



The Effect of the Current Ratio (CR) and Debt-to-Asset Ratio (DAR) on Return on Assets (ROA) at PT Indocement Tunggal Prakarsa Tbk for the Period 2015–2024

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Abstract: This study aims to analyze the effect of liquidity ratios, measured by the Current Ratio (CR), and solvency ratios, measured by the Debt-to-Asset Ratio (DAR), on profitability ratios, specifically Return on Assets (ROA) at PT Indocement Tunggal Prakarsa Tbk, one of Indonesia's leading cement companies. The background of this study is based on the importance of financial resource management in facing intense business competition, as well as the strategic role of the cement industry in national development. This study is a quantitative descriptive study. The data used are secondary data in the form of PT Indocement Tunggal Prakarsa Tbk's annual financial reports for the period 2015–2024. The data analysis technique used is multiple linear regression analysis with the aid of the Statistical Package for the Social Sciences (SPSS) program, preceded by classical assumption tests (normality, multicollinearity, and heteroscedasticity). Hypothesis testing was conducted to examine the partial effect of CR on ROA, the partial effect of DAR on ROA, and the simultaneous effect of CR and DAR on ROA.

Keywords: Current Ratio, Debt to Asset Ratio, Return on Asset

Abstrak: Penelitian ini bertujuan untuk menganalisis pengaruh rasio likuiditas yang diukur dengan Current Ratio (CR) dan rasio solvabilitas yang diukur dengan Debt to Asset Ratio (DAR) terhadap rasio profitabilitas, yaitu Return on Asset (ROA) pada PT Indocement Tunggal Prakarsa Tbk, yang merupakan salah satu perusahaan industri semen terkemuka di Indonesia. Latar belakang penelitian ini didasarkan pada pentingnya pengelolaan sumber daya keuangan dalam menghadapi persaingan bisnis yang ketat, serta peran strategis industri semen dalam pembangunan nasional. Penelitian ini merupakan penelitian deskriptif kuantitatif. Data yang digunakan adalah data sekunder berupa laporan keuangan tahunan PT Indocement Tunggal Prakarsa Tbk selama periode 2015-2024. Teknik analisis data yang digunakan adalah analisis regresi linier berganda dengan bantuan program Statistical Package for the Social Sciences (SPSS), didahului oleh uji asumsi klasik (normalitas, multikolinearitas, dan heteroskedastisitas). Pengujian hipotesis dilakukan untuk menguji pengaruh CR secara parsial terhadap ROA, pengaruh DAR secara parsial terhadap ROA, dan pengaruh CR dan DAR secara simultan terhadap ROA.

Kata Kunci: Rasio Lancar, Rasio Utang terhadap Aset, Pengembalian Aset

Introduction

PT Indocement Tunggal Prakarsa Tbk operates 12 plants: nine in Citeureup, Bogor Regency, West Java; two in Cirebon, West Java; and one in Tarjun, Kotabaru, South Kalimantan (**Keuangan Konsolidasian, n.d.a**). PT Indocement Tunggal Prakarsa Tbk's main products are Ordinary Portland Cement (OPC) and Portland Pozzolan Cement (PPC).

In 2005, these two types of cement were replaced by Portland Composite Cement (PPC). PT Indocement Tunggal Prakarsa Tbk produces other types of cement, including Type II and Type IV Portland Cement, Oil Well Cement, and White Cement. Analyzing financial performance and profitability is a primary objective for every company, as it reflects the company’s ability to generate profits. One of the most commonly used profitability ratios is Return on Assets (ROA). ROA measures how efficiently a company uses its assets to generate profits. The higher the ROA, the more effectively the company manages its assets to generate profits. To achieve an optimal ROA, a company needs to consider various financial aspects, including liquidity and solvency. The current ratio is a liquidity ratio that measures a company’s ability to meet its short-term obligations. This ratio is important for assessing whether a company has sufficient current assets to cover its short-term liabilities. A healthy current ratio indicates that the company has good financial flexibility and can withstand short-term financial pressures.

