

PROFITABILITY MODERATES THE EFFECT OF CAPITAL STRUCTURE ON FINANCIAL DISTRESS: A TRADE-OFF PERSPECTIVE

Seandy Ginanjar¹, Wawan Ichwanudin²

^{1,2}Sultan Agung Tirtayasa University, Banten, Indonesia

¹Seandy4@untirta.ac.id, ²ichwan0308@unirta.ac.id

ABSTRACT

This study examines the moderating role of profitability in the relationship between capital structure and financial distress from the perspective of trade-off theory. The sample comprises firms consistently included in the LQ45 Index during 2021–2024, with observations structured as firm-year panel data. Capital structure is measured by the debt-to-equity ratio, profitability by return on assets, and financial distress by the Altman Z-Score. Hypotheses are tested using panel-data regression and Moderated Regression Analysis estimated through the Random Effects Model at a 5 percent significance level. The results show that the debt-to-equity ratio has a negative and significant effect on the Z-Score, indicating that higher leverage increases financial-distress risk. Return on assets does not exert a significant direct effect on the Z-Score. However, the interaction between leverage and profitability is positive and significant, demonstrating that profitability weakens the adverse effect of debt on financial condition. Firms with stronger profitability are therefore better able to absorb debt-related pressures, whereas highly leveraged firms with lower profitability remain more vulnerable to financial distress. These findings provide empirical support for the contingent trade-off between the benefits of debt financing and the potential costs of financial distress and extend evidence concerning capital structure decisions in emerging markets.

Keywords: trade off theory; capital structure; profitability; financial distress

INTRODUCTION

Corporate debt policy constitutes a significant signal for investors, as it reflects a firm's expectations regarding its ability to meet its financial obligations. (Kruk, 2021) argues that when a firm chooses to utilize debt financing, it carefully considers its capacity to repay the borrowed funds. Firms with low repayment capacity tend to fail to meet

their financial obligations, which in turn increases the risk of financial distress.

Conversely, firms with strong repayment capacity are better able to meet their debt obligations fully and on time. Therefore, firms that are willing to assume substantial amounts of debt demonstrate confidence in their future business prospects, indicating not only that the borrowed funds are likely to be repaid, but also that they have the potential to

enhance the firm's profitability and overall financial performance.

This phenomenon can be interpreted from the perspective of signaling theory. According to signaling theory, the use of debt financing by firms not only reflects their financing strategy but also Conveys information to investors regarding the company's financial health and its prospective development, (Epure & Guasch, 2020). This perspective reinforces the findings of (Anita et al., 2023) who state that debt financing can help improve firm productivity because debt can strengthen managerial discipline, encourage innovation, and enhance overall organizational performance in a comprehensive and sustainable manner. Furthermore, when firms are able to use debt financing carefully and strategically, they can send a positive signal to the market regarding their confidence in their operational capabilities and financial resilience. This signal can reduce information asymmetry in the market while also enhancing corporate accountability and transparency.

This study is motivated by the ongoing academic discussion on capital structure, particularly regarding whether an optimal capital structure exists. In the capital structure irrelevance theory, Miller

(1958) maintains that a company's worth is not influenced by the makeup of its capital structure in a perfect market. However, (Miller, 1963) later revised this view by acknowledging that, in practice, markets are not invariably perfect. As a result, capital structure is no longer considered neutral but rather becomes a relevant factor in determining firm value. The interest tax shield, which refers to tax savings from the capacity to deduct interest payments from taxable income and so increase the firm's worth, is a significant benefit of using debt.

In contrast, the trade-off theory introduced by (Miller, 1958), provides a clear, systematic, and comprehensive framework. This indicates that firms must carefully choose between the use of debt and equity by evaluating the benefits of the debt tax shield relative to the potential costs of financial distress.

