THE EFFECT OF CAPITAL STRUCTURE AND LIABILITIES ON PROFITABILITY IN FOOD AND BEVERAGE MANUFACTURING COMPANIES LISTED ON THE INDONESIA STOCK EXCHANGE

Ana Kharisma Silviya[1], Dwi Suci Anggraeni[2], Gunawan Aji[3]
ana.kharisma.silviya@mhs.uingusdur.ac.id[1], dwi.suci.anggraeni@mhs.uingusdur.ac.id[2], gunawanaji@uingusdur.ac.id[3]
Universitas Islam Negeri K.H Abdurrahman Wahid Pekalongan

ABSTRACTS
This study was conducted to address inconsistencies in previous findings regarding the effect of capital structure (DAR and DER) and liquidity on the profitability of food and beverage companies. This study aims to examine how these key financial ratios affect company profitability, using the latest data from six publicly listed companies that consistently reported data during the 2020–2024 period. Using multiple linear regression, the partial test results show that DAR and Liquidity Ratio do not have a significant effect on profitability, while DER shows a significant effect. Simultaneously, the three independent variables contribute 42% to profitability. In conclusion, the financing structure, particularly DER, is a stronger determinant of profit levels than liquidity capacity. Further research is recommended to include operational variables and expand the scope of the study.
Keywords: *Benjang Traditional Art, Value Chain, Local Economy, Cultural Economy.*

INTRODUCTION

The food and beverage industry in Indonesia is one of the strategic manufacturing sub-sectors that contributes significantly to the national economy. As part of the processing industry, food and beverages play a major role in economic growth, mainly due to the fundamental and continuous demand from consumers. According to data from Statistics Indonesia (BPS) and sector reports, the proportion of the manufacturing industry to GDP is very significant, with the food and beverage sub-sector being one of the main contributors. Meylani et al.(2024) The presence of publicly listed food and beverage companies (listed on the Indonesia Stock Exchange) indicates potential for large investments and capitalization, but also poses major challenges in financial management, especially in times of economic uncertainty and supply chain disruptions. In this context, how food and beverage companies structure their capital (debt vs equity) and maintain liquidity is crucial to ensuring they remain able to generate healthy and sustainable profits (profitability).

A company's capital structure, especially leverage ratios (such as Debt-to-Asset Ratio or Debt-to-Equity Ratio), plays an important role in long-term financial decisions. Trade-off theory explains that companies should balance the tax benefits of debt (tax shield) with the risk of bankruptcy or the cost of financial distress. Meilani & Wahyudin (2021) In practice, food and beverage companies face this dilemma: taking on too much debt can increase interest costs and financial risk, which ultimately reduces profitability. Conversely, using too little debt can mean losing tax benefits and growth opportunities supported by external funding. Therefore, capital structure decisions are one of the main variables in research on the profitability of public food and beverage companies in Indonesia.

In addition to capital structure, liquidity is also an important factor in corporate financial dynamics. Liquidity, which is measured, for example, by the Current Ratio (CR), describes a company's ability to meet its short-term obligations. Food and beverage companies often face rapid operational cycles where production, distribution, and sales

can alternate at a high frequency, so sufficient liquidity is necessary to ensure that operations are not disrupted. Empirical research on food and beverage companies listed on the Indonesia Stock Exchange (BEI) by Sari & Hidayat (2024) found that liquidity has a significant positive effect on profitability.

Previous studies targeting the food and beverage sub-sector on the Indonesia Stock Exchange (IDX) have produced inconsistent findings regarding the relationship between profitability, capital structure, and liquidity. For example, Zain & Sari (2024) found that profitability (ROA) has a significant impact on company value, while capital structure and liquidity do not show a significant effect in their sample. In line with these findings, research by Maria & Wijaya (2025) concluded that neither capital structure nor liquidity ratios have a significant impact on company value in the same sub-sector. This inconsistency highlights a gap in the literature, showing that although capital structure and liquidity are pillars of financial theory, their actual impact on company performance (such as profitability) in the specific context of the food and beverage sector remains ambiguous and highly dependent on the unique context of the company.

