

Capital Structure, Financial Stability and Sustainability Performance In Indonesian Non-Banking Companies

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ABSTRACT

This study is to determine the effect of capital structure on the financial stability and sustainability performance of non-banking companies in Indonesia. Currently, similar research is still dominated by banking companies. The study used archival data with non-banking companies go public in Indonesia. Financial data is taken from the OSIRIS database and sustainability data is taken from the ESGI dataset. The number of observations was 2177 firm years from 2015-2021. It uses the panel data regression as the model's application. Robustness tests and additional analyses also add depth to the research discussion. Structure capital statistically positively affects financial stability for shareholders and short-term debt, while other proxies of long-term debt and debt-to-equity have a statistically negative effect on financial stability. Structure capital also negatively affects sustainability performance for proxy shareholders and short-term debt, while long-term debt proxies and DER are insignificant on sustainability performance. This study isn't carried out in all sectors so the measurement of financial stability and sustainability performance is still limited and needs to be tested more broadly. This study fills in the gaps in the findings of previous studies that are still debatable and adds a proxy for measuring capital structure to complement the discussion study.

Keywords: Capital structure; ESG (environment, social, governance) score, Financial stability; Non-banking, Z-score; Sustainability performance

INTRODUCTION

The COVID-19 pandemic and the Ukraine-Russia conflict have undermined global financial stability, triggering concerns about food and energy crises, and the threat of recession. This situation has reduced consumer income and purchasing power (Khuong & Anh, 2022; Moudud-Ul-Huq et al., 2022; Pedrini & Cappiello, 2022). Limited company activity has led to declining sales turnover. To cover fixed costs (electricity, taxes, wages), companies have been forced to lay off employees. However, these layoffs have weakened customer purchasing power, ultimately reducing business revenue.

A company's financial health serves as an early warning indicator for anticipating potential bankruptcy (Sewpersadh, 2020). Through this evaluation, a company can determine whether it is healthy, vulnerable, or bankrupt. By comparing current and previous financial statements, companies can take appropriate actions to correct deficiencies to remain sustainable and competitive.

The primary goal of a company is to generate profits and maximize shareholder value by lowering the cost of capital and increasing stock market value. Operational and investment financing generally uses a combination of debt and equity. This proportion is measured by the debt-to-equity ratio or debt-to-total assets. Finding the optimal balance between the two remains a

challenge for management (Sun et al., 2020; Karim et al., 2021; Khan et al., 2022; Habibniya et al., 2022).

This study identifies various previous studies, such as those by Kanapiyanova et al. (2022); Ozili (2018); Saif-Alyousfi & Saha (2021), which have examined the effect of capital structure on financial stability, predominantly in banking companies. However, capital structures similar to those of non-banking companies also rely on debt financing for operations (Ullah et al., 2020). Financial stability is also still predominantly measured using return on assets (ROA) (Elbadry, 2018; Kanapiyanova et al., 2022; Moudud-Ul-Huq et al., 2022). However, this study uses a more effective measure of financial stability, such as the Altman Z-score.

The study cites several studies that have examined the impact of capital structure on financial stability, which is dominated by banking businesses, including (Çelik, 2026; Kanapiyanova et al., 2022; Ozili, 2018; Saif-Alyousfi & Saha, 2021). But capital structures like non-banking corporations also rely on debt funding for activities (Ullah et al., 2020). Return on assets (ROA) is still widely used to gauge financial stability (Elbadry, 2018; Kanapiyanova et al., 2022; Moudud-Ul-Huq et al., 2022). However, the Altman Z-score is used in this study instead since it is a more accurate metric. Altman Z-score accurately predicts a company's bankruptcy risk by combining five key financial ratios. It helps managers, investors, and creditors objectively evaluate a company's financial stability, providing early warning signs of potential insolvency. Previous research has found inconsistencies. Capital structure has a positive influence on financial distress (Oktaviani & Zulvia, 2025). Companies prefer to use internal funds first and turn to debt rather than equity when external financing is needed. Companies with relatively low revenue levels tend to rely on debt to finance their operations. However, the results differ with (Thejatirta, 2026) Capital structure negatively impacts financial stability. This finding suggests that companies with higher debt levels face a greater risk of financial distress. High leverage increases financial burdens and interest costs, which can weaken liquidity and limit operational capacity, particularly during periods of declining cash flow.

With a 95% accuracy rate, this measurement tool has proven to be more reliable in predicting corporate bankruptcy (Altman, 1968). In addition to financial stability, sustainable performance can be influenced by capital structure (al Amosh et al., 2022; Arianpoor & Tajdar, 2022; Li et al., 2013). However, different research results prove that capital structure has no effect on sustainability performance (Drobetz et al., 2014; Ho & Taylor, 2007). The inconsistency of previous research results motivated researchers to conduct further research. Then, researchers were interested in conducting research on non-banking companies, specifically in the energy, mineral, industrial, property, and infrastructure sectors in Indonesia, due to the controversial nature of research results. This study also extends previous literature by simultaneously integrating financial stability and sustainability performance in non-banking companies in emerging markets using several capital structure proxies. Then, we are interested in finding out if a company's capital structure may be used as a benchmark to assess its financial stability and sustainability performance.

The research objectives are stated as follows:

RO1. To provide empirical evidence of the effect of capital structure on financial stability.

RO2. To provide empirical evidence of the effect of capital structure on sustainability performance.

LITERATURE STUDIES

Theoretical Framework

Modigliani & Miller Theory

Modigliani & Miller (1958) argues that under certain conditions, i.e., there is no arbitration restriction, no bankruptcy, and no corporate tax. Because of the high tax rate and deductibility of financing, the quantity of debt has no impact on the asset's market value. An organization will perform better if its capital structure is completely made up of debt. According to Modigliani & Miller (1958), if the interest rate is low and appropriate to the firm's ability, the company will be able to improve its value by raising debt.

