

## **DETERMINANTS OF DEBT FINANCING DECISION IN SRI LANKAN LISTED COMPANIES**

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### **Abstract**

*The primary objective of an organization is to maximize wealth for its shareholders, and for this purpose, the finance manager makes several financial decisions. Financing for its assets is one of the significant financial decisions that concentrates financing with owners' equity or debt from external parties. Several factors influence the financing decision, even though determinant factors of debt financing decisions may differ from time to time due to the changing internal environment of organizations. Therefore, the study aims to identify the internal factors determining the debt financing decisions in Sri Lankan listed companies. Colombo Stock Exchange (CSE) consisted of 294 listed companies in 2022, and data were collected from selected 100 non-financial companies from 2008/09 to 2020/21. The dependent variables are a total debt to total assets (Debt ratio), and long-term debt to total assets, and the independent variables are profitability, non-debt tax shield (NDTS), tangibility, growth, size, reputation, liquidity, and risk. Descriptive statistics, correlation, pooled, fixed, and random effect models were used to prove the objective. The results reveal that NDTS and growth are positive, and profitability, tangibility, size, reputation, liquidity, and risk negatively influence total debt decisions. The size of the firm negatively influences the long-term debt decision. Therefore, the study concludes that internal factors are essential to determining the debt decision, and the study will benefit the finance managers for the financing decision and to select the optimum capital structure.*

**Keywords:** Debt Finance, Finance Decision, Long-Term Debt, Total Debt

**JEL classification:** G 30, G32

### **1 Introduction**

Choosing an appropriate financing mix in an organization is debatable among financial decision-makers. The debate related to financing mix was stated by Modigliani and Miller in the middle part of the 20<sup>th</sup> century, though still financial decision-makers and researchers continue their arguments. The decision of financing mix involves internal sources of equity, which include issued capital and retained earnings and external funds of debt capital, short-term and long-term. The debt financing decision is directly connected with the cost of capital

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and gain associated with the particular debt (Harris & Ravis, 1991); Modigliani and Miller (1963) argue that the better source of financing is a debt which saves tax as a result of interest expenses paid for debtholders. On the other hand, increasing the level of debt creates risks in the form of an organization's liquidity problem, financial distress, and bankruptcy problem.

Asymmetry information and an agency relationship are the main reasons to determine debt financing because the managers get more inside information than equity holders; accordingly, managers always prefer lower-cost debt to the equity that benefits them. This preference also generates liquidity, financial distress, and bankruptcy risk; therefore, managers choose heterogeneous debt to reduce the risk of debt (Wasiuzzaman & Nurdin, 2019). Capital structure theories consider debt as homogeneous, but practically it is heterogeneous. The debt and its various categories, short-term and long-term, and their different configurations form a financing structure, leading to different effects incorporating liquidity and performance.

Empirical and theoretical evidence shows that several factors influence debt financing decisions. However, the determinants of debt financing decisions are incontrovertible because countries' economic and market conditions differ even though emerging markets are less efficient and incomplete than developed markets. In these markets, financing decisions are incomplete and subject to irregularities (Eldomiatty, 2007). In Sri Lanka, debt financing is relatively low because of less debt market development (Samarakoon, 1999). In addition to debt market development, firm-related factors also get more attention to determine the debt financing decision. Shahzad et al. (2021) identified several firm-related factors influencing financing decisions in the SAARC countries, even though capital structure choices differ. Mayuri and Kengatharan (2019) and Pratheepan and Banda (2016) identified internal factors determining the financing mix in Sri Lanka. However, those studies considered a limited number of companies over a short period. Even though the debt financing decision is connected to a long-term perspective, this study focuses on the factors determining the debt financing decision in Sri Lanka for an extended period and a more significant number of companies to get a valid result.

The rest of the paper consisted of the following: Section 2 comprised theoretical background and empirical evidence. Section 3 discusses the methodology, population, sample, variables, and method of data analysis used in this study. Section 4 provides analytical results and discussion. Finally, section 5 concludes the study and provides recommendations.

