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THE EFFECT OF LEVERAGE AND OPERATIONAL EFFICIENCY ON PROFITABILITY: A CASE STUDY OF PT UNILEVER INDONESIA TBK FOR THE PERIOD 2015-2024

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Abstract

This study aims to analyze the effect of leverage, measured by the Debt-to-Equity Ratio (DER), and operational efficiency, measured by the Operating Expenses to Operating Income ratio (BOPO), on profitability, which is proxied by Return on Assets (ROA) at PT Unilever Indonesia Tbk for the 2015–2024 period. The study employs a quantitative descriptive approach using secondary data derived from the company's annual financial reports published by the Indonesia Stock Exchange (IDX). Data analysis was carried out through classical assumption tests, multiple linear regression, as well as t- test and F-test with the assistance of SPSS version 25. The results show that simultaneously, leverage and operational efficiency have a significant effect on profitability with a significance value of 0.001 (< 0.05). Partially, leverage has a negative and significant effect on profitability with a significance value of 0.043, indicating that higher leverage tends to decrease profitability due to the increased financial burden. Meanwhile, operational efficiency has a negative but not significant effect on profitability with a significance value of 0.409, suggesting that cost efficiency improvements do not have a direct measurable impact on profitability. The coefficient of determination (R^2) of 0.865 indicates that 86.5% of the variation in profitability is explained by leverage and operational efficiency, while the remaining 13.5% is influenced by other factors outside the model, such as sales growth, liquidity, and company size. These findings highlight the importance of maintaining an optimal capital structure and enhancing cost management efficiency to sustain profitability in the consumer goods sector.

Keywords: leverage, operational efficiency, profitability, DER, BOPO, ROA

Introduction

In the current era of global business competition, companies are required to maintain stable financial performance and operational effectiveness to ensure

sustainable growth. Profitability serves as a key indicator of a company's ability to generate earnings from its operational activities. High profitability demonstrates the company's effectiveness in utilizing its assets and managing its resources to achieve maximum returns. It also reflects the company's success in strengthening investor confidence and maintaining competitiveness within the consumer goods industry, which is characterized by rapid innovation, brand competition, and cost efficiency challenges. Among the internal financial factors influencing profitability, leverage and operational efficiency play significant roles. Leverage represents the proportion of debt used in financing company operations, which can increase profitability through financial leverage when managed appropriately. However, excessive leverage may raise financial risk and reduce earnings due to higher interest expenses. Meanwhile, operational efficiency reflects the company's ability to manage operational costs relative to its revenue. A higher level of efficiency allows companies to reduce costs and increase profitability. Nevertheless, findings from previous studies remain inconsistent. Some research suggests that leverage has a negative and significant impact on profitability (Suciwati, 2015), while other studies indicate that operational efficiency does not always have a significant effect on profitability. These mixed results highlight a research gap, showing that the relationship between leverage, operational efficiency, and profitability has not yet reached a conclusive understanding, especially in the consumer goods sector.

Based on these considerations, this study focuses on PT Unilever Indonesia Tbk, one of the leading consumer goods companies listed on the Indonesia Stock Exchange (IDX). The company provides a relevant case to explore the long-term relationship between financial structure and operational performance. Therefore, the purpose of this research is to analyze the effect of leverage and operational efficiency on profitability. The study's findings are expected to enrich the literature on corporate financial performance and provide practical implications for management in optimizing capital structure and operational efficiency to maintain sustainable profitability.

Theoretical Framework

Profitability is a key indicator that reflects a company's ability to generate profit from the assets it owns and manages. It serves as an essential measure of managerial effectiveness and financial performance. According to Harahap (2018), profitability shows the efficiency of a company in using its assets and managing resources to produce maximum earnings. One of the most common profitability indicators used in financial analysis is Return on Assets (ROA), which measures how efficiently total assets contribute to net income. Leverage Theory explains how companies use debt to finance their operations and investments. Based on the *Trade-Off Theory*, companies seek an optimal capital structure that balances the benefits of debt (such as tax shields) with its potential financial risks (Brigham & Houston,

2019). The *Pecking Order Theory* further suggests that firms prioritize internal financing before turning to debt or equity. Excessive leverage, however, may lead to financial distress and reduced profitability due to higher interest expenses. Previous studies have shown varying results: Wulandari (2020) and Suciwati (2017) found that leverage has a significant negative effect on profitability, while Ritonga et al. (2017) observed that a moderate level of leverage can still support profit growth when managed efficiently. Operational Efficiency Theory emphasizes the firm's ability to optimize cost management and operational processes. Efficiency is achieved when a company can generate higher output with minimal input and operational costs.