When high debt levels can result in a decline in the company's market value, other research has contradicted Modigliani and Miller's theories (Scott, 1976). The theory of trade-offs states that

capital structure decisions require a careful balance of the tax benefits derived from debt issuance and the prospect of increased financial risks. For the profitability and value of the company, the capital structure's makeup is crucial. Finding the ideal ratio of debt to equity, however, is a difficult undertaking that differs by the business. Companies must continue to use leverage while taking the risk of financial issues into account. Therefore, it is vital to make leverage decisions that will decrease the company's total cost of capital through the restructuring of debt and interest on payments while also maximizing the company's worth (Khan et al., 2022).

Companies should be able to carefully decide on a balanced mix of debt and equity funding as investor expectations rise. Any business must carefully consider its capital structure mix. Making a choice between a mixed funding source of debt and equity is the primary issue that money managers must deal with. The performance of the firm is also greatly influenced by decisions on capital structure. Many firms fail in emerging economies like India due to excessive debt or poor leverage structures hence it is crucial for Indian companies to have the best possible leverage to minimize their cost of capital and increase their market value (Khan et al., 2022). Therefore, it is crucial to choose every element that helps get the greatest leverage combination.

Trade-off Theory

The trade-off theory of capital structure by Vo (2021) indicates that the value of the company in the optimal capital structure is maximized when the marginal benefits and marginal costs of debt are equal. Therefore, excessive use of debt beyond the optimal level leads to a decrease in the value of the company and an increase in the risks of the company. Excessive leverage and the use of debt that is less than the optimal level is called overleverage (Huang & Ye, 2021). Companies underleveraged have a greater debt capacity to make new investments through debt loans than companies with overleveraged companies. As a result, underleveraged companies provide more liquidity and security, especially in the event of a sudden shortage of cash flow (Marchica & Mura, 2010).

The trade-off theory of capital structure by Vo (2021) indicates that the value of the company in the optimal capital structure is maximized when the marginal benefits and marginal costs of debt are equal. As a result, using debt excessively or beyond what is necessary causes a drop in the company's value and a rise in its hazards. Overleverage refers to excessive leverage as well as the usage of debt that is not at an appropriate level (Huang & Ye, 2021). Those that are underleveraged can borrow more money to undertake new investments than companies that are overleveraged. Therefore, underleveraged businesses offer more liquidity and security, particularly in the case of an unexpected cash flow constraint (Marchica & Mura, 2010).

Companies with more financial flexibility (i.e., greater liquidity and lower debt) also experienced less market value loss as a result of COVID-19 than those with lower financial flexibility. In other words, businesses with more debt are more vulnerable to risk than those with less debt (Fahlenbrach et al., 2020). Companies often raise their leverage, reduce the difference between actual and desired leverage, favor internal financing over bank debt, and only gradually alter their leverage, according to Haron et al. (2013). However, Abdeljawad & Nor (2017) discovered that because of increased deviation costs of goal leverage, overleveraged businesses are under more pressure to return to the target regardless of the time opportunity.

The trade-off theory claims that when debt is less than equity, it gains from a tax deduction from the interest arising from the debt. Based on this theory, the appropriate amount of debt should be used to finance the company's capital expenditures to achieve its goals, with costs and benefits being balanced before the source of funding for the capital structure is decided (Guermazi, 2020). This trade-off will lead to an ideal capital structure with the same marginal benefits and reduced borrowing costs, which will increase firm value (Ellili, 2020). Therefore, the decision about the capital structure's financing sources is dependent on the plans and strategies the firm has in place to meet its objectives and raise its value. The choice to fund CS may be determined by the firm's ESG policy (Huang & Ye, 2021), the level to which they accept the activity, and the viability of the perceived advantages of the activity because ESG shields a company from risk and improves its capacity to sustain its value.

Pecking order Theory

The pecking order theory is that internal financing is used first, followed by debt, and equity is only provided when no more debt can be obtained. Hence, according to this theory, businesses initially choose internal financing (i.e. debt) over external financing (i.e. equity financing) (T. P. V. Le & Phan, 2017). Three different forms of costs are included in the pecking order theory: issuance costs, transaction costs, and asymmetric information related to financing. Retained earnings and other internal sources of funding have lower issuance and transaction costs than other external sources. Therefore, retained earnings are preferable to outside funding. Debt has a lower information cost when compared to debt with equity. According to this hypothesis, outside investors know less about the company than their managers. Debt is preferred over equity because outside investors seek a better return on their stock investments. The specifics of the amount of debt suggested by this theory are unbounded, though. When internal resources are completely utilized, the change in debt amounts is determined by the rising demand for external finance (Dalci, 2018; Le & Phan, 2017).

Hypothesis Development

Capital structure and financial stability

Saif-Alyousfi & Saha (2021) found capital structures that were computed using equity to total assets (EQTA) had a favorable relationship with bank risk as measured by stability and profitability. These findings highlight the fact that, unlike conventional banks, Islamic banks obtain their funding from shareholders' equity rather than debt financing. The fact that Islamic banks set aside more capital as a buffer against the dearth of effective risk management instruments is another factor. Capital sufficiency and profitability have a favorable link, according to (Kanapiyanova et al., 2022). A positive and significant relationship between capital adequacy, provision, leverage, asset utilization ratio and operational risk is suggested by Elbadry (2018) research results. Additionally, a statistically significant positive correlation between leverage and the profitability of non-bank financial institutions (NBFIs) was discovered in the study by (Ofoeda et al., 2016). Financial leverage increases risk and decreases the stability of the economy (Moudud-Ul-Huq et al., 2022). Leverage is used to calculate the effect of COVID-19 and ownership structure on risk and capital.

Conversely, when the level of debt is higher, owners tend to invest in things that are less desirable while debt holders demand higher returns because of the risks associated with their investment. As a result, debt triggers another conflict between debtors and shareholders (Francis et al., 2022). Therefore, a higher level of debt results in agency costs, higher debt and worse performance (Le & Phan, 2017). In conclusion, financial leverage has a significant effect on company performance, in line with this theory.

