Al-Kharaj: Journal of Islamic Economic and Business
P-ISSN: 2686-262X; E-ISSN: 2685-9300

Profitability Analysis with Activity as a Moderating Variable in Food and Beverage Sub-Sector Companies On the Indonesia Stock Exchange

Aprilia Bella Wulandari[1] Nurjanti Takarini[2*]
[1,2]Management Study Program, Faculty of Economics and Business Veteran National Development University of East Java, Indonesia
Email: [1]21012010003@student.upnjatim.ac.id, [2]yayannurjanti.em@upnjatim.ac.id*

***Keywords**:*
Activity; Leverage; Liquidity; Profitability

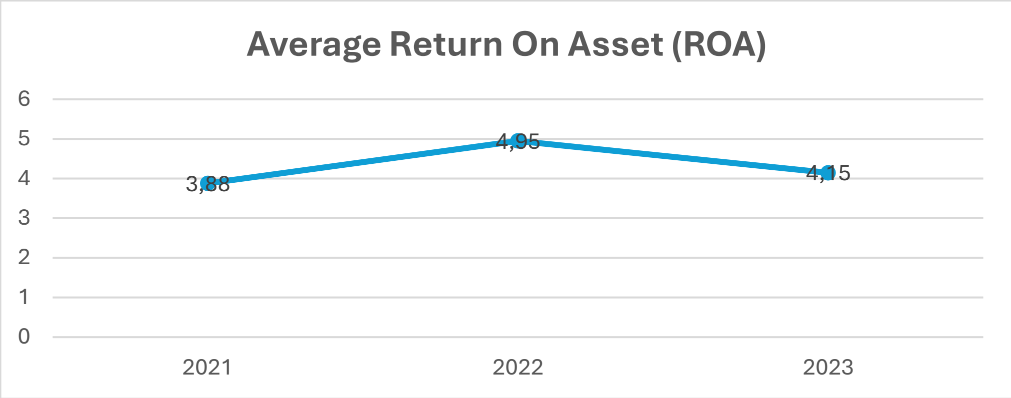
Abstract
The food and beverage industry is a strategic sector that contributes significantly to the Indonesian economy. With rapid economic growth, companies in this sector face the challenge of optimizing financial performance, particularly profitability. This study aims to analyze the impactleverage, liquidity, and activity on profitability for companies in the beverage and food sub-sector listed on the Indonesia Stock Exchange (IDX). The method used was multiple linear regression analysis using the Moderated Regression Analysis (MRA) approach to test the moderating effect of the activity ratio. These findings indicate thatleveragenegatively contributes to profitability, while liquidity contributes positively to profitability. Activities tested through TATO (Total Asset Turnover) cannot strengthen/weaken the relationship between leverage and liquidity variables on profitability. This finding indicates the importance of liquidity management andleveragein increasing company profitability, as well as the need to pay attention to the efficiency of asset use.

INTRODUCTION

The food and beverage industry in Indonesia plays a significant role in the country's economy, with a large impact on GDP (Gross Domestic Product). Even though this sector is facing major challenges due to the Covid-19 pandemic, in 2023 the food and beverage sector will show rapid recovery with growth of 4.47% (Antara News, 2024). This shows that this sector remains one of the most stable despite global economic pressures, such as fluctuating raw material prices and inflation.

In analyzing company performance in this sector, financial statements serve as a primary tool. One method for measuring company performance is through the use of financial ratios, which reflect operational efficiency and the company's ability to generate profits. Profitability, leverage, and liquidity ratios are three key indicators typically used to assess a company's financial condition.

Picture 1.*Return on Assets (ROA) of Food and Beverage Sub-Sector Companies Listed on the Indonesia Stock Exchange*



Source:www.idx.co.idprocessed data

Referring to the table, it shows that the profitability of food and beverage companies declined from 2021 to 2023. The average profitability of food and beverage companies in 2021 reached 3.88%, 4.95% in 2022, and 4.15% in 2023. This fluctuation indicates a dynamic in the financial performance of food and beverage companies, which may be caused by many factors, including changes in market demand, production costs, and overall economic conditions. The decline in profitability in 2023 compared to the previous year indicates the need for further analysis to understand the causes and formulate appropriate strategies to improve long-term performance.

