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ANALYSIS OF THE EFFECT OF FINANCIAL LEVERAGE ON PROFITABILITY IN FOOD AND BEVERAGE SUBSECTOR COMPANIES LISTED ON THE IDX FOR THE PERIOD 2017-2023

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Abstract. This study aims to analyze the effect of leverage on profitability in food and beverage subsector companies listed on the Indonesia Stock Exchange from 2017 to 2023. This research employs a quantitative approach using documentation methods. The research objects are secondary data in the form of financial reports from food and beverage companies listed on the Indonesia Stock Exchange during the 2017-2023 period. The independent variables in this study include DAR, Debt to EBITDA, DER, and ICR, while the dependent variable is Return on Equity (ROE). The samples were selected purposively, comprising 22 companies. Panel data regression analysis was conducted. The results indicate that Debt to EBITDA and DER have a significant influence on ROE, with negative and positive directions, respectively. Meanwhile, DAR and ICR do not show a significant effect on ROE in food and beverage companies in Indonesia. This research is expected to contribute to the profitability literature and assist investors in making investment decisions by considering internal company aspects such as DAR, Debt to EBITDA, DER, and ICR.

Keywords: Debt to Asset Ratio (DAR), Debt to EBITDA, Debt to Equity Ratio (DER), Interest Coverage Ratio (ICR), Return on Equity (ROE)

I. INTRODUCTION

The food and beverage industry in Indonesia has experienced significant development in recent years, with a large contribution to the national economy as one of the sectors that dominate gross domestic product (GDP) and the manufacturing sector. The growth of this sector is accompanied by an increase in intense competition among existing companies, which encourages each company to manage resources more effectively to improve its performance. Company profitability is one of the main indicators used to measure success in running business operations, where the profit earned by the company can reflect the level of management effectiveness in utilizing assets and capital owned (Apriliana et al., 2023). One of the ways that can affect profitability is through the company's capital structure, which involves decisions regarding the use of debt or leverage. Appropriate use of debt can increase profits for shareholders, but excessive use of debt can increase financial risk and reduce company profitability (Wairisal, 2024).

Financial leverage can be measured using various debt ratios, such as Debt to Asset Ratio (DAR), Debt to EBITDA, Debt to Equity Ratio (DER), and Interest Coverage Ratio (ICR), which all serve to measure how much the proportion of funding comes from debt compared to own capital (Wang, 2016). Previous studies show mixed results regarding the effect of leverage on

profitability. Some studies found a positive effect between the use of debt and profitability, while others showed a negative effect or even no significant effect at all (Uwuigbe & Ajibolade, 2013; Muttakin et al., 2015). This suggests that the effect of leverage on profitability is not always consistent and can be affected by various factors, including industry structure and dynamic economic conditions.

Although many studies have been conducted, most of them are still limited to certain sectors or use older data. This study aims to fill the void by analyzing the effect of financial leverage on the profitability of food and beverage subsector companies listed on the Indonesia Stock Exchange (IDX) in the period 2017 to 2023. By using more recent data, this study is expected to provide a more accurate picture of how the leverage ratio can affect the profitability of companies in the relevant sector.

The statement of scientific novelty in this study lies in the simultaneous testing of several leverage ratios, namely Debt to Asset Ratio (DAR), Debt to EBITDA, Debt to Equity Ratio (DER), and Interest Coverage Ratio (ICR), on the profitability of food and beverage subsector companies in Indonesia, which has not been widely studied in one study with more recent data. In addition, this study also takes into account the influence of external factors that can affect company performance in dynamic market conditions.

The problems that will be tested in this study are as follows: Does Debt to Asset Ratio (DAR) have a positive effect on profitability? Does Debt to EBITDA have a negative effect on profitability? Does Debt to Equity Ratio (DER) have a positive effect on profitability? And does Interest Coverage Ratio (ICR) have a positive effect on profitability? Based on this background, the purpose of this article review is to analyze the effect of Debt to Asset Ratio (DAR), Debt to EBITDA, Debt to Equity Ratio (DER), and Interest Coverage Ratio (ICR) on the profitability of food and beverage subsector companies listed on the Indonesia Stock Exchange in the period 2017 to 2023.