## **2 Literature Review**

### **2.1 Theoretical Foundation**

Several theories discussed the capital structure, including a financing mix of equity and debt, even though there is no universally accepted theory for the application. The debate on the capital mix and the optimum capital mix starts with Modigliani and Miller's (1958) irrelevant proposition (MM proposition I). This theory that deliberated debt-equity mix is not a matter, and the firm's value is independent of financing mix choices, assuming perfect capital market, rational economic behavior, no taxes, no transaction, and bankruptcy costs. Practically, MM proposition I have limited application because of the unrealistic assumptions (Romano et al., 2001) of perfect capital market and rational economic behavior that cause the variation in the financing mix (Strabulaev, 2007). Later, Modigliani and Miller (1963) corrected their irrelevant proposition, introduced relevant theory (MM proposition II) with tax shield, and argued that a maximum level of debt would create high firm value even though an extreme level of debt must increase the cost of capital (Solomon, 1963).

Kraus and Litzenberger (1973) originated the trade-off theory that argues the trade-off with tax shield and cost of financial distress as a state preference model. Myers (2001) postulates that managers try to balance tax shield benefits against the present value of the cost of financial distress. Jensen and Meckling (1976) recognized trade-off theory with the cost of tax shield, agency cost, and financial distress on capital structure. The theory argues that the firms aim to maintain an optimum capital structure with a suitable debt-equity ratio, which provides maximum value by the trade-off between the cost and benefits of debt (Romano et al., 2001). However, the application of this theory is still questionable.

Jensen and Meckling (1976) introduced another cost in their theory of agency relationship that describes the conflict between various parties in an organization, which creates agency costs. Jensen (1986) claims that debt is a mediating factor that mitigates the conflict between managers and equity holders. Hence, the agency theory predicts that large cash flow and less growth opportunity firms are highly leveraged (Romano et al., 2001).

Another important argument is the information asymmetry, pecking order theory. Myers and Majluf (1984) argue the pecking order theory and assume a perfect capital market. The theory specifies that corporations determine the debt financing level when financing new investments. This financing is made first by retaining earnings, second by low-risk debt, and finally by equity. The theory suggests that the debt financing level is determined when financing a new investment. Myers (2001) states that corporations will use debt finance rather

than equity by issuing equity when internal cash flow is inadequate to finance investments. However, there is a question of whether the corporations use all available internal sources and at what point external equity is introduced. So, this is the information asymmetry problem, and the management has better information asymmetry about the firm's value than equity holders.

The theories connected with capital structure mainly discuss how far each internal factor influences capital choice, even though each theory concentrates on different factors due to the different assumptions and arguments. Practically, financing decision depends on several internal factors and information available to financial management policymakers. Therefore, all theories are, at a certain level, connected to the debt financing decision.

## **2.2 Empirical Foundation**

The firm's value depends on several internal and external factors; financing capital assets is a significant decision that creates firm value. Kayo and Kimura (2011) argue that financing decisions, especially debt financing, are taken by each company based on its internal financial characteristics. The theories discuss that the firms choose a financing mix of debt and equity, assuming both sources are adequately available. However, empirical studies prove that different facts and factors influence debt financing decisions differently. Further, the financing decision informs stakeholders about the firm value, and the increasing level of debt creates market value for the firms (Ross, 1977). This increasing level of debt envisages the future capacity to meet debt obligations; therefore, debt size and firm value are positively correlated (Harris & Raviv, 1991; Heinkel, 1982; Leland & Pyle, 1977) and explain to the market that any changes in the financing mix decision transmit future expectation of the managers regarding a company.

Trade-off theory argues that more profitable firms have less experience in bankruptcy problems and, therefore, have more intention to take more debt to enjoy the debt tax shields (Frank & Goyal, 2003; Jensen, 1986). DeAngelo and Masulis (1980) dispute that in addition to debt tax shield depreciation, tax credits on losses and some investments also support shelter income.

The business cycle model is one of the main factors influencing financing decisions. Due to poor business practices, business failure is a common phenomenon at the early stage of the life cycle, and at this stage, retained earnings are also less, thus creating a need for external financing (Xiang & Worthington, 2015).

In their pecking order theory, Myers and Majluf (1984) argue that investors charge a high premium to lend funds to high-growth firms. However, the agency theory argues that growth opportunities negatively affect leverage. It creates vast costs because high-growth firms are reluctant to get into debt. The agency theory assumes that managers behave opportunistically and rationally and, thus, attempt to maximize personal benefits at the expense of equity holders. Therefore, debt discipline managers' behavior causes firms with few investment opportunities and high cash flow to use debt (Kayo & Kimura, 2011).

