
THE EFFECT OF WORKING CAPITAL TURNOVER AND DEBT TO ASSET RATIO ON NET PROFIT MARGIN AT PT SIANTAR TOP TBK. 2014-2023 PERIOD

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Abstract

This study aims to determine the influence of Working Capital Turnover and *Debt to Asset Ratio* on Net Profit Margin, both partially and simultaneously. This study uses the financial statements of PT Siantar Top Tbk for the 2014-2023 period. The data used are the company's annual financial reports obtained from the Indonesia Stock Exchange, using quantitative methods through multiple linear regression analysis, t-test, F-test, and coefficient of determination. The results of the partial test (t-test) show that Working Capital Turnover has a sig. value of $0.420 > 0.05$ and a calculated t value of $0.857 < t \text{ table } 2.365$, this means that partially Working Capital Turnover does not have a significant effect on Net Profit Margin. *Debt to Asset Ratio* has a sig. value of $0.020 < 0.05$ and the calculated t value is $-2.988 > t \text{ table } 2.365$, this means that partially *Debt to Asset Ratio* has a significant negative effect on Net Profit Margin. The results of the simultaneous test (F test) have a sig. value of $0.001 < 0.05$ and an F-value of $24.003 > F\text{-table } 4.737$. Thus, it can be seen that simultaneously Working Capital Turnover and *Debt to Asset Ratio* has a significant effect on Net Profit Margin. The coefficient of determination (R^2) value of 0.873 indicates that 87.3% of the variation in Net Profit Margin can be explained by Working Capital Turnover and *Debt to Asset Ratio*, while the remaining 12.7% is influenced by other factors outside the model. The research results emphasize the importance of debt control and working capital turnover to maintain company profitability.

Keywords: Working Capital Turnover, Debt to Asset Ratio and Net Profit Margin

INTRODUCTION

The snack food manufacturing industry is a vital part of Indonesia's growing economy. Companies in this sector are established with the primary goal of maximizing profits, which serves as the foundation for long-term business survival. High profits enable companies to continue expanding, innovating, and improving competitiveness. Consequently, regular financial performance reviews are a strategic aspect for determining the effectiveness of a company's strategies and operations. Poor financial performance can impact stakeholder perceptions, including investors, creditors, and consumers. In the context of public companies, performance that falls short of market expectations can impact share prices, investment decisions, and the company's sustainability. Therefore, appropriate measurement tools are needed to evaluate a company's success, one of which is through financial statements interpreted through financial ratio analysis.

Net Profit Margin PT Siantar Top Tbk, listed on the Indonesia Stock Exchange, has experienced a fluctuating trend in its Net Profit Margin each year. The following is the average annual Working Capital Turnover (WCT) and Debt to Asset Ratio (DAR) data relative to Net Profit Margin (NPM) at PT Siantar Top Tbk.

Table 1.1. Working Capital Turnover, Debt to Asset Ratio, and Net Profit Margin at PT Siantar Top Tbk for the 2014-2023 period

Year	Working Capital Turnover	Debt to Asset Ratio	Net Profit Margin
2014	8.32	52.03	5.69
2015	7.92	47.44	7.29
2016	7.24	50.00	6.62
2017	4.79	40.88	7.64
2018	4.92	37.42	9.02
2019	4.64	25.45	13.73
2020	4.37	22.49	16.34
2021	2.81	15.77	14.55
2022	2.41	14.42	12.66
2023	1.59	11.57	19.25

Source: Processed data

Based on Table 1.1 of PT Siantar Top Tbk's company data for the past 10 years, it shows that Working Capital Turnover tends to experience a significant decline from 8.32 in 2014 to only 1.59 in 2023. Debt to Asset Ratio shows a downward trend from 52.03% in 2014 to 11.57% in 2023, which indicates a reduced dependence of the company on debt funding. Interestingly, despite the weakening working capital efficiency, Net Profit Margin actually increased from 5.69% in 2014 to 19.25% at the end of the 2023 period. This shows that reducing the debt burden through improving the funding structure has contributed significantly to increasing profitability, while the effectiveness of working capital management is not a major factor in determining the company's profit.

Previous research has shown inconsistent results regarding the effect of Working Capital Turnover and Debt to Asset Ratio on Net Profit Margin. Research conducted by Citra Widiyanti and Jamaludin (2023) showed that WCT significantly influences Net Profit Margin, while Riesta Dwi Saputri and Kartono (2025) found the opposite, indicating that WCT has no significant effect on Net Profit Margin. Differences in findings also occurred with the DAR variable. Research by Nina Shabrina (2020) found a significant effect on NPM, while research by Zahra Fahria and Masno Marjohan (2025) showed no significant effect between DAR and Net Profit Margin.