II. LITERATURE REVIEW

A. Trade-off Theory

Trade-off theory explains that companies try to achieve an optimal capital structure by balancing the benefits and costs of using debt. Debt provides benefits in the form of a tax shield because interest can be deducted from taxable income, potentially increasing the value of the company (Brigham & Houston, 2011). However, increasing leverage also increases financial risks, such as financial distress and agency costs due to conflicts of interest between managers, creditors, and shareholders (Myers, 1984). Therefore, firms will seek the optimal level of debt, i.e. when the marginal benefit of debt is balanced with its marginal cost, in order to maximize firm value. In relation to profitability, at a moderate level of leverage, the use of debt can increase Return on Equity (ROE) because net income attributable to shareholders increases without additional equity.

B. Pecking Order Theory

Pecking Order Theory proposed by Myers (1984) explains that companies have a priority order in choosing funding sources to meet operational and business development needs. Companies prefer internal funding, such as operating profit and retained earnings, over external funding because it is considered safer and does not increase financial risk (Oktariyani, 2019). External funding, such as debt and share issuance, tends to be avoided because it can increase debt ratios and bankruptcy risk.

This theory asserts that companies will first use internal funds, then debt if internal funds are insufficient, and make equity as a last resort. This approach aims to minimize risk and maintain company structure and size (Sayekti & Santoso, 2020). In research, these funding decisions can be measured through financial ratios such as Debt to Asset Ratio (DAR), Debt to EBITDA, Debt to Equity Ratio (DER), and Interest Coverage Ratio (ICR).

C. Profitability

Profitability reflects the company's ability to generate profits from its revenue, assets, or equity, and is used to assess the effectiveness of managing company resources in creating profits for shareholders (Septiyani et al., 2020). Profitability also shows the extent to which the use of debt plays a role in financing investment and helps investors assess the balance between risk and return on investment (Nurron & Nur, 2022).

In this study, profitability is measured using Return on Equity (ROE). A high ROE indicates the company's ability to generate large profits from its own equity and can increase investor attractiveness, although an increase in ROE can also be influenced by the high use of debt which increases financial risk. Conversely, a low ROE indicates the company's inefficiency in utilizing equity, which may decrease investor interest. Therefore, ROE analysis needs to consider other factors such as debt levels. Overall, profitability reflects the efficiency and effectiveness of management performance, where high profitability values indicate good managerial performance, while low profitability reflects suboptimal performance.

D. Debit to Asset Ratio

Debt to Asset Ratio (DAR) is used to assess the proportion of a company's assets financed through debt and reflects the company's level of dependence on external funding. This ratio is calculated by dividing total debt by total company assets (Sudaryo & Sofiati, 2021). A high DAR value indicates that more assets are financed by debt, potentially increasing financial risk, while a low DAR indicates that the company uses more of its own capital in funding assets and has lower financial risk.

E. Debt to EBITDA

Debt to EBITDA is a financial ratio used to assess the company's ability to meet its debt obligations by linking total debt to EBITDA, which is earnings before interest, taxes, depreciation, and amortization (Arhinful & Radmehr, 2023). This ratio provides a clearer picture of the company's debt repayment capacity without being influenced by the funding structure or non-cash assets (Malik & Darmawati, 2024). A low Debt to EBITDA value indicates a better condition because it reflects the company's ability to pay off debt and positive revenue prospects, while a high ratio value signals an increased risk of financial difficulties and potential debt default.

F. Debt to Equity Ratio

Debt to Equity Ratio (DER) is a financial ratio used to assess the extent to which the company relies on debt compared to shareholder capital in financing its business activities. This ratio is calculated by dividing the company's total liabilities by total shareholders' equity (Horne & Wachowicz, 2009; Kasmir, 2012). A high DER indicates the company's high dependence on debt, which can reduce the company's ability to distribute dividends because more profits are allocated to payment of liabilities. Conversely, a low DER indicates a smaller use of debt,

allowing the company to distribute larger dividends to shareholders (Novianto & Haryono, 2017), as well as opening up opportunities for issuing new shares as an alternative to debt funding.

G. Interest Coverage Ratio

Interest Coverage Ratio (ICR) is a ratio that measures the ability of the company's income to cover annual interest expenses without creating a risk of default (Kasmir, 2012). This ratio reflects the level of the company's financial health and its ability to meet interest payment obligations on debt (Horne & Wachowicz, 2009). A high ICR value indicates that the company's operating profit is sufficient to bear interest expenses efficiently, while a low ICR indicates financial difficulties. Low ICR conditions can cause a decrease in net income due to high interest expenses, which in turn reduces Return on Equity (ROE) and reduces the efficiency of using shareholder capital.