For Pakistani non-financial companies between 2006 and 2013, Ahmed & Afza (2019) found a negative relationship between financial performance and leverage (i.e., short-term, long-term, and total debt ratios) and a positive relationship between performance (ROA, ROE, and Tobin's Q) and size, liquidity, risk, and company age. Ullah et al. (2020) also discovered that asset turnover and the total debt-to-total asset ratio had an insignificant relationship with ROE. Then, Akhtar et al. (2022) employed two different forms of leverage metrics, namely those made up of short-term liabilities divided by total assets (SDTA) and long-term liabilities divided by total assets (LDTA). Results utilizing both forms of leverage revealed a bad correlation between performance as evaluated by ROA. Sayed & Khalil (2022) also found a negative influence between leverage measurement on bankruptcy risk. The researcher proposes the following hypothesis based on the description.

H₁: There is a significant influence of capital structure on financial stability.

H_{1a}: There is a significant influence of SETA on financial stability.

H_{1b}: There is a significant influence of LDTA on financial stability.

H_{1c}: There is a significant influence of SDTA on financial stability.

H_{1d}: There is a significant influence of DER on financial stability.

Capital structure and sustainability performance

Based on the business's plans and strategies for achieving its objectives and raising its value, the capital structure's sources of funding are chosen. The choice to fund CS may depend on the firm's ESG policy, the level to which they accept the activity, and the viability of the perceived advantages of the activity because ESG shields a company from risk and improves its capacity to sustain its value (Huang & Ye, 2021).

Xu et al. (2021) state that the marginal costs and advantages of participating in these activities are trade-offs in voluntary corporate disclosure procedures, such as social and environmental responsibility. As a result, many businesses compare ESG activities to determine their value (García-Sánchez & Martínez-Ferrero, 2016); however, some businesses view ESG activities as an essential component of their agenda and commitment to different stakeholders in their policies to maximize stakeholder value and, as a result, maximize the value of the business as a whole. As a result, the trade-off approach appears to be a fruitful direction for investigating the connection between capital structure choices and ESG performance.

Companies with low leverage are also less risky than those with high leverage for two other reasons. First off, being underleveraged guards against financial failure brought on by an unexpected cash flow crisis. Companies with little leverage can nonetheless pay their debts. Second, businesses are looking for outside funding to cover their liquidity needs now that COVID-19 has started to dry up, mainly through bank loans and corporate debt issuance (Halling et al., 2020; L. Li et al., 2020). In this scenario, underleveraged businesses are able to take on more debt than overleveraged ones.

As a result, individuals are more likely to accumulate debt while avoiding problems with their finances. However, over-leveraged businesses by taking on more debt, can lead them into a potentially risky situation known as bankruptcy, especially during the current financial crisis. The hypothesis is based on the theory of trade-offs because the main focus of this study is not on the factors that determine capital structure. The emphasis is on the theoretical significance of the capital structure trade-off to firm risk during market downturns. Thus, we then propose the following hypotheses based on the theory and findings of previous studies:

H₂: There is a significant influence of capital structure on sustainability performance.

METHOD

This study used all companies with the exception of banking companies that were available in the OSIRIS database, and for sustainability data, it used ESGI databases. Only listed non-banking businesses were chosen as the research sample for two reasons. These entities were subsequently selected through a purposive sampling method, adhering to predefined criteria. There are 311 non-banking registered businesses in Indonesia that are suitable for use as study samples. The impact of capital structure on financial stability and sustainability performance in non-banking enterprises, particularly in the energy, materials, industrial, property, and infrastructure sectors.

Table 1. Definition and Operationalization of Variables

Variabel	Indicators	Scale
Dependent: Financial stability		
Altman Z-score	$Altman = 1,2X_1 + 1,4X_2 + 3,3X_3 + 0,6X_4 + 1,0X_5$	Ratio
	Definition of Variables: X_1 : Working Capital / Total Assets. X_2 : Retained Earnings / Total Assets. X_3 : Earnings Before Interest and Taxes (EBIT) / Total Assets. X_4 : Market Value of Equity / Total Liabilities. X_5 : Sales / Total Assets.	
Springate Score	$Springate = 1,03X_1 + 3,07X_2 + 0,66X_3 + 0,4X_4$	Ratio
	Definition of Variables: X_1 : Working Capital / Total Assets. X_2 : Earnings Before Interest and Taxes (EBIT) / Total Assets.	

Variabel	Indicators	Scale
	X ₃ : Earnings Before Taxes (EBT) / Current Liabilities. X ₄ : Sales / Total Assets.	
Sustainability performance:		
ESG Score	The model assigns specific weights to each pillar based on the industry's material risks and aggregates the results.	Ratio
Independent: Capital Structure		
SETA	Total shareholder equity / total assets	Ratio
LDTA	Long-term debt / total assets	Ratio
SDTA	Short-term debt / total assets	Ratio
DER	Total Liability / total equity	Ratio
Control:		
SalesGrowth	Sales _t – sales _{t-1}	Nominal
FirmSize	Natural logarithm of the total assets	Nominal
PBVratio	Market price per share / book value per share	Ratio
CAPEXTA	Capital expenditure / total assets	Ratio
NetWorkTA	Net working capital to total assets	Ratio
FirmAge	The number of years since the company was founded.	Nominal