Worldwide studies provide evidence that different continents have different relationship patterns between financing mix and firm-related internal factors. Several studies have been conducted in Sri Lanka and other countries to identify firm-specific factors to determine financing choices. Even though, those findings are inconclusive because the economic and market conditions differ from time to time. The major determining factors are profitability, size, tangibility, liquidity, age, risk, non-debt tax shield, and growth, which are positively or negatively related to debt decisions (Kumar et al., 2017). All these internal factors were not considered together in one study in Sri Lanka. Therefore, this study considers all internal factors to fill this research gap.

### **3 Methodology**

#### **3.1 Population and Sample**

In 2022, 294 companies were listed on the Colombo Stock Exchange (CSE), representing 20 GICS industry groups. The Banks, Diversified financials, and Insurance sectors were excluded from the data collection because their applicable accounting measurements vastly differ from other sectors. Therefore, based on data availability for the study period, related information was collected from 100 non-financial companies from 2008/09 to 2020/21. The companies which do not have ten-years data for the sample periods were excluded from the sample

#### **3.2 Variables and Hypotheses**

Total debt to total assets (Debt ratio) and long-term debt to total assets are the dependent variables; profitability, non-debt tax shield (NDTS), assets tangibility, growth, size, reputation, liquidity, and liquidity risk are the independent variables.

### **3.2.1 Profitability**

Debt is a controlling mechanism to reduce the free cash flow problem (Jenson, 1986). The balance between tax shields and financial distress creates more value for firms. Fama and French (2002) argue that more profitable firms prefer more debt to take advantage of tax shield, and the agency cost model also supports this argument. Therefore, there is a close relationship between target debt and profitability:

H<sub>1</sub>: The firm's profitability has a significant positive influence on debt financing decisions.

### **3.2.2 Non-debt tax shield (NDTS)**

Tax burdens profitable firms, even though more debt causes tax benefits. In addition to interest cost tax benefits, a non-debt tax shield is another tax-deductible item. Therefore, more benefits from non-debt tax shields lead to less debt finance. DeAngelon and Masulis (1980) introduce the non-debt tax shield concept with depreciation, depletion allowances, and investment tax credits transactions.

H<sub>2</sub>: The NDTS of the firm has a significant negative influence on debt financing decisions.

### **3.2.3 Tangibility/level of warrants**

Asset tangibility leads to the level of warrants to determine debt because asset value will decide the capacity of borrowing (Booth et al., 2001; Rajan & Zingales, 1995; Titman & Wessels, 1988;). The tangible assets are collateral for debt financing (Michaelas et al.,1999).

H<sub>3</sub>: The tangibility of the firm has a significant positive influence on debt financing decisions.

### **3.2.4 Growth**

The static trade-off theory argues that high-growth opportunity firms prefer low debt levels because a high debt level leads to high risk and investment costs for equity holders. Therefore, debtholders may have a chance to gain more. Myers (1984) argues that firms with high growth expectations are accompanied by bankruptcy and agency costs, and consequently, these firms with high growth opportunities are reluctant to use debt financing instruments as the first financing option. On the other hand, Kaur and Rao (2009) argue that high-growth firms expect investments, and those investments need additional funds. The equity finance cost of capital is more than the debt cost; therefore, firms prefer debt finance over equity.

H<sub>4</sub>: The growth of the firm has a significant influence on debt financing decisions.

### **3.2.5 Size**

Theoretically, firm size and capital structure have a positive relationship. Titman and Wessels (1988) indicate that larger firms have more diversified financing sources and, therefore, less likelihood of bankruptcy problems. Further, advantages in the economics of scale in larger firms can borrow money with the lower cost of capital and less volatility of profitability proliferate debt tax shield.

H<sub>5</sub>: The firm's size has a significant positive influence on debt financing decisions.

### **3.2.6 Reputation**

Reputed firms can quickly get more information than low/less reputed firms because asymmetric information leads to more capacity to deal with debt (Chen & Steiner, 1999). Older companies have more reputations than newly established companies; therefore, reputed firms prefer more internal finance than external debt, which may damage the firms' reputation (Chadha & Sharma, 2015).

H<sub>6</sub>: The firm's reputation significantly negatively influences debt financing decisions.

### **3.2.7 Liquidity**

Firms with more liquidity prefer internal finance over external debt capital because long-term debt always has more finance costs (Sheikh & Wang, 2011). Further, high liquidity leads to more working capital; therefore, firms will have more funds and prefer internal finance over external debt.

