
Capital structure and financial performance of Sri Lankan listed companies: A panel data analysis

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Abstract

This study delves into the capital structure debate, examining its impact on financial performance among 50 non-financial firms listed on the Colombo Stock Exchange from 2013 to 2022. It specifically analyses Short-Term Debt to Total Assets Ratio (STDTA), Long-Term Debt to Total Assets Ratio (LTDTA), and Debt-To-Equity Ratio (DTE) as indicators, with Return on Assets (ROA) as the performance metric. Results show a positive link between STDTA and LTDTA with financial performance, while DTE shows no significant correlation. This suggests firms should consider a balanced mix of short- and long-term debt to enhance profitability. Future research could explore qualitative methods for deeper insights into capital structure dynamics and firm value.

Keywords: Capital structure; financial performance; modigliani miller theory

1. Introduction

Capital structure is a complex enigma within financial literature and revolves around making optimal decisions regarding the ratio of debt to equity (Ahmed & Bhuyan, 2020). Furthermore, there exist a multitude of theories seeking to elucidate the relationship between a company's capital structure and its performance, a pivotal issue in the realm of finance (Le & Phan, 2017). According to the widely accepted Modigliani-Miller (MM) theory (Modigliani & Miller, 1959), a company's capital structure has no impact on its value. However, this theory is built upon unrealistic assumptions of a flawless capital market, which is non-existent in reality. In contrast, the trade-off theory and agency theory have been posited as alternatives to the MM theory to account for an imperfect market (Le & Phan, 2017). The trade-off theory posits that an organization will balance the costs and benefits of debt to maximize firm value (Kraus & Litzenger, 1973). The primary advantage of debt lies in the tax shield resulting from reduced income due to interest payments (Modigliani & Miller, 1959), while the cost of debt is influenced by direct and indirect bankruptcy costs, coupled with an escalation in financial risk (Kraus & Litzenger, 1973). According to agency theory, the optimal capital structure for maximizing firm value is one that minimizes conflicts of interest among stakeholders (Jensen & Meckling, 2019). Nonetheless, it is important to note that no single theory comprehensively explains the impact of capital structure on a company's financial performance.

While real society exhibits an incredible degree of complexity and diversity, Ardalan (2017) contends that these theories are constructed upon a multitude of critical assumptions that often overlook the full spectrum of social and cultural diversity. Furthermore, a significant proportion of finance researchers remain confined to the functionalist paradigm, despite the availability of alternative paradigms such as functionalist, interpretive, radical humanist, or radical structuralist, each of which approaches research from distinct angles and yields varying insights (Lagoarde-Segot, 2016). Consequently, altering these

underlying assumptions can have an impact on the outcomes of any model or the predictions of any theory. Specifically, the assertions of classical capital structure theories may encounter challenges under different circumstances, and the influence of capital structure on firm value may exhibit substantial variations across different contexts (Le & Phan, 2017).

Although numerous research investigations have been conducted in other countries, Sri Lanka has seen only a limited number of comprehensive recent studies on this subject. Additionally, recent empirical evidence has shown divergent and conflicting results (Ahmed & Bhuyan, 2020; Hajisaaid, 2020; Khan, 2012; Le & Phan, 2017). As a result, this study contributes to the existing body of theory by shedding light on the relationship between capital structure and firm performance within the context of the Sri Lankan stock exchange.

2. Methodology

This study utilises secondary data extracted from the annual reports of fifty non-financial companies listed on the Colombo Stock Exchange (CSE) in Sri Lanka during the period from 2013 to 2022. Financial performance is the dependent variable, which is assessed through the Return on Assets (ROA), while Short-Term Debt to Total Assets Ratio (STDTA), Long-Term Debt to Total Assets Ratio (LTDTA), and Debt-To-Equity Ratio (DTE) are employed as independent variables. The following hypotheses have been formulated:

H₁:- Short-term debt to total assets ratio has a positive impact on return on assets.

H₂:- Long-term debt to total assets ratio has a positive impact on return on assets.

H₃:- Debt-to-equity ratio has a positive impact on return on assets.

As analysis instruments, E Views statistical software and Microsoft Excel are utilised to analyse the gathered data. The study use Pearson correlation analysis and regression to investigate the relationship between capital structure and financial performance. The Hausman test use to select between the random-effect and fixed-effect models.

