



# THE SELECTIVE ROLE OF PROFITABILITY IN THE RELATIONSHIP BETWEEN FINANCIAL RATIOS AND *FINANCIAL DISTRESS* OF COMPANY *PROPERTY AND REAL ESTATE* IN SOUTHEAST ASIA

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## Abstract

This study examines the relationship between financial ratios and financial distress, positioning profitability as a moderating variable among property and real estate companies in Southeast Asia for the period 2012–2022. This study addresses two research gaps: the inconsistency of empirical findings on the influence of activity ratios, leverage, and liquidity on financial distress, and the limited evidence on whether profitability truly serves as a moderating mechanism in specific regional and sectoral contexts. The study uses a quantitative approach with secondary data in the form of annual reports, a purposive sampling technique, and results in 15 companies with 165 observations. The analysis was conducted using multiple linear regression and Moderated Regression Analysis (MRA) with the help of SPSS version 29. The results show that total asset turnover and current ratio have a significant positive effect on financial distress, while the debt-to-equity ratio has a significant negative effect. Simultaneously, all three financial ratios have a significant effect on financial distress. The most important finding of this study is that return on assets does not function as a universal moderator: profitability does not moderate the relationship between total asset turnover and debt-to-equity ratio on financial distress, but only moderates the relationship between the current ratio and financial distress. Thus, this study confirms that profitability has a selective, not generic, role in explaining financial distress, while expanding the understanding that the industry context and the character of the financial ratios tested largely determine the effectiveness of moderating variables.

**Keywords:** Financial Distress; Profitability; Financial Ratios; Property And Real Estate; Southeast Asia

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## INTRODUCTION

The property and real estate subsector holds a strategic position in the economy due to its direct link to investment, financing, physical development, and related industrial activities. Normatively, a sector with a significant economic contribution should be supported by companies with strong financial fundamentals to ensure project sustainability, meet obligations, and maintain investor confidence. However, this sector is also highly sensitive to interest rate fluctuations, slowing demand, liquidity pressures, and asset value adjustments. Therefore, its financial resilience needs to be empirically tested, particularly in the Southeast Asian context (Khan, Daud, Yusoff, Chyuan, & Johari, 2024).

This vulnerability makes financial distress a central issue in the analysis of property and real estate companies. Normatively, companies that can manage assets efficiently, maintain liquidity, control leverage, and generate adequate profitability should have a lower probability of financial distress. However, empirical evidence shows that this sector remains vulnerable to financial stress, particularly when companies face weakening demand, financing pressures, and unstable operational cash flows (Suryani & Mariani, 2022; Juwita, Solihat, Widiastuti, & Akbar, 2025).

In this study, financial distress is proxied using the Altman Z-Score. Based on the criteria, a Z-Score below 1.81 indicates a high risk of distress, a value of 1.81–2.99 is in the gray area, while a value above 2.99 indicates a healthy condition. If this normative standard is used as a basis, then empirical data on property and real estate companies in Southeast Asia during 2012–2022 show a worrying condition: the average Z-Score value in the sample ranged only from 1.35–1.76 and never moved out of the high-risk zone throughout the observation period. This indicates a clear gap between normative expectations and empirical reality, where financially vulnerable companies support a subsector that plays a vital role in the regional economy.

The gap becomes even more pronounced when viewed from key financial ratios. Total asset turnover (TATO), as a proxy for the activity ratio, normatively describes a company's ability to utilize total assets to generate sales; a higher value indicates better asset efficiency (Kasmir, 2018; Hery, 2021). However, the thesis data shows that the average TATO during 2012–2022 was only in the range of 0.11–0.28, indicating that large assets in property and real estate companies have not translated into optimal sales turnover. Awwaliyah, Widodo, Singgih, & Susanto (2024), Apriyani, Rachman, & Makhsun (2025), and Thejatirta & Sufiyati (2026) also place operational activity and capacity as important components in assessing the risk of distress in this sector. However, empirical results regarding the significance of activity are still mixed.

The debt-to-equity ratio (DER), as a leverage ratio, indicates a company's level of dependence on debt compared to its equity. Normatively, a capital structure that relies too heavily on debt will increase fixed costs and narrow a company's financial flexibility (Frank & Goyal, 2007). Data show that the average DER during 2012–2022 ranged from 0.82–1.09, indicating a relatively high dependence on debt financing in the long term. This pattern is consistent with findings by Marcella & Utami (2024), Masruroh, Sanusi, & Purbasari (2025), and Setianingsih, Asmoro, Andari, Hamidah, & Setiadi (2026), which place leverage as a key determinant of financial distress in property and real estate companies.

Current ratio (CR) as a liquidity indicator reflects the company's ability to meet short-term obligations using current assets (Kasmir, 2018; Hery, 2021). Data show that the average CR fluctuates, from 2.15 in 2012 down to 1.82 in 2014, then several times below 2, and increasing to 2.35 in 2021 and 2.36 in 2022. This pattern shows that liquidity problems are not always a lack of current assets; high liquidity can also reflect the accumulation of less productive working capital. Research (Masruroh et al., 2025; Aryani & Sihono, 2024; Utami & Hascaryani, 2025) shows that liquidity is related to distress, but the direction and strength can differ between studies, so the relationship between CR and financial distress in this subsector still needs to be studied contextually.