H<sub>7</sub>: The firm's liquidity significantly negatively influences debt financing decisions.

### **3.2.8 Risk**

More income volatility leads to high risk because it shows future income generation uncertainty. These types of firms reduce their debt capital in the capital mix because debt payment increases the bankruptcy problem and affects the confidence level of creditors. Therefore, extending an existing loan and getting a new one is challenging for organizations (Neves et al., 2019).

H<sub>8</sub>: The firm's risk significantly negatively influences debt financing decisions.

Table 1: Measurement of variables

<b>Variable</b>	<b>Notation</b>	<b>Definition</b>	<b>Expected Sign</b>
<b>Predictor Variables</b>			
Profitability	Prof	Earnings before interest and tax to	+

			Total assets	
Non-Debt shields	tax	NDTS	Depreciation to Total assets	-
Tangibility		Tangi	Fixed assets to Total assets	+
Growth		Grow	Market value to Total assets	+/-
Size		Size	Natural logarithm of market value	+
Reputation		Repu	Number of years in business	-
Liquidity		Liqu	Current assets to current liability	-
Risk		Risk	If the company earns a profit 1, otherwise 0	-

**Dependent Variable**

Total Debt ratio		TD_Ratio	(Long term Debt + Current Liability)/ Total Assets
Long-term debt ratio	debt	LTD_Ratio	Long-term Debt / Total Assets

**3.3 Method of Data Analysis**

Descriptive statistics and correlation analysis were used to explain the data summary and the relationship between the data. Further, the data used in this study is panel data that contains observations on the different cross-sections across time. The researchers, homogeneous and heterogeneous models, used two broad categories of econometric models. The homogeneous models, called pooled models, assume that the model parameters are common across each cross-section, and heterogeneous models allow for any or all model parameters to vary across cross-sections. Therefore, fixed and random effects models suit heterogeneous panel data models. The fixed effect model allows for the individuality of each cross-section selected as a sample by lettering the intercept vary for each firm but still assumes that the slope coefficients are constant across firms. The random effect model specifies that predictor variables have a fixed relationship with the outcome variable across all observations, even though this fixed effect may vary from one observation unit to another. The Hausman test is employed to identify which model best explains the debt decision. Finally, a parametric statistical measure, the Wald test, was used to confirm whether the independent variables used in this study are collectively significant.



The following three models were used: pooled ordinary least square, fixed effect, and random effect.

$$Debt_{it} = \alpha + \beta_1 Prof_{it} + \beta_2 NDTS_{it} + \beta_3 Tangi_{it} + \beta_4 Grow_{it} + \beta_5 Size_{it} + \beta_6 Reput_{it} + \beta_7 Liqu_{it} + \beta_8 Risk_{it} + \varepsilon_{it}$$

$$Debt_{it} = \alpha_i + \beta_1 Prof_{it} + \beta_2 NDTS_{it} + \beta_3 Tangi_{it} + \beta_4 Grow_{it} + \beta_5 Size_{it} + \beta_6 Reput_{it} + \beta_7 Liqu_{it} + \beta_8 Risk_{it} + \varepsilon_{it} + \mu_{it}$$

$$Debt_{it} = \alpha + \beta_1 Prof_{it} + \beta_2 NDTS_{it} + \beta_3 Tangi_{it} + \beta_4 Grow_{it} + \beta_5 Size_{it} + \beta_6 Reput_{it} + \beta_7 Liqu_{it} + \beta_8 Risk_{it} + \varepsilon_{it} + \mu_{it}$$

Where:

$Debt_{it}$

= debt ratio, estimated by total debt ratio and Long-term debt ratio of firm i at time t.

$Prof_{it}$  = Profitability of firm i at time t

$NDTS_{it}$  = Non – debt tax shields of firm i at time t

$Tangi_{it}$  = Tangibility of firm i at time t

$Grow_{it}$  = Growth of firm i at time t

$Size_{it}$  = Size of the firm i at time t

$Reput_{it}$  = Reputation of firm i at time t

$Liqu_{it}$  = Liquidity of firm i at time t

$Risk_{it}$  = Risk of firm i at time t

$\alpha$  = common intercept of the model

$\beta_{1-8}$  = Coefficient of selected explanatory variables

$\varepsilon_{it}$  = Stochastic error term of firm i at time t

$\mu_{it}$  = Error term of firm i at time t

$\alpha_i$  = Intercept of firm i

## 4 Empirical Results and Discussion

### 4.1 Empirical Results

In this section, the empirical results of determinants of debt finance are presented and discussed. The following Table 2 describes the summary statistics of dependent and predictor variables.