Data analysis in this investigation utilized E-views software, beginning the analytical procedure with descriptive statistical analysis for providing data overview, pairwise correlations for measures the strength and direction of the linear relationship between two variables, and panel regression analysis. Robustness tests and additional analyses also add depth to the research discussion. Robustness tests are used to ensure the research results or model are valid and unbiased. This study uses a different measure of financial resilience, the Springate Score. Additional analyses are then used to determine the influence between variables based on company sector and also to compare two different situations. Therefore, this research model is created as follows:

$$AltmanScore_{it} = \beta_0 + \beta_1 SETA_{it} + \beta_2 LDTA_{it} + \beta_3 SDTA_{it} + \beta_4 DER_{it} + \beta_5 ROA_{it} + \beta_6 SalesGrowth_{it} + \beta_7 FirmSize_{it} + \beta_8 PBVRatio_{it} + \beta_9 CAPEXTA_{it} + \beta_{10} NetWorkTA_{it} + \beta_{11} FirmAge_{it} + \varepsilon_i$$

$$ESG_{it} = \beta_0 + \beta_1 SETA_{it} + \beta_2 LDTA_{it} + \beta_3 SDTA_{it} + \beta_4 DER_{it} + \beta_5 ROA_{it} + \beta_6 SalesGrowth_{it} + \beta_7 FirmSize_{it} + \beta_8 PBVRatio_{it} + \beta_9 CAPEXTA_{it} + \beta_{10} NetWorkTA_{it} + \beta_{11} FirmAge_{it} + \varepsilon_{it}$$

RESULT

Descriptive Statistic

This variable proxies successfully passed data winsorization for 5 and 95% to counteract the impacts of outliers. Ghozali (2021) indicates that descriptive statistics concisely summarize data through central tendency and dispersion measures, encompassing mean, standard deviation, maximum value, and minimum value. Descriptive statistical analysis outcomes in this investigation appear in Table 2.

Table 2. Descriptive Statistics Results

Variable	N	Mean	Std. Dev.	Minimum	Maximum
AltmanScore	2177	0.486	0.570	0	2.018
ESG Score	2177	0.051	0.114	0	0.362
SETA	2177	0.478	0.266	0	0.905
LDTA	2177	0.129	0.148	0	0.470
SDTA	2177	0.104	0.122	0	0.426
DER	2177	0.622	0.738	0	2.657
ROA	2177	0.017	0.066	-0.138	0.149
SalesGrowth	2177	0.031	0.275	-0.524	0.508
FirmSize	2177	9.257	0.867	7.244	10.701

PBVratio	2177	1.363	1.636	0	6.244
CAPEXTA	2177	0.034	0.048	-0.023	0.138
NetWorkTA	2177	-0.049	0.163	-0.465	0.189
FirmAge	2177	2.054	1.207	0	3.913

Source: Data processed by Eviews (2025).

The AltmanScore serves as the primary indicator of corporate solvency. The data reveals an average AltmanScore of 0.486. In the context of the Altman Z-Score model, this mean value places the typical Indonesian firm deep within the "Distress Zone." A standard deviation of 0.570 suggests that while some firms maintain stability, a significant portion of the sample faces high bankruptcy risk. The maximum value of 2.018 confirms that even the strongest companies in this group barely reach the "Grey Zone," highlighting a widespread state of financial vulnerability.

ESG Score shows an extremely low average of 0.051. This figure indicates that sustainability reporting remains a nascent practice among Indonesian listed companies. The standard deviation of 0.114 and a minimum value of zero demonstrate that the majority of organizations do not disclose any ESG metrics. This lack of transparency suggests that firms prioritize immediate financial survival over long-term sustainability integration.

SETA ratio averages 0.478, meaning that investors provide approximately 47.8% of the total capital used to fund assets. Management effectively utilizes equity to maintain a baseline of stability. However, the Debt-to-Equity Ratio (DER) averages 0.622. Because this value remains below the threshold of 1.0, the analysis concludes that most firms maintain enough equity to cover their total liabilities in the event of default. This healthy DER category dominates the sample, suggesting that despite low Altman scores, companies avoid excessive debt-to-equity imbalances.

Regarding debt maturity, the LDТА (Long-term Debt to Total Assets) averages 0.129, while SDТА (Short-term Debt to Total Assets) averages 0.104. These figures indicate that long-term commitments slightly outweigh short-term obligations in the corporate capital structure. The relatively low standard deviations for both (0.148 and 0.122) suggest a consistent financing pattern across the Indonesian market.

ROA reflects a modest average profitability of 1.7% (0.017). With a minimum value of -0.138, the data confirms that a subset of the sample suffers from significant losses. Similarly, SalesGrowth averages only 3.1% (0.031). The wide range between -52.4% and 50.8% growth highlights the volatile economic conditions firms face, where some experience rapid expansion while others see their revenues halved.

PBVratio shows a mean of 1.363, indicating that the stock market generally values these firms at 36% above their book value. Investors still demonstrate confidence in future growth potential despite the current distress scores. Furthermore, the log-transformed FirmSize (mean 9.257) and FirmAge (mean 2.054) describe a sample consisting primarily of established, large-scale organizations. Finally, the NetWorkTA (Net Working Capital to Total Assets) shows a negative mean of -0.049, suggesting that many firms struggle with liquidity management, which directly contributes to the low Altman Z-Scores observed in the initial analysis.

Correlation Analysis

Pairwise correlation analysis is shown in Table 3. This shows that AltmanScore changes are well related to changes in the capital structure such as SETA and SDТА. However, it has a poor correlation with changes in the capital structure of LDТА and DER. The data also shows a favorable correlation between AltmanScore and Sales Growth, FirmSize, PBVratio, CAPEXTA, NetWorkTA and FirmAge. Based on this matrix, among all the independent variables, the correlation between LDТА and ROA is the strongest, namely 0.327. Hair et al. (2019) stated that multicollinearity occurs when a single independent variable is highly correlated with a series of other independent variables. Singularity is a severe kind of multicollinearity in which one independent variable accurately predicts another independent variable (with a correlation of 1.0 or more than 1.0).