Return on assets (ROA) as an indicator of profitability shows the company's ability to generate profits from total assets owned (Kasmir, 2018; Hery, 2021). In this study, ROA is positioned as a moderating variable. Theoretically, higher profitability should strengthen the company's resilience

because profits provide internal funding sources to support operations, reduce dependence on debt, and absorb liquidity pressures (Myers & MAJLUF, 1984; Wagisuwari & Sitorus, 2025). However, the data show that the average ROA during 2012–2022 ranged from 0.03–0.08, indicating that the company's ability to generate profits from assets is still limited. This finding is in line with studies (Hotang, 2025), (Hayati & Sholichah, 2022), and (Hartono, Efni, & Savitri, 2026), which show that the moderating role of profitability on the relationship between financial ratios and financial distress is not always consistent across variables.

Theoretically, the research framework is built on signaling theory, trade-off theory, and pecking order theory. Signaling theory explains that financial ratios published through financial reports serve as signals for investors and creditors to assess the quality of a company; changes in TATO, DER, CR, and ROA can be interpreted as indications of improving or worsening financial conditions (Ross, 2012). Trade-off theory asserts that companies balance the benefits of using debt (e.g., tax shields) with the costs of financial distress, so that excessive leverage increases the risk of financial distress (Frank & Goyal, 2007; Saragi & Tedrick, 2026). Pecking order theory explains that companies prefer internal funding over external funding, so companies with high profitability tend to have stronger internal cushions to withstand financial stress (MYERS & MAJLUF, 1984; Wagisuwari & Sitorus, 2025). The contingency approach complements this framework by emphasizing that the influence of financial variables on distress can change depending on the company's internal conditions, including the level of profitability (Donaldson, 2001; Hartono et al., 2026; Kholis & Ghozali, 2019).

Previous research on financial distress in property and real estate companies has yielded inconsistent results. (Awwaliyah et al., 2024) demonstrated that several financial metrics, including activity and leverage, play a role in explaining distress in the property and real estate sector. (Jessie & Tannia, 2024) found that liquidity, activity, profitability, and leverage simultaneously influence financial distress, although not all variables are partially significant. (Thejatirta & Sufiyati, 2026) showed that profitability and liquidity decrease financial distress, leverage increases it, while activity is insignificant. (Masruroh et al., 2025) showed that liquidity significantly influences distress, and profitability moderates the effect of liquidity, but not leverage. (Hartono et al., 2026) also reported that profitability can moderate leverage and liquidity, but not necessarily activity. These findings indicate that the relationship between activity, leverage, liquidity, profitability, and financial distress still leaves room for further testing, especially in the context of Southeast Asian exchanges.

The literature review reveals two major gaps. First, most recent research focuses on a single country, particularly Indonesia, thus providing limited cross-country evidence in Southeast Asia (Awwaliyah et al., n.d., 2024; Utami & Hascaryani, 2025). Second, although profitability has been extensively examined, most studies still position it as a direct determinant or moderator within a limited combination of variables, thus insufficiently explaining whether profitability operates as a

consistent moderating mechanism in the relationship between activity, leverage, liquidity, and financial distress (Hotang, 2025; Hayati & Sholichah, 2022). Based on these conditions, this study positions return on assets as a moderating variable in the relationship between total asset turnover, the debt-to-equity ratio, the current ratio, and financial distress in property and real estate companies in Southeast Asia.

Based on the integration of sector context, financial theory, and previous research results, the hypothesis structure of this research is as follows. First, total asset turnover is suspected to influence financial distress because the efficiency of asset use is related to the company's ability to maintain revenue and operations (Kasmir, 2018; Hery, 2021; Awwaliyah et al., 2024; Thejatirta & Sufiyati, 2026). Second, the debt-to-equity ratio is suspected to influence financial distress because high leverage increases the risk of financial distress, as explained by trade-off theory and is supported by empirical findings (Frank & Goyal, 2007; Saragi & Tedrick, 2026; Marcella & Utami, 2024) (Masruroh et al., 2025; Thejatirta & Sufiyati, 2026). Third, the current ratio is suspected to influence financial distress because liquidity determines the company's ability to meet short-term obligations, although the implications can differ depending on the quality of working capital management (Kasmir, 2018; Masruroh et al., 2025; Aryani & Sihono, 2024; Utami & Hascaryani, 2025). Fourth, total asset turnover, debt-to-equity ratio, and current ratio are simultaneously suspected to influence financial distress because all three represent the dimensions of activity, leverage, and liquidity, which collectively shape the company's financial health (Awwaliyah et al., n.d.; Jessie & Tannia, 2024; Utami & Hascaryani, 2025).

Furthermore, profitability, as proxied by return on assets, is thought to moderate the relationship between each of these financial ratios and financial distress. *According to pecking order theory*, companies with high profitability have stronger internal funding capacity, so that they can strengthen or weaken the impact of asset efficiency on distress (Myers & MAJLUF, 1984; Wagisuwari & Sitorus, 2025; Hartono et al., 2026). Likewise, profitability can change the effect of leverage on distress because profitable companies are better able to bear the burden of debt (Frank & Goyal, 2007; Masruroh et al., 2025; Kholis & Ghozali, 2019). On the liquidity side, profitability can strengthen the role of liquidity in reducing distress because liquid and profitable companies have greater room to meet obligations and maintain operational continuity (Masruroh et al., 2025; Hartono et al., 2026). Based on this argument, the research hypothesis is formulated as follows:

H1: Total asset turnover affects financial distress.