Table 2: Descriptive Statistics

<b>Variables</b>	Observations	Mean	Median	Maximum	Minimum	Std. Dev.
Prof	1400	0.113	0.097	1.187	-0.690	0.141
NDTS	1400	0.020	0.014	0.53	0.00	0.038
Tangi	1400	0.255	0.175	1.00	0.00	0.263
Size	1400	21.19	21.18	26.30	12.50	1.86
Repu	1400	42.56	34	129	5	25.77
Liqu	1400	7.47	1.61	368.74	0.00	26.34
Risk	1400	0.82	1.00	1.00	0.00	0.389
Grow	1400	1.28	0.76	19.10	0.00026	1.716
TD_Ratio	1400	0.263	0.227	1.014	-0.0008	0.213
LTD_Ratio	1400	0.047	0.002	0.972	0.000	0.089

The mean profitability value was 11.3% over the sample period, which revealed that the return on assets value was in a good position compared to similar developing countries in South Asia (Sheikh & Wang, 2011). The debt financing level was very low in Sri Lankan listed companies; total debt to total assets was 26.3%, and long-term debt to total assets was only 4.7%. Compared with India's debt ratio of 19% (Khan & Ghayas, 2020) and Pakistan's debt ratio of 60.79% (Sheikh & Wang, 2011), Sri Lankan companies depend on internal finance like retained earnings and equity rather than external debt finance. In developing countries, a lack of alternative sources of finance and a high cost of debt leads to a low level of debt finance (Kumar et al., 2017).

Table 3: Variable Inflation Factor

<b>Variables</b>	Variance	VIF	1/VIF
Prof	0.01688	2.403766	1.467105
NDTS	0.19819	1.559454	1.213353
Tangi	0.00370	2.148279	1.104022

Size	0.00009	166.7241	1.268105
Repu	0.00000	3.891845	1.043204
Liqu	0.00000	1.142142	1.057143
Risk	0.00191	6.738452	1.246614
Grow	0.00010	2.048239	1.315085

The sample data were tested for multicollinearity, and the results are presented in Table 3. The IVF values of predictor variables were relatively low, less than 07, and the correlation coefficient of variables is less than 0.50, thus showing no multicollinearity among the predictor variables.

Table 4: Correlation Matrix

Variables	Prof	NDTS	Tangi	Size	Repu	Liqu	Risk	Grow	TD_Ratio
Prof	1								
NDTS	0.2742	1							
	0.0000	-----							
Tangi	-0.0293	0.2157	1						
	0.2731	0.0000	-----						
Size	0.2748	-0.0048	-0.0816	1					
	0.0000	0.8591	0.0022	-----					
Repu	0.0231	-0.0754	-0.0916	0.1193	1				
	0.3877	0.0047	0.0006	0.0000	-----				
Liqu	-0.0775	-0.1102	-0.1777	-0.0316	-0.0583	1			
	0.0037	0.0000	0.0000	0.2375	0.0292	-----			
Risk	0.3991	-0.0176	-0.0429	0.2466	0.0478	-0.0475	1		
	0.0000	0.5100	0.1090	0.0000	0.0739	0.0755	-----		
Grow	0.2730	-0.1249	-0.1520	0.3949	0.1517	0.0675	0.1287	1	
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0115	0.0000	-----	
TD_Ratio	0.1318	0.1394	-0.0140	0.0248	0.1145	-0.2772	-0.1562	-0.080	1
	0.0000	0.0000	0.6007	0.3539	0.0000	0.0000	0.0000	0.003	-----
LTD_Ratio	-0.0735	0.1173	0.0256	0.1022	-0.0830	-0.1210	-0.1821	-0.123	0.486
	0.0059	0.0000	0.3380	0.0001	0.0019	0.0000	0.0000	0.000	0.000

Table 4 shows the correlation values between the variables. Profitability, non-debt tax shield, and reputation correlate significantly positively with the total debt ratio; the results are significant at a 5 percent confidence level. The liquidity, risk, and growth negatively correlate

with the total debt ratio; the results are significant at a 5 percent confidence level. Profitability, reputation, liquidity, risk, and growth negatively correlated with long-term debt ratio and non-debt tax shield, and size positively correlated with long-term debt ratio; the results are significant at a 5 percent confidence level. Tangibility remained an insignificant variable with both total and long-term debt variables. Size has an insignificant correlation with the total debt ratio. All weak cross-correlations for the predictor variables again exposed no multicollinearity issue among these variables.

