

Analysis of Factors Determining Capital Structure of Firms Listed in Colombo Stock Exchange in Sri Lanka



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ABSTRACT: Capital structure describes a mix of long-term debt capital and equity capital employed by a *company* to fund its operation and finance its assts.

The objective of the study is to identify the determinants of the capital structure and examine whether each of the determinants have significant impact on capital structure. A sample of 25 beverage food and tobacco sector firms listed on Colombo Stock exchange(CSE) in Sri Lanka over the period of 2016 to 2020 were considered for the study. The independent variables such as profitability (PROR), firm size (FMSZ), tangibility (TANR) and liquidity (LIQR) and dependant variable such as long term debt ratio (LTDR), short term debt ratio (STDR) were used to measure the leverage level of the firms. The data were analysed and hypotheses were tested through regression analysis and correlation analysis by use of SPSS. Coefficient of regression used to identify the significant impact of each determinant against the endogenous factors. The investigation empirical findings reveals that firm size, tangibility and liquidity have significant negative impact on leverage level (STDR), while profitability has positive insignificant impact on leverage level (SDTR). On the other hand all four element have insignificant relationship with LTDR.

KEY WORDS: profitability, firm size, tangibility, liquidity, long term debt ratio, short term debt ratio.

INTRODUCTION

Capital structure describe the proportional relationship between debt and equity capital employed by a *company* to fund its operation and finance its assts. The capital structure decision is to ensure the lower cost of capital and maximize the wealth of shareholders of the company. Equity capital, is the amount of money that would be paid back to its shareholders if company is liquidated. It has voting rights, on line with the amount that shareholders held. As for the debt capital, it is serious obligation to repay the capital with interest to the creditors. But it can get at low cost. If it is settled, it can be called default or bankruptcy. Different industries adopt the different type of capital combination suitable to their business. Large industries with huge plant & machinery may use more debt capital than equity capital for example auto mobile company. But, labour-oriented or service-oriented company may use more equity capital than debt capital in their business.

The capital structure studies are more interesting and having central issue in the field of financial management that are considering dividend policy, project financing, issuing of long-term securities, finance of mergers, redemption of debt and so on. Every organization try to make optimum capital structure to maximize firm's value as well as minimize the cost of fund.

A firm should attempt to determine the positive relationship between leverage and value of the firm. When a company uses more loan capital to finance its assets, the cash flows stream of the company will increase more. By utilizing these debt capitals, the company can pay higher rate of return to stockholders while there is a possibility to expect a high risk to the firm. But financial managers do not strict theory yet to determine the exact optimal capital structure.

Loan capital is one of the strategies the company can use generate money in the capital markets. When a companies use more debt capital, it gets tax advantages and also allows a company to retain ownership with voting power. Additionally, during the low interest rates at the market, it is abundant and easy to access. Equity capital is more valuable expensive to shareholders than debt, especially when interest rates are low. However, unlike debt, equity does not need to be paid back. This is a benefit to the company in the case of declining earnings.

When a companies use more debt capital to finance their assets and working capital activities have a high leverage ratio and an hostile capital combination. At the same time a company use more equity it has a low leverage ratio and a conventional capital

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structure. High leverage ratio and an aggressive capital structure can also lead to higher growth rates, whereas a traditional capital structure can lead to lower growth rates. It is the goal of company management to find the ideal mix of debt and equity, for the optimal capital structure.

Usually, when a company is operated with huge debt capital has a more aggressive capital structure and therefore faces a greater risk to investors. Financial Analysts use the debt-to-equity (D/E) ratio and weighted average cost of capital (WACC) to compare and determine the optimal capital structure of a firm which is the best mix of capital structure that maximizes a company's market value while minimizing its cost of capital.

