

The Effect of Cost Structure, Liquidity, and Leverage on Financial Distress with Mediating Profitability and Firm Size Control

Priska Putri Parungky, Baldric Siregar, Miswanto, Frasto Biyanto

STIE YKPN, Indonesia

Email: pparungky@gmail.com

Entered : 28 July 2026
Accepted : 18 August 2026

Revised : 11 August 2026
Published : 25 August 2026

ABSTRACT

This study examines the relationship between cost structure, liquidity, leverage, profitability, and financial distress in textile and garment companies listed on the Indonesia Stock Exchange. The main focus of the study is directed at two things: assessing the direct influence of cost structure, liquidity, and leverage on financial distress, and examining whether profitability can explain the indirect influence pathways of these financial variables. The study uses a quantitative approach with secondary data sourced from the companies' annual financial reports for the period 2019-2023. Testing is conducted through panel data regression and path analysis, while company size is used as a control variable to ensure that model estimation is not solely influenced by differences in business scale. Conceptually, a rigid cost structure and high leverage are expected to increase financial distress, while liquidity and profitability are expected to weaken the likelihood of financial distress. This study is expected to contribute to the financial distress literature by positioning profitability as a mediating mechanism, particularly in the context of the Indonesian textile industry facing cost pressures, import competition, and weakening financial performance. From a practical perspective, this model can be used as a basis for initial evaluation for management in controlling financial risk through cost efficiency, strengthening cash flow, debt management, and increasing profit-generating ability.

Keywords: cost structure, liquidity, leverage, profitability, financial distress, company size

INTRODUCTION

Financial distress can be understood as a phase when a company's financial capacity begins to weaken, causing the company to face pressure in meeting its operational and financial obligations. This condition usually does not appear suddenly, but rather is the result of a gradual process, starting from declining sales, worsening profit margins, increasing debt burdens, and limited cash available to support business activities. In contemporary studies, financial distress is no longer viewed simply as a terminal condition before bankruptcy, but rather as a process of declining financial health that can be observed through a combination of profitability, liquidity, leverage, and other operational indicators, as demonstrated by early detection models based on financial ratios (Altman, 1968; Ohlson, 1980).

The textile and garment sector is a highly relevant context for study due to its relatively high cost characteristics, significant working capital requirements, and high sensitivity to changes in raw material and energy prices, exchange rates, and market demand. These pressures have become increasingly apparent in recent years. Data from the Central Statistics Agency (2024) shows that growth in the textile and apparel industry weakened from around 4.5% in 2022 to around 2.1% in 2023. Concurrently, the Ministry



of Industry of the Republic of Indonesia (2024) reported a more than 10% increase in production costs, primarily driven by rising raw material and energy prices. This combination of slowing growth and rising costs has the potential to significantly narrow companies' profit margins.

These risks are not merely theoretical projections; they have already materialized in several industry cases. PT Sri Rejeki Isman Tbk (Sritex), for example, recorded losses of approximately USD 1.07 billion in 2021 and approximately IDR 6.1 trillion in 2022, accompanied by a high liability burden (Indonesia Stock Exchange, 2023; PT Sri Rejeki Isman Tbk, 2022). These cases highlight that financial distress can arise when declining operational performance meets severe funding pressures, a phenomenon that makes the textile sector an urgent subject for further analysis.

In such situations, cost structure becomes a critical factor because it determines how flexibly a company can adjust costs when revenue declines. Companies with a large proportion of fixed costs tend to be more vulnerable because costs cannot be reduced quickly following a decline in activity a phenomenon known as cost stickiness, which is a condition where costs remain high despite declining business activity, because the company bears the costs of adjustment, maintains production capacity, or expects demand to rebound (Anderson et al., 2003; Banker et al., 2013; Weiss, 2010; Ahemed et al., 2024). Liquidity is also a key determinant, as companies with adequate liquid assets are better able to maintain short-term payments, purchase raw materials, and finance operations (Zaki et al., 2011; Nguyen et al., 2021). Conversely, high leverage can increase the pressure from interest expenses and debt service obligations, especially when revenues decline and financial flexibility narrows (Rajan & Zingales, 1995; Titman & Wessels, 1988). Profitability then serves as an indicator reflecting a company's success in converting resources into profits; when profitability is strong, the pressures from cost structure, liquidity, and leverage on financial distress can be reduced (Liang et al., 2016; Kristanti et al., 2016).