According to this well-established, tested, and widely recognized theory, the use of debt typically results in two main outcomes. First, if the tax benefits from interest deductions are insufficient to cover the additional costs arising from debt, then debt can significantly increase the risk of bankruptcy and financial pressure in a tangible way. Second, debt financing becomes highly advantageous

and strategic if the tax savings from additional debt provide a net gain for the firm in a meaningful manner. In this specific, relevant, and practical context, firms with high profitability tend to face a lower risk of bankruptcy, allowing them to derive greater benefits from the tax shield generated by higher levels of debt as well as long-term and sustainable gains.

The primary focus of This inquiry is to present reliable empirical evidence regarding the existence of an optimal capital structure, in accordance with the trade-off theory by testing the proposition that firms can avoid bankruptcy risk even when utilizing very high levels of debt, provided that the firm maintains strong and sustainable profitability. The trade-off theory offers a strong conceptual basis for further investigation into the association between capital structure and financial distress which remains a key topic in finance literature. More specifically, this study aims to examine whether increased profitability can significantly serve as a factor that mitigates the negative impact of high debt usage on the risk of bankruptcy. In this regard, when a firm's profitability is high, greater debt utilization does not automatically cause a substantial rise in the likelihood of financial distress. Thus, profitability can

be understood as a positive moderating factor that helps explain and influence the relationship between capital structure and financial distress. The novelty of this study lies in examining the relationship between debt usage and the risk of financial distress by positioning profitability as a factor that may prevent increased debt from necessarily worsening a firm's financial risk. Therefore, profitability is considered an essential prerequisite for the prudent and sustainable use of debt financing.

LITERATUR REVIEW

Trade Off Theory

This research is specifically grounded in various differing perspectives on corporate capital structure, particularly regarding the existence of a capital structure optimized to enhance firm value while minimizing financial risk. (Miller, 1958) argued that there is no optimal capital structure (irrelevance theory), whereas (Miller, 1963) revised the earlier study by explicitly acknowledging market imperfections, stating emphatically that a firm's capital structure significantly affects its economic value. By strategically using debt, a firm can positively increase its value through corporate tax reductions, a modification of

the MM theory widely known as the MM Relevance Theory.

One limitation of the MM Relevance Theory is that it suggests achieving an optimal capital structure by taking on as much debt as possible, without adequately considering the risks associated with excessive debt usage. In reality, the greater the company's leverage, the higher the risk of bankruptcy and liquidity problems. In contrast, the trade-off theory effectively accounts for this bankruptcy risk. According to (Octavia et al., 2021), debt usage is advisable if its benefits clearly outweigh its costs, and conversely, if the costs of debt exceed its benefits, debt should not be utilized at all.

The trade-off theory clearly posits that a firm has an optimal target leverage ratio to balance bankruptcy risk and the tax benefits arising from debt financing. Firms carefully strive to align the benefits and costs associated with debt by maintaining leverage at the optimal target level, which allows for more effective and efficient risk management, (Jensen, 1976). One postulate of the trade-off theory states that profitability is positively linked to the debt-to-equity ratio (DER). Profitable firms, characterized by lower bankruptcy costs, can fully benefit from a substantial

tax shield by significantly increasing debt financing, (Cahyaningdyah, 2018).

The trade-off theory states that firms strive to achieve an optimal leverage ratio to obtain the tax benefits of debt compared with the potential costs of financial distress. Firms aim to optimize their capital structure by aligning the marginal benefits and marginal costs of debt, thereby maintaining leverage at a level that maximizes overall firm value and strengthens long-term financial position, (Jensen, 1976). A key postulate of the trade-off theory is the positive relationship between profitability and the debt-to-equity ratio. Firms with high levels of profitability generally face a lower risk of bankruptcy, making them better able to use substantial debt to maximize tax savings, particularly through interest tax shields. (Agyei et al., 2020).

Capital Structure and Financial Distress

The use of debt can have a dual effect, namely affecting a company's financial distress both positively and negatively. If the tax benefits obtained from the use of debt exceed the risks it creates, then debt usage can contribute positively to the company's financial stability. This point of view is supported by studies done by (Susanti et al., 2020), (Fitri & Syamwil,

2020). Conversely, if the risks associated with debt outweigh the tax benefits, debt contributes to a noticeable increase in financial distress, as demonstrated by studies such as (Septyanto et al., 2022). Testing this hypothesis is essential to determine the existence of an optimal capital structure; whether the result is positive or negative, the trade-off theory can be empirically and scientifically validated. The first hypothesis is, Capital structure significantly affects the level of a firm's financial distress.