H2: Debt-to-equity ratio affects financial distress.

H3: Current ratio affects financial distress.

H4: Total asset turnover, debt-to-equity ratio, and current ratio simultaneously influence financial distress.

H5: Return on assets moderates the effect of total asset turnover on financial distress.

H6: Return on assets moderates the effect of debt-to-equity ratio on financial distress.

H7: Return on assets moderates the effect of current ratio on financial distress.

The purpose of this study is to analyze the influence of total asset turnover, debt-to-equity ratio, and current ratio on financial distress, both partially and simultaneously, and to examine the role of return on assets in moderating this relationship in property and real estate companies in Southeast Asia. Thus, this study is expected to enrich the financial distress literature by demonstrating that financial resilience in strategic sectors results from the interaction between asset efficiency, funding structure, liquidity, and profitability within a specific industry context.

## METHOD

This study uses a quantitative approach with a causal associative design to analyze the effect of total asset turnover, debt-to-equity ratio, and current ratio on financial distress, and to test the role of return on assets as a moderating variable in property and real estate subsector companies in Southeast Asia during the period 2012–2022. The quantitative approach was chosen because the study aims to empirically test the relationship between variables based on secondary data, while the causal associative design is relevant to explain the effect of independent variables on dependent variables without manipulation of the research object (Mariati & Praptayani, 2025; Saputri, Krisnawati, & Rizqiyah, 2023).

The study population included all property and real estate subsector companies listed on Southeast Asian stock exchanges during the observation period. The sample was determined using a purposive sampling technique, namely companies that were consistently listed during 2012–2022, published complete annual financial reports, and had the data necessary to calculate all study variables. The data used were secondary data obtained through documentation techniques from annual financial reports and audited financial reports of companies, as applied in theses and similar studies on financial distress (Masruroh et al., 2025; Safitri & Dianawati, 2026).

The dependent variable in this study is financial distress, measured using the Altman Z-Score. According to the research source, financial distress is calculated using the formula:

$$Z = 1.2X_1 + 1.4X_2 + 3.3X_3 + 0.6X_4 + 1.0X_5$$

With  $\overline{X}_1$ = working capital/total assets,  $\overline{X}_2$ = retained earnings/total assets,  $\overline{X}_3$ = earnings before interest and taxes/total assets,  $\overline{X}_4$ = market value of equity/book value of total debt, and  $\overline{X}_5$ = sales/total assets (Satoto & Handayani, 2025). The lower the Z-Score, the higher the company's vulnerability to financial distress (Satoto & Handayani, 2025).

The independent variables in this study consist of total asset turnover, debt-to-equity ratio, and current ratio, while return on assets is positioned as a moderating variable. The independent variables

are calculated using the formula:

$$THIS = \frac{Sales}{Total Assets}; THE = \frac{Total Debt}{Total Equity}; CR = \frac{Current Assets}{Current Liabilities}; LONG = \frac{Net Income}{Total Assets}$$

Data analysis was conducted in two stages. The first stage used multiple linear regression to test the direct effect of total asset turnover, debt-to-equity ratio, and current ratio on financial distress, using the following model:

$$FD = a + \beta_1 THIS + \beta_2 THE + \beta_3 CR + e$$

The second stage uses Moderated Regression Analysis to test the moderating role of return on assets, with the model:

$$FD = a + \beta_1 THIS + \beta_2 THE + \beta_3 CR + \beta_4 LONG + \beta_5 (TATO \times ROA) + \beta_6 (DER \times ROA) + \beta_7 (CR \times ROA) + e$$

Interaction coefficients  $\beta_5$ ,  $\beta_6$ , and  $\beta_7$  were used to determine whether return on assets moderates the relationship between each independent variable and financial distress (Safitri & Dianawati, 2026; Masruroh et al., 2025; Saputri et al., 2023).

Before hypothesis testing, a classical assumption test was conducted to ensure the regression model was statistically sound. A normality test was performed using the Kolmogorov–Smirnov test, with a significance value greater than 0.05 indicating normally distributed residuals (Mardiatmoko, 2020). A multicollinearity test was performed by examining the tolerance and variance inflation factor (VIF) values, the model is declared free of multicollinearity if the tolerance value is  $> 0.10$  and  $VIF < 10$  (Hendrianto, Haliza, & Firdausi, 2023). The heteroscedasticity test is carried out using the Glejser test, which involves regressing the absolute value of the residual against the independent variable; the model is declared not to experience heteroscedasticity if the significance value of each variable is  $> 0.05$  (Ghozali, 2018). The autocorrelation test is carried out using the Durbin–Watson statistic, and the model is declared not to experience autocorrelation if the Durbin–Watson value is around 2 or is between the test decision limits (Ghozali, 2018; Mardiatmoko, 2020).