From an agency theory perspective, this vulnerability is also inseparable from the quality of management decisions. The relationship between owners and managers is not always conflict-free, as each party may have different interests, while information asymmetry exacerbates this problem because managers have more detailed operational information than owners (Jensen & Meckling, 1976). Excessive use of debt can signal aggressive decisions that increase financial risk if cash flow is insufficient to cover liabilities (Rajan & Zingales, 1995; Titman & Wessels, 1988), while costs that are difficult to adjust when sales decline contribute to profit pressure. Thus, agency theory provides the basis for financial distress to be influenced by the quality of management decisions in managing debt, liquidity, cost structure, and profitability.

Although financial distress has been extensively researched, ranging from financial ratio-based bankruptcy prediction models (Altman, 1968; Ohlson, 1980; Bhunia & Sarkar, 2011) to studies linking distress to capital structure, cost flexibility, profitability, and liquidity (Titman & Wessels, 1988; Anderson et al., 2003; Banker et al., 2013; Alifiah, 2014; Liang et al., 2016; Kristanti et al., 2016; Habib et al., 2018; Yazdanfar & Öhman, 2020; Nguyen et al., 2021; Sehgal et al., 2021), empirical findings regarding some of its determinants are not entirely consistent. Some studies show that leverage increases the risk of distress, but others find different results depending on industry characteristics, observation period, and firm size. Similarly, liquidity is generally assumed to reduce the risk of distress, but its effect can change when a company has a less productive current asset structure or faces short-term debt pressure. Another gap arises because most studies primarily examine the direct effect, while the role of profitability as a mediating pathway remains underdeveloped in the context of the Indonesian textile industry.

Based on this background, this study aims to analyze the influence of cost structure, liquidity, and leverage on financial distress, considering profitability as a mediating variable and firm size as a control variable. Firm size is used as a control variable because, although larger firms generally have broader access to funding and stronger negotiating capacity, firm size does not always guarantee a lower risk of distress, given that large firms can also face organizational complexity and high fixed costs. With this model, this study not only examines whether a variable influences distress but also explains how that influence can work through a firm's ability to generate profits—while filling a research gap that has previously focused more on the direct influence rather than the mediating pathway of profitability in the context of the Indonesian textile industry.

METHODS

Research Sample and Data

This study uses a quantitative approach with secondary data obtained from the annual financial reports of textile and garment companies listed on the Indonesia Stock Exchange. Secondary data was used because the information in the financial reports is compiled periodically, is measurable, and relevant for assessing the company's performance and financial position.

The sample was determined through purposive sampling, namely selecting samples based on criteria that are in accordance with the research objectives. The sample criteria include: (1) textile and garment sector companies listed on the IDX during the research period; (2) companies publishing annual financial reports consecutively; (3) companies having the data needed to measure all research variables; and (4) companies not experiencing delisting during the observation period.

The research period covers 2019–2023. The five-year span was chosen to capture changing conditions before, during, and after economic pressures that impact the performance of the textile industry.

Research Variables

This study involved one dependent variable, three independent variables, one mediating variable, and one control variable. Financial distress was the dependent variable. Cost structure, liquidity, and leverage were the independent variables. Profitability served as the mediating variable, while firm size served as the control variable.

Variables	Role	Indicator	Measurement	Reference Basis
Financial Distress (FD)	Dependent	Z-score	Altman Z-score model	Altman (1968)
Cost Structure (SC)	Independent	Cost stickiness	The ratio of change in costs to change in sales	Anderson et al. (2003); Banker et al. (2013)
Liquidity (LIQ)	Independent	Current Ratio	Current assets divided by current liabilities	Zaki et al. (2011); Nguyen et al. (2021)
Leverage (LEV)	Independent	Debt Ratio	Total debt divided by total assets	Rajan & Zingales (1995); Titman & Wessels (1988)
Profitability (PROF)	Mediation	Return on Assets	Net profit divided by total assets	Liang et al. (2016); Kristanti et al. (2016)
Company Size (SIZE)	Control	Firm size	Natural logarithm of total assets	Commonly used in financial research

These measurements were chosen because they are commonly used in financial research and can quantitatively represent a company's condition. All variables were then processed into panel data so that inter-company and inter-temporal variations could be analyzed simultaneously.

Research Model

The research model was designed to examine the direct and indirect effects of cost structure, liquidity, and leverage on financial distress. The indirect effect was tested through profitability as a mediating variable. Firm size was included as a control variable to mitigate potential bias due to differences in asset scale between firms.

