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## IMPACT OF CAPITAL STRUCTURE ON FIRM PERFORMANCE: EVIDENCE FROM MATERIAL SECTOR LISTED COMPANIES IN SRI LANKA DURING THE ECONOMIC CRISIS

**Keywords:** capital structure, long-term debt ratio, return on assets, return on equity, Sri Lanka, total debt ratio.

**J E L Classification:** G32, G30, C23, E44.

**Abstract:** The ongoing economic crisis in Sri Lanka has created significant obstacles for companies in obtaining and managing debt and equity financing, thereby shaping their capital structure choices. These decisions play a vital role in determining a firm's financial health and long-term sustainability. However, existing empirical and theoretical studies present conflicting findings on this relationship. In light of this, the present study investigates the impact of capital structure on the firm performance of materials companies listed on the Colombo Stock Exchange in Sri Lanka by examining the Total Debt Ratio (TDR) and Long-Term Debt Ratio (LTDR) as indicators of capital structure and evaluating performance through Return on Assets (ROA) and Return on Equity (ROE). The analysis is based on panel data collected from the annual reports of

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18 prominent companies covering the period from 2020/21 to 2024/25. Pearson's correlation analysis and Random Effects Generalized Least Squares regression are applied to evaluate the data. The findings reveal that the TDR negatively and significantly impacts both ROA and ROE, suggesting that higher debt levels adversely affect profitability. Conversely, the LTDR does not significantly impact either ROA or ROE, indicating that long-term debt does not substantially influence profitability. The study's drawbacks encompass the use of a restricted range of factors to evaluate capital structure and financial performance, in addition to a comparatively small sample size. Notwithstanding these constraints, the study offers significant insights for investors, managers, legislators, and business decision-makers regarding the impact of capital structure on financial performance.

## ■■■ INTRODUCTION

In the context of initiating a new business or expanding an existing one, securing adequate financing is a critical consideration for firms (Tesema, 2024). Financial necessity is pivotal in facilitating investment decisions that aim to drive business growth and maximize shareholder wealth, with determining the optimal capital structure (Ayalew, 2021). Capital structure refers to the strategic combination of debt and equity used to finance a company's operations and investment activities (Ayalew, 2021; Kumar, Colombage & Rao, 2017). The capital structure plays a fundamental role in shaping the financial stability, performance, and long-term sustainability of a firm (Bunyaminu, Ayamga, Yakubu, Tuffour, Seidu & Mahama, 2025). The decision regarding the appropriate debt-equity mix is crucial, as it directly influences a company's risk profile, cost of capital, and, consequently, its market valuation. An optimal capital structure not only enhances shareholder value but also positions the firm to effectively navigate financial challenges and capitalize on growth opportunities.

Theoretical perspectives on capital structure have evolved significantly over time (Tharsika & Pratheepkanth, 2023). Modigliani and Miller's (1959) irrelevance theory initially argued that a firm's value is independent of its financing structure in a perfect market. However, this assumption does not hold in real-world markets characterised by taxes, bankruptcy costs, and information asymmetry. The modified version of the Modigliani and Miller (1963) claimed that the tax benefits of debt financing arise from the tax-deductibility of interest payments, which lowers the firm's taxable income and increases its overall value. The trade-off theory argues that enterprises establish an optimal capital structure by weighing the potential costs associated with financial distress against the tax advantages of debt (Kraus & Litzenberger, 1973).

According to agency theory, conflicts between managers and shareholders and between shareholders and creditors play a significant role in shaping financing decisions (Jensen & Meckling, 1976). Higher leverage can help mitigate agency problems by compelling managers to focus on maximizing shareholder value. However, excessive debt can lead to conflicts with creditors, potentially undermining the firm's financial stability. These theoretical perspectives underscore the complex relationship between capital structure and firm performance, highlighting the need for an optimal balance between debt and equity to ensure financial efficiency and long-term success.

