The Effect of Liquidity and Capital Structure on Profitability at Pt Siantar Top Tbk 2013-2022 Period

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Abstract

This study investigates the effect of liquidity and capital structure on profitability at PT Siantar Top Tbk from 2013 to 2022. Using a quantitative approach and multiple regression analysis, liquidity is measured by the current ratio, capital structure by the debt-to-equity ratio, and profitability by the net profit margin. The findings show that liquidity does not have a significant partial effect on profitability, while capital structure has a significant negative impact. However, both variables simultaneously influence profitability significantly. The adjusted R^2 value of 86.9% indicates that these financial ratios strongly explain changes in profitability. This study highlights the importance of managing debt effectively while optimizing the use of liquid assets. The results provide practical insights for financial decision-making in the consumer goods sector.

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Introduction

The consumer goods industry in Indonesia has experienced significant growth, driven by increasing purchasing power, technological advancement, and lifestyle changes. This sector encompasses various product categories, including food and beverages, household items, and personal care. In a competitive environment, companies are required not only to increase sales but also to maintain financial efficiency and profitability through sound financial management.

Profitability is a crucial indicator of a company's financial performance, reflecting its ability to generate earnings from operational activities. However, profitability is influenced by several internal factors, including liquidity and capital structure.

Liquidity, typically measured by the current ratio, shows a company's capacity to meet its short-term obligations. While a healthy level of liquidity suggests financial stability, excessively high liquidity may indicate inefficiency in asset utilization. Conversely, capital structure, reflected by the debt-to-equity ratio, represents the proportion of debt and equity financing used by a firm. An optimal capital structure can enhance a company's value, but excessive reliance on debt may increase financial risk.

Research on the relationship between liquidity, capital structure, and profitability has been widely conducted across various industries and time periods, producing highly varied and sometimes contradictory results. While some studies emphasize the critical role of liquidity—often measured by the Current Ratio (CR)—others highlight the significance of capital structure, typically measured by the Debt to Equity Ratio (DER), in determining corporate profitability, as reflected in Net Profit Margin (NPM).

Several studies, such as those by Fadli (2018) and Singgih (2021), found a positive and significant influence of liquidity on profitability, suggesting that companies with stronger short-term financial positions tend to achieve higher net profits. In contrast, other studies, such as Indaswari et al. (2023) and Srifadila et al. (2023), found no significant relationship between liquidity and profitability, implying that efficient management of current assets does not always translate into improved earnings.

The impact of capital structure on profitability is similarly inconsistent. Many studies, including Amelia et al. (2021) and Nurwita et al. (2022), reported a negative and significant effect of DER on profitability, reinforcing the idea that excessive reliance on debt can reduce profitability due to higher financial costs. However, other findings—such as those by Sabrina

N (2020) and Wati et al. (2022)—suggest a positive but sometimes insignificant relationship, indicating that moderate use of debt might still support profitability under certain conditions.

Interestingly, when CR and DER are analyzed simultaneously, most studies—including those by Indaswari et al., Wati et al., and Triyono et al.—found a positive and significant joint effect on profitability. This suggests that balanced financial management combining healthy liquidity and an optimal capital structure can create synergistic effects on earnings.

Nevertheless, a common limitation in these prior studies is their narrow focus, often examining only a single company or sector without incorporating broader control variables such as company size, revenue growth, or operational efficiency. This gap highlights the need for more comprehensive and context-sensitive analyses.

This study seeks to fill that gap by conducting an empirical analysis focused on PT Siantar Top Tbk, a major player in Indonesia's snack food industry. Unlike many previous studies, this research covers a ten-year period (2013–2022), offering a longer-term view of financial performance and allowing for a deeper understanding of how liquidity and capital structure interact to influence profitability in a dynamic and competitive sector.

This study aims to analyze the effect of liquidity and capital structure on profitability using PT Siantar Top Tbk as the research object for the period 2013–2022. This company was chosen due to its consistent performance in the snack food industry and the availability of complete financial statements. The study adopts a quantitative approach using regression analysis to provide empirical evidence regarding the relationship among the variables.