Methodology

This study is a quantitative descriptive study, meaning that it describes, recounts, and explains the results of the calculations or analysis of the company’s financial data used in this study. This study was conducted at PT Indocement Tunggal Prakarsa, Tbk., located at Jl. Jenderal Sudirman Kav. 70-71, Setiabudi Subdistrict, South Jakarta City, DKI Jakarta Province, and listed on the Indonesia Stock Exchange. This made it easier for the author to determine the research period, from the initial drafting of the research report to the completion of the collection of the necessary data and information. The financial statement calculation period is 2015–2024, obtained from the official website <https://www.indocement.co.id> and the official IDX website www.idx.co.id. This research was conducted over a 13-month period from November 2024 to December 2025. The data collected consists of financial statements, including balance sheets and income statements, for the period from 2015 to 2024.

Results and Discussion

Descriptive Statistical Analysis

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
CR	10	1.06	3.60	2.3966	.87692
DAR	10	.13	.29	.1950	.05583
ROA	10	.04	.16	.0780	.03795
Valid N (listwise)	10				

Figure 1. Results of Descriptive Statistics

Descriptive statistics, by definition, is a statistical method concerned with collecting and presenting data to provide useful information. Providing useful information means presenting it in a way that makes it easier for readers or users to read and utilize the data ([Martias, 2021](#)).

Based on the figure above, it can be seen that the dependent variable, Return on Assets (Y), with a sample size of 10, has a minimum value of 0.04, a maximum value of 0.16, a mean of 0.0780, and a standard deviation of 0.03795. The Current Ratio (X1), with a sample size of 10, has a minimum value of 1.06, a maximum value of 3.60, a mean of 2.3966, and a standard deviation of 0.87692. The Debt-to-Asset Ratio (X2), with a sample size of 10, has a minimum value of 0.13, a maximum value of 0.29, a mean of 0.1950, and a standard deviation of 0.05583.

Classical Assumptions Test

The classical assumption test is very useful in determining the regression model found, namely the accuracy of estimating the equation used to ensure it is unbiased and consistent (Hutagaol, 2025).

The classical assumption test is used to confirm that the regression equation function is accurate and valid. Therefore, to test a hypothesis in multiple linear regression, several classical assumption tests must first be conducted to determine whether the model used is free from assumption deviations and meets the requirements for obtaining a good linear equation (Muliono, 2019).

This study used SPSS 26 to test classical assumptions such as normality, multicollinearity, autocorrelation, and heteroscedasticity using a scatterplot model.

Normality Test

The simplest normality test is to plot a frequency distribution graph of the scores. Normality testing relies on our ability to carefully plot the data. If the data is large and the distribution is not 100% normal (not perfectly normal), the conclusions drawn are likely to be incorrect (Uji Normalitas, n.d.).

The normality test aims to determine whether a regression model follows a normal distribution or not. A good regression model has a normal or near-normal distribution. Data normality is assessed by examining the shape of the normal curve, specifically whether the curve has a balanced slope on both the left and right sides and whether it forms a nearly perfect bell curve. Results of the normality test for the Current Ratio (X1) variable against the Debt-to-Asset Ratio (X2) against Return on Assets (Y). Further analysis using a Normal P-P Plot of the regression data produces the following graph:

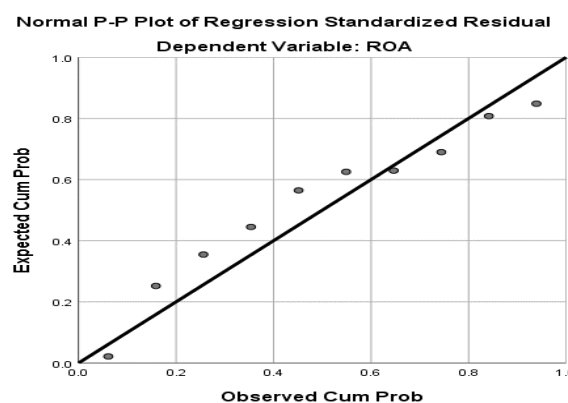


Figure 2. P-Plot Graph of Normality Test Results

The normality test aims to determine whether the regression model, the independent variables, or the residuals are normally distributed. From the figure above, it can be concluded that the residual values in the flowchart follow a diagonal line, indicating the degree of normality of the residual values.