The relationship between a firm's capital structure and its performance, particularly Return on Assets (ROA) and Return on Equity (ROE), is crucial for financial decision making and strategic planning. Abor (2005) and Amjed (2011) found an inverse correlation between Long-Term Debt Ratio (LTDR) and firm performance, suggesting that higher levels of LTDR may negatively influence profitability. These findings are consistent with the traditional pecking order theory, which posits that firms prefer internal financing over debt to maintain financial flexibility and avoid agency costs associated with debt. However, Chandra and Juliawati (2020) presented contrasting findings, identifying a positive relationship between LTDR and profitability. Their study suggests that in certain contexts, LTDR financing may enhance firm profitability by allowing companies to undertake growth opportunities that outweigh the costs of debt. Meyad and Kefiyalew (2021) and Mwangi, Makau and Kosimbei (2014) reported a negative correlation between Total Debt Ratio (TDR) and profitability, indicating that increased debt levels may impair profitability. These findings align with the trade-off theory, which suggests that firms face a tradeoff between the tax advantages of debt and the costs associated with financial distress. Conversely, Ayalew (2021) found insignificant relationships between TDR and firm performance. Their research highlights the importance of considering firm-specific factors, such as asset tangibility, growth opportunities, and managerial expertise, in assessing the impact of TDR on firm performance.

Previous empirical studies showed mixed findings regarding the impact of capital structure on firm performance. Some research indicates that higher leverage enhances firm performance by providing tax shields and reducing agency costs (Abor, 2005; Ghosh, 2020). Conversely, excessive debt can increase financial distress, reducing profitability and firm value (Chen et al., 2019). Studies on emerging markets suggest that capital structure decisions are influenced

by firm-specific factors, macroeconomic conditions, and institutional environments (Buvanendra et al., 2017; Nguyen & Nguyen, 2020).

Due to market inefficiencies, regulatory constraints, and economic volatility, the Sri Lankan context presents unique challenges in capital structure decisions. In the Sri Lankan context, research on the capital structure has been limited, particularly in the material sector, necessitating further investigation. Ahmed and Bhuyan (2020) and Hajisaaid (2020) highlight that firms in emerging markets face higher capital costs and limited access to long-term financing, which affects their capital structure choices. Lagoarde-Segot (2016) emphasizes the need for alternative paradigms beyond traditional finance theories to account for contextual complexities in emerging markets.

In light of the recent economic crisis in Sri Lanka, this study gains heightened importance. The economic downturn has severely impacted business operations, investor confidence, and access to external financing, especially within capital-intensive sectors such as materials (Sayani, 2025). Understanding how capital structure decisions influence firm performance during periods of financial instability is crucial for developing effective financial strategies that ensure resilience and sustainability. By analyzing capital structure dynamics amid the crisis, this study provides valuable insights into how firms can adapt their financing choices to withstand macroeconomic shocks and maintain competitiveness in turbulent environments.

Despite the extensive body of literature, gaps remain in understanding the impact of capital structure on firm performance in the Sri Lankan material sector. Prior research has primarily focused on developed markets, with limited exploration of emerging economies such as Sri Lanka. Moreover, contradictory empirical findings necessitate further investigation into capital structure choices and firm performance. This study aims to bridge this gap by analyzing the impact of capital structure on firm performance in the Sri Lankan material sector during the economic crisis, providing valuable insights for academics, practitioners, and policymakers. By incorporating recent empirical evidence and theoretical perspectives, this research contributes to the ongoing discourse on financial management and corporate decision-making in emerging markets.

## LITERATURE REVIEW

Wealth maximization remains the fundamental objective underlying financial decision-making, necessitating an examination of the relationship between capital structure and firm performance (Zahid, 2025). Capital structure decisions involve determining the optimal mix of debt and equity financing, impacting both short- and long-term financial allocations (Olusola et al., 2022; Ross et al., 1999). Long-term financing encompasses various sources such as debt, preferred stock, and common equity, while financial leverage reflects the proportion of debt within a firm's capital structure (Tesema, 2024). An optimal capital structure is one that minimizes the weighted average cost of capital (WACC) while maximizing financial performance indicators, including stock price, operational efficiency, and overall financial health.

