Asian Journal of Applied Business and Management (AJABM)
Vol. 4, No. 4, 2025: 1799-1814

Leverage as a Moderator of Profitability in Textile and Garment Companies in Indonesia

Zulkifli[1], Cynthia Sari Dewi[2], Syifa Hanifa Salsabil[3*], Apriliana Putri[4]
Department of Management, Pembangunan Jaya University, Indonesia
Corresponding Author: Syifa Hanifa Salsabil syifa.hanifa@upj.ac.id

A R T I C L E I N F O
Keywords: Debt to Equity Ratio, Leverage, Profitability, Return on Assets, Total Assets Turnover

Received : 16, October
Revised : 30, October
Accepted: 27, November

A B S T R A C T
This study aims to examine the effect of Total Asset Turnover (TATO) on Return on Assets (ROA) and evaluate the role of the Debt-to-Equity Ratio (DER) as a moderating variable in the relationship between TATO and ROA in textile and garment companies listed on the Indonesia Stock Exchange (IDX) during the 2020-2022 period. This research employs a quantitative approach using secondary data obtained from audited annual financial statements during the observation period. The analysis is conducted using panel data regression methods with the Eviews 12 application. The study results indicate that TATO and DER partially have a negative and significant impact on ROA. An increase in TATO without a corresponding rise in profitability can lead to a decline in ROA. Meanwhile, a high DER reflects a company's heavy reliance on debt, leading to increased interest expenses and reduced profitability. Furthermore, DER does not play a significant role as a moderating variable in the relationship between TATO and ROA. This finding suggests that the debt-to-equity structure does not directly influence the efficiency of total asset utilization in generating sales, which ultimately affects changes in ROA.

DOI: https://doi.org/10.55927/ajabm.v4i4.611
ISSN-E: 2964-7932
https://npaformosapublisher.org/index.php/ajabm

INTRODUCTION

The development of industries in the capital market over the past decade has undergone significant changes, influenced by technology, regulations, and global dynamics. In Indonesia, the Financial Services Authority (OJK) and the Indonesia Stock Exchange (IDX) continuously update regulations to enhance trust and market efficiency. The capital market continues to adapt to global and technological changes. Globalization has enabled greater cross border access, making it easier to invest in capital markets through digital platforms. Many industries reflect global economic shifts, focusing on technology, sustainability, and evolving societal needs. The capital market has become a key platform for several industries to secure funding and expand business scale. However, the development of the textile and garment industry in the capital market over the past decade has shown interesting dynamics, despite facing major challenges due to changing consumer preferences, globalization, and supply chain disruptions. Several textile and garment companies listed on the IDX seek funding for expansion, even though the industry is considered riskier compared to others.

The textile and textile product (TPT) industry in Indonesia is currently facing significant pressure. TPT includes sheet fabrics and products made from sheet fabrics, classified under the import goods classification/Tariff Code (HS). One of the main causes is weak competitiveness against imported products. Although demand for these products remains sufficient, competition with imported goods is highly intense. Government policies that facilitate imports to support Small and Medium Enterprises (SMEs) have instead become a threat to the local industry. Many industry players struggle to generate adequate revenue due to a lack of orders. On the other hand, China has a superior comparative advantage, particularly in the availability of raw materials, labor cost efficiency, and technological advancements. This advantage is further strengthened by significant structural support from the Chinese government to develop the textile and apparel industry. The textile industry encompasses the entire production process, from the manufacture of synthetic fibers and yarn production to the creation of finished garments. Meanwhile, the garment industry specifically focuses on ready-made clothing. The garment industry operates on a large scale and emphasizes mass production of apparel. The textile and garment industry is considered a strategic sector that has made a significant contribution to the economy, including its contribution to gross domestic product (GDP) (Afifah & Sari, 2024).

The textile and garment industry tends to be volatile due to its sensitivity to economic cycles, global demand, and raw material price pressures (Atkar et al., 2021). Therefore, companies must enhance asset utilization efficiency to improve profitability performance. Efficient use of assets to generate net sales reflects better company performance. The relationship between Total Asset Turnover (TATO) and Return on Assets (ROA) can provide maximum benefits for companies, as a high TATO indicates efficient asset utilization in increasing sales volume (Sari & Aulia, 2021). Additionally, a high TATO is often influenced by proper management of the Debt-to-Equity Ratio (DER). Companies that effectively manage their capital structure with a balanced proportion of debt and

equity tend to be more efficient in utilizing assets to support their sales performance.

Companies can utilize their available funds to optimize assets, such as investing in equipment, facilities, or other resources, with the goal of increasing sales. A high DER indicates that most of the company's assets are financed through debt. If these assets are well-managed to generate revenue, they can contribute to an increase in ROA. However, if assets are not utilized optimally, efficiency levels will decline, ultimately leading to a decrease in ROA. Additionally, a high DER reflects that the company has a larger proportion of debt compared to equity. The resulting high interest expenses due to increased debt can reduce net profit, which in turn lowers ROA. Conversely, a low DER indicates that the company is less reliant on debt, leading to lower interest expenses, which can increase net profit and improve ROA. The increase in DER is associated with a rise in ROA. This reflects the increased use of debt, which can raise interest expenses and default risk, potentially disrupting business operations and reducing profitability. However, if the increase in DER remains within reasonable limits, it can actually drive ROA growth (Jurlinda et al., 2022).