Profitability as a Moderator in the Relationship Between Capital Structure and Financial Distress

This study assesses how profitability moderates the relationship between capital structure and financial hardship, that makes this research special is that it focuses on identifying the moderating function in the relationship between loan usage and financial distress. Increased profitability may result in debt usage having no significant impact on financial distress risk, implying that a prerequisite for prudent debt usage is that the firm is in a profitable condition.

The use of debt in the capital structure can minimize agency costs arising from conflicts of interest related to free cash flow. (Jensen, 1976) states that agency

problems associated with free cash flow can be controlled by increasing the use of debt in the capital structure. In addition, the use of debt can also function as a monitoring mechanism, allowing creditors to oversee corporate governance. Debt can function as a control mechanism whereby lenders provide oversight of corporate governance. (Sahu, 2019) It posits that firms tend to prefer higher debt usage to pursue new investment opportunities, whereas firms with limited growth opportunities tend to be reluctant to increase their debt usage. The use of debt incentivizes managers to work harder to maintain the firm's reputation.

(Mehmet Ugur a, Edna Solomon a, 2022) found that long-term debt serves as an effective disciplinary mechanism to improve overall corporate governance, thereby significantly enhancing firm profitability. The disciplinary role of debt has also been confirmed by other relevant studies, such as, (Shikumo & Matanda, 2020), (Alter* & Elekdag, 2020), (Canarella & Miller, 2022). Moreover, (Shoaib & Siddiqui, 2022) Emphasizes that firms with a capital structure composed of a higher proportion of debt can effectively prevent managerial tendencies to misuse free cash flow, as managers are compelled to undertake

projects that generate a positive net present value (NPV). (Mutyarawati et al., 2024), assert that leverage functions as a control mechanism, sending a clear disciplinary signal to management to operate more efficiently, consistent with the role of debt in overall corporate governance. Collectively, these studies support the argument that debt enforces managerial discipline and improves firm performance in a meaningful way.

Profitability serves as a very strong indicator of a firm's healthy and sustainable performance. According to (Nawang Kalbuana, 2022) and (Kaur et al., 2024), firms with high financial performance tend to gain greater trust from creditors, thereby facilitating easier access to debt financing. (Reta Pramudita, 2024) explains that higher expected profitability indicates a lower likelihood of financial distress. Similarly, (Ramadhani et al., 2020). Indicates that as a company's profitability may also generate more positive market sentiment, (Liu et al., n.d). Within the framework of trade-off theory, (Octavia et al., 2021) argue that profitability may arise from a firm's ability to leverage debt financing that produces benefits exceeding the associated bankruptcy risks overall. This can lead to an optimal capital structure that

helps effectively prevent financial distress. Thus, the second hypothesis put forward here is that profitability moderates the effect of capital structure on a firm's financial distress.

RESEARCH METHOD

This study examines the role of profitability as a moderating variable in the relationship between capital structure and financial distress. The population consists of firms listed in the LQ45 Index of the Indonesia Stock Exchange. Samples were selected using purposive sampling based on continuous listing during 2021–2024, availability of audited financial statements, and complete DER, ROA, and Altman Z-Score data. Data were obtained from annual reports, financial statements, and market information from IDX. Capital structure is measured by DER, profitability by ROA, and financial distress by Altman Z-Score, where higher values indicate stronger financial conditions. The operational definitions are presented in Table 1.

Table 1. Operating Variable

Variable and Definition	Measurements
Capital structure is the proportion of a company's total capital that is financed through debt compared to equity.	Debt / Equity X 100%

Profitability measures a company's ability to utilize all of its assets efficiently and effectively to generate profits and also assesses the efficiency of the company's asset utilization in producing stable revenue.