Model 1 (Effect on Profitability)

$$\text{PROF}_{it} = \alpha + \beta_1 \text{SC}_{it} + \beta_2 \text{LIQ}_{it} + \beta_3 \text{LEV}_{it} + \beta_4 \text{SIZE}_{it} + \varepsilon_{it}$$

Model 2 (Effect on Financial Distress)

$$\text{FD}_{it} = \alpha + \beta_1 \text{SC}_{it} + \beta_2 \text{LIQ}_{it} + \beta_3 \text{LEV}_{it} + \beta_4 \text{PROF}_{it} + \beta_5 \text{SIZE}_{it} + \varepsilon_{it}$$

Description: FD = financial distress; SC = cost structure; LIQ = liquidity; LEV = leverage; PROF = profitability; SIZE = company size; i = company; t = time period; α = constant; β = regression coefficient; ε = error term.

The first model is used to assess how cost structure, liquidity, leverage, and firm size affect profitability. The second model is used to assess the influence of independent variables and profitability on financial distress. Using these two models, the analysis can reveal whether profitability acts solely as a direct explanatory variable or also acts as a mediating pathway.

Hypothesis Testing

Hypothesis testing was conducted using panel data regression. This approach was chosen because the research data includes both company and time dimensions, resulting in more informative estimates than regressions using only one observation dimension. Prior to the main testing, the most appropriate panel model was determined using the Chow and Hausman tests. The Chow test was used to compare the common effects model and the fixed effects model, while the Hausman test was used to select between the fixed effects model and the random effects model.

After the best model is obtained, the partial effect of each variable is tested using the t-test, while the simultaneous effect is tested using the F-test. The coefficient of determination is used to assess the model's ability to explain the variation in the dependent variable. The significance levels used are 1%, 5%, and 10%.

Mediation testing is conducted through path analysis. The indirect effect is calculated by multiplying the coefficient of the independent variable's influence on profitability by the coefficient of the profitability's influence on financial distress. If the indirect path is significant, profitability can be said to have a mediating role in the relationship between financial variables and financial distress.

Data processing was performed using EViews because the software supports panel data regression estimation, model selection, and statistical testing required in this study. With these steps, the research is expected to yield stronger conclusions regarding the determinants of financial distress in textile and garment companies.

RESULTS AND DISCUSSION

Descriptive Statistics

The research sample consists of 10 textile and garment companies listed on the Indonesia Stock Exchange observed over the 2019–2023 period, producing 50 firm-year panel observations with no missing data across all variables. Table 1 presents the descriptive statistics for liquidity (CR), leverage (DAR), profitability (ROA), firm size (SIZE), cost structure (SC), and financial distress as measured by the Altman Z-score (FD).

Table 1. Descriptive Statistics ($N = 50$)

Variable	Mean	Std. Dev.	Minimum	Maximum
Liquidity (CR)	1.616	2.443	0.067	16.282
Leverage (DAR)	1.310	1.397	0.443	5.522
Profitability (ROA)	-0.038	0.153	-0.876	0.121
Firm Size (Ln Total Assets)	23.784	4.108	18.043	29.007
Cost Structure (SC)	0.902	1.061	-5.009	4.343
Financial Distress (Altman Z-Score)	-1.084	6.030	-19.251	3.965

The average Altman Z-score of -1.084 indicates that, on average, the sampled companies fall within the distress zone ($Z < 1.81$), confirming that financial pressure is a widespread condition in the Indonesian textile and garment industry during the observation period rather than an isolated case. The wide range of the Z-score, from -19.251 to 3.965 , reflects substantial heterogeneity across firms: companies such as PT Sri Rejeki Isman Tbk (SRIL) and PT Argo Pantes Tbk (ARGO) exhibit persistently negative Z-scores accompanied by a leverage ratio (DAR) above 1, consistent with the case of large losses and heavy liability burdens documented in the industry (Indonesia Stock Exchange, 2023; PT Sri Rejeki Isman Tbk, 2022), while companies such as PT Buana Artha Anugerah/Sunson Textile (SSTM), PT Indorama Synthetics (INDR), and PT Eratex Djaja (ERTX) remain in the safe or grey zone with relatively stable profitability. The average leverage ratio of 1.310 (i.e., total debt exceeds total assets on average) and the average ROA of -3.8% together illustrate the cost and funding pressures affecting the sector, consistent with the increase in production costs and the slowdown in industry growth reported by the Ministry of Industry of the Republic of Indonesia (2024) and the Central Statistics Agency (2024).