Multicollinearity Test

Multicollinearity is a condition in which there is a correlation between independent variables or between independent variables that are not mutually exclusive. A measure that can be used to detect multicollinearity is the variance inflation factor (VIF). The VIF is used as a criterion for detecting multicollinearity in linear regression involving more than two independent variables (Sriningsih et al., n.d.).

According to Imam Ghozali (2018:107), the purpose of the multicollinearity test is to determine whether the regression model detects correlation among one or all of the independent variables. A good regression model should not exhibit correlation among the independent variables.

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.987	.250		-3.956	.005		
	CR	.205	.046	4.741	4.474	.003	.029	34.460
	DAR	2.940	.720	4.325	4.082	.005	.029	34.460

a. Dependent Variable: ROA

Figure 3. Results of the Multicollinearity Test

The figure shows that in the tolerance plot, the values of CR (X1) and DAR (X2) are 0.029, meaning both values are < 0.10, which indicates multicollinearity in this regression model. Meanwhile, the VIF values for the CR and DAR variables are 34.460, and both are greater than 10, indicating multicollinearity.

Heteroscedasticity Test

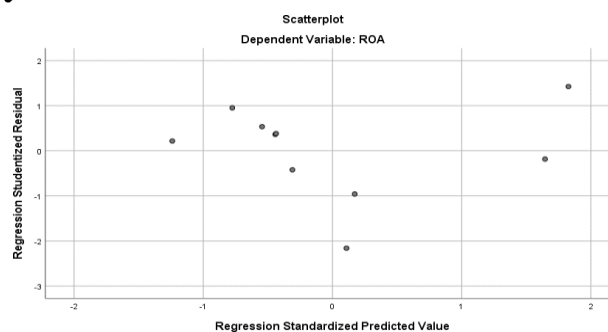


Figure 4. Scatterplot

The heteroscedasticity test is a statistical procedure used to determine whether the residual variance of a regression model is constant. There are two techniques for identifying this, graphical and statistical (Ghozali, 2009) (Heteroscedasticity Test, n.d.).

From the scatterplot above, it can be seen that the data points are randomly distributed and spread out both above and below the 0 mark on the Y-axis. It can therefore be concluded that there is no heteroscedasticity in the regression model, making it suitable for further regression analysis.

Autocorrelation Tests

The Autocorrelation Test aims to test whether in a linear regression model there is a correlation between the residuals in period t and the residuals in t-1 (Previous). A good regression model is one that is free from autocorrelation, a method that can be used to detect the presence or absence of correlation is the Durbin Watson (DW) test (Nabela et al., 2023).

According to Siem Jan Koopman and Marius Ooms (2022), in the journal Econometric Reviews, these two experts discuss autocorrelation tests in the context of state-space models. They state that autocorrelation tests, such as the Q-test, should be used routinely to validate time-series models, particularly in financial analysis.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.879 ^a	.772	.707	.02055	2.177

a. Predictors: (Constant), DAR, CR
 b. Dependent Variable: ROA

Figure 5. Autocorrelation Results

Based on the table, the test revealed no signs of autocorrelation, either positive or negative. This is evidenced by the fact that the du value (1.6413) is less than the Durbin-Watson statistic (2.177) and greater than 4 – du (2.3587).