Several theories underpin capital structure decisions. Modigliani and Miller (1958) initially argued that, in a frictionless market without corporate taxes, a firm's value remains unaffected by its capital structure. However, in their later work, Modigliani and Miller (1963) introduced corporate taxation, demonstrating that debt financing enhances firm value through tax shields. The trade-off theory, introduced by Kraus and Litzenberger (1973), posits that firms balance the tax benefits of debt with the risks of financial distress. Agency theory (Jensen & Meckling, 1976) highlights conflicts among shareholders, management, and creditors, suggesting that debt can serve as a control mechanism to align interests; however, excessive leverage may lead to agency costs (Myers, 1977). The pecking order theory (Donaldson, 1961) suggests that firms prioritize internal financing over external debt and equity due to information asymmetry and associated financing costs.

The empirical relationship between capital structure and firm performance, particularly return on assets (ROA) and return on equity (ROE), has been widely studied. Abor (2005) and Amjed (2011) identified a negative correlation between long-term debt ratio (LTDR) and firm performance, suggesting that higher long-term debt levels reduce profitability. This supports the pecking order theory, which emphasizes firms' preference for internal financing to maintain financial flexibility and minimize agency costs. However, Chandra and Juliawati (2020) reported a positive association between LTDR and profitability, indicating that in certain contexts, long-term debt financing enables firms to pursue profitable growth opportunities that outweigh debt costs.

Similarly, studies on total debt ratio (TDR) have yielded mixed findings. Meyad and Kefiyalew (2021) and Mwangi et al. (2014) documented a negative relationship between TDR and profitability, consistent with the trade-off theory, which suggests that while debt offers tax benefits, excessive leverage increases financial distress costs. Conversely, Ayalew (2021) found no significant association between TDR and firm performance, underscoring the role of firm-specific factors, such as asset structure, growth potential, and managerial expertise, in determining the impact of debt financing. These divergent findings highlight the complexity of capital structure decisions and the need for context-specific considerations in financial strategy.

In addition, several recent studies have examined how capital structure impacts firm performance during periods of economic or financial crisis in other developing countries. Anscu, Suyapto, Pranoto and Gunawan (2019) investigated Indonesian firms during the 2008 Global Financial Crisis and revealed that leverage exerted a greater negative impact on profitability during the crisis compared to pre- and post-crisis periods. Khodavandloo, Zakaria and Nasir (2017) examined Malaysian firms and observed that financial leverage significantly reduced firm performance, with this effect being strongest during the 2007–2009 crisis years. Moreover, Banerjee and De (2015) also found that Indian firms experienced notable declines in profitability and asset efficiency following the global recession.

Furthermore, more recent empirical research across emerging markets reinforces these findings. Vătavu (2015) analyzed Romanian listed manufacturing firms and found that profitability is higher in equity-financed companies, particularly during inflationary and high-tax periods, indicating that excessive debt weakens financial performance. Ullah, Pinglu, Ullah, Zaman and Hashmi (2020) examined Pakistan's textile sector and confirmed that debt-to-equity ratios have a significant negative relationship with firm performance, while growth-related variables positively influence profitability. Shamsuddin, Kamel, Daud and Yusoff (2020) explored the Jordanian insurance sector and revealed that long-term debt positively influences profitability, whereas short-term debt exerts a negative impact. In the Sri Lankan context, Sivalingam and Kengatharan (2018) observed that total debt ratios are negatively associated with both ROA and ROE in commercial banks, emphasizing the importance of internal financing for maintaining financial stability. Collectively, these studies provide robust evidence that capital structure significantly affects firm perfor-

mance across different economic environments, reinforcing the need for contextualized analysis in emerging markets such as Sri Lanka.

These findings collectively indicate that during financial crises, the adverse effects of debt intensify due to increased borrowing costs, limited access to credit, and declining firm revenues, underscoring the importance of maintaining an optimal capital structure under economic uncertainty.

## METHODOLOGY

This study used quantitative techniques to assess the relationship between capital structure and firm performance of Sri Lankan listed material companies. This study comprises 20 material listed companies on the Colombo Stock Exchange (CSE) in Sri Lanka. The sample for this study comprises 18 firms listed in the material companies of Sri Lanka over a five-year period from 2020/21 to 2024/25. Therefore, this study includes panel data analysis.