Panel Data Regression

The analysis of the fixed effect of financial stability on capital structure and control factors is shown in Table 4. At a significant level of 1%, the estimate coefficients for SETA and SDTA have positively significant effect on financial stability. The company's steadily rising SETA indicates that it has enough money to finance asset purchases and does not need to incur debt in order to do so in order to buy assets for its operational activities. The less debt the firm owes, the more likely it is that a default won't occur, saving the business from being forced into bankruptcy.

This result shows that sources of funding from investors and short-term loans make a company's finances more stable and support all Hypothesis 1. However, at significance levels of 1% and 5%, respectively, LDTA and DER proxies showed negatively significant effect on financial stability. These findings also lend credence to hypotheses 1 and 2, which state that long-term debt will worsen financial stability and raise the likelihood of collapse. Financial stability is positively significant effect on ROA. This suggests that the company's finances will become more solid if the ROA level is raised. The control variable sales growth, firm size, PBVratio and CAPEXTA, each has a positively significant effect on financial stability. NetWorkTA and firmAge have insignificant effect on financial stability.

Sustainability performance is not statistically affected by the estimated coefficients for LDTA and DER. This proves that long-term debt financing has no effect on sustainability performance. With a statistical significance threshold of 5%, SETA and SDTA have negatively significant effect on sustainability performance. This shows that the company's sustainability performance will decrease or increase depending on the amount of shareholder money. SDTA indicates that the company's sustainability performance will decline as short-term debt increases. It might be less sustainable to increase the capital structure from the external compact. This is because to the conservative nature of organizations that get capital from both external and shareholder sources, which means that these companies emphasize profits above allocating for sustainability and supporting hypothesis 2. Then, ROA, firm size, PBVRatio and firmAge, each have a positively significance effect on sustainability performance. Meanwhile Sales Growth, CAPEXTA and NetWorkTA, each have negatively significant effect on sustainability performance. CAPEXTA has no significant effect on sustainability performance.

Table 3. Pairwise Correlations												
Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)
(1) AltmanScore	1.000											
(2) ESG_Score	0.002	1.000										
Reported p-value	0.936											
(3) SETA	0.177	0.007	1.000									
Reported p-value	0.000	0.743										
(4) LDTA	0.148	0.047	0.249	1.000								
Reported p-value	0.000	0.030	0.000									
(5) SDTA	0.156	0.062	0.264	0.026	1.000							
Reported p-value	0.000	0.004	0.000	0.231								
(6) DER	0.041	0.010	0.449	0.526	0.487	1.000						
Reported p-value	0.057	0.650	0.000	0.000	0.000							
(7) ROA	0.291	0.040	0.327	0.132	0.198	0.181	1.000					
Reported p-value	0.000	0.061	0.000	0.000	0.000	0.000						
(8) SalesGrowth	0.106	0.014	0.019	0.004	0.023	0.022	0.313	1.000				
Reported p-value	0.000	0.512	0.367	0.864	0.281	0.312	0.000					
(9) FirmSize	0.119	0.195	0.103	0.377	0.022	0.234	0.131	0.058	1.000			

Reported p-value	0.000	0.000	0.000	0.000	0.300	0.000	0.000	0.007					
(10) PBVratio	0.190	0.081	0.046	0.054	0.042	0.159	0.157	0.072	0.102	1.000			
Reported p-value	0.000	0.000	0.033	0.011	0.050	0.000	0.000	0.001	0.000				
(11) CAPEXTA	0.123	0.029	0.121	0.175	0.082	0.108	0.199	0.188	0.164	0.142	1.000		
Reported p-value	0.000	0.178	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000			
(12) NetWorkTA	0.002	0.066	0.393	0.171	0.350	0.353	0.278	0.018	0.172	0.089	0.082	1.000	
Reported p-value	0.909	0.002	0.000	0.000	0.000	0.000	0.000	0.414	0.000	0.000	0.000		
(13) FirmAge	0.043	0.140	0.071	0.024	0.070	0.092	0.002	0.020	0.094	0.026	0.075	0.052	1.000
Reported p-value	0.043	0.000	0.001	0.272	0.001	0.000	0.939	0.361	0.000	0.226	0.000	0.015	

Notes: Pairwise correlation coefficients and reported p-values transcribed from the supplied image. $N = 2,177$. Negative reported p-values are retained exactly as printed and require verification against the original statistical output.

Model Test

Table 4. Chow Test Result

Redundant Fixed Effects Tests			
Equation: Untitled			
Test cross-section fixed effects			
Effects Test	Statistic	d.f.	Prob.
Cross-section F	4.926	(311,185)	0.000
Cross-section Chi-square	1313.367	311	0.000

Sumber: Data diolah dari EViews 13

The Chow test states that if the Prob. value is < 0.05 , the Fixed Effect Model is optimal to apply. If the Prob. value is > 0.05 , the Common Effect Model is more suitable for use. Based on the Chow test results, the nominal Prob. Cross-section F shows a result of $0.000 < 0.05$, indicating that statistically, the Fixed Effect Model is deemed the most suitable for use.

Table 5. Hausman Test Result

Correlated Random Effect – Hausman Test			
Equation: Untitled			
Test cross-section random effects			
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	104.168	15	0.000

Source: Data processed from EViews 13

The Hausman test states that if the Prob. value is < 0.05 , the Fixed Effect Model is the best option. However, if the Prob. value is > 0.05 , the Random Effect Model is considered better. Based on the Hausman test output, the Prob. Cross-section random value is $0.000 < 0.05$, meaning that the model deemed best and applicable is the Fixed Effect Model.