Hypothesis testing is done through the coefficient of determination ( $R^2$ ). Test used to assess the partial influence of each independent variable on the dependent variable, with the provision that the hypothesis is accepted if the significance value is less than 0.05 or the value  $t_{count} > t_{table}$  at a significance level of 5 percent (Meirista & Sriwendiah, 2022). Test used to assess the simultaneous influence of all independent variables on the dependent variable, with the provision that the model is declared significant if the significance value is less than 0.05 or the value (Purwita & Sari, 2023) (Azhari, Saleh, & Marantika, 2023). Mathematically, statistics can be expressed as:

$$F = \frac{ESS/(k-1)}{RSS/(n-k)}$$

with ESS as the explained sum of squares, RSS as the residual sum of squares, k as the number of parameters, and n as the number of observations (Purwita & Sari, 2023). Meanwhile, the

coefficient of determination ( $R^2$ ) is used to measure the extent to which a model can explain variations in financial distress; the closer it is to 1, the greater the proportion of variation in the dependent variable that can be explained by the independent variables in the model (Meirista & Sriwendiah, 2022; Saputri et al., 2023).

## RESULTS AND DISCUSSION

This study uses a sample of 15 property and real estate sub-sector companies listed on the Southeast Asian stock exchange during the 2012–2022 period, so that the total initial observation data is 165. Data processing was carried out using IBM SPSS version 29, and at the normality test stage, after handling outliers, the number of observations used became 163.

### Research result

Table 1. Descriptive Statistical Test Results

| Descriptive Statistics |     |         |         |         |                |
|------------------------|-----|---------|---------|---------|----------------|
|                        | N   | Minimum | Maximum | Mean    | Std. Deviation |
| TATO                   | 165 | ,022    | ,477    | ,19153  | ,111111        |
| DER                    | 165 | ,177    | 2,283   | ,92018  | ,502164        |
| CR                     | 165 | ,362    | 4,653   | 2,06369 | ,993938        |
| Financial Distress     | 165 | ,480    | 2,903   | 1,63008 | ,535840        |
| ROA                    | 165 | ,010    | ,285    | ,08387  | ,068514        |
| Valid N (listwise)     | 165 |         |         |         |                |

Descriptive statistics show that companies in the property and real estate subsector are, on average, only able to moderately turn over their assets (TATO around 0.19), so that the effectiveness of asset utilization is not high and still varies quite widely between companies. The funding structure tends to be balanced between debt and equity (average DER 0.92). However, the large dispersion suggests that some companies are very conservative to very aggressive in debt, so financial risk is not uniform. Liquidity appears relatively high (average CR around 2.06), but deviations approaching one indicate that some companies are very liquid and others are vulnerable to short-term liabilities. So the "excess" of current assets in some companies can also reflect inefficiencies in managing cash, receivables, and inventory. The average Z-Score of 1.63 places many companies in the gray zone towards distress, with some very close to default and only a small number approaching the safe zone, so that overall, this subsector remains under structural financial pressure. Amidst these conditions, the average ROA is around 8 percent with a sharp variation from barely profitable to highly profitable, which indicates that the ability to generate profits is a key differentiating factor: companies with high profitability have greater room to overcome activity, leverage, and liquidity pressures, while those with low ROAs are in a much more vulnerable position to financial distress

### Classical Assumption Test Results

The results of the classical assumption test show that the regression model used is statistically feasible to analyze the influence of TATO, DER, CR, and ROA on financial distress. The normality test with One-Sample Kolmogorov–Smirnov on the residuals produces an Asymp. Sig. Sig. Sig. of 0,200 ( $> 0,05$ ), so that the distribution of errors can be considered to follow a normal distribution and does not interfere with the validity of the coefficient significance test. The autocorrelation test using the Durbin–Watson statistic 1,871 shows that the residuals do not experience a significant chain correlation (the value is close to 2), so that the relationship between financial variables and financial distress is not "contaminated" by systematic time patterns. The multicollinearity test shows tolerance values of 0,678–0,904 and VIF values of 1,106–1,475 for TATO, DER, CR, and ROA; all are within safe limits (tolerance  $> 0.10$ ; VIF  $< 10$ ), which means that there is no excessive overlap between independent variables and each contributes unique information. Finally, the heteroscedasticity test through a scatterplot shows that the residual points are randomly spread around the zero line without any particular pattern, so that the error variance can be considered constant throughout the prediction range and the homoscedasticity requirement is met. Overall, these figures imply that the measured relationships in the model truly reflect the substantive interrelationships between variables.

Table 2. Partial Hypothesis Test Results

| Coefficients <sup>a</sup>                 |            |                             |            |                           |         |      |
|-------------------------------------------|------------|-----------------------------|------------|---------------------------|---------|------|
| Model                                     |            | Unstandardized Coefficients |            | Standardized Coefficients | t       | Sig. |
|                                           |            | B                           | Std. Error | Beta                      |         |      |
| 1                                         | (Constant) | 1,206                       | ,096       |                           | 12,594  | ,001 |
|                                           | TATO       | 1,946                       | ,209       | ,402                      | 9,294   | ,001 |
|                                           | DER        | -,529                       | ,050       | -,495                     | -10,664 | ,001 |
|                                           | CR         | ,259                        | ,025       | ,480                      | 10,254  | ,001 |
| a. Dependent Variable: Financial Distress |            |                             |            |                           |         |      |

Based on the multiple regression test results table, the three partial hypotheses (H1, H2, and H3) are equally supported, and each has a clear direction of influence:

Hypothesis 1 (TATO  $\rightarrow$  Financial Distress): The TATO coefficient has a positive value ( $\beta \approx 1.946$ ) and is far above the table with a significance level of 0.001 ( $< 0.05$ ), indicating that TATO has a positive and significant effect on financial distress. This means that an increase in Total Asset Turnover is associated with a higher level of financial distress; the relationship exists and is statistically strong.