The sample was selected using a purposive sampling technique, focusing on companies with complete financial data available for the study period (2020/21–2024/25). This approach ensures consistency and reliability of results by excluding firms with missing or incomplete data. The conceptual framework for this study was developed based on established theories such as the Trade-off Theory, Agency Theory, and Pecking Order Theory, and is adapted from prior studies (Khodavandloo et al., 2017; Noraniazad, Mirzababazadeh & Kashi, 2025; Ronoowah & Seetanah, 2023; Salam & Shourkashti, 2019), which examined similar relationships between capital structure and firm performance in emerging markets.

Two distinct measures, TDR and LTDR, are utilized as proxies for the independent variables in this study. The TDR indicates the percentage of total assets financed by debt, highlighting the contribution of creditors (Nikhil, Sheenoy, Chakraborty & Lithin, 2024; Tesema, 2024). The LTDR shows the proportion of total assets funded by long-term debt, reflecting the stake of long-term creditors (Nikhil et al., 2024; Tesema, 2024). Firm performance is evaluated through ROA and ROE as the dependent variable. ROA evaluates the efficiency of management in utilizing all assets under its control, irrespective of financing sources. It is computed by dividing net income by total assets (Mehzabin, Shahriar, Hoque, Wanke & Azad, 2023). ROE is calculated by dividing the net profit

by the total equity, offering insight into the company's profitability in relation to its shareholder investments (Nikhil et al., 2024).

The hypotheses of this study were formulated based on findings from previous empirical research, which highlighted both positive and negative relationships between leverage and firm performance in emerging economies (Khodavandloo et al., 2017; Noraniazad et al., 2025; Ronoowah & Seetanah, 2023; Salam & Shourkashti, 2019).

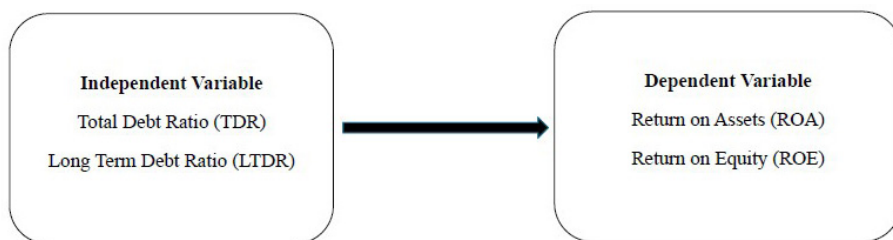
H<sub>1</sub>: Total Debt Ratio has a significant impact on Return on Assets.

H<sub>2</sub>: Total Debt Ratio has a significant impact on Return on Equity.

H<sub>3</sub>: Long-term Debt Ratio has a significant impact on Return on Assets.

H<sub>4</sub>: Long-term Debt Ratio has a significant impact on Return on Equity.

**Figure 1.** Conceptual Framework



Source: authors' compilation based on review of literature.

The empirical data for analysis are sourced from the annual reports of chosen companies, accessible via the Colombo Stock Exchange (CSE) and their respective websites. To analyze the data, both descriptive and inferential statistical techniques were employed. Descriptive statistics, including the mean, minimum, maximum, and standard deviation, were computed to summarize the distributional characteristics of the study variables. A trend analysis was conducted to examine the movement of average ROA and ROE over the period from 2020/21 to 2024/25. Pearson correlation analysis was used to assess the strength and direction of the linear relationships between capital structure variables (TDR and LTDR) and firm performance indicators (ROA and ROE). To ensure the reliability of the regression estimates, multicollinearity among the



explanatory variables was examined using the Variance Inflation Factor (VIF), with a threshold value of 10 adopted as the criterion for identifying potential collinearity concerns. Given the panel structure of the dataset, consisting of cross-sectional observations of 18 firms over a five-year period from 2020/21 to 2024/25, panel data regression techniques were employed. Both Fixed Effects and Random Effects models were estimated to account for unobserved firm-specific heterogeneity. The Hausman specification test was conducted as a model diagnostic procedure. Subsequently, panel regression analysis was performed using Generalized Least Squares (GLS) estimation to examine the impact of capital structure on firm performance. All statistical analyses were conducted using Stata software.