Table 6. Hasil Uji Lagrange Multiplier

Lagrange Multiplier Test for Random Effects			
Null hypotheses: No effects			
Alternative hypotheses: Two-sided (Breusch-Pagan) and one-sided (all others) alternatives			
	Test Hypothesis		
	Cross-section	Time	Both
Breusch-Pagan	652.131 (0.000)	62.842 (0.000)	714.973 (0.000)

Sumber: Data diolah dari *EViews* 13

The LM test states that if the Prob. Cross-section is < 0.05 , the Random Effect Model is the most suitable model. However, if the Prob. value is > 0.05 , the suitable model is the Common Effect Model. Based on the LM test output, the nominal Prob. Cross-section Breusch-Pagan presents a result of $0.000 < 0.05$, indicating that the model statistically deemed most appropriate to be applied in this study is the Random Effect Model. Out of the three tests conducted, the panel data model selection results reveal that the Fixed Effect Model is the most frequently selected and the most suitable to be applied. Nonetheless, from all the tests carried out, the research results show that the Random Effect is the most appropriate and suitable model. If the panel data test indicates the Random Effect Model (REM) method, researchers do not need to use classical assumption diagnostics. This occurs because REM already utilizes the Generalized Least Squares or GLS method (Napitupulu et al., 2021).

Table 7. Panel regression analysis: capital structure and financial stability

AltmanScore	Coef.	p-value
SETA	0.181***	0.001
LDTA	0.463***	0.000
SDTA	1.173***	0.000
DER	0.052**	0.021
ROA	2.135***	0.000
SalesGrowth	0.075*	0.097
FirmSize	0.068***	0.000
PBVratio	0.046***	0.000
CAPEXTA	0.468*	0.060
NetWorkTA	0.088	0.273
FirmAge	0.015	0.108
Constant	0.410***	0.001
Mean dependent var		0.486
R-squared		0.195
F-test		47,639
Akaike crit. (AIC)		3,259.045
SD dependent var		0.570
Number of obs		2.177
Prob > F		0.000
Bayesian crit. (BIC)		3,327.274

Notes: ***, **, * are significant at 1%, 5% and 10% levels (two-tailed). The table presents the regression result of equation (1).

Sources: Data processed by Eviews (2025)

Table 8. Panel regression analysis: capital structure and sustainability performance

ESG_Score	Coef.	p-value
SETA	-0.025**	0.023
LDTA	-0.011	0.597
SDTA	-0.051**	0.030
DER	-0.007	0.146
ROA	0.068*	0.099

SalesGrowth	-0.008	0.388
FirmSize	0.024***	0.000
PBVratio	0.004**	0.011
CAPEXTA	-0.079	0.132
NetWorkTA	-0.044***	0.009
FirmAge	0.007***	0.000
Constant	-0.173***	0.000
Mean dependent var		0.051
R-squared		0.057
F-test		11,932
Akaike crit. (AIC)		-3,554.557
SD dependent var		0.114
Number of obs		2.177
Prob > F		0.000
Bayesian crit. (BIC)		-3,486.328

Notes: ***, **, * are significant at 1%, 5% and 10% levels (two-tailed). The table presents the regression result of equation (2)

Sources: Data processed by Eviews (2025)

DISCUSSION

Risk and return are balanced in the capital structure to increase profitability. One of the elements that represent the company's financial performance is profitability. The capital structure is a funding choice that affects the mix of debt, including long-term and short-term debt, preferred shares, and common shares that the firm will employ to generate profitability and have an impact on the company's financial performance. It has been demonstrated in the retail sector firms under study that financial performance cannot be impacted by the capital structure since as the capital structure grows, the company's growth in financial performance does not keep pace. By consistently relying on the quality of other resources and not just fixating on one owned capital structure, this company gains profits which will later be used to assess financial performance. This is because in managing the organization, the company always takes into account various factors to ensure the company has stable performance.

The SETA, LDТА, SDТА, and DER indicators are used to measure capital structure variables in this study. The results show that SETA has an effect on financial stability. SETA is financed through investor capital rather than debt. Using SETA, management's capacity to utilize resources in relation to capital ownership is described (H. T. M. Le et al., 2022; Miller et al., 2022). The corporation is said to have sufficient capital, as evidenced by a higher SETA ratio, to fund the purchase of assets and need not go into debt to do so. The trade-off theory is compatible with the firm's finances being in a stable state and the amount of defaulting that can be avoided the more debt the company has. Instead, it was shown (Al Amosh et al., 2022) that the more debt the firm still needed to acquire assets for its operational operations, the more precarious its financial situation was. Financial stability is negatively and significantly effect by LDТА. In line with Modigliani and Miller's theory, LDТА is a loan with a long-term payoff that businesses dread if their margin targets are not met and they default. Although Eldomiaty & Azim (2008) states that long-term debt is the main source of funding, if this goal is not realized, it will cause another problem, namely the increasing interest expense on debt owned, which will certainly have an impact on financial stability. Financial stability is significantly and positively affected by SDТА. Debt with short-term returns is SDТА. SDТА funding is considered appropriate and adaptable. As a result, businesses rely on short-term loans to reduce the risk of interest rate volatility (Akhtar et al., 2022). The company's financial stability will also improve as a result of this careful approach.

It is feared that choosing long-term short-term debt may cause profitable initiatives to be delayed. Financial stability is significantly and negatively impacted by DER. The DER indicates how much debt is compared to equity. This ratio may be used to determine the percentage of debt used to fund the company's assets. It is expected that when the debt level rises, the firm won't be able to pay the loan, making it more challenging for the company to obtain finance. This conclusion is consistent with the notion that a high DER is a poor indication for the organization since it might diminish its stability (Ullah et al., 2020).

Based on the study's findings, sustainability performance as measured using the ESGscore also be impacted by capital structure. SETA are negatively affecting sustainability performance. An excessively high equity-to-total asset ratio actively depresses a company's ESG score. When management hoards equity beyond the optimal limit, they tend to limit long-term investments that don't generate immediate returns. Companies that rely heavily on internal equity often cut budgets for environmental sustainability programs, such as green energy transitions and carbon emission reductions. Furthermore, an excessive focus on shareholder returns leads management to neglect financing social projects and employee welfare. This rigid capital structure also weakens governance, as the board of directors prioritizes short-term investor profits over transparency and ESG compliance. Consequently, this misplaced efficiency lowers ESG rating agencies' ratings.