H. Research Framework

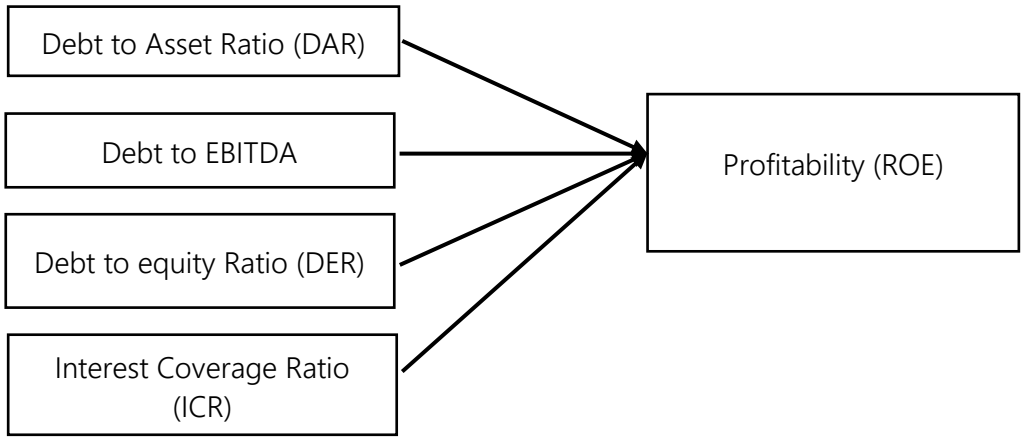

Figure 1 Research Framework

This study aims to analyze the impact of leverage, as measured by Debt to asset Ratio (DAR), Debt to EBITDA, Debt to equity Ratio (DER), and Interest coverage ratio (ICR), on profitability (ROE) in companies in the food and beverage subsector during the period 2017-2023. The first hypothesis tests the effect of Debt to asset Ratio (DAR) on profitability, the second hypothesis tests the effect of Debt to EBITDA on profitability, the third hypothesis tests the effect of Debt to equity Ratio (DER) on profitability, and the fourth hypothesis tests the effect of Interest coverage ratio (ICR) on profitability.

I. Hypothesis Development

The Effect of Debt to Asset Ratio on Profitability

Based on trade-off theory, companies try to achieve an optimal capital structure by utilizing debt to support expansion which is expected to increase profitability. However, an increase in debt also raises the cost of debt which has the potential to suppress profits if the proportion is too high. Meanwhile, pecking order theory explains that companies tend to use debt before issuing new shares because it is more accessible and relatively low cost.

The level of debt usage in this study is reflected through the Debt to Asset Ratio (DAR), which shows the proportion of the company's assets financed by debt while reflecting the company's ability to meet long-term financial obligations. A high DAR indicates a large use of borrowed capital for asset investment, which has the potential to increase profitability through productive asset management. However, if this ratio is too high, the increasing debt burden can reduce the company's profitability (Sudaryo & Sofiati, 2021).

Previous empirical findings show that DAR has a significant effect on profitability (Sari et al., 2019; Apriliana et al., 2023). Based on the theoretical basis and the results of previous research, the first hypothesis in this study is formulated as follows:
H1: Debt to Asset Ratio (DAR) has a positive effect on profitability.

The Effect of Debt to EBITDA on Profitability

Within the framework of trade-off theory, Debt to EBITDA reflects the ability of the company's operating profit to cover debt obligations before interest, taxes, depreciation, and amortization. This ratio shows the amount of income available for debt repayment (Arhinful & Radmehr, 2023). A low Debt to EBITDA value indicates a better financial condition because the company has sufficient capacity to pay off debt and potentially increase revenue and profitability. Conversely, a high ratio value indicates an increased risk of inability to pay debt, decreased revenue, and potential default, which in turn can reduce the company's profitability. The results of previous studies show that Debt to EBITDA affects profitability (Alma & Muchtar, 2024; Malik & Darmawati, 2024; Arhinful & Radmehr, 2023). Therefore, the second hypothesis in this study is formulated as follows:
H2: Debt to EBITDA has a negative effect on profitability.