Based on the description above, this study aims to analyze the effect of Working Capital Turnover and Debt to Asset Ratio on Net Profit Margin, both partially and simultaneously, and evaluate the level of financial performance of PT Siantar Top Tbk during the period 2014-2023. It is hoped that the results of this study can provide theoretical and practical contributions in the development of corporate financial management strategies, especially in efforts to increase profitability and maintain business sustainability amidst dynamic market competition.

LITERATURE REVIEW

According to Kasmir (2019), Working Capital Turnover is a ratio used to measure or assess the effectiveness of a company's working capital over a specific period. This ratio illustrates how well a company manages its working capital to maximize profits. A higher Working Capital Turnover indicates a more efficient company in utilizing working capital to generate sales, while a lower Working Capital Turnover indicates less than optimal working capital utilization due to unproductive funds.

According to Kasmir (2019), the Debt to Asset Ratio is a debt ratio used to measure the comparison between total debt and total assets. This ratio illustrates how much debt finances assets. A higher Debt to Asset Ratio indicates greater debt financing, making it difficult to obtain additional loans. Conversely, a lower Debt to Asset Ratio indicates less debt financing, thus lowering the company's financial risk level.

Net Profit MarginNet profit margin is the primary measure of profitability because it demonstrates the extent to which a company effectively manages sales and costs to generate profits. According to Kasmir (2019), Net Profit Margin is a measure of profit by comparing profit after interest and taxes to sales. Meanwhile, according to Harjito & Martono (2018), Net Profit Margin is the sales profit after accounting for all costs and income taxes, which shows the comparison between net profit after tax and sales. A high Net Profit Margin indicates a company's ability to manage costs effectively, thus reflecting a healthy and competitive financial condition.

FRAMEWORK OF THINKING

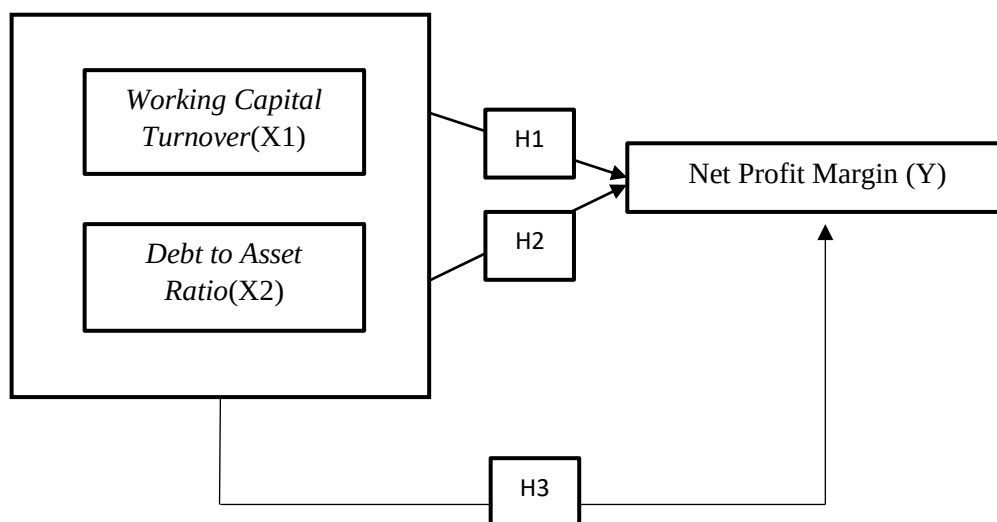


Figure 2.1 Framework of Thinking

RESEARCH METHODS

This study uses a quantitative approach to examine the influence of Working Capital Turnover and Debt to Asset Ratio variables on the Net Profit Margin of PT Siantar Top Tbk. The research data is secondary data obtained from the annual financial reports of PT Siantar Top Tbk which are officially available on the company's website and through the Indonesia Stock Exchange (IDX), with a research period of 2014-2023.

Data analysis used multiple linear regression with the model $Y = a + \beta_1 X_1 + \beta_2 X_2 + e$, where Y is Net Profit Margin, X_1 is Working Capital Turnover, and X_2 is Debt to Asset Ratio. Data processing was performed using SPSS software version 26. The analysis was conducted to test the relationship and significant influence between variables.

The analysis process includes: (1) collection of relevant secondary data, (2) classical assumption tests including normality, multicollinearity, heteroscedasticity, and autocorrelation tests, (3) estimation of model parameters using multiple linear regression, and (4) hypothesis testing through t-test and F-test to determine the significance of the influence of independent variables on the dependent variable. This study sets a significance level of 5% as a reference in statistical decision making.