This study will analyze changes in the Return on Assets (ROA) variable, which is one of the key indicators in assessing a company's financial performance. Additionally, ROA reflects the company's operational efficiency in utilizing its available resources. Considering the importance of this issue and the phenomenon described above, the textile and textile product (TPT) industry in Indonesia faces various challenges that can impact its ability to generate profitability. One of the main causes is the high production costs, including raw materials, labor, and energy expenses. Dependence on imported raw materials also increases cost burdens due to exchange rate fluctuations. Policies that facilitate imports without adequate protection for local industries often weaken the competitiveness of domestic products. Competition from imported products, particularly from China, frequently offers more competitive prices due to lower production costs. This makes it difficult for local products to compete in the market in terms of both price and quality.

Another research gap in this study is the analysis of TATO and DER variables, which are suspected to have an impact on ROA. TATO reflects how well a company utilizes its assets to generate revenue. A higher TATO indicates greater efficiency in managing available resources. Meanwhile, DER measures the company's capital structure and financial risk, indicating the proportion of funding from debt compared to equity. This helps evaluate how a company manages its financing sources. A higher DER suggests a greater dependence on debt, which can increase profitability risks. DER correlates with a company’s ability to generate profits, making it a frequently used variable in research to determine its impact on financial performance, particularly ROA. Several studies have produced mixed findings regarding TATO’s impact on ROA. (Saragih, 2021); (Ramli & Yusnaini, 2022); (Kurniawati, 2022) found that TATO has a positive and significant effect on ROA, while (Damayanti & Sitohang, 2019), reported a negative and significant effect. Conversely, (Agustina & Pratiwi, 2020); (Rompas & Rumokoy, 2023) concluded that TATO has no significant

impact on ROA. Similarly, research on DER's impact on ROA has also yielded varying results. (Jurlinda et al., 2022); (Zendrato et al., 2023) stated that DER has a positive and significant effect on ROA, while (Kurniawati, 2022); (Situmorang, 2023) found that DER has a negative and significant effect on ROA. Meanwhile, (Citarayani, I., & Saputro, 2023) concluded that DER has no significant effect on ROA.

LITERATURE REVIEW

To ROA is a financial ratio used to measure the profit generated from a company's asset utilization while also reflecting its efficiency in leveraging assets to create profitability. ROA provides insight into how well a company's assets are used to support operational performance. A high ROA indicates the company's ability to maximize its assets to achieve optimal financial performance, whereas a low ROA suggests potential inefficiencies in asset management (Miswanto et al., 2017). In addition to being an efficiency indicator, ROA is calculated by dividing net income after tax by total company assets, reflecting the productivity and effectiveness of management in utilizing available resources to generate profit (Yu, 2024).

Previous studies have examined ROA in the textile and garment sector, as this industry often faces challenges such as high production costs, fluctuations in raw material prices, and pressure to maintain business sustainability amid global competition (Annisa & Helmina, 2023). Research in the textile sector frequently analyzes the relationship between management efficiency and profitability by examining ROA, which reflects operational efficiency and a company's ability to utilize its assets to achieve strong financial performance. Several prior studies (Idrees & Siddiqui, 2021), suggest that ROA can be influenced by TATO and this effect can be strengthened by DER as a moderating variable (Sunaryo, D., Nafiuddin, Gentari, Erlina, R., and Adiyanto, 2022). Additionally, ROA can also be affected by the DER, as a capital structure that relies too heavily on debt can increase interest expenses, ultimately impacting the company's net profit and, indirectly, its ROA (Ardhefani et al., 2021).

TATO is a ratio that measures a company's effectiveness in utilizing its assets to support sales (Pamungkas & Hartanto, 2016). TATO reflects a company's operational efficiency in using total assets to generate revenue. A high ratio indicates that the company can optimally utilize its assets to generate income, serving as an indicator of efficiency and productivity (Apriyana & Rahmawati, 2017). TATO is calculated by dividing sales by total assets (Yusnandar, 2019). TATO is often used as a key indicator in evaluating a company's efficiency in managing its assets, particularly in capital-intensive industries. A high TATO indicates that a company can effectively leverage its assets to generate higher revenue.

Previous research has proven that TATO has a positive and significant effect on ROA (Pangestika et al., 2021). This means that the higher the asset turnover rate, the greater its contribution to increasing the company's net profit relative to its total assets. An increase in TATO indicates that the company can efficiently utilize its assets to generate revenue, ultimately leading to higher profitability.