Two model specifications were used to investigate the relation between capital structure and firm performance.

The regression model 1 is represented as:

$$ROA_{it} = \beta_0 + \beta_1 TDR_{it} + \beta_2 LTDR_{it} + \varepsilon_{it}$$

The regression model 2 is represented as:

$$ROE_{it} = \beta_0 + \beta_1 TDR_{it} + \beta_2 LTDR_{it} + \varepsilon_{it}.$$

Where

ROA = Return on Assets

ROE = Return on Equity

TDR = Total Debt Ratio

LTDR = Long-Term Debt Ratio

$\beta_0$  = intercept

$\varepsilon_{it}$  = the error term for firm i at time t.

## RESULTS

### Descriptive Statistics

**Table 1.** Descriptive Statistics

|      | Mean | Minimum | Maximum | Standard Deviation |
|------|------|---------|---------|--------------------|
| ROA  | 0.08 | -0.31   | 0.36    | 0.11               |
| ROE  | 0.09 | -1.94   | 0.79    | 0.35               |
| TDR  | 0.44 | 0.03    | 0.90    | 0.26               |
| LTDR | 0.10 | 0.00    | 0.32    | 0.08               |

Source: authors' computation based on stata analytical software result.

Table 1 presents the descriptive statistics for profitability and capital structure variables over the period from 2020/21 to 2024/25. The average ROA is 0.08, indicating that firms generated an 8% return on total assets during the study period. However, the range from -0.31 to 0.36 reveals substantial intertemporal variation in operational efficiency. The standard deviation of 0.11 suggests moderate dispersion in asset utilisation, reflecting uneven performance across firms during the COVID-19 pandemic and subsequent economic crisis.

ROE reports a slightly higher mean of 0.09; however, it exhibits markedly greater volatility, with a minimum of -1.94 and a maximum of 0.79. The high standard deviation (0.35) confirms that shareholder returns were significantly more unstable than asset-based returns. This pronounced dispersion is consistent with leverage theory, which posits that debt magnifies fluctuations in net income, particularly during macroeconomic shocks. The negative minimum value suggests that certain firms experienced severe equity erosion during crisis years.

With respect to capital structure, the mean TDR of 0.44 indicates that, on average, 44% of firm assets were financed through debt. The range from 0.03 to 0.90 reflects substantial heterogeneity in financing policies, with some firms exhibiting relatively high leverage levels, potentially implying elevated finan-

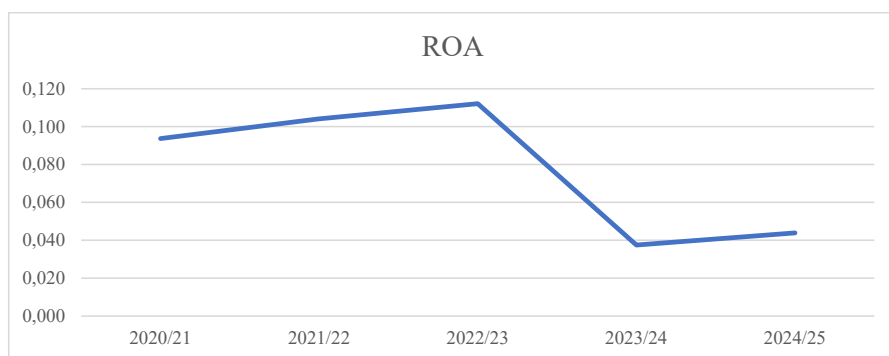
cial risk. The standard deviation of 0.26 further confirms variability in capital structure strategies within the sector.

In contrast, the mean LTDR of 0.10 is considerably lower than the TDR, suggesting a structural reliance on short-term financing. The relatively low dispersion (standard deviation = 0.08) and maximum value of 0.32 indicate that long-term debt constitutes only a modest portion of total financing across firms. This financing pattern aligns with characteristics commonly observed in emerging markets, where limited access to long-term capital markets results in heavier dependence on short-term liabilities.