Table 5: Regression Model Results – Total Debt

Predictor Variables	Pooled		Fixed Effect		Random Effect	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Constant	0.22115	3.4226***	0.82339	9.0397***	0.6438	7.8336***
Prof	0.32309	7.2996***	-0.0660	-1.9163**	-0.0292	-0.8670
NDTS	0.32452	2.1397**	0.22989	2.0322**	0.2431	2.1978**
Tangi	-0.0674	-3.2496***	-0.0747	-2.6226***	-0.0511	-2.0291**
Size	0.0060	1.9208	-0.0216	-4.7503***	-0.0162	-4.1130***
Repu	0.0010	4.7036***	-0.0013	-1.7389	0.0001	0.3365
Liqu	-0.0021	-10.548***	-0.0005	-3.7992***	-0.0007	-4.8762***
Risk	-0.1420	-9.5240***	-0.0344	-3.4029***	-0.0409	-4.0904***
Grow	-0.0163	-4.7154***	0.0069	2.3478***	0.0051	1.8776
R <sup>2</sup>	0.176305		0.755728		0.050521	
Adjusted R <sup>2</sup>	0.171568		0.735498		0.045061	
F-statistic	37.21656		37.35694		9.251818	
Prob	0.0000***		0.0000***		0.0000***	
Hausman Test	21.175 (0.0046)***					
Wald $\chi^2$ (8 df)	4048.099 (0.0000)***					

\*\*\* and \*\* is 1% and 5% confidence level, respectively

Table 6: Regression Model Results – Long-term Debt

Predictor Variables	Pooled		Fixed Effect		Random Effect	
	Coefficient	t-statistic	Coefficient	t-statistic	Coefficient	t-statistic
Constant	-0.1183	-4.2318***	0.1880	3.4947***	0.0486	1.1401
Prof	-0.0326	-1.7038	-0.0348	-1.7122	-0.0345	-1.7882
NDTS	0.2365	3.6030***	0.1070	1.6009	0.1496	2.3471**
Tangi	-0.0129	-1.4331	-0.0082	-0.4884	-0.0047	-0.3591
Size	0.0108	7.9590***	-0.0056	-2.1017**	0.0015	0.7288
Repu	-0.0003	-3.1013***	-0.000	-0.4021	-0.0003	-1.6577
Liqu	-0.0004	-4.5417***	-0.0001	-0.7547	-0.0001	-1.6268

Risk	-0.0458	-7.0968***	-0.0114	-1.9086	-0.0167	-2.8656***
Grow	-0.0076	-5.0134***	0.0003	0.1788	-0.0023	-1.4970
R <sup>2</sup>	0.112887		0.509973		0.021629	
Adjusted R <sup>2</sup>	0.107785		0.46939		0.016002	
F-statistic	22.12604		12.56624		3.843809	
Prob	0.0000***		0.0000***		0.0002***	
Hausman Test	49.106 (0.0000)***					
Wald $\chi^2$ (8 df)	429.234 (0.0000)***					

\*\*\* and \*\* is 1% and 5% confidence level, respectively

Tables 5 and 6 revealed the regression results of total and long-term debt determinants. The pooled model results assume no cross-section or time effect in the sample data set. The pooled results indicate that profitability, NDTs, and reputation have a significant positive effect in a 5 percent confidence level, and tangibility, liquidity, risk, and growth have a significant negative effect in a 5 percent confidence level. The R<sup>2</sup> value indicates the variation of the selected variable in the debt financing decision, and the *F*-statistic confirms the significance of the model. In both pooled regression models, total debt and long-term debt, the R<sup>2</sup> for the fixed effect is higher than the pooled regression, indicating the possibilities of omitted variables effect. The Hausman test was used to select the best model for the application, and statistically significant results revealed that the fixed effect models are preferred over random effect models. The Walt test results indicate that all variables used in the fixed effect models are vital for explaining the debt decision.