Furthermore, other studies on companies in the food and beverage sub-sector show complex dynamics between capital structure, liquidity, and profitability. In the J-MAS journal, Hidayah et al. (2023) analyzed the effect of capital structure, liquidity, and inventory turnover on profitability in food and beverage sub-sector issuers on the IDX for the 2017–2021 period. They found that capital structure and liquidity significantly affect profitability, while inventory turnover also provides an important analytical contribution. These findings confirm that liquidity and working capital management are critical variables that cannot be ignored in profitability analysis in this sector.

Other research in the food and beverage industry on the IDX has broadened its focus, placing capital structure and liquidity as determinants of company value rather than just profitability. For example, Ahmad et al. (2025) found that although liquidity significantly and positively affects company value, capital structure does not show this effect. This finding is relevant given that company value is closely related to investor perception, which is largely influenced by profitability and the company's ability to meet its short-term obligations (liquidity). This shows that funding decisions in food and beverage companies reflect how investors view the financial risks borne by the company. The diversity of results from various studies on capital structure, liquidity, and financial performance in this sector indicates inconsistencies that need to be addressed in the literature.

Given the diverse findings above, research focusing on testing the specific effects of ratios such as Debt to Asset Ratio (DAR), Debt to Equity Ratio (DER), and Current Ratio (CR) on Return on Assets (ROA) is very important. The determination of the research period from 2020 to 2024 is considered crucial because this period covers the massive COVID-19 pandemic, during which manufacturing operations were disrupted and companies faced extraordinary liquidity and debt pressures. Therefore, this study aims not only to contribute theoretically by validating or refuting previous findings, but also to offer significant practical implications. These implications can be used by financial managers as a guide in developing effective capital structure and liquidity management strategies to maintain company profitability, especially during periods of crisis and recovery.

METHOD

This study adopts a quantitative method using a causal associative approach. This approach was chosen because the main focus of the study is to test and analyze the causal

relationship (influence) between independent variables, namely capital structure and liquidity, on dependent variables, namely company profitability. In line with its nature, this quantitative research relies on numerical data extracted from company financial reports. Thus, the analysis results can be tested objectively using relevant statistical techniques (Sugiyono, 2009) so that they can support accurate and precise financial decision-making processes.

RESULTS AND DISCUSSION
1. Classical Assumption Tests
a. Normality Test

Table 1 Normality Test Results

One-Sample Kolmogorov-Smirnov Test		
		Unstandardized Residual
N		30
Normal Parameters [a, b]	Mean	.000000
	Std. Deviation	.06027748
Most Extreme Differences	Absolute	.118
	Positive	.099
	Negative	-.118
Test Statistic		.118
Asymp. Sig. (2-tailed)		.200[c,d]
a. Test distribution is Normal.		
b. Calculated from data.		
c. Lilliefors Significance Correction.		
d. This is a lower bound of the true significance.		

Analysis of the data above: The Asymp. Sig. (2-tailed) value obtained is 0.200 (>0.05), so it can be concluded that the data is normally distributed because the significance value can be greater than 0.05.

b. Multicollinearity Test (Tolerance & VIF)

Table 2 Multicollinearity Test Results

Coefficients[a]							
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
Model	B	Std. Error	Beta			Tolerance	VIF
1 Constant	.125	.071		1.766	.089		
X1_DAR	-.143	.157	-.387	-.908	.372	.110	9.058
X2_DER	.055	.018	.960	3,134	.004	.213	4,687
X3_CR	-.002	.006	-.087	-.335	.740	.293	3.412
a. Dependent Variable: Y (ROA)							

Analysis of the above data: The independent variables have a tolerance value greater than (>0.100) and a VIF less than (<10.00), so we can conclude that the multicollinearity assumption is satisfied or that there is no multicollinearity.

c. Heteroskedasticity Test

Table 3 Heteroscedasticity Test Results

Coefficients[a]						
	Unstandardized Coefficients		Standardized Coefficients			
Model	B	Std. Error	Beta		t	Sig.
1 (Constant)	-5.801	1.938			-2.994	.006

X1_DAR	-2,561	4,290	-.278	-.597	.556
X2_DER	.782	.483	.542	1.618	.118
X3_CR	-.273	.173	-.452	-1.580	.126
a. Dependent Variable: LN_RES					