I. RESEARCH RESULTS AND DISCUSSION

1. Multiple Linear Regression Analysis

Multiple regression is performed on a model with more than one independent variable to determine their influence on the dependent variable. In multiple regression, the influence of the independent variables on the dependent variable is calculated. This analysis is used to determine the extent of influence of the independent variables, namely Working Capital Turnover (X_1) and Debt to Asset Ratio (X_2), on the dependent variable, Net Profit Margin (Y).

Table 4.1
Multiple Linear Regression Test Results

		Coefficients ^a				
Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	19,729	1,457		13,538	.000
	WCT	.735	.857	.365	.857	.420
	DAR	-.380	.127	-1.274	-2,988	.020

a. Dependent Variable: NPM

From the multiple linear regression model equation formed in table 4.1 above, it can be concluded:

The Net Profit Margin (Y) constant value is 19,729, which states that if variables X_1 and X_2 , namely Working Capital Turnover and Debt to Asset Ratio, are at zero, then the Net Profit Margin value remains at 19,729.

The regression coefficient value of the Working Capital Turnover variable is 0.735, which indicates that every one unit increase in Working Capital Turnover will result in an increase in Net Profit Margin of 0.735 units.

The regression coefficient value for the Debt to Asset Ratio variable of -0.380 means that every 1% increase in the Debt to Asset Ratio variable causes a decrease in the Net Profit Margin of -0.380.

2. Hypothesis Testing

t-test

The purpose of the t-statistic test is to determine the extent to which an independent variable individually explains the variation in the dependent variable. If the calculated t-value is greater than the table t-value or the t-test significance value is less than 0.05, it is concluded that the independent variable individually has a

significant effect on the dependent variable. The test uses a significance level of 0.05 (α - 5%).

Table 4.2 Hypothesis Test Results (t-Test)
Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	19,729	1,457		13,538	.000
	WCT	.735	.857	.365	.857	.420
	DAR	-.380	.127	-1.274	-2,988	.020

a. Dependent Variable: NPM

Based on table 4.2 above, the Working Capital Turnover variable with a significance level of 0.05, namely t count of 0.857 while the value table ($dk = n - k - 1$), $dk = 10 - 2 - 1 = 7$, obtained 2.365. And the significance value of $0.420 > 0.05$, then H_1 is rejected. Thus, it can be concluded that partially Working Capital Turnover does not significantly affect Net Profit Margin at PT Siantar Top Tbk for the period 2014-2023.

In the Debt to Asset Ratio variable with a significance level of 0.05, namely t count amounted to -2.988 while the value table ($dk = n - k - 1$), $dk = 10 - 2 - 1 = 7$, obtained 2.365. And the significance value of $0.020 < 0.05$, so H_2 is accepted. Thus, it can be concluded that partially the Debt to Asset Ratio has a significant effect on Net Profit Margin at PT Siantar Top Tbk for the period 2014-2023.

F TEST

The F-test (simultaneous) aims to determine the independent variables that simultaneously influence the dependent variable. The F-test is used to test whether there is a significant influence between the independent variables simultaneously on the dependent variable, with the resulting model feasibility test using a model feasibility test at the α level of 5%. If the F-test significance value is < 0.05 , then the model used in the study is feasible and can be used for subsequent analysis, and vice versa.

Table 4.3 Hypothesis Test Results (F Test)
ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	170,154	2	85,077	24,003	.001b
	Residual	24,811	7	3,544		
	Total	194,965	9			

a. Dependent Variable: NPM

b. Predictors: (Constant), DAR, WCT

Based on table 4.3 above, it can be seen that the results of the simultaneous F test obtained a significance value of $0.001 < 0.05$ and F count amounting to 24,003 while F table of 4.737 with the formula obtained $F_{table} = F(k; n - k) = F(3; 10 - 3) = F(3; 7) = 4.737$. So, this result shows that the value $F_{count} > F_{table}$ ($24,003 > 4.737$). Therefore, it is concluded that Working Capital Turnover and Debt to Asset Ratio simultaneously have a significant influence on Net Profit Margin.

3. Coefficient of Determination Test (R^2)

To see how much influence the independent variable has on the dependent variable, the coefficient of determination is used, symbolized by R^2 . This multiple correlation coefficient is used to measure the level of relationship between the dependent variable and the independent variable that explains simultaneously. The value of the coefficient of determination is expressed in the square of the correlation coefficient value $R^2 \times 100\% = n\%$, meaning that the value of the dependent variable can be explained by the independent variable by $n\%$, while the remaining $(100-n)\%$ is explained by the error or the influence of other variables.