Business sectors with rapid sales turnover, such as manufacturing and trade, generally have higher TATO compared to more capital-intensive sectors such as property and energy (C. S. Dewi et al., 2021). This finding is further supported by (Saragih, 2021), who demonstrated that TATO has a positive and significant relationship with ROA, indicating that companies that use their assets more efficiently tend to achieve higher profitability. Based on the explanation above, this study proposes the following alternative hypothesis:
H_1: TATO affects ROA

DER is a solvency or leverage ratio that describes a company's ability to meet its obligations, such as debt repayment. This ratio is considered important for both companies and investors looking to invest (N. S. Dewi & Suwarno, 2022). DER is used to evaluate the extent to which a company relies on external funding in its capital structure. The higher the DER, the greater the company's financial risk, but it also increases the potential returns for shareholders if the debt is used efficiently for productive investments (Vo, 2017). DER is calculated by dividing total debt by total equity (Neves et al., 2020), which reflects creditors' confidence in the company. However, a high DER also increases the risk of bankruptcy if the company fails to meet its interest obligations.

Previous research has proven that DER has a negative and significant effect on ROA (Situmorang, 2023). A high DER reflects a company's dependence on debt as a source of funding. In the long term, this can increase financial risk and reduce company profitability, especially if the profits generated are insufficient to cover interest expenses and other debt obligations. Companies that frequently use debt to support growth must be cautious to avoid the risk of bankruptcy due to excessive debt burdens (C. S. Dewi et al., 2021). In line with these findings, (Chakrabarti & Chakrabarti, 2019) also revealed that companies with a balanced capital structure are more likely to achieve optimal operational efficiency, which is reflected in financial performance indicators such as ROA. Additionally, DER can also be used as a moderating variable. (Teng & Simorangkir, 2018) demonstrated that DER can moderate the relationship between financial performance variables. In this context, DER can either strengthen or weaken the relationship, depending on the company's efficiency in utilizing debt to support its operations. Another study by (Sunaryo, D., Nafiuddin, Gentari, Erlina, R., and Adiyanto, 2022), found that DER moderates the effect of TATO on ROA. DER as a moderating variable provides insight into how companies can balance debt and equity to maximize asset efficiency and profitability. Based on the explanation above, this study proposes the following alternative hypotheses:
H_2: DER affects ROA
H_3: DER moderates the effect of TATO on ROA.

Research Framework

The research framework for this study is designed to examine the effect of several independent variables on profitability, with leverage acting as a moderating variable. The framework begins with identifying the phenomenon and research gap related to financial performance in textile and garment companies, leading to the formulation of research problems and objectives. The

model specifies profitability (Y) as the dependent variable, influenced by selected independent variables (X) such as firm size, liquidity, and asset turnover. Leverage is introduced as a moderating variable to assess how it strengthens or weakens the relationship between these independent variables and profitability. The research employs a panel data regression model, tested through the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM), with the appropriate model determined through Chow, Hausman, and Lagrange Multiplier tests. Classical assumption tests, including multicollinearity and heteroskedasticity, ensure model validity. Finally, hypothesis testing using the F-test, t-test, and Adjusted R^2 determines the overall and partial significance of the model, followed by interpretation of the results to evaluate the moderating role of leverage in influencing profitability.

METHODOLOGY

This study employs a quantitative approach that emphasizes the collection and analysis of numerical data. This approach involves systematic measurements to evaluate specific phenomena. The collected data is analyzed using statistical methods, allowing the study to produce objective and measurable findings. The process includes data processing, calculations, and interpretation of results based on statistical analysis. Through a quantitative approach, this study aims to provide a clear, accurate, and empirically testable depiction, supporting relevant and valid conclusions in the context of the discussed issues. Statistical analysis serves as the primary tool for exploring the relationships between variables in this research.

The research design follows a causal approach using secondary data in the form of audited year-end financial reports. The object of this study is the ROA of the textile and garment industry in Indonesia, with a research population of 23 companies by the end of the 2022 research period. The sample is collected using non-probability sampling and purposive sampling. Meanwhile, the research subjects are textile and garment companies listed on the Indonesia Stock Exchange (IDX) that have consistently been observed from 2020 to 2022. A total of 18 companies were selected as the research sample for further analysis using panel data regression analysis, which combines time-series and cross-sectional data, and the Moderated Regression Analysis (MRA) model. The objective is to identify specific patterns, draw conclusions, and understand individual interpretations of the analyzed phenomena in this study.

The panel data regression analysis method is a combination of time series data and cross-sectional data. This combination allows for a larger amount of data and provides more extensive and varied information. As a result, it increases the degree of freedom and can improve the accuracy of the estimation results. (Basuki & Prawoto, 2019) The determination of the appropriate panel data regression model is carried out through the following stages:

1. The Chow test is used to determine whether the most appropriate model is the common effect or the fixed effect model. If the probability value is greater than 0.05, then the common effect model is used. However, if the probability value is below 0.05, the null hypothesis is rejected, indicating that the fixed effect model is more appropriate than the common effect

model.