According to the *Efficiency Hypothesis*, companies that maintain efficient cost structures can improve profit margins and strengthen competitiveness. Operational efficiency is often measured using the Operating Expenses to Operating Income Ratio (BOPO), where lower BOPO values indicate better cost control and operational effectiveness. However, empirical results have shown inconsistency. Some studies report that operational efficiency has a positive and significant effect on profitability, while others reveal an insignificant relationship depending on the industry context and time period. Based on the literature review, the influence of leverage and operational efficiency on profitability remains inconclusive. Some findings suggest that leverage can reduce profitability due to increased financial burden, while others indicate that it may enhance returns through the optimal use of debt. Similarly, operational efficiency may improve profitability by reducing costs, but in some cases, the effect is not statistically significant. These mixed results highlight the need for further research, particularly in long-term observations of stable consumer goods companies such as PT Unilever Indonesia Tbk, which operates in a capital-intensive and competitive industry.

Considering the theoretical basis and empirical findings, the hypotheses proposed in this study are as follows:

H_1: Leverage has a significant effect on profitability.

H_2: Operational efficiency has a significant effect on profitability.

H_3: Leverage and operational efficiency simultaneously have a significant effect on profitability.

Method

This study employs a quantitative associative approach aimed at analyzing the effect of leverage and operational efficiency on profitability at PT Unilever Indonesia Tbk during the 2015–2024 period. The type of data used is secondary data, obtained from the company's annual financial reports published on the Indonesia Stock Exchange (IDX).

The research variables include:

1. Leverage (X_1), measured by the *Debt-to-Equity* Ratio (DER), representing the company's capital structure.
2. Operational Efficiency (X_2), measured by the Operating Expense Ratio

(BOPO), which reflects how efficiently the company manages its operating costs.

3. Profitability (Y), measured by the Return on Assets (ROA), indicating the company's ability to generate profit from total assets.

Data were analyzed using SPSS version 25 through several stages, namely descriptive statistical analysis, classical assumption tests (normality, multicollinearity, heteroscedasticity, and autocorrelation), and multiple linear regression analysis to examine both simultaneous and partial effects of the independent variables on profitability

Results

Descriptive Statistics

Table 1. Desriptive Statistic

	N	Minimum	Maximum	Mean	Std. Deviation
X1 Leverage	10	175,3	646,6	326,850	129,5897
X2 Efisiensi Operasional	10	21,08	41,67	30,8860	5,79423
Y Profitabilitas	10	20,6	46,3	34,080	7,5457
Valid N (listwise)	10				

Based on the results of the descriptive statistical analysis, it can be concluded that:

1. Operational Efficiency (BOPO) has a minimum value of 21.08, a maximum value of 41.67, and an average (mean) of 30.8860 with a standard deviation of 5.79423. This indicates that PT Unilever Indonesia Tbk's operational efficiency during the 2015–2024 period was quite good, as a lower BOPO value reflects higher efficiency in managing operating expenses relative to income.
2. Profitability (ROA) has a minimum value of 20.6, a maximum value of 46.3, an average of 30.080, and a standard deviation of 7.5457. These figures show that the company's ability to generate profits from its total assets is relatively high and stable over the years.
3. Leverage (DER) has a minimum value of 175.3, a maximum value of 646.6, an average of 326.850, and a standard deviation of 129.5897. The relatively high average DER value indicates that the company relies more on debt financing than on equity, though it remains within a manageable level.

Overall, the descriptive results illustrate that PT Unilever Indonesia Tbk maintained strong financial performance during the study period, characterized by high profitability, stable operational efficiency, and a level of leverage that should be carefully managed to prevent pressure on corporate earnings.

Multicollinearity Test

The multicollinearity test aims to determine whether there is a high correlation between the independent variables (Leverage and Operational Efficiency), which could cause disturbances in the regression model.

Based on the Coefficients table, the values of Tolerance and VIF are obtained.

Table 2. Coefficients

Coefficients[a]

Model		Standardized Coefficients			Collinearity Statistics	
		Beta	t	Sig.	Tolerance	VIF
1	(Constant)		7.883	.000		
	Leverage	-.703	-2.468	.043	.238	4.195
	Efisiensi Operasional	-.250	-.879	.409	.238	4.195

a. Dependent Variable: Profitabilitas

Decision Criteria: If the Tolerance value > 0.10 and the VIF value < 10, then there is no multicollinearity. If the Tolerance value < 0.10 or the VIF value > 10, then multicollinearity symptoms exist. The results show that both independent variables have a Tolerance value of 0.238 (> 0.10) and a VIF value of 4.195 (< 10). Interpretation: Thus, it can be concluded that there is no multicollinearity between the Leverage and Operational Efficiency variables in the regression model, indicating that the model is suitable for further analysis.

