% (0.4701>0.05) then H0 is accepted and Ha is rejected which means that liquidity does not have a significant effect on debt policy.

Simultaneous Test Results (f-Test)

R-squared	0.498733	Mean dependent var	2.687463
Adjusted R-squared	0.471638	S.D. dependent var	1.541600
S.E. of regression	1.120567	Sum squared resid	46.45978
F-statistic	18.40650	Durbin-Watson stat	1.094253
Prob(F-statistic)	0.000003		

Figure 7 Test Results f

Based on the results of the F-test shown in Figure 7, it is known that the F-statistic probability value is 0.000003 which is smaller from the significance level α 5% (0.0004 <0.05) then H0 is rejected and Ha is accepted which means that profitability and liquidity simultaneously have a significant effect on debt policy.

Discussion

1. The Influence of Profitability on Debt Policy

   The results of the hypothesis test 1 (H1) show the value of the probability (t-statistic) of the profitability variable (ROA) of 0.0004 is smaller than the significance level of α 5% (0.0004 <0.05) so H1 is accepted, these results indicate that profitability has a significant effect on debt policy. The profitability coefficient value (ROA) of -29.06013 indicates that profitability has a negative effect on debt policy, meaning that every increase in the value of profitability (ROA) will cause a decrease in the value of debt policy.

   The results of this study are in line with research conducted by Rahmi H (2024) where the results of the study showed that profitability has a positive and significant effect on debt policy.

2. The Influence of Liquidity on Debt Policy

   The results of the hypothesis test 2 (H2) show a probability value (t-statistic) of the liquidity variable (CR) of 0.4701. greater than the significance level of α 5% (0.4701 <0.05) then H2 is rejected, this result indicates that liquidity has no significant effect on debt policy. This result cannot be interpreted further or more deeply because the hypothesis is rejected, however this study is in line with the research of Santika

M (2024) which states that Liquidity / CR has no effect and is not significant on debt policy.

3. The Influence of Profitability and Liquidity on Debt Policy

The results of the hypothesis test 3 (H3) show the F-statistic probability value of 0.000003 which is smaller than the significance level of α 5% (0.0004 <0.05) so H3 is accepted, these results indicate that profitability and liquidity simultaneously have a significant effect on debt policy. The R-squared value of 0.498733 means that the independent variables consisting of profitability and liquidity are able to explain the dependent variable, namely debt policy, by 0.498733 or 49.87%, while the remaining 0.501267 or 50.13% is explained by other variables outside the study.

The results of this study are in line with research Nurmasita, S., Siska, E., & Indra, N. (2023) The results show that simultaneously the profitability and liquidity variables have a positive and significant effect on debt policy.

CONCLUSIONS

Based on the research results and discussion outlined above, it can be concluded that partially profitability has a significant negative effect on debt policy, while liquidity does not have a significant effect on profitability. Simultaneously, profitability and liquidity have a significant effect on debt policy.

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