2. The Hausman test is used to choose between the fixed effect model and the random effect model. If the probability value is greater than 0.05, the recommended model is the random effect model. Conversely, if the probability value is below 0.05, the null hypothesis is rejected, indicating that the fixed effect model is considered the better choice compared to the random effect model.
3. The Lagrange Multiplier (LM) test developed by Breusch-Pagan is used to help determine the appropriate choice between the random effect model and the common effect model. If the probability value is greater than 0.05, then the common effect model is appropriate. However, if the probability value is below 0.05, the null hypothesis is rejected, indicating that the random effect model is the better option compared to the common effect model.

The approaches used in panel data regression analysis include several methods, namely:

1. Common Effect: The simplest method in panel data regression, where the approach used is Ordinary Least Squares (OLS) without considering the differences in characteristics between individuals or time.
2. Fixed Effect: In the conventional OLS method, it is assumed that the intercept and slope values in the regression equation are constant across all individuals and time periods. However, this assumption may not hold true in practice. Therefore, the fixed effect approach is used to accommodate differences in intercepts between individuals and time. This model, also known as the Least Square Dummy Variable (LSDV) model, accounts for omitted variables that may influence the regression outcomes through variations in the intercepts.
3. Random Effect: This approach accommodates variations across individuals and time through the error component. In this model, the error term is divided into several parts: individual-specific error, time-specific error, and the combined error. The analysis using this approach employs the Generalized Least Squares (GLS) method to produce efficient estimates.

RESEARCH RESULT

Panel data regression analysis can identify changes in data adjustments and has the ability to better measure effects through the chow test, hausman test, and lagrange multiplier test, resulting in the best model: common effect, fixed effect, or random effect. Before determining the best model, a model selection test is conducted as follows:

Table 1. Model Selection Test Result

No.	Model Selection Test	Probability Value	Decision
1	Chow Test	0.0000	Fixed Effect
2	Hausman Test	0.0278	Fixed Effect
3	Lagrange Multiplier Test	0.0000	Random Effect

Source: Processed Data (2025)

Based on Table 1, the Chow test results show that the F probability value of 0.0000, which is less than 0.05, leading to the rejection of Ho and the acceptance of Ha, indicating that the fixed effect model is better than the common effect model. Furthermore, the Hausman test, with a cross-section random probability value of 0.0278, which is less than 0.05, results in the rejection of Ho and the acceptance of Ha, meaning that the fixed effect model is also better than the random effect model. Additionally, the Breusch-Pagan cross-section probability value of 0.0000, which is also less than 0.05, indicates the rejection of Ho and the acceptance of Ha, meaning that the random effect model is better than the common effect model.

The conclusion from the model selection tests, based on the two tests chow and hausman conducted for further analysis in estimating panel data regression in this study, confirms that the fixed effect model (FEM) is the best choice. This reflects that the research model, FEM, accounts for the heterogeneity of cross-sectional units in the regression model by capturing differences in intercept values (β_0). Differences in interceptions among companies may be caused by variations in TATO, DER, and ROA. However, the slope is assumed to be the same across companies, making it possible to estimate the model using the Ordinary Least Squares (OLS) technique, which ensures consistency and unbiasedness.

Table 2. First Sub-Structural Hypothesis Test

Variable	Coefficient	t-Statistic	Prob.
Constanta	-0.009466	-2.307743	0.0276
TATO	-0.002364	-2.715475	0.0106
DER	-0.011082	-2.223977	0.0333
F-statistic		**Prob.**	
192.9309		0.000000	
Adjusted R-Squared		0.986208	

Source: Processed Data (2025)

Based on Table 2, the coefficient of determination test shows an adjusted R-squared value of 0.986208, indicating that variables TATO and DER contribute 98.62% to ROA, while the remaining 1.38% is influenced by other variables

outside this research model. Furthermore, the F-test (ANOVA) shows a probability value of 0.00000, which is less than 0.05. Therefore, the alternative hypothesis (Ha) is accepted, and the null hypothesis (Ho) is rejected, meaning that variables TATO and DER have a significant joint effect on ROA. This confirms that the research model is fit (appropriate), indicating that all independent variables used in this study can effectively estimate the dependent variable.

TATO, with a regression coefficient (β_1) of (-0.002364), has a negative direction toward ROA. The t-statistics probability value of 0.0106, which is less than 0.05, meaning that the alternative hypothesis (Ha) is accepted, and the null hypothesis (Ho) is rejected. This indicates that TATO has a negative and significant effect on ROA. The interpretation of the regression equation for β_1 = (-0.002364) is that if TATO increases by 0.01, ROA will decrease by 0.002364.

DER, with a regression coefficient (β_2) of (-0.011082), has a negative direction toward ROA. The t-statistics probability value of 0.0333, which is also less than 0.05, meaning that the alternative hypothesis (Ha) is accepted, and the null hypothesis (Ho) is rejected. This indicates that DER has a negative and significant effect on ROA. The interpretation of the regression equation for β_2 = (-0.011082) is that if DER increases by 0.01, ROA will decrease by 0.011082.

