


The Influence Of Financial Ratios On Changes In Profit At Pt. Tirta Investama Medan

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<p>Submitted : 26 Februari, 2026</p> <p>Accepted : 29 Februari, 2026</p> <p>Published : 01 Maret, 2026</p> <p>By : JIEBS: Journal of Islamic Economics and Business</p> <p>Copyright: ©2026. Author</p> <div style="text-align: center;">  </div> <p>This article is licensed under the Creative Commons Attribution-Share Alike 4.0 International License http://creativecommons.org/licenses/by-sa/4.0/</p>	<p>The purpose of this study was to analyze financial ratios consisting of Debt Equity Ratio, Working Capital Total Asset, Total Asset Turn Over, and Net Profit Margin in predicting profit changes at PT Tirta Investama Medan. This research method uses data collection techniques, namely interviews and documentation. The data in this study are data in the form of annual financial reports of mineral water companies that have been audited by the company. The data was analyzed using the SPSS program. The results of the study based on the t-test, first showing the Debt Equity Ratio is not significant to Changes in Earnings, second showing Working Capital Total Asset has a significant effect on Changes in Earnings, third showing Total Asset Turn Over to Changes in Earnings, fourth showing Net Profit Margin to Changes in Earnings, and the results of research based on the F-test Debt Equity Ratio, Working Capital Total Asset, Total Asset Turn Over, and Net Profit Margin simultaneously have a significant effect on Changes in Earnings with a coefficient of determination of 81.7%.</p> <p>Keywords: Debt Equity Ratio, Working Capital Total Asset, Total Asset Turn Over, Net Profit Margin, Profit Change</p>

A. Introduction

Facing competition in the current era of globalization, every company is required to be able to manage important functions in the company effectively and efficiently, so that the company can excel in the competition it faces. In addition, the company can also increase profits by minimizing the costs incurred by the company.

The main focus of financial statements is profit, so financial statement information must have the ability to predict future profits. Profit is one of the measuring tools for a company to survive and continue its operations. Profit is additional net income in the form of assets and money that can be used for the survival of the company. To find out whether the profit generated by the company increases or decreases in a period, the company can see the percentage change in profit.

To make decisions that are useful in meeting company objectives, financial managers must have financial analysis tools. Internally, management also uses financial analysis for internal control and to provide capital providers with what they need to know about the company's financial condition and performance. In order to evaluate a company's financial condition and performance, financial analysts need to examine various aspects of the company's financial health. The tools often used during such an examination are financial ratios.

Financial ratios are comparing numbers in financial statements by dividing one number by another. Comparisons can be made between components with components in one financial statement or between components that exist between financial statements. Then the numbers being compared can be numbers in one period or several periods. The financial ratios used to predict changes in earnings in this study are liquidity, activity, leverage and profitability ratios, Liquidity ratio is represented by Working Capital Total Asset. The activity ratio is represented by Total Assets Turn Over, the leverage ratio is represented by Debt Equity Ratio and the profitability ratio is represented by Net Profit Margin.

Seeing the many gaps or differences in the results of previous studies, in this study researchers are interested in doing the same thing but using different samples and periods. This study explains the effect of financial ratios in predicting changes in profit at PT Tirta Investama Medan, and obtains empirical evidence whether the variables used also affect the company or not.

B. Literature Review

Accounting profit

Accounting profit is the difference between the realized revenue arising from transactions in a given period and the expenses incurred in that period. There are three common concepts of profit that are discussed and used in economics. These profit concepts are:

1. Psychic Income, which shows the consumption of goods or services that can fulfill individual satisfaction and desires.
2. Real Income, which shows an increase in economic prosperity as indicated by an increase in the cost of living.
3. Money Income, which shows an increase in the monetary value of economic resources used for consumption in accordance with the cost of living.

Financial Report

Financial statements are the result of recording all financial transactions in the company. Financial transactions are all kinds of activities that can affect the company's financial condition, such as sales and purchases. The financial accounting department in the company will process the transaction data, either manually or with the ERP (enterprise resource planning) system, which they are used to using. Financial statements are reports that show the company's financial condition at this time or within a certain period. Financial statements describe the company's financial posts obtained in a period, in practice several types of financial statements are known such as: balance sheet, income statement, statement of changes in capital.

Definition of ratio analysis

Ratio analysis is part of financial analysis. Ratio analysis is an analysis carried out by linking various estimates in the financial statements in the form of financial ratios. This financial ratio

analysis can reveal important relationships between financial statement estimates and can be used to evaluate the company's financial condition and performance.