Panel Data Model Selection: Chow and Hausman Tests

Before estimating the two regression models, the Chow test and Hausman test were performed to select the most appropriate panel data estimator between the Common Effect Model (CEM), Fixed Effect Model (FEM), and Random Effect Model (REM). The results are summarized in Table 2.

Table 2. Chow and Hausman Test Results

Model	Test	Statistic	df	Prob.	Decision
Model 1 (PROF)	Chow (F)	7.700	(9, 36)	0.000	H0 rejected → FEM over CEM
Model 1 (PROF)	Hausman (χ^2)	$- (< 0)^*$	4	> 0.10	H0 not rejected → REM over FEM
Model 2 (FD)	Chow (F)	15.795	(9, 35)	0.000	H0 rejected → FEM over CEM
Model 2 (FD)	Hausman (χ^2)	42.331	5	0.000	H0 rejected → FEM over REM

The computed Hausman statistic for Model 1 was below its theoretical lower bound of zero, an outcome that arises when the variance difference matrix between the fixed- and random-effects estimators is not positive definite in a moderately sized panel.

Following standard practice in applied panel-data research, a negative Hausman statistic is treated as a failure to reject the null hypothesis of no systematic difference between the two estimators, so the more efficient Random Effect Model is retained for Model 1.

For both models, the Chow test rejects the null hypothesis ($p < 0.05$), indicating that the Fixed Effect Model is more appropriate than the Common Effect Model, i.e., each company has a distinct intercept that must be accounted for. The Hausman test, however, produces different conclusions across the two models. For Model 1 (the profitability equation) the test favors the Random Effect Model, whereas for Model 2 (the financial distress equation) the test strongly favors the Fixed Effect Model ($\chi^2 = 42.331$; $p = 0.000$), implying that the unobserved company-specific characteristics that influence financial distress are correlated with the explanatory variables. Model 1 is therefore estimated using the Random Effect Model and Model 2 using the Fixed Effect Model.

Panel Data Regression Results

Model 1: Determinants of Profitability

Table 3 presents the Random Effect Model estimation results for Model 1, in which profitability (ROA) is regressed on cost structure, liquidity, leverage, and firm size.

Table 3. Random Effect Model Results – Dependent Variable: Profitability (ROA)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	-0.338	0.297	-1.138	0.261
Cost Structure (SC)	0.097	0.022	4.304	0.000***
Liquidity (CR)	0.052	0.013	4.119	0.000***
Leverage (DAR)	-0.022	0.030	-0.750	0.457
Firm Size (SIZE)	0.007	0.011	0.583	0.563

R^2 (within) = 0.427; R^2 (overall) = 0.347; F-statistic = 5.968 ($p = 0.001$). Notes: *** significant at $\alpha = 1\%$.

The results show that cost structure (SC) and liquidity (CR) each have a positive and statistically significant effect on profitability at the 1% level, while leverage (DAR) and firm size (SIZE) have no significant effect. Together, the model explains approximately 42.7% of the within-firm variation in profitability ($F = 5.968$; $p = 0.001$), indicating that the model is simultaneously significant.

Model 2: Determinants of Financial Distress

Table 4 presents the Fixed Effect Model estimation results for Model 2, in which financial distress (FD, measured through the Altman Z-score) is regressed on cost structure, liquidity, leverage, profitability, and firm size.

Table 4. Fixed Effect Model Results – Dependent Variable: Financial Distress (Altman Z-Score)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Constant	58.244	20.143	2.892	0.007***
Cost Structure (SC)	-0.189	0.152	-1.245	0.221
Liquidity (CR)	-0.065	0.087	-0.749	0.459
Leverage (DAR)	-3.367	0.380	-8.855	0.000***
Profitability (ROA)	3.504	0.916	3.826	0.001***
Firm Size (SIZE)	-2.292	0.831	-2.757	0.009***

R^2 (within) = 0.828; F-statistic = 33.712 ($p = 0.000$). Notes: *** significant at $\alpha = 1\%$.

After controlling for company-fixed effects, leverage (DAR) and profitability (ROA) are the two strongest and most significant determinants of financial distress at the

1% level, followed by firm size (SIZE), which is significant at the 1% level. Cost structure and liquidity no longer show a statistically significant direct effect once profitability is included in the model, an outcome that is examined further in the mediation analysis below. The model as a whole is highly significant ($F = 33.712$; $p = 0.000$) and explains 82.8% of the within-firm variation in financial distress, a relatively high explanatory power that is consistent with the fact that leverage is itself embedded as a component of the Altman Z-score formula (the X4 term), so part of the strong association between DAR and FD reflects this measurement linkage in addition to the underlying economic relationship.