Normality Test (Kolmogorov–Smirnov)

The normality test is conducted to determine whether the residuals in the regression model are normally distributed or not. A good regression model requires that the residual data be normally distributed.

Table 3. One-Sample Kolmogorov-Smirnov Test

One-Sample Kolmogorov-Smirnov Test

		Unstandardized Residual
N		10
Normal Parameters[a,b]	Mean	.0000000
	Std. Deviation	2.77752465
Most Extreme Differences	Absolute	.220
	Positive	.151
	Negative	-.220
Test Statistic		.220

Asymp. Sig. (2-tailed)	.185[c]

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

Based on the results of the One-Sample Kolmogorov–Smirnov Test, the following values were obtained: N = 10, Asymp. Sig. (2-tailed) = 0.185 Decision Criteria: If the Sig. value > 0.05, the data are normally distributed. If the Sig. value < 0.05, the data are not normally distributed. The results show that the significance value is 0.185 > 0.05, indicating that the residual data are normally distribute
Interpretation: The regression model satisfies the normality assumption, meaning that the regression analysis can proceed to the next stage.

The heteroskedasticity test aims to determine whether the regression model exhibits unequal variance of residuals from one observation to another. A good regression model should not contain any signs of heteroskedasticity.
Based on the Coefficients table from the Park Test results, the significance (Sig.) values for each independent variable are obtained as follows:

Table 4. Heteroskedasticity Test Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	5.973	6.102		.979	.360
	Leverage	.021	.014	1.035	1.550	.165
	Efisiensi Operasional	-.410	.310	-.884	-1.323	.227

a. Dependent Variable: LN_RES

Decision Criteria: If the Sig. value > 0.05, then heteroskedasticity does not occur. If the Sig. value < 0.05, then heteroskedasticity occurs. The results show that both independent variables have significance values greater than 0.05 (Leverage = 0.165 and Operational Efficiency = 0.227). Interpretation: Thus, it can be concluded that there are no signs of heteroskedasticity in this regression model. This means that the variance of the residuals is homogeneous, and the model is suitable for further analysis.

Autocorrelation Test (Durbin–Watson)
The autocorrelation test is used to determine whether there is a correlation between the residual errors in period t and those in the previous period (t–1) within the regression model. A good regression model should not exhibit autocorrelation. Based on the Model Summary table, the Durbin–Watson (DW) value is 0.922.

Table 5. Autocorrelation Test

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.930[a]	.865	.826	3.1494	.922

a. Predictors: (Constant), Efisiensi Operasional, Leverage
b. Dependent Variable: Profitabilitas

Table 6. Runs test

Runs Test

	Unstandardized Residual
Test Value[a]	,22556
Cases < Test Value	5
Cases >= Test Value	5
Total Cases	10
Number of Runs	3
Z	-1,677
Asymp. Sig. (2-tailed)	,094

a. Median

Based on the results of the Runs Test, the Asymp. Sig. (2-tailed) value is 0.094, which is greater than the significance level of 0.05. This indicates that the residuals are randomly distributed. Therefore, it can be concluded that there is no autocorrelation among the residuals in this regression model. In other words, the data fulfill the assumption of independent residuals, meaning that the model does not suffer from serial correlation problems.

Multiple Linear Regression Analysis

Table 7. Multiple Linear Regression

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.930[a]	.865	.826	3.1494

a. Predictors: (Constant), Efisiensi Operasional, Leverage

Given an Adjusted R-Square of 0.826. this value represents the R-Square after adjusting for the number of variables and the sample size. In other words, after the adjustment, 82.6% of the variation in Profitability can still be explained by the two

independent variables, indicating that this regression model is considered good and suitable for further analysis.

Test F

Table 8. Test F

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	443.004	2	221.502	22.331	.001[b]
	Residual	69.432	7	9.919		
	Total	512.436	9			

a. Dependent Variable: Profitabilitas
b. Predictors: (Constant), Efisiensi Operasional, Leverage

The regression model is declared FIT if the sig. value is (<0.05)

If the sig. value is 0.001 (<0.05), it can be concluded that the independent variables have a significant simultaneous (joint) effect on the dependent variable.

T-Test (Partial Hypothesis Test)
The t-test is used to determine the partial (individual) effect of each independent variable on the dependent variable by comparing the significance value (Sig.) with an error rate (α) of 0.05 (5%).