Hypothesis 2 (DER  $\rightarrow$  Financial Distress): The DER coefficient has a negative value ( $\beta \approx -0.529$ ) with a value that is large in absolute terms (around -10.664) and sig. 0.001 ( $< 0.05$ ), so that DER has a negative and significant effect on financial distress. Thus, changes in the Debt to Equity Ratio are significantly related to financial distress, with the direction of the relationship: the higher the



DER, the model shows a movement in financial distress in the opposite direction (a decrease in the value of the dependent variable).

Hypothesis 3 (CR → Financial Distress): The CR coefficient has a positive value ( $\beta \approx 0.259$ ) with a value approximately 10.254 and a significance level of 0.001 ( $<0.05$ ), indicating that CR has a positive and significant effect on financial distress. This means that each increase in the Current Ratio is consistently followed by an increase in the level of financial distress according to the estimated model.

Table 3. Simultaneous Hypothesis Test Results

| ANOVA <sup>a</sup>                        |            |                |     |             |         |                    |
|-------------------------------------------|------------|----------------|-----|-------------|---------|--------------------|
| Model                                     |            | Sum of Squares | df  | Mean Square | F       | Sig.               |
| 1                                         | Regression | 33,348         | 3   | 11,116      | 130,907 | <,001 <sup>b</sup> |
|                                           | Residual   | 13,501         | 159 | ,085        |         |                    |
|                                           | Total      | 46,849         | 162 |             |         |                    |
| a. Dependent Variable: Financial Distress |            |                |     |             |         |                    |
| b. Predictors: (Constant), CR, TATO, DER  |            |                |     |             |         |                    |

Hypothesis 4 tests whether the three variables together (TATO, DER, and CR) actually influence financial distress, not just each one separately. From the ANOVA table, the calculated F value of 130.907 with a significance of  $<0.001$  indicates that the combination of the three ratios forms a much better model than the model without predictors (only constants). Logically, a very large F value means that the variation in financial distress in the sample does not occur randomly, but can be explained systematically by the pattern of asset efficiency, debt-equity structure, and company liquidity. The Sum of Squares Regression is much larger than the Sum of Squares Residual, which also confirms that most of the fluctuations in financial distress come from changes in these three ratios, not from other unmeasured factors. Thus, Hypothesis 4, which states that Total Asset Turnover, Debt to Equity Ratio, and Current Ratio simultaneously have a significant effect on Financial Distress, can be accepted, meaning that financial difficulties in the property and real estate sub-sector are a multidimensional phenomenon, which arises from a combination of how companies rotate assets, bear debt, and manage current assets, not from a single financial ratio alone

## Moderation Hypothesis Test Results

### Moderation Test Results for Hypothesis 5

Hypothesis 5 tests whether Return on Assets (ROA) moderates the relationship between Total Asset Turnover (TATO) and Financial Distress. To answer this question, we need to consider the following two steps:

Table 4. Moderation Test Results for Hypothesis 5 Level 1

| Coefficients <sup>a</sup>                 |            |                             |            |                           |        |       |
|-------------------------------------------|------------|-----------------------------|------------|---------------------------|--------|-------|
| Model                                     |            | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig.  |
|                                           |            | B                           | Std. Error | Beta                      |        |       |
| 1                                         | (Constant) | 1,261                       | ,089       |                           | 14,135 | <,001 |
|                                           | TATO       | 1,100                       | ,362       | ,228                      | 3,036  | ,003  |
|                                           | ROA        | 1,905                       | ,618       | ,231                      | 3,080  | ,002  |
| a. Dependent Variable: Financial Distress |            |                             |            |                           |        |       |

Table 5. Moderation Test Results for Hypothesis 5 Level 2

| Coefficients <sup>a</sup>                 |            |                             |            |                           |        |       |
|-------------------------------------------|------------|-----------------------------|------------|---------------------------|--------|-------|
| Model                                     |            | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig.  |
|                                           |            | B                           | Std. Error | Beta                      |        |       |
| 1                                         | (Constant) | 1,357                       | ,114       |                           | 11,874 | <,001 |
|                                           | TATO       | ,578                        | ,533       | ,120                      | 1,084  | ,280  |
|                                           | ROA        | ,550                        | 1,189      | ,067                      | ,463   | ,644  |
|                                           | TATO_ROA   | 6,898                       | 5,175      | ,231                      | 1,333  | ,184  |
| a. Dependent Variable: Financial Distress |            |                             |            |                           |        |       |

Hypothesis 5 shows that Return on Assets (ROA) does not moderate the relationship between Total Asset Turnover (TATO) and financial distress. In the first stage, TATO ( $\beta = 1.100$ ; sig. 0.003) and ROA ( $\beta = 1.905$ ; sig. 0.002) both have a significant direct effect on financial distress, so that the efficiency of asset utilization and profitability are each significantly related to the rise and fall of the company's financial difficulties. However, in the second stage, when the TATO $\times$ ROA interaction variable is entered, the TATO coefficient decreases and becomes insignificant ( $B = 0.578$ ; sig. 0.280), ROA is also insignificant ( $\beta = 0.550$ ; sig. 0.644), and most importantly, the TATO\_ROA interaction ( $\beta = 6.898$ ; sig. 0.184) is not significant, so statistically ROA does not change the strength or direction of TATO's influence on financial distress. Within the framework of four types of moderation, this pattern includes a moderating predictor: ROA is significant as a direct predictor of financial distress, but the interaction coefficient is not significant, so ROA acts as a stand-alone factor, not as a moderator that strengthens or weakens the impact of TATO on financial distress.