Effect of Debt to Equity Ratio on Profitability

Debt to Equity Ratio (DER) reflects the company's ability to fulfill its obligations based on its own capital (Puspitasari & Dwirandra, 2019). In the perspective of trade-off theory, a high DER value indicates the use of debt to fund investments that are expected to increase profits. Meanwhile, pecking order theory explains that companies tend to choose debt over equity, so an increase in DER can support profit growth as reflected in an increase in Return on Equity (ROE). In addition, the use of debt provides tax benefits through the deduction of debt interest in the calculation of taxable income, which has the potential to increase company profitability (Puspitasari & Dwirandra, 2019). The results of previous studies show that Debt to Equity Ratio affects profitability (Sayekti & Santoso, 2020; Puspitasari & Dwirandra, 2019; Rizki & Ridha, 2022; Ningtyas & Pratama, 2022; Afandi & Haryono, 2022). Therefore, the third hypothesis in this study is formulated as follows:
H3: Debt to Equity Ratio (DER) has a positive effect on profitability.

Effect of Interest Coverage Ratio on Profitability

In the perspective of trade-off theory, a high Interest Coverage Ratio (ICR) reflects the company's ability to pay debt interest expense from operating profit, thus having a positive impact on net income. Meanwhile, pecking order theory asserts that companies that use debt must have sufficient earnings capacity to cover interest expenses to reduce the risk of default and maintain earnings stability. This condition allows companies to utilize equity more effectively, which is reflected in an increase in Return on Equity (ROE) (Syawal & Fachrizal, 2016). Conversely, a low ICR value indicates the company's difficulty in meeting interest

obligations, so that high interest expenses can reduce net income and reduce ROE. The results of previous studies show that the Interest Coverage Ratio affects profitability (Syawal & Fachrizal, 2016; Rahmani, 2024). Therefore, the fourth hypothesis in this study is formulated as follows:
H4: Interest Coverage Ratio has a positive effect on profitability.

III. RESEARCH METHODOLOGY

A. Type, Object, and Period of Research

This study uses a quantitative approach with the documentation method to analyze the effect of leverage on company profitability. The object of research is focused on food and beverage subsector companies listed on the Indonesia Stock Exchange (IDX). The research period used is 2017 to 2023. The selection of the food and beverage subsector is based on the significant growth of the food and beverage industry in Indonesia and its relevance to the issue of capital structure and company financial performance which is the focus of this study.

B. Data Type and Source

The data used in this study is secondary data obtained from the annual financial statements of food and beverage subsector companies listed on the IDX. Data collection is done by accessing the company's publicly available financial statements and annual reports through the official website of the Indonesia Stock Exchange and the official site of each company. The data is used as the basis for calculating the financial ratios that are the variables in this study.

C. Population, Sample, and Sampling Technique

The population in this study were all food and beverage subsector companies listed on the Indonesia Stock Exchange. The sampling technique used is purposive sampling, which is the selection of samples based on certain criteria. These criteria include companies that are listed on the IDX consecutively during the period 2017 to 2023, companies that publish complete annual financial reports, and companies that present financial reports in rupiah currency. Based on these criteria, 22 food and beverage subsector companies were obtained as research samples.

D. Operational Definitions and Research Variables

The dependent variable in this study is company profitability as measured using Return on Equity (ROE). ROE is used because it is able to reflect the company's ability to generate profits based on its own capital. The independent variable in this study is company leverage as measured by several financial ratios, namely Debt to Asset Ratio (DAR), Debt to EBITDA, Debt to Equity Ratio (DER), and Interest Coverage Ratio (ICR). The four ratios are used to represent the level of debt usage and the company's ability to meet its financial obligations.

E. Data Analysis Methods and Techniques

The data analysis method used in this research is panel data regression, which combines cross-section and time series data so as to provide more comprehensive analysis results. The initial stage of analysis is carried out with descriptive statistics to describe the characteristics of the data, including the mean value, standard deviation, minimum value, and maximum value of each variable. Furthermore, a model selection test is carried out using the Chow Test, Hausman Test, and Lagrange Multiplier Test to determine the most appropriate panel data regression model, namely the Fixed Effect Model (FEM) or Random Effect Model (REM). After

the best model is determined, panel regression analysis is performed to test the effect of leverage ratio on Return on Equity (ROE).