Based on trade-off theory, many non-banking companies in Indonesia are in the Distress Zone because excessive debt burdens reduce their liquidity, especially after the COVID-19 pandemic. Conversely, companies that maintain high equity (SETA reaching an average of 47.8%) are underleveraged, providing financial flexibility and cash flow security to avoid bankruptcy. Related to pecking order theory, SDTA is considered the most flexible external financing option because it carries lower information costs and interest rate volatility risks than long-term debt, thus helping maintain daily stability.

Our findings are not in line with those of Al Amosh et al. (2022) that SETA is statistically insignificant to ESGScore. Based on our findings, high shareholder financing can reduce a company's sustainability performance. Because companies with high SETA levels must pay dividends to their shareholders, fewer and fewer of them are doing sustainable performance. The ESGscore is the negative effect of SDTA. Our results concur with those of Al Amosh et al. (2022), who found that SDTA has a negative and substantial impact on ESGScore. High short-term debt indicates that the company does not have the ability to finance activities from internal sources, so it will affect the proportion for ESGScore will decrease, in line with the pecking order theory. LDTA is statistically insignificant to ESGScore, inversely proportional to the findings of Al Amosh et al. (2022) and Lu et al., (2022) that LDTA has a positive effect on ESGScore. To pay for the expenses of their environmental operations, businesses prefer long-term debt financing. Companies use debt to achieve the highest level of sustainability performance feasible and declare it in their annual reports to lessen information asymmetry, boosting the trust of creditors in the firm and decreasing the cost of capital structure (Al Amosh et al., 2022).

Based on the most recent findings, LTDA statistics are not significant for sustainability performance, which means that long-term debt is used by businesses for operational financing rather than sustainability performance, particularly by real estate firms that need a large capital, and our findings are consistent with (Ching et al., 2017). Our findings conflict with those of Drobetz et al. (2014), who found that DER has an impact but is detrimental to sustainability performance. DER is also statistically inconsequential to sustainability performance. Our results support his (Ching et al., 2017) conclusion that DER has no impact on the sustainability performance of the transportation, hotel, and leisure sectors.

The results of this study are relevant to trade-off theory. When companies have very high equity levels, management actively cuts environmental budgets (such as green energy transitions) to secure short-term returns for shareholders. This cost-benefit evaluation results in social and governance aspects being sacrificed for immediate financial efficiency. Furthermore, related to pecking order theory, when internal funding runs low, companies are forced to incur short-term debt to cover urgent operational needs. Due to this limited internal liquidity, the portion of the budget that should be allocated to ESG disclosure and activities is forced to be cut, thereby lowering the company's overall sustainability score.

Robustness Test

To determine whether our findings are for different measures of financial stability, we employ robustness tests. We wish to use the Springate score as an alternative to the Altman score, which has been used in previous research to measure financial stability (Bărbuță-Mișu & Madaleno, 2020). Key analyzes will be used to confirm the findings as we further investigate the impact of capital structure on financial stability using scores to estimate financial stability.

$$\text{SpringateScore}_{it} = \beta_0 + \beta_1 \text{SETA}_{it} + \beta_2 \text{LDTA}_{it} + \beta_3 \text{SDTA}_{it} + \beta_4 \text{DER}_{it} + \beta_5 \text{ROA}_{it} + \beta_6 \text{SalesGrowth}_{it} + \beta_7 \text{FirmSize}_{it} + \beta_8 \text{PBVRatio}_{it} + \beta_9 \text{CAPEXTA}_{it} + \beta_{10} \text{NetWorkTA}_{it} + \beta_{11} \text{FirmAge}_{it} + \varepsilon_{it}$$

According to the coefficients calculated in Table 9, SETA and SDTA have a positive impact on the Springate Score, LDTA has a negative impact, and DER has no impact. The proxy for financial stability with the Springate score can strengthen the Altman score proxy.

Table 9. Association between capital structure and Springate score

	SpringateScore	Coeffisien	p-value
SETA		0.163***	0.000
LDTA		-0.256***	0.001
SDTA		1.183***	0.000
DER		0.007	0.712
ROA		5.330***	0.000
SalesGrowth		0.079**	0.027
FirmSize		0.034***	0.003
PriceBVratio		0.008	0.142
CAPEXTA		0.157	0.358
NetWorkTA		0.602***	0.000
FirmAge		0.013**	0.077
Constant		-0.030	0.767
Mean dependent var			0.568
R-squared			0.518
F-test			211.306
Akaike crit. (AIC)			2,191.091
SD dependent var			0.577
Number of obs			2,177
Prob > F			0.000
Bayesian crit. (BIC)			2,259.31

Notes: ***, **, * are significant at 1%, 5% and 10% levels (two-tailed). The table presents the regression results of equation (3). We use another financial stability proxy which is Springate score.

Sources: Data processed by Eviews (2025)

Additional analysis

We conducted an additional analysis to explain the correlation between capital structure and financial stability by sector and the covid pandemic event.