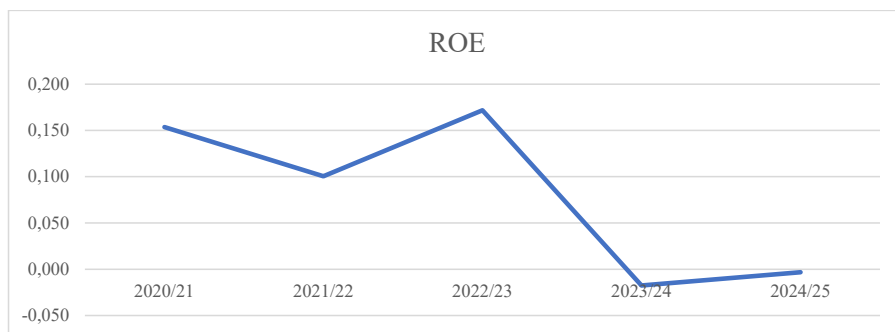
### **Trend Analysis of Average ROA and ROE (2020/21–2024/25)**

Figures 2 and 3 illustrate the trend in average ROA and ROE of listed material sector firms over the 2020/21–2024/25 period and reveal significant performance fluctuations within the Sri Lankan material sector. ROA demonstrates a gradual improvement from 2020/21 to 2022/23, followed by a sharp contraction in 2023/24 and a modest recovery in 2024/25. The initial increase likely reflects post-pandemic recovery effects, including resumed industrial activity and improved demand conditions. However, the pronounced decline in 2023/24 corresponds with the peak of the domestic economic and energy crisis, during which firms faced severe power shortages, rising input costs, and weakened market demand. Given the capital and energy-intensive nature of the sector, these shocks substantially reduced asset efficiency and operating profitability.

**Figure 2.** Trend in ROA



Source: compiled by the authors using data from the company's published annual reports.

**Figure 3.** Trend in ROE

S o u r c e : compiled by the authors using data from the company's published annual reports.

ROE exhibits even greater volatility across the same period, with a notable decline into negative territory during 2023/24. The amplified fluctuations in ROE relative to ROA indicate the magnifying effect of financial leverage on shareholder returns. As equity returns are more sensitive to changes in net income and debt servicing obligations, crisis-induced revenue contractions and rising financing costs likely intensified losses for highly leveraged firms.

The divergence between ROA and ROE during the crisis period underscores the critical role of capital structure in shaping firm performance. While ROA reflects operational efficiency, ROE captures the compounded impact of operational outcomes and financial leverage. The sharper deterioration in ROE during the crisis year provides descriptive support for the regression results, which identify a significant negative relationship between total debt and firm performance. Overall, the trend analysis confirms that excessive leverage increases vulnerability to macroeconomic instability in emerging market contexts.

## CORRELATION ANALYSIS

**Table 2.** Pearson Correlation Analysis

|      | TDR        | LTDR     | ROA       | ROE    |
|------|------------|----------|-----------|--------|
| TDR  | 1.0000     |          |           |        |
| LTDR | 0.3801***  | 1.0000   |           |        |
| ROA  | -0.4217*** | -0.1793* | 1.0000    |        |
| ROE  | -0.3958*** | 0.0026   | 0.7766*** | 1.0000 |

Note: \* $p < 0.10$ , \*\* $p < 0.05$ , \*\*\* $p < 0.01$ .

Source: authors' computation based on stata analytical software result.

Table 2 represents the results of the Pearson correlation analysis on the capital structure and firm performance. TDR has a negative intermediate correlation with ROA ( $r = -0.4217$ ,  $p = 0.0000$ ) and ROE ( $r = -0.3958$ ,  $p = 0.0001$ ) at 1% significance level. LTDR has negative weak correlation with ROA ( $r = -0.1793$ ,  $p = 0.0908$ ) at 10% significance level. However, LTDR has no correlation with ROE.

**Table 3.** Variance Inflation Factor

| Variable | VIF  | 1/VIF  |
|----------|------|--------|
| TDR      | 1.17 | 0.8555 |
| LTDR     | 1.17 | 0.8554 |

Source: authors' computation based on stata analytical software result.