F. Research Procedures and Hypothesis Testing

The research procedure begins with the collection of secondary data from the annual financial statements of food and beverage subsector companies listed on the IDX. Furthermore, financial ratios are calculated which include DAR, Debt to EBITDA, DER, and ICR. After that, classic assumption testing is carried out to ensure the validity of the regression model used, which includes multicollinearity test, normality test, and heteroscedasticity test. The next stage is hypothesis testing to determine the significance of the influence of each leverage variable on company profitability as measured by ROE.

G. Analysis Tools

Data processing and analysis in this study were conducted using EViews software version 12. This software is used to manage panel data, calculate financial ratios, perform descriptive statistics, determine the most appropriate panel data regression model, and test research hypotheses. The use of EViews 12 is expected to produce accurate and reliable data analysis.

IV. RESULT AND DISCUSSION

A. Descriptive Statistics

Table 1 presents descriptive statistics of leverage and profitability variables of food and beverage subsector companies listed on the Indonesia Stock Exchange during the 2017-2023 period. The average Debt to Asset Ratio (DAR) of 0.386 indicates that about 38.6% of the company's assets are financed by debt, with relatively moderate variations between companies. Debt to Equity Ratio (DER) has an average value of 0.786, which indicates that the company's capital structure tends to be dominated by equity rather than debt.

In contrast, Debt to EBITDA and Interest Coverage Ratio (ICR) show a high level of variation, reflected in standard deviations that far exceed their mean values. This indicates a significant difference in the company's ability to manage debt and fulfill interest obligations. Meanwhile, Return on Equity (ROE) has an average value of 0.168, which indicates a relatively good level of profitability, but with considerable variation between companies. Overall, these descriptive statistics indicate the heterogeneity of leverage structure and profitability performance in food and beverage subsector companies during the study period.

Table 1. Descriptive Statistics of Leverage and Profitability Variables

Variable	Minimum	Maximum	Average	Standard Deviation
Debt to assets	0.093	0.954	0.386	0.179
Debt to EBITDA	0.634	64.649	6.016	9.186
Debt to equity	0.103	3.196	0.786	0.608
Interest Coverage Ratio	0.115	132951.184	2816.387	14598.173
Return on equity	0.001	1.241	0.168	0.181

Source: Data Processed (2025)

B. Lagrange Multiplier Test

Table 2. Lagrange Multiplier Test Results

	Chi Square	Probability
LM Test	125.169	0.000

Source: Data Processed (2025)

The results of the Lagrange Multiplier test on the effect of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity obtained a Lagrange Multiplier test statistic value of 125,169 with a probability of 0.000. This result shows that the probability < level of significance (α = 5%). This means that the research object does not have a homogeneous variety. Thus the right model to estimate the effect of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity based on the Lagrange Multiplier test (LM Test) is the Random Effect Model (REM).

C. Chow Test

Table 3. Chow Test Results

	F Statistics	Probability
Chow Test	10.810	0.000

Source: Data Processed (2025)

As stated in the table above, the results show that the F test statistics in the Chow test on the effect of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity is 10,810 with a probability of 0.000. The test results show the probability value < level of significance (α = 5%), so H0 is accepted. Thus the right model to estimate the effect of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity based on the Chow test is the Fixed Effect Model (FEM). Because the lm test results produce a Random Effect Model (REM) model, while the chow test results produce a Fixed Effect Model (FEM) model, the effect of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity needs to be tested using the Hausman test to get the best model estimate.

D. Hausman Test

Table 4. Hausman Test Results

	Chi Square Statistics	Probability
Hausman Test	7.886	0.096

Source: Data Processed (2025)

Table 4 above informs that the chi square test statistics in the Hausman test on the effect of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity is 7.886 with a probability of 0.096. The test results show the probability value> level of significance (α = 5%), so H0 is accepted. Thus the panel regression estimation model of the effect of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity based on the Hausman test is the Random Effect Model (REM). Therefore, it can be

concluded that the best model for estimating the effect of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity from the results of the three tests lm test, chow test, and hausman test is the random effect model (REM).