Corporate profitability is influenced by the management of financial factors such as leverage, liquidity, and asset efficiency. High leverage can increase profits but also increase financial risk, while good liquidity supports the fulfillment of short-term obligations, but excessive leverage can reduce asset efficiency. Activity ratios, which measure the efficiency of asset utilization, are also critical to corporate profitability. Therefore, understanding the relationship between leverage, liquidity, and activity on profitability is crucial amidst evolving markets and intense competition. From 2021 to 2023, the profitability of beverage and food companies showed significant fluctuations, hlighting the importance of financial management in maintaining performance. The main issue that arises is the impact of leverage and liquidity on profitability, and the role of activity ratios as moderating variables. Previous research generally only examined leverage and liquidity directly without considering activity ratios as moderating variables.

Previous findings have shown varying results regarding the impact of leverage and liquidity on profitability. Some studies have shown that leverage has a positive impact (Setiawan & Suwaidi, 2022), while other studies show negative effects (Nurlaily & Suwaidi, 2022). Likewise with liquidity, which has a positive effect (Pusaka & Takarini, 2023), but excessive can reduce efficiency and profitability (Ananda & Takarini, 2021) Activity ratios such as Total Asset Turnover (TATO), which measures the efficiency of asset use, have not been widely used as moderating variables in testing the relationship between leverage, liquidity, and profitability, resulting in a gap in research that examines this relationship holistically.

Based on this background, this research aims to identify the impact of leverage and liquidity on profitability and to test whether the activity ratio moderates this influence. It is hoped that these findings will provide useful recommendations for companies, investors, and stakeholders in understanding the financial dynamics of the Indonesian food and beverage sector.

LITERATURE REVIEW

Packing Order Theory

Based on opinion (Nuraini & Suwaidi, 2022) *packing order theory* is a company that prioritizes the use of internal funds as the main option, from profits obtained through operational activities *Packing order theory* explains that companies tend to choose internal funding sources that come from operational activities, especially in the form of accumulated profits that are not distributed to investors (Wikartika & Fitriyah (2017).

Profitability

Profitability refers to the company's capability to earn a profit. (Fakhrudinsyah & Takarini, 2022)ROA (Return on Assets) is used as a measure to assess the extent to which a company can manage all its assets to obtain net profits.(Sitanggang, 2014)A higher ROA value indicates a more effective company performance in maximizing asset utilization.

Leverage

According to Yuniningsih (2018) Leverage refers to the use of debt as a funding source to support a company's operations and expansion, which has significant implications for financial performance. Leverage, as measured by the Debt to Equity Ratio (DER), provides an indication of the extent to which the owner's capital can cover their debts to third parties. A low ratio also improves security for external parties, while a high ratio indicates a company's increased risk.

Liquidity describes how far a company is able to meet its short-term obligations.(Pradani et al., 2021)This measure indicates the capacity of a business entity to pay off debts that are due soon, both to internal and external creditors. (Nuraini & Suwaidi, 2022). CR (Current Ratio) is used to assess liquidity by comparing current assets to current liabilities. (Martono & Harjito, 2008) A high current ratio indicates a company's ability to pay short-term debt.

Activity

Activity ratios serve to assess how well a company manages its investments.(Yuniningsih, 2018) In this study, the indicator used is TATO (Total Assets Turnover), which reflects the frequency of asset use to generate profit over a specific period. A higher TATO value indicates more optimal asset utilization to generate revenue.