Multicollinearity occurs when an independent variable shows high relationship with one or more other independent variables within the research model (Allen, 1997). According to Akoglu (2018), a Pearson correlation coefficient exceeding 0.80 indicates a very strong relationship between the independent variables. This Pearson correlation table analysis shows that independent variables are not highly correlated with each other; it indicates no multicollinear-

ity issues in this study. The multicollinearity issue is assessed by the variance inflation factor (Shrestha, 2020). If the VIF value less than 10, it indicates no multicollinearity issue. Table 3 shows no multicollinearity issue in this study.

## Regression Analysis

**Table 4.** Random-effects Regression result

| Model 01          |             |         |         | Model 02 |             |         |         |
|-------------------|-------------|---------|---------|----------|-------------|---------|---------|
| ROA               | Coefficient | Z value | P value | ROE      | Coefficient | Z value | P value |
| Constant          | 0.260       | 5.37    | 0.000   | Constant | 0.386       | 3.76    | 0.000   |
| TDR               | -0.273      | -2.73   | 0.006   | TDR      | -0.692      | -3.17   | 0.002   |
| LTDR              | -0.214      | -0.96   | 0.337   | LTDR     | 0.407       | 0.80    | 0.422   |
| No of Observation |             |         |         |          |             |         | 90      |
| R squared         |             |         | 0.1722  |          |             |         | 0.1778  |
| Pro chiq          |             |         | 0.0049  |          |             |         | 0.0065  |
| Hausman           |             |         |         |          |             |         |         |
| chi2              |             |         | 2.18    |          |             |         | 1.92    |
| Prob > chi2       |             |         | 0.34    |          |             |         | 0.42    |

S o u r c e : authors' computation based on stata analytical software result.

Table 4 investigates how capital structure effects the firm performance. This study includes 90 observations. The Hausman Test was conducted to determine the appropriate estimation model between Fixed Effects and Random Effects. The results ( $\chi^2 = 2.18$ ,  $p = 0.34$  for ROA;  $\chi^2 = 1.92$ ,  $p = 0.42$  for ROE) indicate that the p-values exceed 0.05, confirming that the random effects model is the most suitable for this study. Based on the random effects regression analysis, the impact of TDR on ROA and ROE revealed to be negative coefficients (-0.273, -0.692) which are statistically significant at  $p < 0.01$ . However, the impact of LTDR on ROA and ROE is revealed to be coefficient value of respectively -0.214, 0.407 and which are statistically insignificant at  $p > 0.05$ . The results of regression model 1 indicate that the 17 percent variation in ROA is explained by TDR and LTDR, and the remaining 83 percent variation is explained by other

influencing factors (such as firm attributes, economic and legal, and corporate governance practices) which have impact on ROA. Furthermore, the results of model 2 indicate that the 18 percent variation in ROE is explained by TDR and LTDR, and the remaining 82 percent variation is explained by other influencing factors (such as firm attributes, economic and legal, and corporate governance practices) which have impact on ROE.

## DISCUSSION

The results provide partial support for the initial hypotheses. Hypotheses  $H_1$  and  $H_2$ , which proposed that TDR significantly impacts ROA and ROE, respectively, are supported by the findings. The regression analysis reveals significant negative relationships between TDR and firm performance, confirming the detrimental effects of higher total debt levels on profitability and returns to shareholders. These findings are consistent with prior literature (Myers, 1977; Titman & Wessels, 1988) that highlights the risks associated with high leverage, such as increased financial distress and reduced ability to generate profit. Similarly, empirical studies in emerging markets, such as Sivalingam and Ken-gatharan (2018) in Sri Lanka, Ullah et al. (2020) in Pakistan, and Vătavu (2015) in Romania, also report negative impacts of excessive total debt on firm performance, reinforcing the observed trend.