Multiple Linear Regression Test

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.987	.250		-3.956	.005		
	CR	.205	.046	4.741	4.474	.003	.029	34.460
	DAR	2.940	.720	4.325	4.082	.005	.029	34.460

a. Dependent Variable: ROA

Figure 6. Results of the Multiple Linear Regression Test

$$Y = 0,053 + -0,077X_1 + -0,761X_2$$

Multiple linear regression analysis is the method used in this study which functions to overcome multicollinearity problems in the Human Development Index (HDI) in Aceh Tamiang (Susanti & Saumi, 2022).

Based on the results of the regression analysis shown in the figure above, the following conclusions can be drawn:

- a. Current Ratio (X1)

- b. Based on the calculations above, the regression equation is obtained as $Y = -0.987 + 0.205X$. This indicates that the regression coefficient is 0.205, which is a positive value. In other words, each one-unit increase in CR is predicted to increase ROA by 0.205.
- c. Debt to Asset Ratio (X2)
- d. Based on the calculations above, the regression equation is obtained as $Y = -0.987 + 2.940X$. This indicates that the regression coefficient is 2.940, which is a positive value. An increase in DAR (X2) tends to lead to an increase in ROA (Y).
- e. Return on Assets (Y)
- f. The analysis results yield a constant value of -0.987 . This indicates that when the Current Ratio and the Debt to Asset Ratio are assumed to be zero, Return on Assets is predicted to be negative, namely -0.987 .

Correlation Coefficient Test

		CR	DAR	ROA
CR	Pearson Correlation	1	-.985**	.479
	Sig. (2-tailed)		<.001	.162
	N	10	10	10
DAR	Pearson Correlation	-.985**	1	-.346
	Sig. (2-tailed)	<.001		.327
	N	10	10	10
ROA	Pearson Correlation	.479	-.346	1
	Sig. (2-tailed)	.162	.327	
	N	10	10	10

** . Correlation is significant at the 0.01 level (2-tailed).

Figure 7. Correlation Coefficient Analysis

The correlation coefficient has a value ranging from -1 to +1, where a correlation coefficient of +1 indicates that the two variables are very positively related (linear), a correlation coefficient of -1 indicates that the two variables are perfectly negatively related (linear), while a correlation coefficient of 0 indicates that there is no linear relationship between the two variables studied (Gogtay & Thatte, 2017:8) (Mustafa, n.d.).

Based on the correlation analysis shown in the figure above, the correlation between CR and DAR is -0.985 , at a significance level of <0.001 , indicating the absence of a significant linear relationship between the two variables. Likewise, the correlation coefficient between CR and ROA is 0.479 , at a significance level of 0.162 , suggesting that there is no significant relationship. The correlation between DAR and ROA is -0.346 , at a significance level of 0.327 . This condition reflects a strong and substantial negative correlation between DAR and ROA, indicating that an increase in DAR is associated with a decrease in ROA. An increasing debt burden may reduce the company’s profitability.

Coefficient of Determination Test

According to Sugiyono (2014), the coefficient of determination (R²) analysis is used to determine the percentage of the connection between independent variables simultaneously and the dependent variable. The R square value is said to be good if it is above 0.5 because the R square value ranges from 0 to 1 (Halin et al., n.d.).

According to [Ghozali \(2018:97\)](#), the coefficient of determination (R^2) aims to examine the extent to which independent variables influence the dependent variable. After conducting observations, the data are then divided into several subgroups, and regression analysis is performed to investigate the relationship between the predictor variables (X) and the criterion variable (Y) for each subgroup.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.879 ^a	.772	.707	.02055	2.177

a. Predictors: (Constant), DAR, CR
 b. Dependent Variable: ROA

Figure 8. Results of the Coefficient of Determination Test

In the results of the coefficient of determination test, the R-Squared value was obtained at 0.772 or 77.2%, which represents the percentage of influence of the Current Ratio (X1) and Debt-to-Assets Ratio (X2) variables on Return on Assets (Y), with the remaining 22.8% being influenced by other aspects both from within the company and from outside the company.