Financial distress arises when a company, due to poor financial conditions or a prolonged economic shock, experiences difficulty in meeting its debt obligations.

Z-Score=
 $1,2 * (\text{Working Capital} / \text{total assets}) +$
 $1,4 * (\text{Retained Earning} / \text{Total Assets}) +$
 $3,3 * (\text{EBITpajak} / \text{Total Assets}) +$
 $0,6 * (\text{Equity Market Price} / \text{Total Liabilities}) +$
 $1,0 * (\text{Sales} / \text{Total Assets}).$

Hypothesis testing in this study was conducted using Moderated Regression Analysis (MRA) to examine the role of profitability in moderating the effect of capital structure on financial distress. MRA was employed because this study not only investigates the direct effect of capital structure on financial distress but also examines whether profitability strengthens or weakens this relationship through the interaction term between capital structure and profitability.

The moderation model in this study positions capital structure as the independent variable, profitability as the moderating variable, and financial distress as the dependent variable. Capital

structure is proxied by the Debt-to-Equity Ratio (DER), profitability is measured using Return on Assets (ROA), while financial distress is assessed using the Altman Z-Score. A higher Z-Score indicates a stronger financial condition and a lower level of financial distress risk.

Because this study employs panel data, which combines cross-sectional observations across firms and time-series observations across periods, the MRA model estimation was conducted using a panel data regression approach. Prior to estimation, the appropriate panel model was selected to determine the most suitable estimator among the Common Effects Model (CEM), Fixed Effects Model (FEM), and Random Effects Model (REM).

The model selection procedure was conducted through several tests, namely the Chow test, Hausman test, and Breusch–Pagan Lagrange Multiplier (LM) test. The Chow test was used to determine the appropriate model between the CEM and FEM. If FEM was found to be more suitable than CEM, the Hausman test was subsequently performed to determine whether FEM or REM was the more appropriate model. Furthermore, the LM test was applied to compare CEM and REM. All model selection decisions were

based on a 5% significance level. Furthermore, the REM-based MRA model employed in this study is formulated as follows:

$$Y_{it} = \alpha + \beta_1 X_{it} + \varepsilon_i \quad (1)$$

$$Y_{it} = \alpha + \beta_1 X_{it} + \beta_2 Z_{it} + \varepsilon_i \quad (2)$$

$$Y_{it} = \alpha + \beta_1 X_{it} + \beta_2 Z_{it} + \beta_3 X_{it}Z_{it} + \varepsilon_i \quad (3)$$

Where:

Y = Financial Distress

I = Cross-sectional data

t = Time series data

α = intercept

β = Regression coefficient DER

Z = ROA

$X_{it}Z_{it}$ = Interaction DER and ROA

ε = Error Term

Before interpreting the regression results, the research model was first evaluated through diagnostic tests, including normality, heteroskedasticity, and autocorrelation tests.

RESULT AND DISCUSSION

Descriptive Statistics

Table 2. Descriptive Statistics

Variable	DER	ROA	Z-Score
Mean	1.0245	0.1947	4.9547
Median	0.7352	0.1306	4.0589
Maximum	3.4144	1.4609	12.3620
Minimum	0.1348	-0.0631	-1.3452

The descriptive statistics in Table 2 indicate substantial variations in capital

structure, profitability, and financial conditions among LQ45 firms during 2021–2024. The mean DER of 1.0245 shows that liabilities were relatively comparable to equity, although some firms exhibited higher leverage levels. Meanwhile, the average ROA of 19.47% reflects firms' ability to generate profits from their assets, with varying internal capacities to withstand financial pressure.

The mean Altman Z-Score of 4.9547 indicates that most firms were classified within the safe zone. However, the wide range of Z-Score values, from -1.3452 to 12.3620, demonstrates that financial distress risk may still occur even among firms with strong reputations and high market capitalization. The Altman classification reveals the presence of observations in both the distress and grey zones, confirming the relevance of selecting LQ45 firms to examine variations in financial conditions. The existence of firms with different financial profiles enables this study to evaluate the ability of profitability to mitigate the pressure arising from capital structure and reduce financial distress risk.