This research model employs Moderated Regression Analysis (MRA) by testing the Second Sub-Structural Hypothesis, which has formed a regression equation by adding DER as a moderating variable for the effect of TATO on ROA.

The regression equation is presented in Table 3 below:

Table 3. Second Sub-Structural Hypothesis Test

Variable	**Coefficient**	**t-Statistic**	**Prob.**
Constanta	-0.009688	-2.316412	0.0273
TATO	-0.002814	-2.121046	0.0420
DER	-0.011204	-2.217284	0.0341
DER*TATO	0.000946	0.454236	0.6528
F-statistic		**Prob.**	
178.7489		0.000000	
Adjusted R-Squared		0.985857	

Source: Processed Data (2025)

Based on Table 3, the coefficient of determination test shows an adjusted R-squared value of 0.985857, indicating that the variables TATO, DER, and DER as a moderating variable for TATO contribute 98.58% to ROA. The remaining 1.42% is influenced by other variables outside this research model. Furthermore, the F-test (ANOVA) shows a probability value of 0.00000, which is less than 0.05, meaning that the alternative hypothesis (Ha) is accepted, and the null hypothesis (Ho) is rejected. This indicates that TATO, DER, and DER moderating TATO

have a significant simultaneous effect on ROA, confirming that this research model is fit (appropriate). Although this model is constructed using MRA, all independent and moderating variables used in this study can still estimate the dependent variable.

DISCUSSION

The Effect of Total Asset Turnover on Return on Assets

TATO, with a regression coefficient (β_1) of (-0.002814), has a negative direction towards ROA, and the t-statistics probability value of 0.0420 is less than 0.05. This means the alternative hypothesis (Ha) is accepted, and the null hypothesis (Ho) is rejected. Thus, TATO has a negative and significant effect on ROA. The interpretation of the regression equation for (β_1) = (-0.002814) is that if TATO increases by 0.01, ROA will decrease by 0.002814.

TATO has a negative and significant effect on ROA. This research finding is supported by (Damayanti & Sitohang, 2019), who stated that TATO has a negative and significant impact on ROA. A high increase in TATO indicates that textile and garment companies can generate higher sales from their assets. However, high operational costs and debt result in low net profit, leading to a decline in ROA. A high TATO often coincides with a high DER, which causes high debt and interest expenses that can reduce net profit, even if the company experiences an increase in sales. Additionally, TATO negatively affects ROA because asset utilization efficiency is not accompanied by adequate profitability. The main causes include low profitability due to high operational costs, high debt, and weak sales strategies.

Companies that focus too much on increasing TATO through rapid sales and high asset turnover but neglect strategies to improve profit margins may experience a decline in ROA, even if TATO appears favorable. The increase in sales driven by TATO does not necessarily correspond to a reduction in operational costs, thereby exerting downward pressure on ROA. Companies that prioritize boosting TATO by accelerating sales and increasing asset turnover often overlook other critical aspects, such as strategies for improving profit margins. This situation can lead to a decline in ROA, despite TATO appearing to indicate high efficiency. This occurs because an increase in TATO does not always align with adequate ROA growth. Even if a company successfully increases TATO, ineffective cost management can contribute to a decrease in ROA. Additionally, companies that increase sales volume without considering cost management effectiveness may face significant challenges in maintaining profitability. A substantial increase in sales through high asset turnover often requires additional operational costs, making it difficult for companies to sustain profitability. Ultimately, this situation results in TATO having a negative impact on ROA.

The Effect of Debt to Equity Ratio on Return on Assets

DER, with a regression coefficient (β_2) of (-0.011204), has a negative direction toward ROA, and the t-statistics probability value of 0.0341 is less than 0.05. This means that the alternative hypothesis (Ha) is accepted, and the null hypothesis (Ho) is rejected. DER has a negative and significant effect on ROA.

The interpretation of the regression equation for (β_2) = (-0.011204) is that if DER increases by 0.01, ROA will decrease by 0.011204.

DER has a negative and significant effect on ROA. This research finding is supported by (Kurniawati, 2022); (Situmorang, 2023), who state that DER has a negative and significant impact on ROA. Textile and garment companies tend to have a higher proportion of debt compared to equity. The high-interest expenses resulting from this debt usage have the potential to reduce net profit, which negatively affects ROA. Companies with a high DER also face greater financial risk. This risk can impact the company's ability to generate profits from its assets since a significant portion of earnings must be allocated to paying interest and principal debt.