Mediation (Path) Analysis

The mediating role of profitability was tested by multiplying the coefficient of each independent variable's effect on profitability in Model 1 (path a) by the coefficient of profitability's effect on financial distress in Model 2 (path b), and testing the significance of this indirect effect (ab) using the Sobel test. The results are presented in Table 5.

Table 5. Sobel Test Results for the Mediating Role of Profitability

Path	a (SE)	b (SE)	Indirect Effect (ab)	z-value	Prob.	Conclusion
SC → ROA → FD	0.097 (0.022)	3.504 (0.916)	0.338	2.859	0.004**	Significant (full mediation)
CR → ROA → FD	0.052 (0.013)	3.504 (0.916)	0.184	2.803	0.005**	Significant (full mediation)
DAR → ROA → FD	-0.022 (0.030)	3.504 (0.916)	-0.077	-0.736	0.462	Not significant (no mediation)

The Sobel test indicates that profitability significantly mediates the relationship between cost structure and financial distress ($z = 2.859$; $p = 0.004$) and between liquidity and financial distress ($z = 2.803$; $p = 0.005$). Because the direct effects of cost structure and liquidity on financial distress in Model 2 are not statistically significant while their indirect effects through profitability are significant, both relationships indicate full mediation: cost structure and liquidity influence financial distress entirely through their effect on the company's profit-generating ability, rather than directly. In contrast, the indirect effect of leverage on financial distress through profitability is not significant ($z = -0.736$; $p = 0.462$), while its direct effect in Model 2 is highly significant. This indicates that leverage affects financial distress directly, without being channeled through profitability.

Discussion

Effect of Cost Structure on Financial Distress

The direct effect of cost structure on financial distress is not statistically significant ($\beta = -0.189$; $p = 0.221$), yet cost structure exerts a significant positive effect on profitability ($\beta = 0.097$; $p = 0.000$) that is subsequently transmitted into a significant indirect effect on financial distress through the mediation test ($z = 2.859$; $p = 0.004$). This pattern indicates that in the textile and garment sector, cost structure does not weaken a firm's financial soundness by itself, but rather through its influence on the firm's ability to generate profit. A plausible explanation is that in a period of fluctuating sales such as 2019–2023, a proportional adjustment of operating costs to sales activity can still support margins as long as management is able to convert scale into efficiency, rather than automatically indicating rigid, unresponsive cost behavior. This finding differs from Ahemed et al. (2024), who found that asymmetric cost behavior increases financial distress directly in a large sample of United States non-financial firms, and is more

consistent with the cost-stickiness literature that emphasizes context-dependency, in which the consequences of a rigid cost structure depend on demand uncertainty and managerial resource-retention decisions (Anderson et al., 2003; Banker et al., 2013). The result also aligns with the profitability-mediation logic proposed by Chauhan (2023), who shows that the financial consequences of a firm's cost and financing decisions are best understood through the channel of profitability rather than as a direct, mechanical effect.

Effect of Liquidity on Financial Distress

Liquidity shows a similar pattern to cost structure: its direct effect on financial distress is not significant ($\beta = -0.065$; $p = 0.459$), but its effect on profitability is positive and highly significant ($\beta = 0.052$; $p = 0.000$), and the indirect effect through profitability on financial distress is significant ($z = 2.803$; $p = 0.005$). This result supports the view that adequate liquidity protects a company from financial distress mainly by enabling it to fund operations, purchase raw materials, and maintain production continuity, which in turn is reflected in stronger profitability, consistent with Zaki et al. (2011) and Nguyen et al. (2021), who document a close empirical link between liquidity and financial performance, particularly under conditions of economic pressure. The full-mediation pattern found here also complements Slater et al. (2024), who show that changes in liquidity position jointly affect leverage, profitability, and firm valuation rather than operating as an isolated, direct determinant of financial soundness. For the textile and garment companies in this sample, this suggests that liquidity management should be directed at strengthening operating profitability—for example, through better working-capital and inventory cycles—rather than merely maintaining a high current ratio as an end in itself.