The primary objective of this study is to examine the relationship between financial ratios and corporate profitability. Specifically, this research seeks to analyze the partial effect of liquidity, as measured by the current ratio, on the profitability of PT Siantar Top Tbk during the period 2013–2022. Furthermore, it aims to investigate the partial effect of capital structure, represented by the debt-to-equity ratio, on the company's profitability. In addition to the individual effects of these variables, the study also intends to determine whether liquidity and capital structure together have a simultaneous and significant influence on the company's profitability. Through this analysis, the research aims to provide empirical evidence that can enhance the understanding of how financial management strategies contribute to the financial performance of companies in the consumer goods sector.

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Literature Review

Financial management is the process of managing a company’s finances to achieve organizational goals efficiently and effectively. According to Sa’adah (2020:2), financial management includes planning, analyzing, and controlling financial activities within an organization. Sentot (2023:246) emphasizes that financial management involves all activities to acquire and utilize funds optimally.

In general, the main functions of financial management include investment decisions, financing decisions, and dividend policies. Every financial decision made will impact the capital structure, liquidity, and profitability of the company.

Financial statements are the final product of the accounting process that present information about a company's financial position, performance, and cash flows. Hutabarat (2020:9) states that financial statements serve as a medium for both internal and external parties to assess a company’s condition and performance. Darmawan (2020:1) adds that financial statements provide relevant information for economic decision-making.

The main components of financial statements include the balance sheet, income statement, statement of changes in equity, and cash flow statement. These are essential for calculating financial ratios such as liquidity, capital structure, and profitability.

Financial ratios are analytical tools used to assess a company’s performance and financial condition. They relate various items in the financial statements and are generally classified into liquidity, solvency, activity, and profitability ratios.

This study focuses on three key ratios:

- Liquidity Ratio: measures the company’s ability to meet short-term obligations.

- Solvency Ratio: evaluates the company’s capital structure.

- Profitability Ratio: assesses the efficiency of operations in generating profits.

Liquidity refers to a company's ability to meet its short-term liabilities. According to Kasmir (2017:134), the current ratio is used to measure how well current assets can cover current liabilities. Sujarweni (2019:98) explains that this ratio reflects the efficiency in utilizing current assets.

Current Ratio Formula:

$$Current\ Ratio\ = \frac{Current\ Assets}{Current\ Liabilities}$$

A higher ratio indicates a stronger ability to pay short-term obligations, though an excessively high ratio may suggest idle assets.

Capital structure is the proportion between debt and equity used to finance company assets. Halim (2018:23) notes that it reflects the balance between borrowed funds and owners' equity.

This study uses the Debt to Equity Ratio (DER), calculated as:

$$DER = \frac{Total\ Liabilities}{Total\ Equity}$$

A high DER indicates greater reliance on debt, which can increase financial risk and potentially lower profitability.

Profitability assesses a company's ability to generate profit from its business operations. One key indicator is Net Profit Margin (NPM). Hantono (2018) defines NPM as the percentage of net income derived from total sales.

Net Profit Margin Formula:

$$NPM = \frac{Net\ Income}{Net\ Sales} \times 100\%$$

A higher NPM reflects greater efficiency in cost control and sales performance.

The conceptual framework of this research illustrates the relationship between liquidity and capital structure as independent variables, and profitability as the dependent variable. This model is outlined as follows:

Current Ratio (X1) → Net Profit Margin (Y) ← Debt to Equity Ratio (X2)

Based on the conceptual framework, the hypotheses proposed in this study are:

- H_1: Liquidity (Current Ratio) significantly affects profitability (Net Profit Margin).

- H_2: Capital Structure (Debt to Equity Ratio) significantly affects profitability.

- H_3: Liquidity and Capital Structure simultaneously have a significant effect on profitability.