A high DER reflects that a company has a larger proportion of its assets financed through debt. This condition increases the company's dependence on loans to support operational activities. However, if debt utilization is not accompanied by adequate efficiency and productivity, it will negatively impact profitability. Additionally, a high DER may raise concerns among investors and management regarding the company's financial stability, especially if the company's revenue is insufficient to meet interest and principal debt obligations. This risk can disrupt the company's operational stability, reduce management effectiveness in asset management, and ultimately affect profitability. Companies need to maintain a balance between debt and equity in their capital structure to minimize the negative effects of excessive reliance on debt. Furthermore, it is crucial for companies to ensure that borrowed funds are used productively, such as supporting sales growth and maximizing profits.

Debt to Equity Ratio Moderates the Effect of Total Asset Turnover on Return on Assets

DER moderates TATO with a regression coefficient (β_3) of 0.000946, indicating a positive direction toward ROA. However, it does not have a significant effect at a 95% confidence level, as the t-statistics probability value is 0.6528, higher than 0.05. This means that the alternative hypothesis (Ha) is rejected, and the null hypothesis (Ho) is accepted. In other words, DER cannot moderate the effect of TATO on ROA.

DER cannot moderate TATO in influencing ROA, making DER more appropriate as an independent variable. This aligns with previous research, which explains that DER significantly affects ROA in the first estimation, while the interaction effect of TATO with DER in the second estimation is not significant. This means that the moderating variable only acts as an independent variable in the relationship model established in this study (Solimun, 2021); (Rahadi, D; Farid, 2021). DER merely reflects the company's capital structure, specifically the proportion of debt to equity. The effect of DER on asset utilization efficiency may not be strong enough to influence or moderate the relationship between TATO and ROA. Textile and garment companies with high DER indicate that more assets are financed through debt. However, if these assets are not productively utilized to generate sales, the impact of changes in TATO on ROA will not be significantly moderated by DER. A high TATO indicates how well a company manages its assets to generate sales, rather than how those assets

are financed through debt. Therefore, changes in DER are unlikely to affect operational efficiency as measured by TATO.

A high DER is caused by an increase in interest expenses and financial risk. This condition negatively impacts ROA because the company must bear a high level of debt. High interest expenses tend to reduce net profit, while an increased risk of default can affect the company's operational stability. As a result, DER has a direct impact that is generally negative and significant on ROA. Although DER reflects the proportion of debt in the company's capital structure, it does not have a strong relationship with how assets are utilized to generate sales.

CONCLUSIONS AND RECOMMENDATIONS

The research findings indicate that TATO and DER partially have a negative and significant impact on ROA. This suggests that an increase in asset turnover to generate sales does not always align with higher profitability. Some textile and garment companies may experience high sales volume growth but with low profit margins due to high operational costs, preventing a positive impact on ROA. The textile and garment industry facing intense competition, often has to lower selling prices to remain competitive. If this strategy is not accompanied by optimal cost efficiency, an increase in TATO may not lead to higher ROA. Instead, ROA may decline because the net profit generated remains relatively small compared to the total assets utilized by the company. On the other hand, the negative impact of DER on ROA indicates that a company's reliance on debt in its capital structure can become a burden on profitability. A high DER reflects a greater proportion of debt compared to equity as a funding source. Although debt can be used for business expansion and growth, poor management may expose the company to significant financial risks. Additionally, high interest expenses resulting from increased debt can reduce net profits, ultimately having a negative impact on ROA. This study also proves that DER does not act as a moderating variable in the relationship between TATO and ROA. This means that despite varying levels of leverage, the relationship between asset utilization efficiency and profitability does not experience significant changes. It indicates that the effect of TATO on ROA is not influenced by the company's debt level.

ADVANCED RESEARCH

The findings have important implications for company management in determining asset management and capital structure strategies. Companies need to ensure that an increase in TATO is accompanied by higher profit margins and operational efficiency to prevent a negative impact on ROA. Additionally, management should be prudent in utilizing debt as a funding source. While debt can support expansion and increase production capacity, effective financial management is still necessary to avoid excessive interest burdens. Both TATO and DER have a negative effect on ROA, meaning that operational efficiency and capital structure management must be carried out with the right strategies to enhance company profitability. Furthermore, the lack of a moderating role of DER indicates that improving asset efficiency should focus on increasing profit

margins and cost control rather than relying too much on the company's capital structure.

REFERENCES

Afifah, K., & Sari, L. (2024). Pengaruh Current Ratio dan Firmsize, Terhadap Cash Turn Over Pada Perusahaan Sektor Tekstil dan Garmen. *Jurnal Ekonomi Dan Bisnis Digital*, *01*(04), 1029–1033.

Agustina, N., & Pratiwi, A. (2020). Pengaruh Asset Turn Over (TATO) terhadap Return on Asset (ROA) pada PT. Unilever Indonesia Tbk. *JESYA (Jurnal Ekonomi & Ekonomi Syariah)*, *4*(2), 1322–1328.