Effect of Leverage on Financial Distress

Leverage is the strongest and most consistent predictor of financial distress in this study. Its direct effect on financial distress is negative and highly significant ($\beta = -3.367$; $p = 0.000$), meaning that a higher debt-to-asset ratio is strongly associated with a lower Altman Z-score, i.e., a greater likelihood of financial distress. Unlike cost structure and liquidity, the indirect effect of leverage through profitability is not significant ($z = -0.736$; $p = 0.462$), indicating that leverage does not primarily damage a company's financial condition by eroding its profitability, but through a direct channel—most plausibly the burden of interest expense and principal repayment obligations that narrow financial flexibility when revenues weaken, consistent with the capital-structure arguments of Rajan and Zingales (1995) and Titman and Wessels (1988). This finding is also consistent with recent evidence from emerging markets: Oreshile et al. (2026) find that highly levered African firms remain exposed to financial distress even after accounting for risk-management quality, and Ridwan and Alghifari (2025) show that in Indonesian infrastructure firms, financial risk is driven strongly by leverage-related exposure regardless of operational capability. From an agency-theory perspective, this pattern reflects Jensen and Meckling (1976): aggressive use of debt without a matching increase in cash-generating capacity raises financial risk directly, independent of whatever profitability the debt may or may not have helped generate.

Mediating Role of Profitability

Overall, the mediation analysis shows that profitability is not merely one determinant among several, but the central transmission channel through which cost structure and liquidity affect financial distress; both variables lose statistical significance in Model 2 once profitability is controlled for, while their indirect paths remain

significant. This finding empirically supports the conceptual position outlined by Liang et al. (2016) and Kristanti et al. (2016), who position profitability as the pivotal indicator through which resource-management decisions translate into distress risk, and is consistent with more recent evidence from Wu et al. (2024), who show that firm performance (profitability) moderates and channels the relationship between a firm's financial position and financial distress during periods of macroeconomic pressure, as well as with Suu et al. (2026), who find a strong association between alleviated financial distress and enhanced firm performance among Vietnamese listed companies. Similarly, Inrawan and Lie (2024), using Chow and Hausman model-selection procedures on Indonesian listed firms, likewise conclude that profitability functions as a significant mediator between liquidity, leverage, and firm size on the one hand and a firm's financial condition on the other, reinforcing the robustness of the mediating mechanism identified in this study. Leverage is the exception: because its effect on distress operates directly rather than through profitability, cost-efficiency and liquidity management alone would not be sufficient to offset the risk created by an over-levered capital structure.

Role of Firm Size as a Control Variable

Firm size shows no significant effect on profitability ($\beta = 0.007$; $p = 0.563$) but a significant negative effect on financial distress in Model 2 ($\beta = -2.292$; $p = 0.009$), meaning that, holding cost structure, liquidity, leverage, and profitability constant, larger firms in this sample tend to show a lower Altman Z-score, i.e., a somewhat greater exposure to distress risk. This result should be interpreted with caution given the control-variable role of firm size and the modest number of cross-sectional units, but it is broadly consistent with the background argument of this study that larger textile and garment firms—several of which in the sample carry very large, long-standing debt structures—can also face greater organizational complexity, higher fixed-cost burdens, and slower cost-adjustment capacity, so that scale does not automatically translate into a lower risk of financial distress. This nuance is consistent with Habib et al. (2018), who note in their review of the financial-distress literature that the direction and significance of firm size as a determinant of distress varies considerably by industry, institutional setting, and capital structure.

Summary of Findings

Taken together, the results indicate that financial distress among Indonesian textile and garment companies during 2019–2023 is shaped through two distinct mechanisms. First, cost structure and liquidity influence financial distress indirectly, entirely through their effect on profitability, so that improving cost efficiency and strengthening short-term liquidity are effective primarily insofar as they succeed in raising the profit-generating capacity of the firm. Second, leverage influences financial distress directly and substantially, independent of profitability, so that prudent debt management remains indispensable and cannot be substituted for by profitability improvements alone. Firm size, included as a control variable, further shows that scale does not guarantee protection from distress once cost, liquidity, leverage, and profitability are accounted for. These findings extend the financial-distress literature, which has predominantly examined direct effects (Altman, 1968; Ohlson, 1980; Habib et al., 2018), by demonstrating an empirically distinguishable mediating pathway of profitability specific to the cost-pressured and import-competing context of the Indonesian textile industry