The Effect of Leverage (DER) on Company Profitability

Leverage affects profitability because the use of debt can increase a company's operational capacity. When used properly, leverage can increase profitability, but high interest rates can depress profits.(Yuniningsih, 2018). Study Setiawan & Suwaidi (2022) shows a positive influence of leverage on profitability, whereas Nurlaily & Suwaidi (2022) found negative influences. Lorang et al (2023) highlights the importance of strategic leverage management. This aligns with pecking order theory, which explains that companies with high profitability tend to rely on internal funds and have low debt.

H1 : Leverage (DER) has a positive effect on profitability

The Effect of Liquidity (CR) on Company Profitability

Liquidity relates to a company's capability to meet its short-term obligations and support smooth operations, avoid late payments, and take advantage of business opportunities, which in turn increases profitability (Brigham & Houston, 2010).Pusaka & Takarini (2023) found a positive contribution of liquidity to profitability, especially in the mining sector, while Setiawan & Suwaidi (2022) showed the same significant effect. However, Ananda & Takarini (2021) reminds us that

excessive liquidity can reduce efficiency and profitability. This aligns with pecking order theory, which explains that companies with high liquidity prefer to avoid debt payments.
H2 : Liquidity (CR) has a positive effect on profitability

The Effect of Activity (TATO) Moderates Leverage and Liquidity on Profitability

Based onRaharjo (2022)Activity ratios reflect how a company uses its assets to generate revenue and profit. Previous research, namely,(Nurlaily & Suwaidi, 2022) An interaction between the activity ratio and leverage indicates a positive effect on profitability. Companies implement efficiency measures to their assets and resources, thereby increasing sales satisfaction, which in turn increases profits. The profits generated by the company can cover both asset utilization and debt. The same study stated that activity cannot moderate the relationship between liquidity and profitability. Company efficiency or activity does not influence or alter the relationship between the company's liquidity and its profitability.

H3 : Activity (TATO) can moderate the relationship between the leverage variable on profitability

H4: Activity (TATO) can moderate the relationship between liquidity variables on profitability

Conceptual Framework

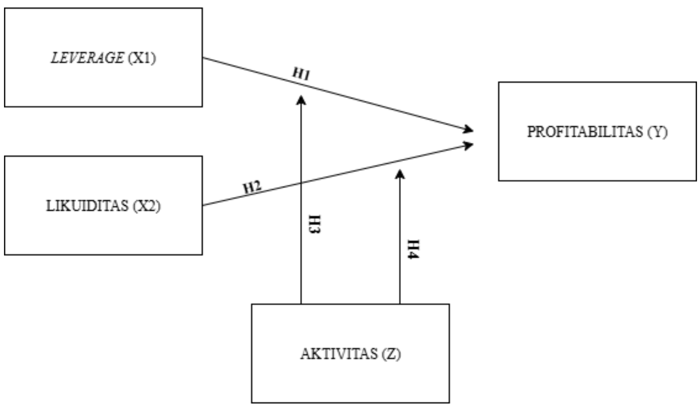


Figure 2 Conceptual Framework

METHODS

This study uses a quantitative approach to evaluate the extent to which leverage, liquidity, and activity, as moderating variables, impact profitability levels for companies in the food and beverage subsector listed on the Indonesia Stock Exchange (IDX) from 2021 to 2023. The study population comprised all companies in the subsector that were actively listed during the study period. The sample was selected using a purposive sampling method, with the criteria being companies that consistently submitted complete financial reports for three years. Based on these criteria, a total of 64 companies were selected with 192 panel data observations. The data source was secondary data obtained from financial reporting documentation and official information published by the IDX. Data collection was carried out through documentation. To process the data, the researcher used multiple linear regression analysis and MRA, implemented using SPSS V.29 software. SPSS 29 was used for data processing and accurate interpretation of the analysis results to provide valid and reliable conclusions regarding the effect of DER, CR, and TATO as moderating variables on ROA.

