

## EFFECT OF LIQUIDITY AND SOLVABILITY RATIO ON PROFITABILITY

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**Abstract:** This study aims to determine the effect of liquidity and solvency on profitability at PT. Antam Tbk Period 2011-2018. The method used is explanatory research. The analysis technique uses statistical analysis with regression testing, correlation, determination and hypothesis testing. The results of this study Current Ratio did not significantly influence the Return on Investment of 23.9%, the hypothesis test obtained a significance value of  $0.219 > 0.05$ . Debt To Equity Ratio has a significant effect on Return on Investment of 70.1%, the hypothesis test obtained a significance value of  $0.009 < 0.05$ . Current Ratio and Debt To Equity Ratio simultaneously have a significant effect on Return on Investment obtained regression equation  $Y = 28,859 - 0,007X_1 - 0,585X_2$  and the determination value of 70.7%, the hypothesis test obtained a significance value of  $0.046 < 0.05$ .

**Keywords:** Current Ratio, Debt To Equity Ratio, Return on Investment.

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### INTRODUCTION

In the current era of globalization, the development of our economy is more advanced and developing, triggering the emergence of many companies both engaged in trade, services and others. One of them is mining companies, the rapidly developing mining companies in Indonesia have triggered complex competition between companies. A company, including a mining company, in order to continue running and survive in the global economic order is to have good performance. Many large and small scale companies, will have great attention in the financial sector, because financial performance is a reflection of the company's ability to manage and allocate funds. And prove whether the company is able to progress and develop. That is why financial performance is one of the main dimensions of a company's performance. To assess the financial performance of a company we can find out through the company's financial statements which consist of a balance sheet, income statement, cash flow statement, statement of changes in financial position.

In analyzing financial statements, an appropriate analysis technique is needed to be used as a benchmark. Analysis techniques that are often used are liquidity ratios, solvency ratios, profitability / profitability ratios, and activity ratios. Analysis and interpretation of the various ratios can provide a better view of company performance compared to analyzes based solely on individual financial data that are not ratios.

Liquidity ratios are ratios to measure a company's ability to meet its short-term obligations. The liquidity ratio is an indicator that is considered in assessing the company's performance and credibility. Basic ability in fulfilling a good short-term, will provide credibility or good name for the company. The higher the level of liquidity of a company, the better the company's performance and vice versa.

Companies that have a high level of liquidity are usually more likely to get various kinds of support from outside parties such as financial institutions, creditors, and suppliers of raw materials. The liquidity ratio consists of several measurement methods such as Current Ratio, Cash Ratio, Quick Ratio. In addition, the solvency ratio is a ratio

to measure the company's ability to meet long-term obligations if the company is liquidated. Debt is one of the sources of funds for the company, creating a burden or risk going forward. Then the greater the debt, the greater the interest expense that must be paid by a company. This situation will reduce the profit or profit of a company. In the solvency ratio there are several measurement methods, namely Debt To Asset Ratio, Debt To Equity Ratio, Long Term Debt To Equity Ratio, Time Interest Earned, and Fixed Charge Coverage.

Profitability ratios are a measuring tool to assess the success of a company in generating profits. One

of the goals of the company is to get the maximum profit or profit. In this ratio, it consists of Gross Profit Margin, Operating Income Ratio, Net Profit Margin, Return On Assets (ROA), Return On Investment (ROI), Return On Equity (ROE).

PT. Antam Tbk is a vertically integrated export-oriented mining company. Through operational areas spread throughout Indonesia that are rich in mineral materials, PT. Antam covers exploration, mining, management and marketing of nickel ore, veronickel, gold, silver, bauxite and coal commodities. Based on an overview of the report at PT. Antam Tbk from 2011 to 2018.

**Table 1. Average data of CR, DAR, ROI for 2011-2018 PT. Antam Tbk**

Years	Current Ratio (CR) (%)	Debt to Asset Ratio (DAR) (%)	Return on Investment (ROI) (%)
2011	381.8%	22.1%	13.7%
2012	164.22%	29.1%	13.2%
2013	251.4%	34.9%	4.5%
2014	183.6%	41.5%	1.9%
2015	164.2%	45.9%	3.5%
2016	259.3%	39.7%	7.7%
2017	244.2%	38.6%	2.2%
2018	162.1%	38.4%	2.45%
Average	162.1%	38.4%	2.45%

Based on the table above shows that the development of the percentage of Current Ratio (CR) at PT. Antam Tbk continues to experience fluctuations, namely in 2011 to 2018, it was obtained the achievement of various percentages with an average of 226.4%. The lowest current ratio occurred in 2015 where only reached 164.2% and the highest achievement occurred in 2011 which amounted to 381.8%.