The Altman Z-Score classification in Table 3 shows that 82 of 104 firm-year observations (78.85%) were categorized as safe zone, reflecting the strong

liquidity, market capitalization, and financial reputation of LQ45 firms. However, 22 observations (21.15%) remained outside the safe zone, consisting of 8 distress-zone and 14 grey-zone observations. These findings indicate that LQ45 status does not completely eliminate financial vulnerability, as firms may still experience financial deterioration despite strong market positions.

The variation in financial conditions across firms strengthens the relevance of using the LQ45 sample in financial distress research. Firms with relatively strong financial performance provide a conservative test of the relationship between leverage and financial risk. Differences in Z-Score categories enable the identification of early warning signals before default occurs. Therefore, LQ45 firms are relevant for examining the effect of capital structure and the role of profitability in mitigating financial distress risk.

Tabel 3. Distribution of Firm-Year Observations Based on Altman Z-Score Categories

Category	Z-Score Criterion	Freq	Percentage
Distress zone	$Z < 1,81$	8	7,69%

Grey zone	$1,81 \leq Z \leq 2,99$	14	13,46%
Safe zone	$Z > 2,99$	82	78,85%
Total	-	104	100,00%

Classical Assumption Testing

Based on the panel data model selection tests, the Chow test indicates that FEM is preferred over CEM with a probability value of 0.0000 (< 0.05). However, the Hausman test shows a probability value of 0.5424 (> 0.05), suggesting that REM is more appropriate than FEM. The Breusch–Pagan LM test also confirms REM as the preferred model over CEM. Therefore, REM was selected as the optimal estimator for the MRA model. The REM estimation applies GLS to provide efficient parameters by considering firm-specific and time variations.

Table 4. Panel Data Model Selection Results

Test	Models Compared	Test Statistic	Probability	Decision
Chow Test	Common Effect Model (CEM) vs Fixed Effect Model (FEM)	$F = 6,8421$	0,0000	FEM

Hausman Test	Fixed Effect Model (FEM) vs Random Effect Model (REM)	$\chi^2 = 2,1476$	0,54 24	REM
Breusch-Pagan Lagrange Multiplier (LM) Test	Common Effect Model (CEM) vs Random Effect Model (REM)	LM = 38,6157	0,00 00	REM

The classical assumption testing for the REM model was conducted to ensure estimation validity, including residual normality, model specification, and autocorrelation tests. The normality test using the Jarque–Bera method, as presented in Table 5, shows a probability value of 0.490 (> 0.05), indicating that the residuals are normally distributed. Although normality is not a primary requirement for obtaining unbiased REM estimators, this test provides additional support for statistical inference validity.

Table 5. Residual Normality Test Using Jarque–Bera

Testing Method	Test Statistic	Probability
Jarque–Bera Test	1.4268	0.4900

The autocorrelation test was conducted using the Durbin–Watson statistic to identify the possibility of residual correlation across time periods

within the same firm. Based on the test results presented in Table 6, the Durbin–Watson value of 1.9250 is close to the value of 2, indicating that the model does not suffer from autocorrelation problems.

Table 6. Model Summary and Autocorrelation Test Result

R-squared	Adjusted R-squared	S.E. of Regression	Durbin-Watson Stat
0.5824	0.5689	2.1467	1.9250

Heteroskedasticity testing was conducted using the Breusch–Pagan LM, table.7. Harvey and Glejser tests to assess the stability of the residual variance in the REM model. The results show probability values of 0.1468, 0.1285, and 0.2656, respectively, all exceeding the 5% significance level. Therefore, the null hypothesis cannot be rejected, indicating that the research model does not suffer from heteroskedasticity. These findings suggest that the residual variance is relatively stable, supporting the use of the REM model for hypothesis testing.