Annisa, R., & Helmina, M. R. A. (2023). Pengaruh Good Corporate Governance Terhadap Return on Asset (ROA) Perusahaan Tekstil dan Garmen pada Bursa Efek Indonesia. *Surplus: Jurnal Ekonomi Dan Bisnis*, *2*(1), 89–100. https://doi.org/10.71456/sur.v2i1.666

Apriyana, N., & Rahmawati, D. (2017). Pengaruh Profitabilitas, Solvabilitas, Ukuran Perusahaan, dan Ukuran KAP Terhadap Audit Delay Pada Perusahaan Properti dan Real Estate Yang Terdaftar di Bursa Efek Indonesia Periode 2013-2015. *Nominal, Barometer Riset Akuntansi Dan Manajemen*, *6*(2). https://doi.org/10.21831/nominal.v6i2.16653

Ardhefani, H., Pakpahan, R., & Djuwarsa, T. (2021). Pengaruh CR dan DER terhadap ROA pada Perusahaan Kosmetik dan Barang Keperluan Rumah Tangga. *Indonesian Journal of Economics and Management*, *1*(2), 341–351. https://doi.org/10.35313/ijem.v1i2.2502

Atkar, A., Pabba, M., Sekhar, S. C., & Sridhar, S. (2021). Current limitations and challenges in the global textile sector. In *Fundamentals of Natural Fibres and Textiles* (pp. 741–764). Elsevier. https://doi.org/10.1016/B978-0-12-821483-1.00004-8

Basuki, A. T., & Prawoto, N. (2019). Analisis Regresi dalam Penelitian Ekonomi dan Bisnis. In *PT Rajagrafindo Persada*.

Chakrabarti, A., & Chakrabarti, A. (2019). The capital structure puzzle – evidence from Indian energy sector. *International Journal of Energy Sector Management*, *13*(1), 2–23. https://doi.org/10.1108/IJESM-03-2018-0001

Citarayani, I., & Saputro, R. (2023). Pengaruh Current Ratio, Debt to Equity Ratio, dan perputaran aktiva tetap terhadap Return on Asset. *Jurnal Ilmiah Akuntansi Dan Keuangan*, *5*(7), 2939–2950. https://doi.org/https://doi.org/10.32670/fairvalue.v5i7.2999

Damayanti, N. O., & Sitohang, S. (2019). Pengaruh Current Ratio, Inventory Turnover, Dan Total Asset Turnover Terhadap Return on Asset. *Jurnal Ilmu Dan Riset Manajemen*, *8*(6), 1–15.

Dewi, C. S., Jordy, B., & Wijaya, H. (2021). Determinants of Capital Structure: Evidence from Indonesian Palm Oil Companies. *BUSINESS EXCELLENCE AND MANAGEMENT*, *11*(4), 50–63. https://doi.org/10.24818/beman/2021.11.4-04

Dewi, N. S., & Suwarno, A. E. (2022). Pengaruh ROA, ROE, EPS dan DER terhadap Harga Saham Perusahaan (Studi Empiris pada Perusahaan LQ45 yang Terdaftar di Bursa Efek Indonesia Tahun 2016-2020). *Seminar Nasional Pariwisata Dan Kewirausahaan (SNPK)*, *1*, 472–482. https://doi.org/10.36441/snpk.vol1.2022.77

Idrees, M. W., & Siddiqui, A. A. (2021). The Impact of Efficiency Management on the Profitability of the Firms: Textile Composite Sector. *Journal for Business Education and Management*, *1*(2), 75–97. https://doi.org/10.56596/jbem.v1i2.69

Jurlinda, J., Alie, J., & Veronica, M. (2022). Pengaruh Debt to Asset Ratio dan Debt to Equity Ratio Terhadap Return On Asset Perusahaan Sektor Industri Makanan dan Minuman yang Terdaftar Di Bursa Efek Indonesia. *Jurnal Ilmu Sosial, Manajemen, Akuntansi Dan Bisnis*, *3*(1), 1–12. https://doi.org/10.47747/jismab.v3i1.622

Kurniawati, C. R. (2022). Pengaruh Current Ratio, Total Asset Turnover, dan Debt to Equity Ratio terhadap Return on Asset. *Jurnal Cendekia Keuangan*, *1*(2), 101. https://doi.org/10.32503/jck.v1i2.2832

Miswanto, Abdullah, Y. R., & Suparti, S. (2017). Pengaruh Efisiensi Modal Kerja, Pertumbuhan Penjualan dan Ukuran Perusahaan terhadap Profitabilitas Perusahaan. *Jurnal Bisnis Dan Ekonomi (JBE)*, *24*(2), 119 – 135.

Neves, M. E., Serrasqueiro, Z., Dias, A., & Hermano, C. (2020). Capital Structure Decisions in a Period of Economic Intervention. *International Journal of Accounting & Information Management*, *28*(3), 465–495. https://doi.org/10.1108/IJAIM-08-2019-0094

Pamungkas, Y. A., & Hartanto, A. M. (2016). Analisis Pengaruh Current Ratio (Cr), Debt To Equity Ratio (DER), Net Profit Margin (NPM), Return On Asset (ROA) dan Total Asset Turn Over (TATO) Terhadap Return Saham. *Volume 5, Nomor 4, Tahun 2016, Halaman 1-12 ISSN (Online): 2337-3792 ANALISIS*, *5*(4), 1–12.