The development of the percentage of Debt to Asset Ratio at PT. Antam Tbk continues to experience fluctuations, namely in 2011 to 2018, it was obtained the achievement of various percentages with an average of 36.3%. The lowest Debt to Asset Ratio

occurred in 2011 where it only reached 22.1% and the highest achievement occurred in 2015 which amounted to 45.9%.

The development of the Return on Investment percentage at PT. Antam Tbk continues to experience fluctuations, namely in 2011 to 2018, it was obtained the achievement of various percentages with an average of 6.1%. The lowest return on investment occurred in 2014 where it only reached 1.9% and the highest achievement occurred in 2011 which amounted to 13.7%.

From the description above, the researcher wants to analyze is there any profit effect produced by PT. Antam Tbk with a level of liquidity and

solvency. To analyze this requires a benchmark or calculation, the authors use the calculation of Current Ratio (CR) for Liquidity, Debt To Asset Ratio (DAR) for Solvency, and Return on Investment (ROI) for Profitability.

Based on the description above the authors take the title "The Effect of Liquidity Ratio (CR) and Solvency Ratio (DAR) Against Profitability Ratio (ROI) at PT. Antam Tbk 2011-2018 period "

#### Formulation of the problem

Is there a partial effect between Current Ratio to Return on Investment in PT. Antam Tbk. Is there a partial effect between Debt To Equity Ratio on Return on Investments at PT. Antam Tbk. Is there a simultaneous effect between Current Ratio and Debt To Equity Ratio on Return on Investment at PT. Antam Tbk.

#### Research purposes

To find out partial effect between Current Ratio to Return on Investment at PT. Antam Tbk. To know the partial effect between Debt To Equity Ratio on Return on Investment at PT. Antam Tbk. To determine the simultaneous effect between Current Ratio and Debt To Equity Ratio on Return on Investment at PT. Antam Tbk.

Liquidity, In this study Liquidity is measured by Current Ratio. According to Kasmir (2014) Current Ratio (CR) is a ratio used to measure a company's ability to pay short-term liabilities or debt that are due immediately when billed as a whole.

CR= current assets

Solvency, In this study, Solvency is measured by Debt To Equity Ratio. According to Kasmir (2015) Debt To Asset Ratio (DAR) is a

comparison between current debt and long-term debt and the total amount of known assets. This ratio shows how much of the total debt is spent.

Profitability, In this study profitability is measured by Return on Investment. Financial performance is related to profitability, which is the company's ability to generate profits for a certain period. The profitability of a company shows the ratio between earnings and capital that produces these profits. The company's decision to incur a debt raises the company's financial obligation to repay its debt.

According to Kasmir (2010) Return On Investment (ROI) is a ratio that shows the results (return) on the amount that exists in a company or entity that discusses management efficiency. This ratio shows the results of all that are controlled by using sources and measured by a percentage.

## RESEARCH METHODS

### Population

The population in this study financial statements for 8 years PT. Antam Tbk Tbk

### Sample

The sampling technique in this study is saturated sampling, where all members of the population are sampled. Thus the sample in this study was financial statements for 8 years.

### Types of research

The type of research used is associative, where the aim is to find out the relationship between variables  
Data analysis method In analyzing the data used instrument test, classical assumption test, regression, coefficient of determination and hypothesis testing.

**RESEARCH RESULT**

**Descriptive Analysis**

This test is used to determine the minimum and maximum

percentage, average percentage and standard deviation of each variable. The results are as follows:

**Table 1. Results of Descriptive Statistics Analysis Descriptive Statistics**

	N	Minimum	Maximum	Mean	Std. Deviation
Current Ratio (X1)	8	162.1	381.8	226.353	75.4746
Debt To Equity Ratio (X2)	8	22.1	45.9	36.275	7.5204
Return on Invesment (Y)	8	1.9	13.7	6.144	4.8728
Valid N (listwise)	8				

Source: 2020 SPSS Processing

Current Ratio obtained a minimum value of 162.1% and a maximum value of 381.8% with an average of 226.3% with a standard deviation of 75.47%. Debt To Equity Ratio obtained a minimum value of 22.1% and a maximum value of 45.9% with a mean score of 36.27% with a standard deviation of 7.52%. Return on Investment obtained a minimum variance of 1.9% and a maximum value of 13.7% with an average of 6.14% with a standard deviation of 4.87%.