Financial ratio analysis shows the relationship between selected items of financial statement data. Ratios show the mathematical relationship between one quantity and another. This relationship is expressed in terms of percentage levels or single proportions.

Financial Ratios

Financial ratios are ratio calculations using financial statements that serve as a measuring tool in assessing the financial condition and performance of the company. Financial ratios are numbers obtained from the comparison between one financial statement item and another item that has a relevant and significant relationship. Comparisons can be made between one item and other items in one financial statement or between items that exist between financial statements.

C. Research Methodology

The research approach used in this study based on the characteristics of the problem is casual research with a quantitative approach. Casual research (causal relationship) is research that wants to see whether a variable that acts as an independent variable affects other variables that become dependent variables.

The research was conducted with the aim of knowing empirical evidence about the relationship between the independent and dependent variables with the company object. The research was conducted to determine the effect of financial ratios on changes in profit at PT Tirta Investama Medan. The study used secondary data derived from financial statements owned by the company.

Data Analysis Technique

This study uses quantitative data analysis with an emphasis on matters related to certain numbers and formulas using the financial statement analysis method. The report analysis method used is:

1. Profit Change Analysis

$$Y_t = \frac{(Y_t - Y_{t-1})}{Y_{t-1}}$$

2. Financial Ratio Analysis

a. Debt Equity Ratio (DER)

$$\text{Debt Equity Ratio} = \frac{\text{Total Debt}}{\text{Total Equity}}$$

b. Working Capital Total Asset

$$\text{WCTA} = \frac{\text{Current Assets} - \text{Current Liabilities}}{\text{Total Assets}}$$

c. Total Assets Turn Over (TATO)

$$\text{Total Assets Turn Over} = \frac{\text{Sales}}{\text{Total Assets}}$$

d. Net Profit Margin

$$\text{Net Profit Margin} = \frac{\text{Net Profit}}{\text{Sales}}$$

Multiple Linear Regression Analysis

Multiple linear regression analysis is a test tool to determine the direction of the relationship between the dependent variable and the independent variable, whether each independent variable is positively or negatively related and to estimate or predict the population average or average value of the dependent variable based on the known value of the independent variable. The data used is usually interval or ratio scale. The model used from multiple linear regression is using the following formula:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + e$$

Where:

Y = Change in profit

X1 = Working Capital to Total Assets

X2 = Debt to Equity Ratio

X3 = Total Assets Turnover

X4 = Net Profit Margin

a = Constant

e = confounding variable

Hypothesis Test

Hypothesis testing is a procedure for proving the truth of population properties based on samples. Hypothesis testing is done through the determinant test (R²), t test and F test.

D. Results and Discussion

Results

To find out how the use of financial ratios on changes in profit at PT Tirta Investama Medan, then the data is analyzed data as follows:

Profit Change Analysis

Table 1
Profit Change Analysis

YEAR	PROFIT CHANGE
2011	0,24
2012	0,25
2013	0,24
2014	0,09
2015	0,07
2016	0,07
2017	0,10
2018	0,07
2019	0,11
2020	0,12

Source: data PT Tirta Investama

Financial Ratio Analysis

Table 2
Financial Ratio Analysis

YEAR	DER	WCTA	TATO	NPM
2011	4,02	0,19	0,83	0,01

2012	5,45	0,14	0,95	0,01
2013	11,25	0,12	1,08	0,02
2014	8,70	0,10	1,13	0,02
2015	7,37	0,06	1,11	0,02
2016	7,93	0,04	1,03	0,02
2017	7,83	0,03	0,95	0,02
2018	9,55	0,03	1,19	0,02
2019	11,32	0,02	0,72	0,04
2020	11,32	0,02	0,18	0,19

Source: data PT Tirta Investama

Multiple Linear Regression

The results of multiple linear regression equations seen from the results of calculations using the SPSS program obtained results as in the following table:

Table 3
Multiple Linear Regression Results

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error				Beta	Zero-order	Partial	Part	Tolerance
	1 (Constant)	1.130	.158		5.824	.004				
DER	.988	.008	.322	1.204	.283	.334	.474	.230	.581	7.958
WCTA	1.238	.325	.974	4.813	.012	.824	.863	.729	.540	5.784
TATO	1.158	.125	.612	5.265	.003	.102	.492	.242	.563	6.398
NPM	1.636	.761	.447	7.835	.000	.132	.350	.160	.593	7.817