RESULTS AND DISCUSSION

Hypothesis Testing Analysis

Multiple Linear Regression Analysis

Table 1. Results of Multiple Linear Regression Analysis

Coefficients[a]								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	**3,201**	1,935		1,654	0,102		
	DER	**-0,029**	0,009	-0,307	-3,221	0,002	0,798	1,253
	CR	**0,036**	0,009	0,398	4,063	0,000	0,754	1,326
	TATO	**-0,007**	0,003	-0,201	-2,288	0,024	0,939	1,065

a. Dependent Variable: ROA

Source: data processed by SPSS

The multiple linear regression equation obtained is:

Profitability = 3.201 – 0.029 DER + 0.036 CR – 0.007 TATO+ e

Referring to the multiple linear regression equation that has been found, it can be explained as follows: a) Constant (α) = 3.201 indicates that if DER, CR, and TATO are 0, then ROA is 3.201.; b) DER = -0.029 indicates that every increase in CAR by one unit will decrease ROA by 0.029, assuming that other variables are constant.; c) CR value reaches 0.036 indicating that if CR increases by one unit, ROA is estimated to increase by 0.036, provided that other variables remain unchanged.; d) TATO coefficient value reaches -0.007 indicating that every increase in TATO by one unit will cause a decrease in ROA by 0.007, assuming that all other variables in the model remain constant.

Hypothesis Testing with Moderated Regression Analysis

Partial Test Results (t)

Table 2. t-Test Results

Coefficients[a]								
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	**(Constant)**	5,098	3,084		1,653	**0,102**		
	DER	**-0,044**	0,015	-0,468	-2,844	**0,006**	0,268	3,729
	CR	0,034	0,013	0,374	2,522	**0,013**	0,331	3,017
	TATO	-0,023	0,022	-0,656	-1,063	**0,291**	0,019	52,395
	X1Z	0,000	0,000	0,376	1,164	**0,247**	0,070	14,367
	X2Z	2,829E-05	0,000	0,150	0,324	**0,746**	0,034	29,313

a. Dependent Variable: ROA

Source: SPSS, processed data

Referring to the table, it can be understood that DER has a positive and significant impact on ROA ($p = 0.006 < 0.05$), so the hypothesis rejected. CR has a positive and significant impact on

ROA (p = 0.013 < 0.05), so the hypothesis is accepted. Meanwhile, TATO as a moderating variable has no moderating effect on DER and is not significant (0.247 > α 0.05) on ROA, so the hypothesis is not accepted. TATO as a moderating variable has no moderating effect on CR and is not significant (0.749 > α 0.05) on ROA, so the hypothesis is not accepted.

Coefficient of Determination (R2)

Table 9. Results of the Determination Coefficient (R2) Test

Model Summary[b]								
					Change Statistics			
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	Sig. F Change	Durbin-Watson
1	**0,606[a]**	0,367	**0,331**	3,69095	0,367	10,089	0,000	1,390

a. Predictors: (Constant), X2Z, DER , CR , X1Z, TATO

b. Dependent Variable: ROA

Source: SPSS, processed data

The coefficient of determination (R^2) value of 0.367 shows that DER, CR, TATOexplains 36.7% of the variation in PBV, while 66.9% is due to other variables outside the study.

The Effect of Leverage (DER) on Profitability

Leverage, measured by DER, negatively impacts the profitability (ROA) of food and beverage companies listed on the IDX. The companies' experiences indicate that increased debt usage leads to higher interest expenses and other financial pressures, ultimately reducing their ability to generate optimal profits. The decline in profitability is caused by increased interest expenses and financial risks that accompany higher debt, thereby suppressing the company's net profit. This study, in line with the Packing Order Theory, suggests that external funding in the form of debt is preferred over equity due to considerations of issuance costs, as well as the issuance of new shares, which can lower the company's share price (Wikartika & Fitriyah, 2017). This finding is supported by researchNurlaily & Suwaidi (2022), R Ayu et al. (2022), Annis Syahzuni & Jimmy (2022) And Piranti & Hermanto (2024) that leverage contributes with a negative coefficient. This means that high leverage can reduce company profitability due to increased interest costs and the risk of default.