Table 7. Heteroscedasticity Test

Test	Statistic	Probabilities
Breusch-Pagan LM Test	18,4376	0,1468
Harvey Test	21,5632	0,1285
Glejser Test	1,2847	0,2656

Hypothesis Testing

Hypothesis testing was performed using Moderated Regression Analysis (MRA) under a robust and appropriate Random Effects Model specification. As reported in Table 8, the probability value associated with the effect of DER on the Z-score is 0.000, which is lower than the 5% significance threshold. Therefore, the null hypothesis (H_0) is rejected, confirming that DER exerts a statistically significant negative influence on the Z-score. The intercept of 6.720 implies that the predicted Z-score is 6.720 when DER is equal to zero. Meanwhile, the negative DER coefficient indicates that an increase in DER is associated with a reduction in the Z-score by the magnitude of its estimated coefficient, in the observed research sample.

Table 8. The Effect of DER on Financial Distress

Variable	Coefficient	T Statistics	P Values
Constant ^a	6.7200	0.4000	0.0000
DER (X)	-2.3800	-9.1590	0.0000

When ROA is treated as the primary independent variable for the Z-score (Table 9), the p-value for ROA is 0.7610, which is greater than 0.05. This clearly and explicitly indicates that, at the 5% or 10% significance level, ROA does not have a significant effect on the Z-score. The constant is 0.5400, which means that

the Z-score remains at 0.5400 units even if ROA is zero. The regression coefficient for ROA is 0.5400, suggesting that a one-unit increase in ROA is associated with an increase in the Z-score of 0.5400 units, although this effect is not statistically significant and clearly observable.

Table 9. The Effect of ROA on Financial Distress

Variable	Coefficient	T Statistics	P Values
Constant	6.7200	16.80	0.0000
DER (X)	-2.3800	-9.159	0.0000
ROA (Z)	0.5400	0.3100	0.7610

However, the p-value for the moderating effect of ROA is 0.0060, which is less than 0.05 (Table 5). Therefore, the null hypothesis (H_0) is rejected, which clearly and explicitly indicates that, at the 5% significance level, ROA positively moderates the relationship between DER and the Z-score. The constant is 6.5444, indicating that the Z-score remains at 6.5444 units when all other variables are simultaneously zero and unchanged. The regression coefficient for the interaction term (DER $\times$ ROA) is 1.4588, meaning that a one-unit increase in the interaction term will increase the Z-score by 1.4588 units, and this effect can be observed clearly and significantly.

Table 10. Moderating Effect Profitability

Variable	Coefficient	T Statistics	P Values
Constanta	6.5444	9.1220	0.0000
DER (X)	-2.4780	-6.3658	0.0000
ROA (Z)	3.044	1.6257	0.1078
(DER*RO A)	1.4588	2.8178	0.0060

DISCUSSION

The Effect of Capital Structure on Financial Distress

The Z-score is significantly negatively affected by the Debt-to-Equity Ratio (DER), indicating that an increase in capital structure leverage (debt usage) clearly lowers the Z-score, thereby increasing the potential risk of financial distress significantly. This study shows that, from the perspective of trade-off theory, increased debt usage substantially raises the firm's bankruptcy risk. This implies that when debt levels become excessively high, the costs of debt exceed the potential benefits of the tax shield in a significant manner. The findings of this study strengthen (Jensen, 1976) view that an optimal capital structure is key for increasing firm value and maintaining corporate stability.

This study confirms that the use of debt in a company's capital structure has a significant negative impact on financial distress. Therefore, the greater the

company's debt burden, the higher the risk resulting from the financial pressure caused by debt usage. In this study, the findings are not entirely consistent with the assumptions of the trade-off theory. The trade-off theory states that when firms are able to manage debt appropriately, carefully, and in a controlled manner, the tax shield effect generated from debt financing should reduce financial distress and its associated risks. However, the findings from this research reveal that, among the sampled firms, the tax shield benefits of debt are not sufficient to offset the additional risks and financial pressures arising from high interest expenses and increased debt repayment obligations.