### Moderation Test Results for Hypothesis 6

Hypothesis 6 tests whether Return on Assets (ROA) moderates the relationship between Debt to Equity Ratio (DER) and Financial Distress. To answer this question, we need to consider the following two steps:

Table 6. Moderation Test Results for Hypothesis 6 Level 1

| Coefficients <sup>a</sup>                 |            |                             |            |                           |        |       |
|-------------------------------------------|------------|-----------------------------|------------|---------------------------|--------|-------|
| Model                                     |            | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig.  |
|                                           |            | B                           | Std. Error | Beta                      |        |       |
| 1                                         | (Constant) | 2,142                       | ,087       |                           | 24,657 | <,001 |
|                                           | DER        | -,651                       | ,066       | -,610                     | -9,896 | <,001 |
|                                           | ROA        | 1,051                       | ,509       | ,127                      | 2,067  | ,040  |
| a. Dependent Variable: Financial Distress |            |                             |            |                           |        |       |

Table 7. Moderation Test Results for Hypothesis 6 Level 1

| Coefficients <sup>a</sup>                 |            |                             |            |                           |        |       |
|-------------------------------------------|------------|-----------------------------|------------|---------------------------|--------|-------|
| Model                                     |            | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig.  |
|                                           |            | B                           | Std. Error | Beta                      |        |       |
| 1                                         | (Constant) | 2,194                       | ,108       |                           | 20,367 | <,001 |
|                                           | DER        | -,722                       | ,109       | -,676                     | -6,639 | <,001 |
|                                           | ROA        | ,347                        | ,999       | ,042                      | ,347   | ,729  |
|                                           | DER_ROA    | 1,042                       | 1,272      | ,108                      | ,819   | ,414  |
| a. Dependent Variable: Financial Distress |            |                             |            |                           |        |       |

Hypothesis 6 tests whether Return on Assets (ROA) moderates the relationship between Debt-to-Equity Ratio (DER) and Financial Distress. In stage 1, DER and ROA were both entered as direct predictors; DER had a coefficient of  $-0.651$  with  $\text{sig.} < 0.001$ , while ROA had a coefficient of  $1.051$  with  $\text{sig.} 0.040$ . This means that DER has a significant negative effect and ROA has a significant positive effect on financial distress, so that the debt-equity structure and profitability are each significantly related to the level of financial distress. In stage 2, the model is expanded with the interaction variable DER\_ROA; the DER coefficient remains negative and significant ( $\beta = -0.722$ ;  $\text{sig.} < 0.001$ ), but ROA becomes insignificant ( $\beta = 0.347$ ;  $\text{sig.} 0.729$ ) and, most importantly, the interaction of DER\_ROA has a coefficient of  $1.042$  with  $\text{sig.} 0.414$  ( $> 0.05$ ). The insignificance of DER\_ROA indicates that the presence of ROA does not significantly change the strength or direction of DER's influence on financial distress, so statistically ROA does not function as a moderating variable in this relationship. Within the framework of the four types of moderation, this pattern falls back into the category of "moderate predictors": ROA is significant as a direct predictor at stage 1, but the interaction coefficient (DER $\times$ ROA) is not significant, so ROA is a factor that has an independent influence on financial distress, not a moderator that strengthens or weakens the impact of leverage on financial distress

### Moderation Test Results for Hypothesis 7

Hypothesis 7 tests whether Return on Assets (ROA) moderates the relationship between

Current Ratio (CR) and Financial Distress. To answer this question, we need to consider the following two steps:

Table 8. Moderation Test Results for Hypothesis 7 Level 1

| Coefficients <sup>a</sup>                 |            |                             |            |                           |        |       |
|-------------------------------------------|------------|-----------------------------|------------|---------------------------|--------|-------|
| Model                                     |            | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig.  |
|                                           |            | B                           | Std. Error | Beta                      |        |       |
| 1                                         | (Constant) | ,954                        | ,079       |                           | 12,117 | <,001 |
|                                           | CR         | ,326                        | ,038       | ,605                      | 8,662  | <,001 |
|                                           | ROA        | ,001                        | ,577       | ,000                      | ,002   | ,998  |
| a. Dependent Variable: Financial Distress |            |                             |            |                           |        |       |

Table 9. Moderation Test Results for Hypothesis 7 Level 2

| Coefficients <sup>a</sup>                 |            |                             |            |                           |        |       |
|-------------------------------------------|------------|-----------------------------|------------|---------------------------|--------|-------|
| Model                                     |            | Unstandardized Coefficients |            | Standardized Coefficients | T      | Sig.  |
|                                           |            | B                           | Std. Error | Beta                      |        |       |
| 1                                         | (Constant) | ,680                        | ,136       |                           | 5,006  | <,001 |
|                                           | CR         | ,453                        | ,063       | ,841                      | 7,137  | <,001 |
|                                           | ROA        | 3,532                       | 1,543      | ,428                      | 2,289  | ,023  |
|                                           | CR_ROA     | -1,400                      | ,569       | -,591                     | -2,461 | ,015  |
| a. Dependent Variable: Financial Distress |            |                             |            |                           |        |       |