Research Methods

This research employs a quantitative approach using an associative method, which aims to determine the relationship between two or more variables. The core objective of this study is to examine whether liquidity, measured by the Current Ratio (CR), and capital structure, measured by the Debt to Equity Ratio (DER), have a partial or simultaneous effect on profitability, measured by Net Profit Margin (NPM), in the context of PT Siantar Top Tbk for the period from 2013 to 2022.

The research was conducted using secondary data obtained from the company's published financial reports, which are publicly available on the official website of the Indonesia Stock Exchange (IDX) and the company's official website. The analysis process was carried out from January to March 2024.

To ensure clarity and precision in measurement, each variable in this study is operationally defined. Liquidity (CR) refers to the company's ability to meet short-term obligations and is calculated by dividing current assets by current liabilities. Capital structure (DER) reflects the proportion of total liabilities to total equity, indicating the level of financial leverage. Profitability (NPM) is calculated by dividing net income by net sales and multiplying the result by 100%, providing insight into the company's efficiency in converting revenue into profit.

The population of this study consists of financial data from PT Siantar Top Tbk over a 10-year period (2013–2022). A purposive sampling technique was used to select the sample, with the primary criterion being the completeness and availability of relevant financial data for each year.

The data collection technique used in this study is documentation, focusing on retrieving and recording relevant figures from published financial reports. These secondary data sources provide a reliable basis for empirical analysis.

Data were analyzed using SPSS version 26, and the analysis followed several key steps. First, classical assumption tests were conducted to ensure the validity of the regression model. These included a normality test (using the Kolmogorov-Smirnov method), a multicollinearity test, an autocorrelation test (using the Durbin-Watson statistic), and a heteroscedasticity test (through scatterplot analysis).

Subsequently, regression analysis was employed. Simple linear regression was used to examine the partial effect of each independent variable (CR and DER) on the dependent variable (NPM). Multiple linear regression was used to analyze the simultaneous effect of both CR and DER on NPM.

The coefficient of determination (R^2) was also computed to assess how well the independent variables explain the variation in profitability. Finally, hypothesis testing was conducted using both t-tests (for partial effects) and F-tests (for simultaneous effects), with a significance level set at 5% ($\alpha = 0.05$).

Through this comprehensive methodological approach, the study aims to generate empirical evidence on how liquidity and capital structure affect profitability, providing useful insights for financial management in the consumer goods sector.

Results and Discussions

This chapter presents the results of the analysis conducted on PT Siantar Top Tbk's financial data from 2013 to 2022 and discusses the findings in the context of the study's objectives. The analysis includes a descriptive overview of the company's financial ratios, statistical testing, and interpretation of the influence of liquidity and capital structure on profitability.

PT Siantar Top Tbk is a well-established manufacturer in Indonesia's snack food industry. Since its founding in 1972 in Sidoarjo, East Java, the company has grown to be one of the major producers of wafers, instant noodles, candies, and other consumer goods. With a vision to become a globally recognized company, PT Siantar Top continuously enhances its financial and operational performance to stay competitive in the market. This research uses financial data published in the company's annual reports, focusing on three key variables: liquidity (measured by the Current Ratio), capital structure (measured by the Debt to Equity Ratio), and profitability (measured by Net Profit Margin).

The analysis of financial ratios over the 10-year period reveals that PT Siantar Top maintained a relatively strong liquidity position, with an average current ratio of 242.14%. This suggests the company had more than double the current assets needed to cover its short-term liabilities, indicating robust short-term financial health. Meanwhile, the average debt to equity ratio stood at 63.77%, which indicates a moderate level of debt usage in financing operations. The average net profit margin during this period was 10.03%, reflecting the company's ability to earn around 10 cents of net income for every dollar of sales—an indicator of operational efficiency.

Descriptive statistical analysis of these variables demonstrated stability and consistency across the 10 years, suggesting that the financial performance of PT Siantar Top remained relatively constant and thus suitable for regression analysis. Before conducting the regression, classical assumption tests were performed to validate the suitability of the data. The results showed that the data passed the tests for normality, multicollinearity, autocorrelation, and heteroscedasticity, indicating that the assumptions of classical linear regression were satisfied.