E. Test Coefficient of Determination (R^2)

According to Gujarati & Porter (2008), the goodness of fit model in panel regression analysis uses the coefficient of determination (R Square) which is intended to determine the goodness of the panel regression model through the amount of variation in the dependent variable that can be explained by the independent variable. In other words, the coefficient of determination (R Square) is used to determine the ability of the independent variables to represent the dependent variable. The greater (close to 100%) the coefficient of determination (R Square), the better the panel regression model.

Table 5. Test Results of the Coefficient of Determination (R^2)

Independent Variables	Dependent Variable	Coefficient of Determination (R^2)
Debt to Asset Debt to EBITDA Debt to Equity Interest coverage ratio	Return on Equity	0.615

Source: Data Processed (2025)

Table 5 above informs that the coefficient of determination (R square) generated by the panel regression model of the effect of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity is 0.615 (61.5%). This means that the diversity of return on equity can be explained or represented by debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio on return on equity by 61.5%, or in other words, the contribution of debt to assets, Debt to EBITDA, debt to equity, and interest coverage ratio to return on equity is 61.5%, while the remaining 38.5% is the contribution of other factors included in the panel regression model or not discussed in this study.

F. Simultaneous Test

Table 6. Simultaneous Test Results

Simultaneous Significance Testing		
Dependent Variable	F Statistic	Probability Value
Return on Equity	59.486	0.000

Source: Data Processed (2025)

The table above informs that testing the simultaneous hypothesis of the effect of debt to assets, Debt to EBITDA, Debt to equity, and interest coverage ratio on return on equity produces an F statistic of 59.486 with a probability value of 0.000. The test results show the probability value < level of significance (alpha (α)=5%). This means that there is a significant effect simultaneously (together) debt to assets, Debt to EBITDA, Debt to equity, and interest coverage ratio on return on equity. Thus, the Random Effect Model (REM) panel regression model is the right model to use to predict the effect of debt to assets, Debt to EBITDA, Debt to equity, and interest coverage ratio on return on equity.

G. Partial Test

Table 7. Partial Test Results

Independent Variable	Coefficient	T Statistic	Prob.	Description
Model (Dependent Variable = Return on Equity)				
Debt to asset	-0.069	-0.455	0.650	Rejected
Debt to EBITDA	-0.077	-15.536	0.000	Accepted
Debt to equity	0.398	2.887	0.005	Accepted
Interest coverage ratio	-0.000001	-0.442	0.659	Rejected
Constant	-2.039	-7.521	0.000	Accepted

Source: Data Processed (2025)

H. Panel Data Regression Analysis

This study applies panel data regression analysis methodology, a statistical approach that is often utilized in business research. This method involves using several independent variables to explain variations in the dependent variable (Pasaribu et al., 2022). The empirical model of the panel regression estimation results of the effect of debt to assets, Debt to EBITDA, Debt to equity, and interest coverage ratio on return on equity, as follows:

General Model:

$$ROE = \beta 0 + \beta 1\ DAR + \beta 2\ EBITDA + \beta 3\ DER + \beta 4\ ICR + \varepsilon$$

Empirical Model

$$ROE = -2.039 - 0.069\ DAR - 0.077\ EBITDA + 0.398\ DER - 0.000001\ ICR$$

This equation shows the following:

1. A constant of -2.039. This indicates that if debt to assets, Debt to EBITDA, Debt to equity, and interest coverage ratio are constant (unchanged) then return on equity is -2.039% (or about 0.130% in original units).
2. The debt to asset coefficient of -0.069 indicates that debt to assets has a negative and insignificant effect on return on equity. This means that an increase in debt to assets of 1% will reduce return on equity by 0.069% (or about 0.933% in original units), although the decrease is not significant.
3. The Debt to EBITDA coefficient of -0.077 indicates that Debt to EBITDA has a negative and significant effect on return on equity. This means that an increase in Debt to EBITDA by 1 point will reduce return on equity by 0.077% (or around 0.926% in original units).
4. Debt to equity coefficient of 0.398 indicates that debt to equity has a positive and significant effect on return on equity. This means that an increase in debt to equity of 1 point will increase return on equity by 0.398% (or about 1.489% in original units).
5. The interest coverage ratio coefficient of -0.000001 indicates that the interest coverage ratio has a negative and significant effect on return on equity. This means that an increase in the interest coverage ratio by 1 point will reduce return on equity by 0.000001% (or around 1,000% in original units), although the decrease is not significant.