## 4.2 Discussion

According to the results presented in Table 5 and Table 6, profitability has an insignificant negative effect on long-term debt and a significant effect on the total debt ratio. These results confirm that the firms' external financing decision, long-term debt, does not depend on profitability; therefore, firms follow the pecking order model for financing purposes (Chakraborty, 2010). Further, a significant negative relationship between total debt and profitability indicates less preference or timely payment of short-term debt. In addition, high-cost debt might be the reason for profitable firms' restrictions on long-term debt financing. NDTs shows a significant positive relationship with total debt, revealing that the firms listed in CSE can benefit more from tax shields than non-tax shields. This result is supported by (Chakraborty, 2010), and according to Kumar et al. (2017), Asia-Pacific region firms' results prove a positive relationship between NDTs and debt financing decisions. Tangibility has a significant negative relationship with the total debt ratio and an insignificant negative

relationship with the long-term debt ratio. These results prove that short-term debt is highly negatively connected with tangibility. According to the low debt ratio in Sri Lankan firms' long-term debt financing is highly determined by factors other than its collateral value. These results supported Middle-East firms' debt decisions (Kumar et al., 2017). The firm's size indicates the capacity to use external finance even though, according to the fixed effect model, debt financing negatively affects total and long-term debt. The trade-off model discusses that larger firms prefer more debt than equity, but the pecking order theory discusses a negative relationship with debt financing decisions. Therefore, this result supported the pecking order theory and reinforced the findings of Chakraborty (2010). Reputation measured by the age of the firm specifies an insignificant negative effect. This result indicates that all firms, old and young, in CSE equally use debt finance, and reputation is not a matter in determining debt financing decisions. Therefore, the results prove that older firms do not have enough creditworthiness to get more debt finance. Higher liquidity indicates that firms have positive working capital, which leads to a negative relationship with debt financing decisions because firms can utilize liquid assets to satisfy their financing need. Liquidity negatively affects total debt according to the pooled, fixed, and random effect models. However, fixed effect results specify that liquidity has an insignificant negative relationship with long-term debt. Therefore, it is evident that compared to long-term debt, current liabilities can be settled quickly using higher liquidity. The results supported Mazur (2007) and Alom (2013). Low earning capacity or loss creates financial risk; therefore, the loan settlement capacity will be affected and expected to affect debt negatively. The relationship between risk and total debt and long-term debt shows a significant negative relationship, but the fixed effect model of long-term debt result was insignificant. This result supports most worldwide studies (Kumar et al., 2017). Growth and debt financing decisions express mixed results, positive and negative. According to the pooled model, high growth leads to low debt levels, but the fixed effect model provides a result of the significant positive effect of growth on total debt, revealing that high-growth firms keep more current liability because growth has an insignificant impact on long-term debt. Therefore, the result shows that high-growth firms use current liabilities for growth.

## **5 Conclusion, Recommendations, and Direction for Further Study**

The study aims to identify the determinants of debt financing decisions of 100 listed companies on CSE, Sri Lanka, during 2007-2021. The total and long-term debt to total assets ratios are used to measure debt. Profitability, NDTs, tangibility, size of the firm, reputation

(measured by age), liquidity, risk, and growth are considered determinant factors of debt financing decisions. The panel data analytic techniques, pooled, fixed effect, and random effect models, were used to identify the determinants of debt financing decisions. The Hausman test proves that the fixed effect model is more appropriate than the other models, and the Wald test accepts all selected variables to determine the debt financing decision in Sri Lankan listed companies. According to the empirical findings, profitability, tangibility, size, reputation, liquidity, and risk negatively impact debt financing decisions, and NDTs and growth significantly positively impact debt financing decisions. On the other hand, the firm's size significantly negatively influences long-term debt decisions. Therefore, the selected variables positively or negatively contribute to determining the total and long-term debt. Insiders of the firms and policymakers consider the benefits of debt for developing firms and the stock market. In addition, the firms' insiders can utilize the maximum benefits of the collateral value to get more debt. Therefore, using proper mechanisms supports getting debt finance at an optimum level to increase the firm value. The value of fixed assets is the collateral power of the firm to determine the capacity of borrowing, even though Sri Lankan firms do not use the collateral power to borrow. Further study is needed to identify the reasons for not using collateral power. NDTs is the benefit that leads to the firms' less debt financing preference. Further study is required to identify the reasons for not using NDTs in the firms listed in CSE.

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