**Verification Analysis.**

This analysis is intended to determine the effect of independent variables on the dependent variable. The test results are as follows:

**Multiple Linear Regression Analysis**

This regression test is intended to determine changes in the dependent variable if the independent variable changes. The test results are as follows:

**Table 2. Results of Multiple Liner Regression Testing Coefficients<sup>a</sup>**

Model	Unstandardized Coefficients		Standardized Coefficients Beta	t	Sig.
	B	Std. Error			
1 (Constant)	28.859	11.200		2.577	.050
Current Ratio (X1)	-.007	.021	-.101	-.317	.764
Debt To Equity Ratio (X2)	-.585	.207	-.903	-2.825	.037

a. Dependent Variable: Return on Invesment (Y)

Source: 2020 SPSS Processing

Based on the test results in the above table, the regression equation  $Y = 28.885 - 0.007X1 - 0.585X2$  is obtained. From the equation explained as follows:

A constant of 28,859 means that if there is no Current Ratio and Debt To Equity Ratio, then there is a Return on Investment value of 28,859 points. Current Ratio coefficient of -0.007, this

number is negative meaning that every time there is a decrease in Current Ratio of -0.007 then Return on Investment will also decrease by -0.007 points. Debt To Equity Ratio regression coefficient of -0.585, this number is negative meaning that every time there is a decrease in Debt To Equity Ratio of -0.585 then Return on Investment will also decrease by -0.585 points.

**Correlation Coefficient Analysis**

Correlation coefficient analysis is intended to determine the degree of relationship strength of the independent

variables on the dependent variable either partially or simultaneously. The test results are as follows:

**Table 3. Results of the Current Ratio Correlation Coefficient Test on Return on Investment.**

		Correlations <sup>b</sup>	
		Current Ratio (X1)	Return on Investment (Y)
Current Ratio (X1)	Pearson Correlation	1	.489
	Sig. (2-tailed)		.219
Return on Investment (Y)	Pearson Correlation	.489	1
	Sig. (2-tailed)	.219	

Source: 2020 SPSS Processing

Based on the test results obtained by a correlation value of 0.489 means that Current Ratio has a

moderate relationship to Return on Investment.

**Table 4. Test Results for Debt To Equity Ratio Correlation Coefficient Against Return on Investment.**

		Correlations <sup>b</sup>	
		Debt To Equity Ratio (X2)	Return on Investment (Y)
Debt To Equity Ratio (X2)	Pearson Correlation	1	-.837**
	Sig. (2-tailed)		.009
Return on Investment (Y)	Pearson Correlation	-.837**	1
	Sig. (2-tailed)	.009	

Source: 2020 SPSS Processing

Based on the test results obtained by the correlation value of -0.837 means that Debt To Equity Ratio

has a very strong negative relationship to Return on Investment.

**Table 5. Simultaneous Correlation Test Results of Current Ratio and Debt To Equity Ratio Simultaneously Against Return on Investment.**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.841 <sup>a</sup>	.707	.590	3.1210

a. Predictors: (Constant), Debt To Equity Ratio (X2), Current Ratio (X1)

Source: 2020 SPSS Processing

Based on the test results obtained by a correlation value of 0.841 means that the Current Ratio and Debt To Equity Ratio simultaneously have a very strong relationship to Return on Investment.

**Analysis of the Coefficient of Determination**

Analysis of the coefficient of determination is intended to determine the percentage of influence of the

independent variable on the dependent variable either partially or simultaneously. The test results are as follows:

**Table 6. Results of the Current Ratio Determination Coefficient Test on Return on Investment.**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.489 <sup>a</sup>	.239	.112	4.5909

a. Predictors: (Constant), Current Ratio (X1)  
 Source: 2020 SPSS Processing

Based on the test results obtained a determination value of 0.239 means that the Current Ratio has an influence contribution of 23.9% on Return on Investment.