Source: SPSS 25.0 Processing Results, 2021

Based on the results of the multiple regression equation, it can be interpreted as follows:

- a. The constant value (a) of 1,130 means that if the Debt Equity Ratio (X1), Working Capital Total Asset (X2), Total Asset Turn Over (X3), and Total Asset Turn Over (X4) are zero, then the change in company profits from one period to another is 1,130.
- b. The Debt Equity Ratio regression coefficient (b1) is positive at 0.988, meaning that if the change in Debt Equity Ratio increases by 1%, the change in profit will also increase by 98.8%, assuming other variables are constant.
- c. The Working Capital Total Asset regression coefficient value (b2) is positive at 1.238, which means that if the Working Capital Total Asset change increases by 1%, the profit change will also increase by 12.38%, assuming other variables are constant.
- d. The Total Asset Turn Over regression coefficient (b3) is positive at 1.158, which means that if the change in Total Asset Turn Over increases by 1%, the change in profit will also increase by 11.58%, assuming other variables are constant.
- e. The Net Profit Margin regression coefficient value (b4) is positive at 1.636, which means that if the Net Profit Margin change increases by 1%, the profit change will also increase by 16.36%, assuming that the other variables are constant.

Hypothesis Test

a. T-test

The t-test is used to test whether an independent variable really has an influence on the dependent variable. In this test, it is wanted to know whether if separately / partially, a variable X still contributes significantly to the dependent variable Y. From the results of calculations using the SPSS program, the results are obtained as in the following table:

Table 4
T Test Results

Coefficients ^a										
Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1 (Constant)	1.130	.158		5.824	.004					
DER	.988	.008	.322	1.204	.283	.334	.474	.230	.581	7.958
WCTA	1.238	.325	.974	4.813	.012	.824	.863	.729	.540	5.784
TATO	1.158	.125	.612	5.265	.003	.102	.492	.242	.563	6.398
NPM	1.636	.761	.447	7.835	.000	.132	.350	.160	.593	7.817

Source: SPSS 25.0 Processing Results, 2021

1. The significance level of the effect of Debt Equity Ratio on profit changes is 0.283. Because the significance value of $0.283 \geq 0.05$ and the amount of $t\text{-count} = 1.204 \leq t\text{ table} = 2.015$, from the results of this test it is stated that H_0 is accepted and H_a is rejected, meaning that partially the Debt Equity Ratio variable does not have a significant effect on changes in profit.
2. The significance level of the effect of Working Capital Total Asset on changes in profit is 0.012. Because the significance value of $0.012 \leq 0.05$ and the $t\text{-count} = 4.813 \geq t\text{ table} = 2.015$, from the results of this test it is stated that H_a is accepted and H_0 is rejected, meaning that partially the Working Capital Total Asset variable has a significant effect on profit changes.
3. The significance level of the effect of Total Asset Turn Over on profit changes is 0.003. Because the significance value of $0.003 \leq 0.05$ and the amount of $t\text{-count} = 5.265 \geq t\text{ table} = 2.015$, from the results of this test it is stated that H_a is accepted and H_0 is rejected, meaning that partially the Total Asset Turn Over variable has a significant effect on profit changes.
4. The significance level of the effect of Net Profit Margin on profit changes is 0.000. Because the significance value of $0.000 \leq 0.05$ and the amount of $t\text{-count} = 7.835 \geq t\text{ table} = 2.015$, from the results of this test it is stated that H_a is accepted and H_0 is rejected, meaning that partially the Net Profit Margin variable has a significant effect on profit changes.

b. F-test

The f-test is used to see whether the independent variables together (simultaneously) have a significant influence on together (simultaneously) have a significant influence on the dependent variable. dependent variable. With a simultaneous level of significance of 5% or 0,05.

Table 5
F Test Results

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.043	4	.011	15.585	.004*
	Residual	.010	5	.002		
	Total	.053	9			

a. Predictors: (Constant), NPM, WCTA, DER, TATO

b. Dependent Variable: YT

Source: SPSS 25.0 Processing Results, 2021

The results of the ANOVA test in Table 4 show that the F-count value is 15.585 with a significance value of 0.004. Meanwhile, to find F-table with the number of units of analysis (n) = 10; number of variables (k) = 5; level of significance $\alpha = 5\%$; degree of freedom $df1 = k-1 = 4$ and $df2 = n-k = 10-4 = 6$, the F-table value is 4.53 (significance level $\alpha = 5\%$). So that the obtained value of $F\text{-count} = 15.585 > F\text{-table} = 4.53$.

c. Test Model R2 (Coefficient of Determination)

Correlation analysis can be continued by calculating the coefficient of determination determination. This coefficient of determination serves to determine how much the percentage between the independent variable and the dependent variable.