CONCLUSIONS

This study examined the direct and indirect effects of cost structure, liquidity, and leverage on financial distress among ten Indonesian textile and garment companies listed on the Indonesia Stock Exchange during 2019–2023, with profitability positioned as a mediating variable and firm size as a control variable. Using panel data regression (Random Effect Model for the profitability equation and Fixed Effect Model for the financial distress equation, selected through the Chow and Hausman tests) together with a Sobel mediation test, the study finds that cost structure and liquidity do not affect financial distress directly, but do so entirely through their positive effect on profitability, indicating full mediation; leverage, in contrast, affects financial distress directly and substantially, without being channeled through profitability, underscoring the burden of debt-servicing obligations rather than profit erosion as its principal mechanism of harm; and firm size, while not influencing profitability, is significantly associated with greater distress risk, suggesting that larger scale does not automatically confer financial safety in this cost-pressured, import-competing industry. These findings indicate that profitability is the pivotal channel through which cost and liquidity management translate into financial soundness, while prudent leverage management remains an independent and indispensable safeguard that cannot be substituted for by profitability improvements alone implying that, for textile and garment companies, financial distress mitigation strategies should simultaneously pursue cost efficiency and liquidity strengthening to build profitability, while directly containing debt levels, rather than relying on any single lever in isolation..

REFERENCES

- Ahemed, A.M., Iqbal, U., & Atif, M.M. (2024). Asymmetric cost behavior and financial distress. *Economics Letters*, 247, 112121. <https://doi.org/10.1016/j.econlet.2024.112121>
- Alifiah, MN (2014). Prediction of financial distress companies in the trading and services sector in Malaysia using macroeconomic variables. *Procedia - Social and Behavioral Sciences*, 129, 90-98. <https://doi.org/10.1016/j.sbspro.2014.03.652>
- Altman, E. I. (1968). Financial ratios, discriminant analysis and the prediction of corporate bankruptcy. *The Journal of Finance*, 23(4), 589-609. <https://doi.org/10.1111/j.1540-6261.1968.tb00843.x>
- Amendola, A., Restaino, M., & Sensini, L. (2014). An analysis of the determinants of financial distress in Italy: A competing risks approach. *International Review of Economics & Finance*, 37, 33-41. <https://doi.org/10.1016/j.iref.2014.10.012>
- Anderson, M.C., Banker, R.D., & Janakiraman, S.N. (2003). Are selling, general, and administrative costs sticky? *Journal of Accounting Research*, 41(1), 47-63. <https://doi.org/10.1111/1475-679x.00095>
- Banker, R.D., Byzalov, D., & Plehn-Dujowich, J.M. (2013). Demand uncertainty and cost behavior. *The Accounting Review*, 89(3), 839-865. <https://doi.org/10.2308/accr-50661>
- Bhunja, A., & Sarkar, R. (2011). A study of financial distress based on MDA. *Journal of Management Research*, 3(2). <https://doi.org/10.5296/jmr.v3i2.549>
- Central Statistics Agency. (2024). Indonesian manufacturing industry statistics 2023. BPS. <https://www.bps.go.id>
- Indonesia Stock Exchange. (2024). IDX statistics 2023. <https://www.idx.co.id>
- Indonesia Stock Exchange. (2023). Financial report of PT Sri Rejeki Isman Tbk. <https://www.idx.co.id>