**Table 7. Test Results for Debt To Equity Ratio Determination Coefficient on Return on Investment.**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.837 <sup>a</sup>	.701	.651	2.8775

a. Predictors: (Constant), Debt To Equity Ratio (X2)  
 Source: 2020 SPSS Processing

Based on the test results obtained a determination value of 0.701 means that Debt To Equity Ratio has an influence contribution of 70.1% to Return on Investments.

**Table 8. Test Results for the Current Ratio Determination Coefficient and Debt To Equity Ratio Against Return on Investment.**

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.841 <sup>a</sup>	.707	.590	3.1210

a. Predictors: (Constant), Debt To Equity Ratio (X2), Current Ratio (X1)  
 Source: 2020 SPSS Processing

Based on the test results obtained a determination value of 0.701 means that Debt To Equity Ratio has an influence contribution of 70.1% to Return on Investments.

**Table 8. Test Results for the Current Ratio Determination Coefficient and Debt To Equity Ratio Against Return on Investment.**

Coefficients <sup>a</sup>						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-1.003	5.451		-.184	.860
	Current Ratio (X1)	.032	.023	.489	1.373	.219

a. Dependent Variable: Return on Investment (Y)  
 Source: 2020 SPSS Processing

Based on the test results in the table above, a significance value of  $0.219 > 0.05$  is obtained, thus there is no significant effect between Current

Ratio on Return on Investment.

**Table 10. Debt To Equity Ratio Hypothesis Test Results Against Return on Investment Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	25.824	5.344		4.833	.003
	Debt To Equity Ratio (X2)	-.543	.145	-.837	-3.752	.009

a. Dependent Variable: Return on Investment (Y)  
 Source: 2020 SPSS Processing

Based on the test results in the table above, a significance value of  $0.009 < 0.05$  is obtained, thus there is a significant influence between Debt To Equity Ratio on Return on Investment.

### Simultaneous Hypothesis Test (Test F)

Hypothesis testing with the F test is used to find out which simultaneous hypotheses are accepted.

**Table 11. Hypothesis Test Results Current Ratio and Debt To Equity Ratio Against Return on Investment.**

		ANOVA <sup>a</sup>				
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	117.505	2	58.753	6.032	.046 <sup>b</sup>
	Residual	48.702	5	9.740		
	Total	166.207	7			

Source: 2020 SPSS Processing

Based on the test results in the table above, a significance value of  $0.046 < 0.05$  is obtained, thus there is a significant influence between Current Ratio and Debt To Equity Ratio on Return on Investment.

### The Influence of Debt To Equity Ratio Against Return on Investment

Debt To Equity Ratio has a significant effect on Return on Investment with a correlation of  $-0,837$  or has a strong relationship with a contribution of 70.1%. Hypothesis testing obtained a significance value of  $0.009 < 0.05$ . Thus there is a significant influence between Debt To Equity Ratio on Return on Investment.

## RESULTS AND DISCUSSION

### Effect of Current Ratio on Return on Investment

Current Ratio has a significant effect on Return on Investment with a correlation of 0.489 or has a strong relationship with an influence contribution of 23.9%. Hypothesis testing obtained a significance value of  $0.219 > 0.05$ . Thus there is no significant effect between Current Ratio on Return on Investment.

### The Effect of Current Ratio and Debt To Equity Ratio on Return on Investment

Current Ratio and Debt To Equity Ratio have a significant effect on Return on Investment by obtaining a regression equation  $Y = 28,859 - 0,007X_1 - 0,585X_2$ , the correlation value is 0.841

or has a strong relationship with a contribution of 70.7% while the remaining 29.3% % influenced by other factors. Hypothesis testing obtained a significance value of  $0.046 < 0.05$ . Thus there is a significant influence between Current Ratio and Debt To Equity Ratio on Return on Investment.

### CONCLUSION

Current Ratio has no significant effect on Return on Investment. Hypothesis testing obtained significance probability value. Debt To Equity Ratio has a significant effect on Return on Investment. Hypothesis testing obtained significance value. Current Ratio and Debt To Equity Ratio have a significant effect on Return on Investment. Hypothesis testing obtained significance probability value.

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