The Effect of Liquidity (CR) on Profitability

Liquidity levels, as indicated by CR, have a positive impact on profitability (ROA) for companies in the food and beverage sector. Increased liquidity indicates a company's improved ability to pay off short-term liabilities and manage working capital needs, thereby driving improved profitability. Good liquidity enables companies to manage working capital efficiently, resulting in smooth operations and increased profitability. The availability of adequate current assets enables companies to face unexpected financial risks, such as decreased demand or increased production costs. This research aligns with the Packing Order Theory, where high liquidity reflects a company's ability to manage its internal funds (retained earnings), which supports the theory that debt is prioritized to reduce reliance on debt. Companies with high liquidity are quicker to respond to business opportunities, such as market expansion, new product development, or investment in improving operational efficiency. The results of this study align with research Pusaka & Takarini

(2023), Setiawan & Suwaidi (2022), And Nurron & Nur (2022) Liquidity results in a positive contribution to profitability. This means that when a company's liquidity level increases, its ability to meet its short-term obligations tends to improve, which in turn can boost the company's financial performance.

The Effect of Activity (TATO) in Moderating Leverage (DER) on Profitability

Company activity, as measured by TATO, cannot strengthen or weaken the impact of leverage on the profitability of food and beverage companies listed on the IDX. This is because even if companies improve operational efficiency by optimizing asset utilization, such as by adding new production machines, the high debt interest burden still reduces net profit. Companies with high debt to finance new machinery purchases, even if they successfully increase production capacity, still face significant interest expenses, which reduce net profit. This phenomenon reflects the pecking order theory, which explains that companies prefer to use internal funding sources (retained earnings) to fund operations and growth, rather than relying on external debt, which increases financial burdens and potentially reduces profitability. Food and beverage companies generally have high fixed costs due to their capital-intensive nature, including the need for investment in production machinery, distribution systems, and complex logistics management. In this environment, high debt can increase pressure on operating cash flow, especially when company revenue declines. Even if asset efficiency improves and results in higher sales, the profit margin from these sales may not be large enough to cover the debt interest obligations.

The Effect of Activity (TATO) in Moderating Liquidity (CR) on Profitability

Activity measured through TATO does not moderate the impact of liquidity on the profitability of food and beverage companies listed on the IDX. This is because liquidity addresses a company's ability to meet its short-term obligations. Activity addresses a company's efficiency in managing its assets to finance operational activities. Profitability assesses the net profit generated from the use of capital. It is difficult to assess whether a company making sales has more cash or more inventory and receivables. If cash is more abundant, the company will have an easier time paying its debts. Conversely, if more inventory or receivables are held, the company will have a harder time paying its debts. This is because cash is easier to transact than inventory or receivables, which take time to convert to cash. Liquidity is used to assess a company's capability to meet its current liabilities, while profitability measures the net profit generated from its operational activities. Although a company may have greater efficiency in managing assets, this is not enough to moderate the impact of liquidity on profitability. This is because good liquidity allows a company to optimize the use of internal funds and reduce reliance on external debt, ultimately improving profitability. Conversely, even if a company is more efficient in using its assets, this does not affect the positive relationship between liquidity and profitability, as liquidity remains a key factor in a company's ability to meet its short-term obligations and support stable operations. The use of debt is preferred over equity due to considerations of issuance costs and the issuance of new shares, which can cause a decline in the company's share price Wikartika & Fitriyah (2017).

CONCLUSION

The conclusion of this study shows that the profitability of food and beverage companies listed on the Indonesia Stock Exchange (IDX) is influenced by several key factors in financial statements, namely leverage, liquidity, and activity. Leverage has a negative contribution to profitability, indicating that increased debt usage will reduce the company's profit level. Conversely, leverage contributes positively to profitability, indicating a higher company's ability to meet its short-term obligations, increasing the potential profit. However, activity cannot strengthen or weaken the influence of these two variables on profitability, meaning that asset efficiency cannot change the impact of debt or liquidity levels on profits and cannot change the impact of debt usage on profitability. It is important for companies to carefully manage debt usage and maintain optimal liquidity. Future research can expand the research period and consider external factors that can affect company profitability.