The following research model specifications are used to investigate the link capital structure and financial performance.

$$ROA_{it} = \alpha + \beta_1 STDTA_{it} + \beta_2 LTDTA_{it} + \beta_3 DTE_{it} + e_{it} \dots\dots\dots \text{Model (1)}$$

Where ROA= Return on Assets, α = regression constant, STDTA =Short-Term Debt to Total Assets Ratio, LTDTA= Long-Term Debt to Total Assets Ratio, DTE=Debt-To-Equity Ratio, and e=error term.

3. Results and discussion

Table 1:-Results of the Pearson correlation analysis

	STDTA	LTDTA	DTE	ROA
STDTA	1			
LTDTA	0.60***	1		
DTE	-0.02	0.02	1	
ROA	0.91***	0.72***	-0.018	1

Table 1 presents the results of the Pearson correlation analysis for the study variables to assess potential multicollinearity issues. ROA exhibits a positive correlation with STDTA (r = 0.91, p < 0.001) and LTDTA (r = 0.72, p < 0.001), while ROA demonstrates an insignificant correlation with DTE (r = -0.018, p > 0.001). Multicollinearity arises when an independent variable is significantly correlated (coefficient value > 0.80) with one or more other independent variables within the research model

(Akoglu, 2018; Allen, 1997). Notably, no significant correlation ($r < 0.8$) is observed among any of the independent variables. Therefore, this finding leads to the conclusion that there are no concerns regarding multicollinearity.

Table 2:-Result of OLS regressions

	Coefficients	t Stat	P-value
Constant	-0.16	-2.04	0.04
STDTA	0.06	26.07	0.00
LTDTA	0.45	13.97	0.00
DTE	0.01	0.35	0.73
R Square			0.87
Adjusted R Square			0.86
F-statistic			60.66
Prob(F-statistic)			0.00

This study employs a Hausman test to determine whether a fixed effects model or a random effects model is superior. According to the Hausman test statistic (Chi-Sq. Statistic = 25.46, P-Value < 0.001), the fixed effect model is preferred over the random effects model. Table 02 displays the regression results. Interestingly, it appears that STDTA has a positive influence on ROA ($R = 0.06$, $p < 0.001$), indicating that H_1 is accepted. This finding aligns with Mboi et al.'s (2018) results, which also identify a positive relationship between STDTA and ROA. However, this result contradicts the findings of Ahmad et al. (2015) and Khanam et al. (2014), who report a negative association between STDTA and ROA. Similarly, there is a positive relationship between LTDTA and ROA ($R = 0.45$, $p < 0.001$). Therefore, H_2 is not rejected, indicating a positive relationship between LTDTA and ROA. This result is consistent with the findings of Chandra and Juliawati (2020), who also identify a positive relationship between LTDTA and ROA. However, it contradicts earlier empirical research indicating that LTDTA has an adverse association with ROA (Hajisaaid, 2020). This discrepancy could be attributed to Sri Lanka's economic crisis and increasing tax rates. Higher debt levels lead to reduced tax deductions and, consequently, higher profits. In contrast, DTE shows an insignificant link with ROA.

The regression results suggest that capital structure explains 87 percent of the variance in ROA ($R^2 = 0.87$, $F = 60.66$, $p < 0.001$). Other factors, such as corporate governance and firm characteristics, may account for the remaining 13 percent of a company's performance.

4. Conclusions and recommendations

Capital structure remains a highly contentious topic in financial literature due to conflicting theoretical and empirical findings concerning the relationship between capital structure and firm performance. This study investigates the impact of capital structure decisions on financial performance using a sample of fifty non-financial companies listed on the CSE between 2013 and 2022, aiming to address a gap in the existing literature. The research solely employs STDTA, LTDTA, and DTE to assess capital structure decisions, alongside ROA to evaluate financial performance. According to the study's findings, STDTA and LTDTA positively affect the financial performance of companies listed on the CSE in Sri Lanka. Conversely, DTE exhibits no significant relationship with ROA. This discovery suggests that corporate leaders should consider integrating a blend of long- and short-term debt into their financial structure to enhance profitability by leveraging the tax advantages associated with reducing the overall cost of capital. Numerous studies have employed quantitative analysis techniques to examine the impact of capital structure on profitability. Future researchers may opt to explore the same influence using qualitative methodologies, such as conducting interviews with managers from relevant business

enterprises. This approach would facilitate the acquisition of insights into the capital structure of businesses and assist in maintaining an optimal capital structure within the organization, thereby enhancing the value of the firms.

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