Based on the empirical findings obtained, this study also reinforces the views of (Desiyanti et al., 2019) and (Septyanto et al., 2022), Who states that firms with a high debt ratio are more likely to experience financial distress compared to firms with a more conservative capital structure. Highly leveraged firms generally experience greater financial pressure. This phenomenon is caused by higher default risk and heavier financial burdens, particularly among firms with low profitability, weak cash flow conditions, or those operating in environments characterized by high

economic uncertainty and strong market volatility. In addition, this study also finds that the composition of debt in the capital structure does not play a significant role in reducing agency costs. Thus, this finding differs from Jensen's (1976) theoretical view regarding the governance effect of debt.

Although theory suggests that debt can serve as a disciplinary mechanism for managers, in practice, high debt obligations significantly increase liquidity risk and clearly limit the firm's financial flexibility, in line with (Shoaib & Siddiqui, 2022), who indicate that highly leveraged firms are more likely to experience severe financial distress due to the inability to allocate free cash flow optimally and sustainably.

Additionally, the study found that firms that are more aggressive in using debt experienced a reduction in profitability, which further exacerbates financial distress and potential risks over time clearly. This supports the findings of (Alter* & Elekdag, 2020) and (Canarella & Miller, 2022) (2021), who suggest that high debt burdens can significantly reduce a firm's capacity to finance profitable investment projects in a meaningful way, thereby constraining long-term revenue

growth potential and financial sustainability significantly.

Therefore, this study demonstrates that a high proportion of debt in the capital structure, although theoretically part of an optimal structure according to trade-off theory, actually worsens the company's financial condition significantly, increases bankruptcy risk, and substantially limits long-term operational and financial sustainability clearly. In this context, debt acts more as a factor exacerbating financial distress rather than as a strategic tool for optimizing the capital structure effectively. The study concludes that the potential benefits of debt are ultimately outweighed by the substantial financial risks and additional burdens it imposes on the firm clearly.

Profitability Moderation in the Relationship Between Capital Structure and Bankruptcy Risk

ROA has a significant positive effect in moderating the relationship between DER and the Z-score, indicating that an increase in ROA substantially strengthens the effect of DER on the Z-score. Therefore, when a firm has strong profitability, an increase in debt usage does not necessarily lead to a higher bankruptcy risk. This implies that when a firm demonstrates stable and high

profitability performance over time, it can safely increase its leverage (Nawang Kalbuana, 2022) and (Kaur et al., 2024). This finding confirms the study by (Ramadhani et al., 2020), which suggests that higher expected future profitability indicates a lower, more controllable, and predictable likelihood of financial distress. The result is also consistent with the arguments advanced (Octavia et al., 2021). Furthermore, this finding supports the existence of an optimal capital structure, as proposed by (Jensen, 1976), and (Miller, 1958). Specifically, this study suggests that, in achieving the optimal point, firms with strong profitability may increase their use of debt in a moderate and careful manner.

After accounting for profitability as a moderating effect, this study shows that profitability plays a very important role in strengthening or weakening the effect of capital structure, particularly debt usage on corporate financial distress directly. In other words, firms with high profitability are generally able to manage their debt obligations more effectively, steadily, and consistently, thereby significantly reducing the negative impact and potential risks of debt on financial distress and tangible financial pressure.

In contrast, for firms with low profitability, debt usage tends to increase sustained financial pressure, even the likelihood of default and serious potential consequences. These findings further confirm that the relationship between capital structure and financial distress is not direct or fixed but is strongly influenced and determined by the firm's ability to generate profits in a stable, consistent, and sustainable manner.

Within the framework of trade-off theory, profitability is a key factor that determines the extent to which a firm can manage its capital structure optimally, safely, efficiently, and steadily. Highly profitable firms are in a stronger position to fully utilize the tax-shield benefits of debt because they generate sufficient, stable, and sustainable income to pay interest expenses and consistently meet debt repayment obligations on time. This condition allows firms to utilize debt financing without having to bear an increased risk of bankruptcy or financial pressure. This finding supports the view of (Octavia et al., 2021), suggesting that profitability can enhance a company's ability to manage debt optimally, such that the tax benefits obtained outweigh the risk of bankruptcy and potential financial losses.