I. Determinant Factor

The dominant effect is intended to identify the independent variable that is most influential or has the most dominant influence on the dependent variable. The dominant influence is known through the largest standardized coefficient regardless of whether the standardized coefficient is positive or negative. The results of the dominant influence can be seen through the following table:

Table 8. Determinant Factor Results

Independent Variable	Dependent Variable	Standardized Coefficient
Debt to Asset	Return on Equity	-0.043
Debt to EBITDA		-0.787
Debt to Equity		0.268
Interest coverage ratio		-0.016

Source: Data Processed (2025)

The table above informs that the independent variable that has the largest standardized coefficient on return on equity is Debt to EBITDA of -0.787. Thus Debt to EBITDA is the most influential variable or has the most dominant influence on return on equity.

J. Discussion

Based on the statistical results and panel data regression analysis testing on the effect of Debt to asset Ratio, Debt to EBITDA, Debt to equity Ratio and Interest coverage ratio has a significant effect on Profitability simultaneously has an F statistic of 59,486 with a probability value of 0,000. The test results show the probability value < level of significance (alpha (α)=5%). Thus, the coefficient of determination (R2) test results obtained a value of 0.615 (61.5%). This means that the diversity of return on equity can be explained or represented by debt to assets, Debt to EBITDA, Debt to equity, and interest coverage ratio of 61.5%, or in other words, the contribution of debt to assets, Debt to EBITDA, Debt to equity, and interest coverage ratio to return on equity is 61.5%, while the remaining 38.5% is the contribution of other factors included in the panel regression model or not discussed in this study. With the object of research of food and beverage sub-sector companies listed on the Indonesia Stock Exchange in 2017 - 2023, the partial test results are obtained as follows:

Effect of Debt to Asset Ratio on Profitability

Based on the test results, the Debt to Asset Ratio (DAR) has a coefficient of -0.069 with a probability value of 0.650 (> α 5%), which indicates that DAR has a negative but insignificant effect on Return on Equity (ROE). The negative direction indicates that an increase in the proportion of assets financed by debt tends to decrease ROE, but the relationship is not statistically strong enough to be reliably generalized.

This insignificance is thought to be due to the characteristics of food and beverage companies on the IDX for the 2017-2023 period, which have various asset structures and operational policies. Under these conditions, the proportion of debt to assets does not directly affect the efficient use of equity, because ROE is more influenced by other factors such as the effectiveness of asset management and operational performance. From the perspective of pecking order theory, companies tend to prioritize internal funding; the use of high debt without an increase in profits indicates limited internal funds, so an increase in DAR does not automatically increase ROE. Meanwhile, according to trade-off theory, the use of debt that

exceeds the optimal level can reduce profitability, but the impact becomes insignificant because the benefits and costs of debt offset each other or the company's capital structure has approached an equilibrium point.

The results of this study are in line with the findings of Pasaribu et al. (2022) which show that DAR has no effect on profitability. The increase in debt reflected in the increase in DAR tends to reduce company profits, so it does not make a significant positive contribution to ROE.

Effect of Debt to EBITDA on Profitability

Based on the test results, Debt to EBITDA has a coefficient of -0.077 with a probability value of 0.000 (<α 5%), thus showing a significant negative effect on Return on Equity (ROE). This finding indicates that the higher the level of debt compared to the company's ability to generate EBITDA, the greater the decrease in ROE, and the relationship is strong and statistically reliable.

Debt to EBITDA reflects the company's capacity to meet its debt obligations from operating performance. A high ratio indicates a debt burden that is not proportional to the ability to generate operational cash flow, so that most of the operating income is absorbed for principal and interest payments. This condition reduces the net profit available to shareholders and directly suppresses ROE. In food and beverage companies listed on the Indonesia Stock Exchange (IDX) for the period 2017-2023, dependence on operational cash flow to maintain business continuity makes this ratio a very determining factor in profitability performance.

From the perspective of pecking order theory, these results indicate that limited internal funds encourage companies to use debt as a source of financing. However, when the use of debt is not matched by the ability to generate sufficient EBITDA, operational efficiency decreases and profitability is negatively impacted. Meanwhile, within the framework of trade-off theory, this finding emphasizes the importance of balancing the use of debt, because debt that exceeds the company's operational capacity will reduce efficiency and profitability. The results of this study are in line with the findings of Arhinful & Radmehr (2023) which state that Debt to EBITDA has a negative and significant effect on profitability.