Table 10. Capital structure on financial stability based on inter-sectors

	BASIC		ENERGY		INDUSTRY		INFRASTRUCTURE		PROPERTY	
AltmanScore	Coef.	p-value	Coef.	p-value	Coef.	p-value	Coef.	p-value	Coef.	p-value
SETA	0.030	0.812	0.479***	0.000	0.355**	0.028	0.444***	0.001	0.021	0.800
LDTA	-1.037***	0.000	-0.235	0.204	0.160	0.552	-0.333	0.141	-0.328	0.119
SDTA	0.752***	0.001	0.852***	0.000	1.440***	0.000	1.381***	0.000	0.176	0.513
DER	-0.008	0.878	-0.078*	0.058	-0.040	0.504	-0.079	0.181	-0.020	0.670
ROA	2.185***	0.000	2.139***	0.000	2.396***	0.000	0.695	0.157	1.908***	0.000
SalesGrowth	0.176	0.106	-0.117	0.166	0.098	0.539	0.100	0.362	0.070	0.299
FirmSize	0.121***	0.000	0.061**	0.034	0.103**	0.015	0.021	0.599	0.104***	0.000
PriceBVratio	0.052***	0.001	0.056***	0.000	0.078***	0.000	0.038**	0.033	0.027**	0.028
CAPEXTA	-0.200	0.715	1.051**	0.025	-0.046	0.947	-0.885	0.113	2.040***	0.000
NetWorkTA	0.218	0.222	-0.353**	0.048	0.084	0.722	-0.346*	0.074	-0.419***	0.005
FirmAge	0.054***	0.006	0.006	0.774	0.038	0.179	0.020	0.413	-0.062***	0.000
Constant	-0.686**	0.012	-0.517**	0.038	-0.867**	0.019	-0.111	0.744	-0.626***	0.005
Mean dependent var		0.619		0.450		0.666		0.432		0.280
R-squared		0.203		0.326		0.238		0.180		0.233
F-test		12,852		19,193		8,810		6,224		13,054
Akaike crit. (AIC)		938,391		578,344		551,893		431,107		509,632
SD dependent var		0.613		0.546		0.630		0.499		0.455
Number of obs		574		455		329		329		490
Prob > F		0.000		0.000		0.000		0.000		0.000
Bayesian crit. (BIC)		990,622		627,787		597,445		476,660		559,965

Notes: ***, **, * are significant at 1%, 5% and 10% levels (two-tailed). The table presents the regression results of equation (1). We grouping data based on sectors.

Sources: Data processed by Eviews (2025)

Table 10 shows that no capital structure proxy has an effect on the financial stability of the property industry. The basic, energy and industrial infrastructure sectors are not affected by this finding. Unlike other sectors where the outcomes have no effect, the basic sector's financial stability is negatively and significantly impacted by long-term debt financing. Except for the property industry, virtually every sector has a positive and significant impact on financial stability. However, DER has no impact on the energy industry, which has a negative and significant effect on financial stability. The fundamental sector had 26% of the observations, followed by energy at 21%, industry at 15%, infrastructure at 15%, and property at 23%.

Tabel 11. Capital Structure on financial stability based on before and during the Covid pandemic

	Before Covid		During Covid	
AltmanScore	Coef.	p-value	Coef.	p-value
SETA	0.234***	0.000	-0.110	0.353
LDTA	-0.338***	0.003	-0.945***	0.000
SDTA	1.284***	0.000	0.738***	0.002
DER	-0.057**	0.032	-0.038	0.396
ROA	1.917***	0.000	2.698***	0.000
SalesGrowth	0.047	0.378	0.143	0.103
FirmSize	0.070***	0.000	0.075**	0.018
PriceBVratio	0.050***	0.000	0.037***	0.007
CAPEXTA	0.541*	0.053	0.031	0.954
NetWorkTA	-0.109	0.245	0.043	0.790
FirmAge	0.017*	0.099	0.005	0.803
Constant	-0.514***	0.000	-0.130	0.628
Mean dependent var		0.467		0.532
R-squared		0.204		0.206
F-test		35,803		14,539
Akaike crit. (AIC)		2,274.283		980,407
SD dependent var		0.562		0.587
Number of obs		1,555		622
Prob > F		0.000		0.000
Bayesian crit. (BIC)		2,338.474		1,033.602

Notes: ***, **, * are significant at 1%, 5% and 10% levels (two-tailed). We separated our observations into 2 times, before (2015 to 2019) and during covid (2020 to 2021).

Sources: Data processed by Eviews (2025)

Table 11 divides the time frames prior to and following COVID. The findings confirm hypothesis 1 by demonstrating that capital structure affected and had a significant role in financial stability before to the covid pandemic. We found that capital structures using SETA and DER

proxies had no effect on financial stability during the covid period, unsupported hypothesis 1. The evidence supports hypothesis 1 that capital structures with LDTA and SDTA proxies have a significant effect on financial stability. There were 1,555 firm-year worth of observations before covid pandemic period and 622 firm years at the time of covid.

CONCLUSION

This study's objective is to investigate the degree of financial stability and sustainability performance in Indonesian non-banking enterprises as evaluated from the proportion of capital structure. We looked into how capital structure impacted performance in terms of sustainability and financial stability. This report is based on an analysis of financial and ESG disclosure panel data for non-banking businesses listed on the Indonesian stock market between 2015 and 2021. Financial information is gathered from audited financial accounts acquired from the OSIRIS database, while sustainability performance data is gathered from ESGI databases. Empirical results show that an increase in short-term debt financing as well as financing from investors can increase the company's financial stability. Meanwhile, long-term financing and a proportion of debt greater than its equity can reduce financial stability because the company is burdened by debt repayment with interest. Based on our findings, financial stability is also influenced by other factors such as ROA, SalesGrowth, FirmSize, PBVRatio, and CAPEXTA. Subsequent empirical results show that funding from SETA and SDTA affects the level of sustainability performance, while LDTA and DER do not affect sustainability performance. Therefore, the performance of sustainability cannot be affected by funding from long-term debt. The corporation decides not to reveal sustainability since using long-term debt excessively reduces the company's worth and raises its risk. According to our research, there are additional variables such as ROA, FirmSize, PBVRatio, NetWorkTA, and FirmAge that influence sustainability performance.

Our implication that not all sectors of companies that went public were examined in this study means that financial stability and sustainability performance are still limited and need to be examined more thoroughly by increasing the number of company samples and the year of research observation. Limitations of this study may provide opportunities for future research in this area. Therefore, longer observation times should be used in future investigations. A number of GRI Indices are combined into one unit, and the research also includes corporate sustainability reports. In the future, research that utilizes sustainability reports is planned to classify GRI G3, GRI G4, and GRI Standard. We also propose extending the moderation function to include factors such as the cost of capital.

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