In contrast, firms with low profitability are more vulnerable when relying heavily on debt, as this condition can intensify financial pressure and increase the possibility of financial distress amid uncertainty. This is because such firms often have limited capacity to generate operating cash flow to meet interest payments consistently, especially in unstable or highly volatile market conditions. As a result, the risk of default and potential financial losses becomes considerably higher. These findings further reinforce this argument. (Shoaib & Siddiqui, 2022), which states that profitability enables firms to use debt optimally, allowing the tax benefits obtained to outweigh bankruptcy risk and potential financial losses while maintaining the firm's financial stability.

Beyond that, the findings of this study indicate that profitability can strengthen the role of debt as a disciplinary mechanism for company management and enhance its overall effectiveness in practice, as explained in agency theory and relevant practical contexts. In this setting, debt functions as a control mechanism that forces managers to use corporate funds more efficiently, rationally, sustainably, and in a measured manner. This perspective is supported by

(Jensen, 1976) and (Mehmet Ugur a, Edna Solomon a, 2022), who argue that long-term debt can reinforce managerial discipline and improve the efficiency of corporate resource allocation. However, the effectiveness of this mechanism depends on the firm's profitability, as more profitable firms have greater financial flexibility to manage their obligations and responsibilities effectively, sustainably, and timely.

In addition, this study finds that firms with higher profitability tend to obtain debt financing under more favorable, flexible, realistic, and sustainably supportive terms. This is because firms with sound and stable financial performance are generally considered more capable of fulfilling their debt obligations and related responsibilities consistently, safely, and on time. These findings are in line with Nawang Kalbuana (2022), who explains that firms with higher profitability tend to gain greater trust from lenders, thereby lowering their probability of financial distress and helping them maintain a financial position that remains manageable, relatively secure, and stable, even when debt financing is used to support long-term business expansion and development.

Accordingly, this study highlights profitability as an important moderating factor that can substantially strengthen or weaken the relationship between capital structure and financial distress risk. In firms with high profitability, the use of debt does not automatically undermine financial health, because these firms usually possess the ability to generate stable cash flows, preserve investor confidence, and handle their financial obligations in a sustainable, effective, prudent, and well-measured manner. By contrast, in firms with low profitability, excessive dependence on debt may heighten risk and worsen financial distress, as these firms have limited capacity to pay interest, repay principal, and satisfy other debt-related commitments consistently, safely, effectively, and on time, particularly during periods of market instability or severe economic contraction.

CONCLUSION

From a theoretical perspective, this study analyzes the various factors considered by firms in making capital structure decisions, as well as the effect of these decisions on firms' financial stability. The findings indicate that capital structure choices are closely associated

with the likelihood of firms experiencing financial distress. This study is grounded in the trade-off theory, which argues that firms need to comprehensively evaluate the benefits and costs associated with the use of debt financing. The study finds that when a firm's level of debt utilization becomes excessively high, the risk of financial problems also increases. This indicates that if debt is not managed carefully, it can have adverse effects on the firm's operations and financial condition.

From a business practice perspective, this study finds that firms with higher levels of profitability generally have a better capacity to bear debt burdens. Such firms have relatively stable sources of income and stronger debt repayment capacity, enabling them to use debt financing to a certain extent without facing serious financial pressure. In other words, highly profitable firms have greater financial flexibility in bearing debt and are less likely to face the risk of bankruptcy or substantial losses. Therefore, for such firms, capital structure management remains an important aspect that cannot be overlooked in financial management.

In corporate financial practice, by contrast, for firms with low levels of

profitability, excessive dependence on debt financing can significantly increase the likelihood of financial distress, including bankruptcy risk, debt repayment pressure, and various other negative financial consequences. These findings indicate that firms need to maintain an appropriate balance between debt-based financing and equity financing, which is consistent with the relevant capital structure theory. Therefore, when making borrowing decisions, firms should consider their operational performance, debt repayment capacity, and future financial stability. Debt financing can have a positive impact only when debt is able to support firm development without adding to financial burdens. Overall, these findings can serve as a reference for financial managers and academic researchers in understanding and formulating corporate financing decisions more rationally.

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