Pangestika, M., Mayasari, I., & Kurniawan, A. (2021). Pengaruh DAR dan TATO terhadap ROA pada Perusahaan Subsektor Makanan dan Minuman di BEI Tahun 2014-2020. *Indonesian Journal of Economics and Management*, *2*(1), 197–207. https://doi.org/10.35313/ijem.v2i1.3137

Rahadi, D; Farid, M. (2021). *Analisis Variabel Moderating*. CV. Lentera Ilmu Mandiri.

Ramli, D., & Yusnaini, Y. (2022). Pengaruh Sales Growth, Debt To Equity Ratio, Total Assets Turnover Terhadap Return On Assets Pada Perusahaan Property Dan Real Estate Yang Terdaftar Di Bursa Efek Indonesia 2018-2020. *Owner*, *6*(1), 722–734. https://doi.org/10.33395/owner.v6i1.647

Rompas, I. L. M., & Rumokoy, L. J. (2023). Pengaruh Current Ratio, Debt to Equity Ratio, dan Total Asset Turnover terhadap Return on Asset Perusahaan Sub Sektor Otomotif & Komponen di Bursa Efek Indonesia Periode 2015-2021. *Jurnal EMBA : Jurnal Riset Ekonomi, Manajemen, Bisnis Dan Akuntansi*, *11*(1), 833–843. https://doi.org/10.35794/emba.v11i1.46377

Saragih, J. (2021). Pengaruh Current Ratio, Total Assets Turn Over, dan Debt to Assets Ratio terhadap Return on Assets Pada Perusahaan Makanan dan Minuman yang terdaftar di Bursa Efek Indonesia. *Jurnal Riset Akuntansi & Keuangan*, 49–57. https://doi.org/10.54367/jrak.v7i1.1163

Sari, W. I., & Aulia, E. D. (2021). Pengaruh Total Asset Turn Over, Debt to Asset Ratio dan Sales Growth terhadap Return on Asset PT Ultrajaya Milk Industri Co Tbk Periode 2010-2019. *Jurnal Neraca Peradaban*, *1*(3), 214–225. https://doi.org/10.55182/jnp.v1i3.60

Situmorang, I. (2023). Pengaruh Current Ratio (CR) dan Debt to Equity Ratio (DER) terhadap Return on Asset (ROA) pada Perusahaan Sub Sektor Advertising, Printing and Media yang terdaftar dI BEI. *Jurnal Bintang Manajemen*, *1*(1), 165–179. https://doi.org/10.55606/jubima.v1i1.1102

Solimun. (2021). *Analisis Variabel Moderasi dan Mediasi*. Program Studi Statistika Universitas Brawijaya.

Sunaryo, D., Nafiuddin, Gentari, Erlina, R., and Adiyanto, Y. (2022). Using Current Ratio Indicator and Total Asset Turnover Approach in Solving Return on Assets Problems with Debt-to-Equity Ratio Moderated. *Quality - Access to Success*, *23*(189). https://doi.org/10.47750/QAS/23.189.23

Teng, S. H., & Simorangkir, E. N. (2018). Analisis Laporan Keuangan terhadap Profitabilitas dengan Debt to Equity Ratio sebagai Variabel Moderasi Pada Perusahaan Manufaktur yang terdaftar di Bursa Efek Indonesia Periode 2011 – 2015. *JMBI UNSRAT (Jurnal Ilmiah Manajemen Bisnis Dan Inovasi Universitas Sam Ratulangi).*, *5*(2). https://doi.org/10.35794/jmbi.v5i2.20805

Vo, X. V. (2017). Determinants of Capital Structure in Emerging Markets: Evidence from Vietnam. *Research in International Business and Finance*, *40*, 105–113. https://doi.org/10.1016/j.ribaf.2016.12.001

Yu, J. (2024). Factors Affecting Return on Assets in the Renewable Energy Sector during Supply Chain Disruptions. *Journal of Risk and Financial Management*, *17*(6), 253. https://doi.org/10.3390/jrfm17060253

Yusnandar, W. (2019). Pengaruh Current Ratio, Return on Asset, Asset Structure dan Total Asset Turnover Terhadap Debt to Equity Ratio Pada Perusahaan

Perkebunan Yang Terdaftar di Bursa Efek Indonesia. *License Jurnal KRISNA: Kumpulan Riset Akuntansi*, *11*(1), 71–80.

Zendrato, C., Zendrato, R. W., & Ompusunggu, D. P. (2023). Analisis Pengaruh Current Ratio Dan Debt to Equity Ratio terhadap Return on Asset Pada PT Nippon Indosari Corpindo Tbk. *Jurnal Publikasi Sistem Informasi Dan Manajemen Bisnis*, *2*(2), 92–104. https://doi.org/10.55606/jupsim.v2i2.1309