- Chauhan, G.S. (2023). Mediating role of profitability relating financial leverage and stock returns. *International Journal of Emerging Markets*, 19(10), 3459-3482. <https://doi.org/10.1108/ijoem-04-2022-0557>
- Farooq, U., & Jibran, A. Q. (2017). Scope, measurement, impact size and determinants of indirect costs of financial distress. *Qualitative Research in Financial Markets*, 10(1), 111-129. <https://doi.org/10.1108/qrfrm-08-2017-0080>
- Ferri, M. G., & Jones, W. H. (1979). Determinants of financial structure: A new methodological approach. *The Journal of Finance*, 34(3), 631-644. <https://doi.org/10.1111/j.1540-6261.1979.tb02130.x>
- Habib, A., Costa, M.D., Huang, H.J., Bhuiyan, MBU, & Sun, L. (2018). Determinants and consequences of financial distress: Review of the empirical literature. *Accounting and Finance*, 60(S1), 1023-1075. <https://doi.org/10.1111/acfi.12400>
- Inrawan, A., & Lie, D. (2024). The role of profitability in mediating determinants of firm value. *Jurnal Akuntansi Syariah*, 8(2), 389-413. <https://doi.org/10.46367/jas.v8i2.2180>
- Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: Managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, 3(4), 305-360. [https://doi.org/10.1016/0304-405x\(76\)90026-x](https://doi.org/10.1016/0304-405x(76)90026-x)
- Ministry of Industry of the Republic of Indonesia. (2024). Performance of the national textile and textile product industry. <https://kemenperin.go.id>
- Kristanti, FT, Rahayu, S., & Huda, AN (2016). The determinants of financial distress on Indonesian family firms. *Procedia - Social and Behavioral Sciences*, 219, 440-447. <https://doi.org/10.1016/j.sbspro.2016.05.018>
- Liang, D., Lu, C., Tsai, C., & Shih, G. (2016). Financial ratios and corporate governance indicators in bankruptcy prediction: A comprehensive study. *European Journal of Operational Research*, 252(2), 561-572. <https://doi.org/10.1016/j.ejor.2016.01.012>
- Liu, W., Lan, X., Xia, M., Zou, Y., Pang, C., & Song, G. (2026). Confidence-scaled margin adaptation boosting for interpretable financial distress prediction. *International Journal of Forecasting*. <https://doi.org/10.1016/j.ijforecast.2026.01.003>
- Nguyen, T.C., Phan, H.T., & Nguyen, H.K. (2021). An empirical investigation of liquidity and stock returns relationship in the emerging market during the COVID-19 outbreak: Evidence from Vietnam. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3958970>
- Ohlson, J. A. (1980). Financial ratios and the probabilistic prediction of bankruptcy. *Journal of Accounting Research*, 18(1), 109. <https://doi.org/10.2307/2490395>
- Oreshile, SA, Zainudin, R., & Mahdzan, NS (2026). Enterprise risk management quality and financial distress in African firms: Insights from firm heterogeneity. *Journal of Accounting in Emerging Economies*, 16(2), 233-261. <https://doi.org/10.1108/jaee-03-2025-0118>
- PT Sri Rejeki Isman Tbk. (2022). Annual report 2022. <https://www.sritex.co.id>
- Rajan, R. G., & Zingales, L. (1995). What do we know about capital structure? Some evidence from international data. *The Journal of Finance*, 50(5), 1421-1460. <https://doi.org/10.1111/j.1540-6261.1995.tb05184.x>
- Ridwan, M., & Alghifari, ES (2025). Evaluating the impact of ESG on financial risk: The moderating effects of operational capability and profitability in Indonesian infrastructure firms. *Journal of Accounting & Organizational Change*, 21(6), 992-1015. <https://doi.org/10.1108/jaoc-08-2024-0281>

- Salim, M., & Yadav, R. (2012). Capital structure and firm performance: Evidence from Malaysian listed companies. *Procedia - Social and Behavioral Sciences*, 65, 156-166. <https://doi.org/10.1016/j.sbspro.2012.11.105>
- Sehgal, S., Mishra, R. K., Deisting, F., & Vashisht, R. (2021). On the determinants and predictions of corporate financial distress in India. *Managerial Finance*, 47(10), 1428-1447. <https://doi.org/10.1108/mf-06-2020-0332>
- Slater, P. J., Greenfield, A., Godfrey, E., & Policastro, F. (2024). Losing altitude: The impact of new leasing standards on the liquidity, leverage, profitability and valuation of US and European airlines. *Journal of Air Transport Management*, 117, 102594. <https://doi.org/10.1016/j.jairtraman.2024.102594>
- Suu, ND, Nhan, DTT, Chung, CY, Choi, JH, & Choi, PMS (2026). Financial distress and firm performance: Evidence from Vietnam. *International Review of Economics & Finance*, 106, 105006. <https://doi.org/10.1016/j.iref.2026.105006>
- Titman, S., & Wessels, R. (1988). The determinants of capital structure choice. *The Journal of Finance*, 43(1), 1-19. <https://doi.org/10.1111/j.1540-6261.1988.tb02585.x>
- Weiss, D. (2010). Cost behavior and earnings forecasts. *The Accounting Review*, 85(4), 1441-1471. <https://doi.org/10.2308/accr.2010.85.4.1441>
- Wu, W., Zhang, S., Fan, Y., & Shi, Y. (2024). Financial flexibility, firm performance, and financial distress: A comparative study of China and the US during pandemics. *International Review of Financial Analysis*, 96, 103706. <https://doi.org/10.1016/j.irfa.2024.103706>
- Yazdanfar, D., & Öhman, P. (2020). Financial distress determinants among SMEs: Empirical evidence from Sweden. *Journal of Economic Studies*, 47(3), 547-560. <https://doi.org/10.1108/jes-01-2019-0030>
- Zaki, E., Bah, R., & Rao, A. (2011). Assessing the probability of financial distress of banks in the UAE. *International Journal of Managerial Finance*, 7(3), 304-320. <https://doi.org/10.1108/17439131111144487>