REFERENCE

Ananda, FAT, & Takarini, N. (2021). Profitability Analysis of Companies Listed in the LQ45 Index on the Indonesia Stock Exchange (Vol. 11, Issue 2). www.idx.co.id

Annis Syahzuni, B., & Jimmy. (2022). The effect of working capital, asset turnover, and leverage on profitability. Scientific Journal of Accounting and Finance, 5(3). https://journal.ikopin.ac.id/index.php/fairvalue

Antara News. (2024, March 2). Ministry of Industry: Food and beverage industry supports the Indonesian economy. https://www.antaranews.com/berita/3992028/kemenperin-industri-makanan-minuman-penopang-ekonomi-indonesia

Brigham, EF, & Houston, JF (2010). Fundamentals of Financial Management. Salemba Empat.

Fakhrudinsyah, V., & Takarini, N. (2022). Dividend Policy Analysis of Manufacturing Companies on the Indonesia Stock Exchange (IDX).

Lorang, PMD, Ndoen, WM, & Foenay, CC (2023). The Effect of Liquidity and Leverage on Profitability and Company Value at PT Wismilak Inti Makmur Listed on the Indonesia Stock Exchange. Glory: Journal of Economics & Social Sciences.

Martono, & Harjito. (2008). Financial Management. UII Economics.

Nuraini, FD, & Suwaidi, RA (2022). The Effect of Leverage, Liquidity, and Company Size on Profitability in Textile and Garment Companies Listed on the Indonesia Stock Exchange. Journal of Management Science, 11(2), 157. https://doi.org/10.32502/jimn.v11i2.3523

Nurlaily, N., & Suwaidi, RA (2022). Analysis of the Effect of Leverage and Liquidity on Profitability and Activity Ratios as Moderating Variables. 6(3).

Nurron, M., & Nur, DI (2022). Profitability Analysis of Coal Mining Companies Listed on the Indonesia Stock Exchange. In Journal of Economic Education Research (Issue 7). http://ejournal.unikama.ac.idHal|28

Piranti, E., & Hermanto. (2024). The Effect of Accounts Receivable Turnover, Inventory Turnover, Accounts Payable Turnover, Leverage, and Company Size on Profitability. Al-Kharaj: Journal of Islamic Economics, Finance & Business, 6(12). https://doi.org/10.47467/alkharaj.v6i12.4651

Pradani, AP, Nur, DI, & Wikartika, I. (2021). Financial Performance Analysis On Wholesale Company Value.

Pusaka, S.A., & Takarini, N. (2023). The Effect of Liquidity and Leverage on Profitability Moderated by Company Size in the Coal Mining Sub-Sector. Ekonomis: Journal of Economics and Business, 7(2), 1209. https://doi.org/10.33087/ekonomis.v7i2.1045

R Ayu, A., Sadeli, & Sugiarto, M. (2022). The Effect of Leverage on Profitability with Cost of Capital as an Intervening Variable (Vol. 20, Issue 1). http://jurnal.upnyk.ac.id/index.php/jiab

Raharjo, B. (2022). Financial Statement Analysis.

Setiawan, AF, & Suwaidi, RA (2022). The Effect of Liquidity, Activity, and Leverage Ratios on Profitability with Firm Size as a Moderating Variable. https://doi.org/10.28926/briliant.v7i3

Sitanggang, J. (2014). Advanced Corporate Financial Management (2nd ed.). Mitra Wacana Media.

Wikartika, I., & Fitriyah, Z. (2017). Testing Pecking Order Theory in Jakarta Islamic Index.

Yuniningsih, D. (2018). Fundamentals of Financial Management. Indomedia Pustaka.