Hypothesis 7 suggests that ROA moderates the relationship between Current Ratio (CR) and financial distress, and is included in the category pure moderator. In stage 1, CR had a significant direct effect on financial distress ( $\beta = 0.326$ ; sig.  $< 0.001$ ), while ROA was not significant as a predictor ( $\beta = 0.001$ ; sig. 0.998), so only liquidity explained the variation in financial distress. In stage 2, after the CR\_ROA interaction variable was entered, CR remained significant ( $\beta = 0.453$ ; sig.  $< 0.001$ ), ROA became significant ( $\beta = 3.532$ ; sig. 0.025), and most importantly, the CR\_ROA interaction was negative and significant ( $\beta = -1.400$ ; sig. 0.015), which means that the level of ROA significantly changes the direction and strength of CR's influence on financial distress. Thus, ROA not only stands as a predictor, but primarily plays a role as a pure moderator, which makes the impact of liquidity on financial distress different between companies with high and low profitability.

## Discussion

### Total Asset Turnover (TATO) has a positive and significant effect on financial distress

The results of the study indicate that Total Asset Turnover (TATO) has a positive and significant effect on financial distress. Empirically, this finding indicates that increasing the intensity of asset utilization to generate sales in the study sample is actually accompanied by an increase in the level of financial distress. A more critical reading suggests that this positive relationship should not be

interpreted as paradoxical, as a high TATO may reflect a highly aggressive operating strategy, thinning margins, or a reliance on sales turnover to maintain cash flow. Under such conditions, a company may appear efficient in terms of activity, but remain financially vulnerable if quality earnings, strong operating cash flow, and adequate expense control do not accompany sales growth.

This finding is closely aligned with the results of (Rafli & Nurismalatri, 2025), which showed that TATO influences financial distress, and (Prayoga, Herlinawati, & Herlina, 2026), which noted that certain financial ratios can be non-intuitively related to distress depending on the context of a company's financial distress. Conversely, the differences between these results and studies that view activity ratios as indicators of healthy efficiency demonstrate that TATO is highly contextual. In companies facing liquidity pressures or tight cost structures, an increase in asset-based sales may not necessarily improve financial health; instead, it may act as a coping mechanism, indicating the company is working harder to shore up its fragile financial position. Based on this, the researchers' scientific argument is that TATO in this study more closely reflects operational intensification that has not yet been fully accompanied by stable fundamental quality, resulting in a positive and significant effect on financial distress.

**Debt to Equity Ratio (DER) has a negative and significant effect on financial distress.**

The results of the study indicate that the Debt-to-Equity Ratio (DER) has a negative and significant effect on financial distress. This finding indicates that in the study sample, an increase in DER is followed by a decrease in financial distress. Theoretically, this result can be understood from a capital structure perspective, which positions debt not solely as a source of risk but also as a funding instrument that can improve management discipline and expand operational capacity, provided it remains at a manageable level. In other words, leverage in this study appears to function more as a productive resource than as a trigger for financial distress.

These results align with those of Prayoga et al. (2026), who found that certain leverage ratios have a negative and significant effect on financial distress in the context of construction companies. This contrasts with the findings of Astuti & Dewi (2024), who showed that debt-to-asset ratios actually had a positive effect on financial distress in the agricultural subsector. This difference in direction is important to emphasize because it demonstrates that the leverage-distress relationship is significantly influenced by industry structure, cash flow generation capacity, and the quality of liability management. Therefore, the researchers conclude that the DER in the study sample does not represent an excessive debt burden, but rather a productive funding strategy capable of supporting the company's financial stability, and is thus statistically negatively correlated with financial distress.

**Current Ratio (CR) has a positive and significant effect on financial distress.**

The research results show that the Current Ratio (CR) has a positive and significant effect on financial distress. Substantively, this indicates that increasing short-term liquidity does not automatically reduce the risk of financial distress. Within the framework of financial management, a high current ratio is often interpreted as a signal of the ability to pay short-term obligations. However, it can also indicate working capital inefficiencies, such as the accumulation of cash, inventory, or unproductive receivables. Therefore, when the CR is too high without being accompanied by healthy profitability and operational efficiency, liquidity can actually signal that the company is holding on to current assets due to weak investment opportunities or disruptions to the operating cycle.

This finding is consistent with Prayoga et al. (2026), who showed that CR has a positive and significant effect on financial distress. However, it differs from Astuti & Dewi (2024) and Aningtyas, Wahyuni, Santoso, & Mudjiyanti (2025), who found that liquidity negatively impacts financial distress. These differences in results emphasize that CR cannot be interpreted mechanically. In some contexts, high CR truly serves as a financial cushion, but in others, it indicates idle current assets and weak working capital productivity. Based on this pattern, the researchers argue that CR in the sample companies is closer to the second meaning, namely relatively high liquidity but not fully productive, thus associated with increased financial distress.

**Simultaneously, Total Asset Turnover (TATO), Debt to Equity Ratio (DER), and Current Ratio (CR) have a positive and significant effect on financial distress.**

Simultaneously, the main variables in the study significantly explained financial distress, confirming that financial distress is a multicausal phenomenon. This means that distress does not arise from a single financial ratio, but rather from a combination of interrelated operational decisions, liquidity, capital structure, and profitability. This finding is supported by (Mahardika & Mulyawan, 2023), who showed that the current ratio, return on assets, debt-asset ratio, and total asset turnover jointly influence financial distress, and by (Prayoga et al., 2026), who also concluded that CR, leverage, company size, and ROA collectively influence the level of distress.