Analysis of the above data:

The DAR variable has a significance value of 0.556

The DER variable has a significance value of 0.118

The CR variable has a significance value of 0.126

The independent variables have significance values greater than 0.05, so it can be concluded that there is no heteroscedasticity or that the heteroscedasticity test assumption has been met

d. Autocorrelation Test

Table 4 Autocorrelation Test Results

Model Summary[b]

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate	Durbin-Watson
1	.693[a]	.480	.420	.06366	.856
a. Predictors: (Constant), X3, X2, X1					
b. Dependent Variable: Y (ROA)					

Analysis of the above data:

Given N = 30 and K (Independent Variables) = 3 Variables

DL value = 1.2138

DU value = 1.6498

4-DL value = 2.7862

4-DU value = 2.3502

DW value = 0.856

Conclusion: 0.856 < 1.2138 or 0.856 < 2.7862 (autocorrelation occurs)

2. Multiple Linear Regression Test

The regression test is used to measure the effect of DAR, DER, and CR on ROA.

Regression model: $Y = \alpha + \beta_1\,DAR + \beta_2\,DER + \beta_3\,CR + \varepsilon$

a. Coefficient of Determination (R^2)

Table 5 Results of the Coefficient of Determination Test

Model Summary

Model	R	R Square	Adjusted R Square	Standard Error of the Estimate
1	.693[a]	.480	.420	.06366
a. Predictors: (Constant), X3, X2, X1				

Given that the Adjusted R-square value is 0.420, this means that the variables DAR, DER, and CR collectively have a 42% influence on the ROA variable, while the remaining 58% is influenced by other variables outside the scope of this study.

b. Partial Test (t-test)

8 Partial Test Results

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	.125	.071		1.766	.089
	X1_DAR	-.143	.157	-.387	-.908	.372

X2_DER	.055	.018	.960	3.134	.004
X3_CR	-.002	.006	-.087	-.335	.740
a. Dependent Variable: Y (ROA)					

Analysis of the above data:

- The DAR variable has a significance value of 0.372 (<0.05), so it can be concluded that the DAR variable does not have a significant effect on the ROA variable (H1 Rejected).
- The DER variable has a significance value of 0.004 (<0.05), so it can be concluded that the DER variable has a significant effect on the ROA variable (H2 Accepted).
- The CR variable has a significance value of 0.740 (<0.05), so it can be concluded that the CR variable does not have a significant effect on the ROA variable (H3 Rejected).

c. Simultaneous Test (F Test)

Table 7 Simultaneous Test Results

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.097	3	.032	7.998	.001[b]
	Residual	.105	26	.004		
	Total	.203	29			
a. Dependent Variable: Y						
b. Predictors: (Constant), X3, X2, X1						

Analysis of the above data: The significance value obtained is 0.001 (<0.05), so it can be concluded that the DAR, DER, and CR variables have a significant simultaneous (collective) effect on the ROA variable.

The Effect of Debt to Asset Ratio (DAR) on Return on Assets (ROA)

The partial test results show that the Debt to Asset Ratio (DAR) variable does not have a significant effect on Return on Assets (ROA), as evidenced by a significance value of 0.372, which exceeds the α limit of 0.05. This finding leads to the rejection of hypothesis (H1), which states that DAR has an effect on ROA. Although in theory high leverage is often associated with increased financial risk that could potentially suppress profitability due to large interest expenses, this study indicates that the proportion of total assets financed by debt does not significantly affect the ability of food and beverage companies to generate profits. This is likely due to the stable operational nature of companies in this sub-sector and their large working capital requirements, which prevent DAR from being a direct determinant of profit fluctuations. In addition, large companies in the sample may have diversified sources of funding, reducing the direct impact of debt on profitability.

These results are consistent with the research of Zain & Sari (2024) and Maria & Widjaja (2023) which also concluded that the debt ratio does not have a significant effect on the financial performance of the food and beverage sub-sector, reinforcing that DAR is not a major factor affecting ROA in these companies.