Table 9. T-Test

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	57.535	7.299		7.883	.000
	Leverage	-.041	.017	-.703	-2.468	.043
	Efisiensi Operasional	-.326	.371	-.250	-.879	.409

a. Dependent Variable: Profitabilitas

The Effect of Leverage on Profitability. The Sig. value = 0.043 < 0.05, indicating that the Leverage variable has a significant effect on Profitability. The coefficient B value = -0.041 indicates a negative effect, meaning that every 1 unit increase in Leverage will decrease Profitability by 0.041, assuming other variables remain constant. Therefore, H_1 is accepted and H_0 is rejected—Leverage has a negative and significant effect on Profitability.
The Effect of Operational Efficiency on Profitability. The sig. value = 0.409 > 0.05, indicating that the Operational Efficiency variable has no significant effect on Profitability. The coefficient B value = -0.326 indicates a negative trend, but because the effect is insignificant, changes in Operational Efficiency do not have a significant impact on the company's profitability. Therefore, H_2 is rejected and H_0 is accepted—Operational Efficiency has no significant effect on Profitability.

Conclusion, Partially, only the Leverage variable has a significant negative effect on Profitability, while Operational Efficiency does not have a significant effect on company Profitability.

Coefficient of Determination (R^2) Test

The coefficient of determination test is used to determine the extent to which an independent variable explains the dependent variable. The R-squared (R^2) value
indicates the proportion of variation in the dependent variable that can be explained by the independent variable in the regression model.

Tabel 10. Coefficient Determination (R^2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.930[a]	.865	.826	3.1494

a. Predictors: (Constant), Efisiensi Operasional, Leverage

The R-square value of 0.865, or 86.5%, indicates that the Leverage and Operational Efficiency variables together explain 86.5% of the change in Profitability.
The remaining 13.5% (100% - 86.5%) is explained by factors outside the research model, such as sales growth, liquidity, company size, and external factors such as macroeconomic conditions.

The Adjusted R-square value of 0.826 takes into account the number of independent variables and sample size, indicating that after adjustment, approximately 82.6% of the variation in Profitability can still be explained by the model.
Conclusion: This regression model has very strong ability to explain variation in Profitability, due to its high R^2 value (greater than 0.80). This means that the relationship between the Leverage and Operational Efficiency variables and Profitability is strong and statistically relevant.

Discussion

The results of this study reveal that leverage has a negative and significant effect on profitability at PT Unilever Indonesia Tbk during the 2015–2024 period. This finding implies that higher dependence on debt tends to reduce the company's profitability. The result is consistent with the trade-off theory of capital structure, which states that excessive use of debt increases the financial burden in the form of interest expenses, thereby reducing net income and profitability.
On the other hand, operational efficiency shows a negative but statistically insignificant effect on profitability. This indicates that fluctuations in operational efficiency (BOPO) during the study period did not significantly influence the company's ability to generate profit. One possible reason is that PT Unilever

Indonesia Tbk maintains strong brand performance and stable sales growth, which may offset variations in operational costs.

Based on the results of this study, it can be concluded that leverage and operational efficiency have a significant influence on the profitability of PT Unilever Indonesia Tbk during the 2015–2024 period.

This indicates that companies that are able to manage their operational activities efficiently and optimize the use of debt tend to achieve higher profitability levels. The findings of this study are consistent with previous research by Hermanto and Dewinta (2023), who found that leverage and operational efficiency have a positive and significant impact on profitability in manufacturing companies. Similarly, Ulum (2025) also confirmed that leverage significantly affects company profitability, emphasizing the importance of proper debt management to enhance firm performance.

Therefore, this study supports and strengthens previous research while providing further empirical evidence in the context of PT Unilever Indonesia Tbk. These results imply that maintaining operational efficiency and managing leverage wisely are key strategies to sustain profitability and competitiveness in the long term.

Overall, these results align with previous empirical studies suggesting that leverage plays a crucial role in determining profitability, whereas operational efficiency tends to have a weaker or indirect effect when profitability is already high and stable. The adjusted R^2 value of 0.826 also confirms that the regression model explains a substantial proportion of profitability variation, indicating that leverage and operational efficiency jointly form a strong explanatory framework for financial performance

Conclusion

This study concludes that:

Leverage has a negative and significant influence on the profitability of PT Unilever Indonesia Tbk An increase in leverage tends to lower profitability due to higher financial obligations and interest expenses. Operational Efficiency has a negative but insignificant influence on profitability, meaning that changes in operational efficiency do not have a meaningful impact on the company's ability to generate profit. Together, leverage and operational efficiency explain 86.5% of the variation in profitability, while the remaining 13.5% is determined by other internal and external factors.

Managerial Implications:

The company should maintain an optimal capital structure by balancing the use of debt and equity to minimize the cost of capital. Additionally, continuous improvement in operational management is necessary to sustain profitability in the long term.

Suggestions for Future Research:

Future studies are encouraged to include additional variables such as sales growth, liquidity ratios, firm size, or external macroeconomic indicators to provide a

more comprehensive understanding of factors affecting profitability in consumer goods companies.

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