Table 6

Model Summary ^b										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.904*	.817	.671	.04392	.817	5.585	4	5	.044	2.015

a. Predictors: (Constant), NPM, WCTA, DER, TATO

b. Dependent Variable:YT

Source: SPSS 25.0 Processing Results, 2021

Based on the table above, the coefficient of determination (R2) is 0.817 or 81.7%. This figure explains that 81.7% of the level of profit changes that occur can be explained by the Debt Equity Ratio, Working Capital Total Asset, Total Asset Turn Over and Net Profit Margin variables. While the rest, namely 18.3% must be explained by other factors outside the research model.

Discussion

Effect of Debt Equity Ratio on Profit Changes

Based on the tests that have been carried out, the Debt Equity Ratio has no significant effect. In the partial test results (t-test) to see significance can be seen by comparing the significance value of the variable with 0.05. Debt Equity Ratio has a bad impact, because a higher level of debt means that the interest expense will be greater and this shows reduced profits. And this shows reduced profits. The higher the Debt Equity Ratio, the greater the financial leverage and the greater the proportion of creditor funds used to generate profits. So that the Debt Equity Ratio has no effect on changes in profit in the company.

The Effect of Working Capital Total Asset on Changes in Profit

Based on the tests that have been carried out, Working Capital Total Asset has a significant effect. In the partial test results (t-test) to see significance can be seen by comparing the significance value of the variable with 0.05. Working Capital Total Asset is a ratio that shows the company's ability to use the company's current assets, so that it can pay its short-term debt exactly when it needs it. High Working Capital Total Asset indicates excess working capital which may be due to low inventory turnover, accounts receivable or too large cash balances. Cash balance that is too large. Therefore the company has a significant effect on changes in profit.

The Effect of Total Asset Turn Over on Changes in Profit

Based on the tests that have been carried out, Total Asset Turn Over has a significant effect. In the partial test results (t-test) to see significance can be seen by comparing the significance value of the variable with 0.05. The higher the Total Assets Turn over, the higher the level of efficiency of the company in using its assets so that it limits the purchase of new assets. limit the purchase of new assets. The high Total Assets Turn over shows the effectiveness of the use of funds. Thus the high and low Total Assets Turn over will affect the high and low profit growth. Therefore the company has a significant effect on changes in profit.

The Effect of Net Profit Margin on Changes in Profit

Based on the tests that have been carried out, Net Profit Margin has a significant effect. In the partial test results (t-test) to see significance can be seen by comparing the significance value of the variable with 0.05. The effect of Net Profit Margin on changes in company profits is that the higher the value of this risk, the net profit generated will also increase because sales increase more than the cost of doing business. Therefore the company has a significant effect on changes in profit.

The Effect of Debt Equity Ratio, Working Capital Total Asset, Total Asset Turn Over, and Net Profit Margin on Profit Changes

Based on the tests carried out Debt Equity Ratio, Working Capital Total Asset, Total Asset Turn Over, and Net Profit Margin affect changes in profit. Simultaneously, it has an effect on profit changes, which is seen from the Fcount (15.585) which is greater than Ftable = 4.53 In this case it can be said that Debt Equity Ratio, Working Capital Total Asset, Total Asset Turn Over, and Net Profit Margin have an effect on Profit Changes. Based on the results. The research above also proves that Ha4 is accepted. So that regression can be used to predict Profit Changes

E. Conclusion (Goudy Old Style, bold, 12pt)

Based on the results of data analysis and management in this study, about the Effect of Financial Ratios on Changes in Profit Case Study at PT Tirta Investama Medan. After being explained in the previous chapter. Then it can be concluded that partially the Debt Equity Ratio variable has no effect on profit changes, but the Working Capital Total Asset (X2), Total Assets Turn Over (X3), Net Profit Margin (X4) variable affects profit changes. Then the results obtained simultaneously variable Debt Equity Ratio (X1), Working Capital Total Asset (X2), Total Assets Turn Over (X3), Net Profit Margin (X4) affect Profit Changes (Y), thus proving that Ha5 is accepted and H05 is rejected.

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