However, the results for LTDR do not support hypotheses  $H_3$  and  $H_4$ , which suggested a significant impact of LTDR on ROA and ROE. The correlation analysis reveals a weak negative relationship between LTDR and ROA, but the regression results indicate no significant effect of LTDR on either ROA or ROE. This discrepancy could be explained by several factors. Long-term debt might provide firms with more stability and lower refinancing risk, thus not directly affecting performance in the way that short-term debt does. Additionally, firms with high levels of long-term debt may have stronger relationships with lenders, access to better financing options, and a lower likelihood of experiencing financial distress, all of which could explain the lack of a significant relationship with performance. These findings are in line with prior research in similar emerging market contexts, such as Khodavandloo et al. (2017) in Malaysia and Shamsuddin et al. (2020) in Jordan, which also observed that long-term debt may indirectly support firm stability rather than immediately influencing profitability.

Furthermore, when compared with similar studies conducted in South Asian and other emerging market contexts, the findings of this study demonstrate consistent patterns. For example, studies in Pakistan (Ullah et al., 2020), India (Banerjee & De, 2015), and Malaysia (Khodavandloo et al., 2017) also report a negative relationship between higher leverage and firm performance during periods of economic instability. This suggests that the adverse effects of excessive total debt may not be unique to Sri Lanka but rather characteristic of emerging markets facing financial constraints and macroeconomic volatility. Therefore, despite the limited sample size, the study contributes to the broader regional literature on capital structure in crisis-affected economies.

## ■■■ CONCLUSIONS

The recent economic crisis in Sri Lanka has made it increasingly challenging for companies to secure and manage debt and equity financing, directly impacting capital structure decisions. These decisions are crucial as they significantly influence a company's overall performance and long-term stability. Furthermore, there are mixed outcomes in both empirical and theoretical contexts. Therefore, this study explores how capital structure influences firm performance, considering the TDR and the LTDR as key variables for capital structure while assessing performance through ROA and ROE.

This study examines the impact of capital structure on firm performance, focusing on the TDR and the LTDR as independent variables and ROA and ROE as measures of performance. The findings reveal that while the TDR significantly negatively impacts both ROA and ROE, the LTDR does not show a significant effect on these performance indicators.

The results provide partial support for the hypotheses and contribute to the existing literature on capital structure by highlighting the differential effects of debt types on firm performance. The significant negative relationship between TDR and both ROA and ROE is consistent with the trade-off theory and agency cost theory, which suggest that excessive debt can lead to financial distress and reduce a firm's profitability and shareholder returns. These findings reinforce the importance of managing leverage levels to maintain financial stability and enhance performance.

On the other hand, the lack of a significant impact of LTDR on performance contributes to the ongoing debate about the stabilizing role of long-term debt.



While short-term debt may increase financial risk and constrain firm performance, long-term debt may provide greater stability and flexibility, potentially shielding firms from the negative consequences associated with higher leverage. This finding aligns with previous studies suggesting that long-term debt may not have the same detrimental effects as short-term debt, particularly in firms with stable cash flows and long-term investment horizons.

Despite its contributions, the study has several limitations. First, the sample is limited to 18 listed firms in the material sector of Sri Lanka, which may restrict the generalizability of the findings to other industries or countries. Although the results are consistent with several studies conducted in South Asia and other emerging economies, caution should be exercised when extending these findings to developed markets with different institutional and financial environments. Second, the study focuses primarily on accounting-based performance indicators (ROA and ROE), which may not fully capture broader dimensions of firm performance.

Future research could enhance external validity by incorporating a larger multi-industry sample or conducting cross-country comparisons within the South Asian region. Additionally, researchers could consider market-based performance measures such as Tobin's Q or stock price performance to provide a more comprehensive evaluation of firm value. Further studies may also examine the moderating effects of firm size, industry characteristics, and corporate governance on the relationship between capital structure and performance. Exploring alternative forms of debt, including convertible debt or hybrid instruments, could offer deeper insight into the complexity of capital structure decisions. Finally, longitudinal analyses covering longer time periods may help establish causality and examine how the effects of leverage evolve over time. Incorporating non-financial performance indicators such as innovation capacity, sustainability, and corporate social responsibility could also provide a more holistic understanding of firm success.

In conclusion, this study emphasizes the importance of managing debt in a way that balances risk and stability. While high levels of total debt can negatively impact firm performance, long-term debt may offer strategic advantages without the same risks. The findings underscore the need for managers to carefully consider the type of debt used and for future research to further explore the nuances of debt structure in relation to firm performance.

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