Effect of Debt to Equity Ratio on Profitability

Based on the test results, Debt to Equity Ratio (DER) has a coefficient of 0.398 with a probability value of 0.005 (<α 5%), which indicates that DER has a positive and significant effect on Return on Equity (ROE). This finding indicates that the higher the proportion of debt compared to equity, the greater the ROE generated, and the relationship is strong and statistically reliable. This condition reflects a positive financial leverage effect, where the use of debt is able to increase returns for shareholders as long as the rate of return on investment is higher than the cost of debt.

In food and beverage companies listed on the Indonesia Stock Exchange (IDX) for the period 2017-2023, these results indicate that debt is utilized relatively efficiently to support expansion or investment that generates profits. The company's courage in using debt can also reflect management's confidence in future profit prospects, thereby increasing investor confidence and having a positive impact on profitability. In the perspective of pecking order theory, the use of debt after internal funding reflects the efficiency of the funding structure, where debt is used optimally to maximize company performance. Meanwhile, according to trade-off theory, this finding shows that the company is still at the optimal level of capital

structure, where the benefits of using debt, such as tax shields, outweigh the risks. The results of this study are in line with the findings of Puspitasari & Dwirandra (2019) which show that Debt to Equity Ratio has a positive and significant effect on profitability.

Effect of Interest Coverage Ratio on Profitability

Based on the test results, the Interest Coverage Ratio (ICR) has a coefficient of -0.000001 with a probability value of 0.659 (> α 5%), which indicates that the ICR has a negative but insignificant effect on Return on Equity (ROE). The negative direction indicates that an increase in the company's ability to cover interest expenses tends to be followed by a decrease in ROE, but the relationship is weak and cannot be generalized statistically.

This finding is relatively counterintuitive, given that theoretically a high ICR reflects a healthier financial condition. One possible explanation is that companies with high ICR are too conservative in using debt, so they do not utilize financial leverage that has the potential to increase ROE. In addition, in food and beverage companies listed on the Indonesia Stock Exchange (IDX) for the 2017-2023 period, the high EBIT reflected in ICR is not necessarily followed by the efficiency of conversion to net profit due to the influence of tax burdens, operating costs, or other non-financial factors.

In the perspective of pecking order theory, companies with high ICR generally rely more on internal funding and relatively avoid debt. If these internal funds are not utilized productively, an increase in the ability to pay interest does not directly lead to an increase in profitability. Meanwhile, trade-off theory asserts that although the control of interest expense is reflected in high ICR, its impact on profitability can be insignificant because the benefits and costs of debt offset each other or the company's capital structure has approached an equilibrium point. The results of this study are in line with the findings of Rahmani (2024) which show that the Interest Coverage Ratio has no significant effect on profitability.

V. CONCLUSION

This study analyzes the effect of financial leverage on the profitability of food and beverage subsector companies listed on the Indonesia Stock Exchange (IDX) during the 2017-2023 period. The leverage variables tested include Debt to Asset Ratio (DAR), Debt to EBITDA, Debt to Equity Ratio (DER), and Interest Coverage Ratio (ICR), with Return on Equity (ROE) as a proxy for profitability. The analysis used panel data regression with a sample of companies that consistently generated profits during the study period.

The results showed that only Debt to EBITDA and Debt to Equity Ratio (DER) had a significant effect on profitability. DER is proven to have a significant positive effect on ROE, while Debt to EBITDA has a significant negative effect on ROE. In contrast, Debt to Asset Ratio (DAR) and Interest Coverage Ratio (ICR) show no significant effect on profitability.

This finding indicates that a capital structure with an optimally managed proportion of debt to equity can increase the profitability of food and beverage companies. However, an increase in debt that is not matched by the company's ability to generate operating profit (EBITDA) actually suppresses profitability. Thus, companies can utilize financial leverage through DER to improve financial performance, but still have to maintain operational capacity to be able to support the debt burden. These results confirm the importance of balancing capital structure and effective leverage management to achieve optimal profitability levels in food and beverage companies in Indonesia.

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