The Effect of Debt to Equity Ratio (DER) on Return on Assets (ROA)

The partial test results show that the Debt to Equity Ratio (DER) variable has a significant effect on Return on Assets (ROA), indicated by a significance value of 0.004 (less than the α = 0.05). This finding supports the accepted hypothesis (H2), confirming that the level of leverage measured by the ratio of debt to equity has strong implications for a company's ability to generate profits. A high DER, which reflects a company's dependence on debt rather than its own capital, can increase financial risk, where large

interest expenses ultimately suppress profitability. Therefore, the significance of the DER's influence indicates that the capital structure of food and beverage companies is highly sensitive to this ratio; aggressive use of debt has the potential to reduce profits due to increased financial expenses, while moderate and productive use of debt can increase ROA.

The results of this study reinforce the trade-off theory, whereby the use of debt will increase company value up to a certain limit before the risk of bankruptcy increases. This study is also consistent with the findings of Pramaissheilla et al. (2025) which show that DER has a significant relationship with ROA in food and beverage companies, although the direction of the influence may differ depending on the company's conditions. Additionally, the research Widelia & priyowidodo (2024) also shows that DER is one of the capital structure ratios that has a significant impact on the financial condition of manufacturing companies. Thus, DER is an important determinant in determining the profitability level of companies in the food and beverage sub-sector.

The Effect of Current Ratio (CR) on Return on Assets (ROA)

The partial test results show that the Current Ratio (CR) variable does not have a significant effect on Return on Assets (ROA), as evidenced by a significance value of 0.740, which is well above the $\alpha = 0.05$ threshold. Therefore, hypothesis (H3), which states that CR has an effect on ROA, is rejected. Although in theory high liquidity reflects a company's ability to meet short-term obligations, an excessively high CR may indicate that the company is holding excessive current assets and not utilizing them productively to generate profits. These findings imply that the availability of current assets in food and beverage companies is not a major determinant of profit performance; these current assets may be focused more on maintaining operational stability than on increasing profitability.

The results of this study are consistent with the studies by Pramaissheilla et al. (2025) and Zain & Sari (2024), which all found that liquidity does not have a significant effect on profitability or company value in the food and beverage sub-sector, because companies in this industry tend to prioritize inventory turnover and production efficiency over the amount of current asset reserves.

CONCLUSION

Based on data analysis of the impact of capital structure (DAR and DER) and liquidity (CR) on profitability (ROA) in food and beverage manufacturing companies listed on the IDX during the period 2020–2024, it was concluded that partially, only DER was proven to have a significant effect on ROA. Conversely, neither DAR nor CR were found to have a significant effect on profitability. However, when tested simultaneously, the three independent variables collectively had a significant effect on ROA, with a clear contribution of 42%, while the remaining 58% was explained by factors outside the scope of this study. In conclusion, capital structure as measured by the Debt to Equity Ratio (DER) is the most dominant determinant of the profitability of food and beverage companies compared to the Debt to Asset Ratio (DAR) and Current Ratio (CR).

This study has several limitations that need to be considered. First, the sample size consisted of only six companies and the research period was limited to five years, resulting in relatively narrow data variation that could affect the generalization of the results. Second, the study only used three independent variables, namely DAR, DER, and CR, even though company profitability can be influenced by many other factors such as company size, inventory turnover, sales growth, and operational efficiency, which were not analyzed in this study. Third, the Durbin-Watson test results indicate autocorrelation

in the model, which may affect the accuracy of the multiple linear regression estimates used.

Given these limitations, further research should expand the sample size by adding other subsectors in the manufacturing industry and extend the research period to obtain more representative results. Subsequent research may also consider the use of additional variables such as total asset turnover, firm size, operating margin, and sales growth to obtain a more comprehensive picture of the factors that affect profitability. In addition, the use of panel data analysis methods with GLS regression or fixed effect/random effect models can be an alternative to overcome autocorrelation and improve the accuracy of estimation results so that the research findings become stronger and more reliable.

REFERENCES

Ahmad, M., Kadir, D., & Umar, N. A. (2025). The Effect of Capital Structure, Liquidity, and Profitability on the Value of Food and Beverage Companies. Center of Economic Student Journal, 8(3), 1134–1145.