The regression analysis involved both partial and simultaneous testing. The **t-test** showed that the Current Ratio (CR) did not have a statistically significant effect on Net Profit Margin (NPM), as indicated by a t-value of -1.803 and a significance level above 0.05. On the other hand, the Debt to Equity Ratio (DER) showed a significant negative effect on profitability, with a t-value of -5.662 and a significance level of 0.001. These results suggest that while liquidity may not individually impact profitability in a significant way, higher reliance on debt tends to reduce profitability, likely due to increased financial burden from interest expenses.

The **F-test**, which evaluates the combined effect of CR and DER, produced a significant result. With an F-value of 30.835 and a significance level of 0.000, it is evident that liquidity and capital structure, when considered together, significantly affect profitability. The **coefficient of determination** (Adjusted R^2) was found to be 0.869, meaning that 86.9% of the variation in PT Siantar Top's profitability can be explained by its liquidity and capital structure, while the remaining 13.1% is influenced by other variables not included in this study.

In discussing the results, it becomes clear that PT Siantar Top's profitability is more sensitive to its capital structure than to its liquidity position when each is considered individually. The insignificant impact of liquidity suggests that the company might be maintaining high levels of current assets without optimizing their use for profit generation. In contrast, the significant negative impact of capital structure supports the notion that financial leverage must be managed carefully to avoid undermining profitability.

Overall, the findings reinforce the importance of maintaining a balanced financial structure. While liquidity alone may not directly boost profitability, in combination with a prudent capital structure, it can contribute to a company's financial success. These findings are consistent with several previous studies, particularly those that reported a significant simultaneous effect of liquidity and capital structure on profitability, though partial results vary across contexts. The differences between this study and earlier ones emphasize the influence of industry characteristics, company-specific policies, and macroeconomic conditions in shaping financial outcomes.

Conclusions

Based on the data analysis, several conclusions can be made. First, liquidity, as measured by the current ratio (CR), does not have a significant partial effect on profitability. This suggests that, for PT Siantar Top Tbk, maintaining a high level of current assets does not necessarily lead to higher profits. The company may be holding excessive liquid assets that are not being efficiently utilized to generate income.

Second, capital structure, represented by the debt to equity ratio (DER), has a significant negative partial effect on profitability. This indicates that an increase in financial leverage may lead to a decline in net profit margin, likely due to the burden of interest payments and financial risk. Therefore, careful consideration of debt management is essential to avoid deteriorating profitability.

Third, liquidity and capital structure together have a significant simultaneous effect on profitability. Although liquidity alone may not strongly influence net profit, its interaction with capital structure plays an important role. When both variables are considered jointly, they explain a substantial portion—86.9%—of the variation in profitability, according to the coefficient of determination (Adjusted R^2). This finding emphasizes the importance of holistic financial management, where liquidity and leverage must be balanced strategically to support profitability.

Based on these conclusions, several recommendations can be proposed. For company management, it is essential to optimize the use of current assets so that they contribute more effectively to income generation. Maintaining liquidity is important, but excess liquidity may indicate inefficiency and opportunity cost. Additionally, the company should manage its capital structure more prudently, ensuring that the use of debt remains at a sustainable level to avoid negative impacts on profitability.

For investors, these findings can serve as a useful guide when evaluating a company's financial health. Investors should not only focus on profitability but also assess how well the company balances its liquidity and debt. A healthy financial structure is a key indicator of long-term sustainability.

For future researchers, this study provides a foundation to explore further by incorporating additional variables such as firm size, operational efficiency, and external macroeconomic factors. Comparative studies involving multiple companies or different sectors could offer deeper insights into how financial decisions affect corporate performance across contexts.

In summary, this research reinforces the idea that profitability is not only a function of operational success but also the outcome of sound financial management, particularly in how a company handles its liquidity and capital structure in tandem.

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