Hypothesis Testing

Hypothesis Testing is the science of inferential statistics includes hypothesis testing, which is used to statistically test a statement and draw conclusions about whether the statement should be accepted or not. The Big Indonesian Dictionary online defines a hypothesis as something that is considered true for reasons or expressing an opinion (proposition, theory, etc.), even though its truth still needs to be proven (**Hypothesis Testing, n.d.**).

Partial Statistical Test (T-Test)

Researchers use the T-test to compare sample means for two groups. If the means differ significantly, researchers can conclude that the population means are also different, rejecting the null hypothesis and supporting their research hypothesis ([Sutton, 2019](#)) ([Dhianti Putri et al., 2023](#)).

According to ([Ghazali 2021:148](#)), the t-test is conducted to determine the extent to which individual independent variables influence the variation of the dependent variable. This test is carried out using the following criteria: if the significance value is <0.05, the hypothesis is accepted; if the significance value is >0.05, the hypothesis is rejected.

$df = n - k = 10 - 2 = 8$

Significance Level = 0.05, meaning T-Table = 2,30600

Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.987	.250		-3.956	.005		
	CR	.205	.046	4.741	4.474	.003	.029	34.460
	DAR	2.940	.720	4.325	4.082	.005	.029	34.460

a. Dependent Variable: ROA

Figure 9. T-Test Results

- a. The Current Ratio is known to be $0.003 < 0.05$ and the calculated T-value is $4.474 > T$ -table 2.30600, based on which hypothesis H01 is rejected and Ha1 is accepted. The conclusion is that the Current Ratio has a partial significant effect on Return on Assets.
- b. The Debt-to-Assets Ratio is known to be $0.005 < 0.05$ and the calculated T-value is $4.082 > T$ -table 2.30600, based on which hypothesis H02 is rejected and Ha2 is accepted. The conclusion is that the Debt-to-Assets Ratio has a partial significant effect on Return on Assets.

Simultaneous Statistical Test (F-Test)

In conducting the F test, the parameter used is to compare the calculated $F > F$ table. Testing the influence of independent variables on the dependent variable simultaneously is carried out using the F test (Galileo, 2017).

According to Ghozali (2021:97), the F-test is used to determine whether a regression model involving more than one independent variable is feasible. The F-test (Simultaneous Test) is used to examine the simultaneous effect of independent variables X1 and X2 on the dependent variable Y, Return on Assets. The results of data processing using the F statistical test can be seen in the calculated F compared to the F-table, where:

$$\begin{aligned}
 F\text{-table} &= df1 = k-1 = 3-1 = 2 \\
 &= df2 = n-k = 10 -3 = \\
 F\text{-tabel (2:7)} &= 4,737
 \end{aligned}$$

ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.010	2	.005	11.849	.006 ^b
	Residual	.003	7	.000		
	Total	.013	9			

a. Dependent Variable: ROA
 b. Predictors: (Constant), DAR, CR

Figure 10. F-Test Results

Based on the simultaneous SPSS test results above, a significance value of $0.006 < 0.05$ was obtained, with a calculated F-value of 11.849 and an F-table value of 4.737, so it can be concluded that the calculated F of $11.849 > F$ -table of 4.737, which means that H03 is rejected and Ha3 is accepted, thus the Current Ratio (X1) and Debt-to-Assets Ratio (X2) variables simultaneously have a significant effect on Return on Assets (Y).

Conclusion

Based on the results of the research that has been conducted and the conclusions that have been presented above, several suggestions are proposed to be used as considerations for further researchers as follows: For companies, the results of this research can be used as an illustration, report or reference regarding the effectiveness in optimizing the Current Ratio and Debt to Asset Ratio to increase Return on Assets, For researchers, the results of this research can be used as evidence for case studies and references or references regarding

topics in the lecture process. It is hoped that researchers can examine other variables from outside the variables used in order to obtain better and more varied results.

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