Financial Statements of Food and Beverage Manufacturing Companies Listed on the Indonesia Stock Exchange for the Period 2020-2024 https://www.idx.co.id/en/listed-companies/financial-statements-and-annual-report.

Hidayah, A. N., Hermuningsih, S., & Maulida, A. (2023). The Effect of Capital Structure, Liquidity, and Inventory Turnover on Profitability in Food and Beverage Sub-Sector Companies Listed on the Indonesia Stock Exchange (IDX). J-MAS (Journal of Management and Science), 8(1), 21. https://doi.org/10.33087/jmas.v8i1.888

Lioni. (2023). The Effect of Capital Structure, Profitability, and Liquidity on Company Value (An Empirical Study of Manufacturing Companies in the Food and Beverage Sub-Sector Listed on the Indonesia Stock Exchange from 2017 to 2021). Global Accounting: Accounting Journal, 2(2), 138–151.

Maria, & Wijaya, I. (2025). The Effect of Capital Structure, Liquidity, and Profitability on Company Value in Food and Beverage Companies Listed on the Indonesia Stock Exchange. Journal of Education and Teaching Review, 7(1), 1582–1591.

Maria, I., & Widjaja, I. (2023). The effect of profitability, company size, and liquidity on company value with capital structure as a mediating variable in food and beverage (F&B) companies on the Indonesia Stock Exchange. In Journal of Business Management and Entrepreneurship (Vol. 7, Issue 1, pp. 50–64). https://doi.org/10.24912/jmbk.v7i1.22469

Meilani, U., & Wahyudin, A. (2021). The Effect of Asset Structure, Business Risk, and Sales Growth on Capital Structure with Profitability as a Moderating Variable. Journal of Business Accounting, 19(1), 46–63.

Meylani, A., Dwi Komalasari, S., Komaludin, A., & Siliwangi. (2024). Analysis of the Influence of Company Financial Factors on Investment Decisions in the Food and Beverage Industry in Indonesia. Journal of Economics, 5(1). http://jurnal.unsil.ac.id/index.php/welfare

Nursyahbani, L., & Sukarno, A. (2023). The Influence of Liquidity, Profitability, and Sales Growth on Capital Structure: A Study of Food and Beverage Companies Listed on the Indonesia Stock Exchange for the Period 2018-2021. Journal of Management Science, 11(1), 103–110. https://doi.org/10.37641/jimkes.v11i1.1702

Pramaissheilla, B. A., Mahfudnurnajamuddin, & Imaduddin. (2025). Economics and Digital Business Review The Effect of Capital Structure and Liquidity on. Economics and Digital Business Review, 7(1), 346–360.

Pranata, Y., & Sutrisno, H. (2024). Profitability, Capital Structure, and Liquidity on the Value of Companies in the Food and Beverage Sub-Sector on the Indonesia Stock Exchange in 2019-2023. Journal of Accounting, Finance, Taxation and Corporate Governance, 2(2), 639–645. https://doi.org/10.70248/jakpt.v2i2.768

Sari, S. W., & Hidayat, I. (2024). The Effect of Capital Structure and Liquidity on the Profitability of Food and Beverage Companies on the IDX. Journal of Management Science and Research, 6(6).

Sugiyono. (2009). Educational Research Methods: Quantitative, Qualitative, and R&D Approaches. Bandung: Alfabeta.

Widelia, F., & Priyowidodo, A. (2024). The Effect of Company Size, Profitability, Liquidity, Asset Structure, and Business Risk on Capital Structure (An Empirical Study of Manufacturing Companies in the Food and Beverage Sub-Sector Listed on the IDX from 2019 to 2022). Journal of Management and Business, 4(2), 285–296.https://ejournal.ust.ac.id/index.php/JIMB_ekonomi/article/view/2959

Zain, L. A., & Sari, B. (2024). The Effect of Profitability, Capital Structure, and Liquidity on Company Value in Manufacturing Companies in the Food and Beverage Sub-Sector Listed on the Indonesia Stock Exchange for the Period 2019-2022. Journal of Management, 11(2), 1942–1950. https://doi.org/10.36778/jesya.v5i2.693