The significance of these simultaneous results lies in their analytical implications. When all variables are simultaneously significant, partial interpretations must be made within the framework of the company's overall financial system. For example, high liquidity can represent protection if profitability is strong, but it can also indicate inefficiency if earnings and cash flow weaken. Thus, the researcher's scientific argument is that financial distress in this study is not simply the result of a single "bad" ratio, but rather the cumulative result of a configuration of financial ratios that shape the company's overall vulnerability or resilience

**ROA does not moderate the relationship between TATO and financial distress**

Hypothesis 5 tested whether ROA moderates the relationship between TATO and financial distress. The results showed that in the model without interaction, TATO and ROA were both significant as direct predictors, but the TATO $\times$ ROA interaction coefficient was insignificant. Thus, ROA does not moderate the relationship between TATO and financial distress. In moderation analysis terminology, a moderator variable is considered active only if the interaction effect is significant; when the moderator variable is directly significant, but the interaction is insignificant, the pattern is classified as a predictor-moderator.

Theoretically, these results indicate that profitability is indeed important in explaining financial distress, but it does not change how asset efficiency affects distress. In other words, companies with both high and low ROA still show relatively similar patterns of TATO's influence on financial distress. These results demonstrate that TATO and ROA operate as two parallel explanatory pathways, rather than conditioning each other. In the context of scientific publications, this point is important because it emphasizes that not all theoretically strong "explanatory" variables automatically function as "moderators." Therefore, the researchers argue that profitability in the TATO-financial distress relationship is more appropriately positioned as an additional direct determinant, rather than as a variable that strengthens or weakens the influence of asset efficiency on distress.

#### **ROA does not moderate the relationship between DER and financial distress**

Hypothesis 6 tested whether ROA moderated the effect of DER on financial distress. The test results showed that the DER $\times$ ROA interaction was insignificant; thus, ROA was not proven to moderate the relationship between leverage and financial distress. Based on the classification (Memon et al., 2019), this pattern again falls under the category of moderator predictor, as ROA acts as a direct predictor but does not significantly impact the effect of DER on the dependent variable.

From a theoretical perspective, these results imply that the effect of capital structure on financial distress in the research sample is relatively stable across various levels of profitability. Substantially, leverage appears to operate through a mechanism that is not significantly dependent on ROA. This finding reinforces the view that corporate financing decisions have their own risk logic that is not automatically "neutralized" by profitability. These results also align with recent empirical patterns indicating that moderating effects are highly selective; for example, independent commissioners in recent studies were only able to moderate certain, but not all, relationships between financial indicators and distress. Thus, researchers can assert that ROA is not a boundary condition that alters the effect of DER on distress, but rather remains a stand-alone factor in explaining a company's financial condition

#### **ROA moderates the relationship between Current Ratio and financial distress**

Hypothesis 7 provides the strongest theoretical and methodological results, as it suggests that ROA moderates the relationship between Current Ratio and financial distress. In the first stage, CR significantly impacts financial distress, while ROA is insignificant as a direct predictor. However, after the CR $\times$ ROA interaction term is entered, the interaction coefficient becomes negative and significant. This pattern clearly indicates that ROA alters the strength and direction of the relationship between CR and financial distress. Based on guidelines (Memon et al., 2019), conditions where the moderator is insignificant in the baseline model but the interaction term is significant are classified as pure moderators.

The scientific significance of these findings is significant. These results indicate that liquidity does not have a uniform impact on distress across all companies; the level of profitability largely determines its influence. In companies with a high ROA, a high CR can be interpreted as healthy liquidity and support financial resilience. Conversely, in companies with a low ROA, a high CR can reflect idle current assets or inefficient working capital, and is thus associated with distress. This pattern aligns with the results of (Astuti & Dewi, 2024) and (Aningtyas et al., 2025), which both show that the relationship between liquidity and distress is highly dependent on the context of a company's internal mechanisms and other conditioning factors. Therefore, the researchers' scientific argument is that ROA serves as an interpretive lens for liquidity: profitability determines whether the current ratio serves as a safety cushion or instead signals the unproductiveness of current assets in the face of stress.

## CONCLUSION

This study concludes that financial distress in companies cannot be adequately explained by a single financial indicator, but rather by a configuration of ratios that simultaneously reflect activity efficiency, funding structure, liquidity, and profitability. Empirically, Total Asset Turnover and Current Ratio have been shown to have a positive and significant effect on financial distress, indicating that the intensity of asset utilization and high liquidity in certain contexts are actually associated with increased financial pressure. Conversely, the Debt-to-Equity Ratio has a negative and significant effect, indicating that leverage in the sample companies reflects more of a productive funding source that supports operational stability rather than a trigger for distress. In terms of moderation, Return on Assets has not been shown to moderate the relationship between TATO and DER on financial distress, but does act as a moderating factor—pure moderator: The current ratio's relationship to financial distress. Thus, profitability becomes a boundary condition that determines whether liquidity is protective or a signal of financial vulnerability. The main contribution of this research is the affirmation that the meaning of financial ratios is contextual and relational, so that financial distress needs to be interpreted integratively, not fragmentarily.



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