Table 4.4 Results of the Coefficient of Determination (R^2) Test

Model Summary				
Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.934a	.873	.836	1.88267

a. Predictors: (Constant), DAR, WCT

The results of the determination coefficient test in Table 4.4 show an R^2 value of 0.873, which indicates the large contribution of the independent variables (X1) Working Capital Turnover, (X2) Debt to Asset Ratio influencing the dependent variable, namely Net Profit Margin (Y) of $(0.873 \times 100 = 87.3\%)$, while the remainder $(100 - 87.3 = 12.7\%)$ is influenced by other variables outside the research.

DISCUSSION

The Effect of Working Capital Turnover on the Net Profit Margin of PT Siantar Top Tbk for the Period 2014-2023

Based on the research results obtained regarding the influence of Working Capital Turnover on Net Profit Margin at PT Siantar Top Tbk. The results of partial hypothesis testing indicate that the $t_{hitung} < t_{table}$ ($0.857 < 2.365$) with the significance level of the Working Capital Turnover variable greater than the significance level of 0.05. Based on the t-test, the significance value of Working Capital Turnover was obtained at $0.420 > 0.05$, meaning H_1 was rejected. Thus, partially Working Capital Turnover has no effect and is not significant on Net Profit Margin at PT Siantar Top Tbk.

This research is in line with the research conducted by Riesta Dwi Saputri & Kartono (2025) with the title "The Effect of Working Capital Turnover and Cash Turnover on Net Profit Margin at PT Akasha Wira International Tbk for the Period 2014 - 2023" the results of the study stated that there was no significant influence between Working Capital Turnover on Net Profit Margin.

The Influence of Debt to Asset Ratio on Net Profit Margin PT Siantar Top Tbk Period 2014-2023

Based on the research results obtained regarding the influence of the Debt to Asset Ratio on Net Profit Margin at PT Siantar Top Tbk. The results of partial hypothesis testing indicate that the $t_{hitung} > t_{table}$ ($-2.988 > 2.365$) with a DAR significance level smaller than the significance level of 0.05. The t-test of the Debt to Asset Ratio significance value obtained was $0.020 < 0.05$, meaning H_2 is accepted. Therefore, partially the Debt to Asset Ratio has a significant effect on the Net Profit Margin at PT Siantar Top Tbk.

This research is in line with the research conducted by Nina Shabrina (2020) entitled "The Effect of Current Ratio and Debt to Assets Ratio on Net Profit Margin at PT. Indo Tambang Raya Megah Tbk for the 2008-2017 Period" the results of the study stated that there was a significant influence between Debt to Asset Ratio on Net Profit Margin.

The Influence of Working Capital Turnover and Debt to Asset Ratio on the Net Profit Margin of PT Siantar Top Tbk for the 2014-2023 Period

Based on the research results obtained regarding the influence of Working Capital Turnover and Debt to Asset Ratio on Net Profit Margin at PT Siantar Top Tbk. The results of simultaneous hypothesis testing indicate that the value $F_{count} > F_{table}$ ($24.003 > 4.737$) with the significance level of both independent variables smaller than the significance level of 0.05. Based on the results of the F test, the significance value obtained was $0.001 < 0.05$. Thus, simultaneously Working Capital Turnover and Debt to Asset Ratio have a significant effect on Net Profit Margin at PT Siantar Top Tbk.

This research is in line with the research conducted by Ivan Bachtiar & Yeti Kusmawati (2025) with the title "The Effect of Working Capital Turnover and Debt to Asset Ratio on Net Profit Margin of PT Semen Indonesia (Persero) Tbk for the 2013-2023 Period" the results of the study stated that simultaneously Working Capital Turnover and Debt to Asset Ratio had a significant effect on Net Profit Margin.

CONCLUSION

Based on the results of research and discussion on the influence of Working Capital Turnover and Debt to Asset Ratio on Net Profit Margin at PT Siantar Top Tbk for the 2014-2023 period, it can be concluded that Partially, Working Capital Turnover has no significant effect on Net Profit Margin. This is proven by the t-test with a calculated t-value of $0.857 < t_{table} 2.365$ and a significance value of $0.420 > 0.05$, so changes in Working Capital Turnover do not significantly contribute to increases or decreases in profitability. On the other hand, the variable *Debt to Asset Ratio* has a significant negative effect on Net Profit Margin, as indicated by the calculated t value of $-2.988 > t_{table} 2.365$ and a significance value of $0.020 < 0.05$. Thus, the increase in *Debt to Asset Ratio* tends to suppress company profitability. Furthermore, the results of simultaneous tests show that Working Capital Turnover and *Debt to Asset Ratio* jointly have a significant effect on Net Profit Margin, with an F-value of $24.003 > F_{table}$ of 4.737 and a significance value of $0.001 < 0.05$. Therefore, it can be concluded that these two variables play a role in explaining variations in Net Profit Margin, although the dominant influence comes from *Debt to Asset Ratio*.

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