Colombo security exchange is an emerging share market with lot of potential of investment that gets an attention both local and foreign for investors. On this base, researcher interested in studying the issues inspiring capital structure decision in beverage food and tobacco industry that becomes a booming product sector which gives higher export income and contribute significant per centage to the GDP in the last many years in the country. A lot of of empirical studies on these issues have through to explain the determinants of capital structure Harris and Raviv (1991). However, it is pointed out that the best of appropriate instructive variables is potentially contentious. In other words, what would be appropriate in a situation would not be relevant in other areas or regions. Therefore, the researcher motivated to analyse this sector's loan capital to equity capital (D/E) ratio, as factors influencing capital structure decision.

LITERATURE REVIEW

The review of literature expected to provide strong understanding on the philosophies of this structure and look into its bases, how they can be influenced by these concepts and how they are connected to gearing. The philosophical basis for this research will be established through literature review of the research. The researcher broadly investigates the related article about factors determining concepts of capital arrangement theories and important of capital structure in the country and other countries.

THEORIES ON CAPITAL STRUCTURE

The capital structure is irrelevant to the value of a firm. It depends on the expected future earnings. Two matching firms would remain the same and value would not be affected by the best combination of finance adopted by them to the assets. The financial leverage improves the firm's value when a proper tax system is applied in the company.

Due to the failure about information of the company leads to the concept of pecking order. As one group has accurate information rather than others, it causes unsuccessful transaction for that group. Generally top management of the company typically have more accurate information on the performance of the company, potential risks, and future outlook. The stakeholders other than the top management are unable to get more accurate information about the company. Therefore, the external users demand to compensate a higher return for their risk-taking due to the imbalance information.

As for the concept of pecking order, it is the best way to study the seniority of claims to assets. Lower return goes to debt holders as against stockholders are entitled to a higher return in the event of a bankruptcy. Therefore, when considering sources of financing, in the order of the cheapest is retained earnings, second debt, and the last one equity.

As for the concept of trade-off, in perfect markets, the market value of a firm is determined by its earning power and the risk of its underlying assets. The value is independent of the method of financing used and a company's investments. This intention explains that there is no connection between capital structure and the value of a firm. The two matching firms would have remained the value same, and it would not be affected by the best choice of finance. The expected future earnings influence the value of a firm.

A company sustain higher costs of capital, it leads to high degree of risk, and increase the risk of bankruptcy. If the company increase more debt capital, the company's WACC increases beyond the optimal level, which makes potential for increasing bankruptcy costs? It is the responsibility of the management to avoid financial devastation, and bankruptcy when determining the amount of loan capital to add to their debt levels at all.

As for the agency concept, there are number of conflicts within the stakeholders of the company. The first type of conflict arises between the shareholders and its managers. The second type of conflict arises among the shareholders as majority and minority shareholders. Owners. When there is a conflict between the shareholders and the debt holders, the money suppliers try to control on the use of their money. The money suppliers demand higher interest rate to protect them from the ongoing conflict in the financial crisis in the company.

Top managers of the company show a signal to the potential investors of the company in the way of capital structure of the company. Thus, outside investors measure the level of loan capital as a positive signal, to calculate over or under debt combination which leads to bankruptcy. It is expected that the managers and potential investors should have same information but in reality, it does not true. The managers of the particular company can sell stock in over value and do sell bond undervalued by knowing accurate

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information while, investors take new stock sales negative signal. On the other hand, managers know the true distribution of firm's returns, but investors do not it. The manager get benefit if firm's securities are more highly valued by the market but are penalized if the firm goes bankrupt. Firms with higher value are predicted to issue more debt as a signal to investors in order to differentiate them from lower values firms. Further model shows relationship between profitability, debt level.

EMPIRICAL STUDY ON CAPITAL STRUCTURE

Hassan, 2012 identified a significant relationship between the capital structure and long term debt ratio by studying a convenient sample of 34 beverage food and tobacco and manufacturing companies listed over the period of five years from 2009 to 2013. He considered profitability, liquidity, tangibility and firm size as independent variable while long term debt ratio as dependent variable. The secondary data extracted from the annual reports were analysed using the multiple regression and correlation analysis with usage of SPSS -20 versions. The findings revealed that the profitability and liquidity were significantly negatively correlated with leverage level while tangibility showed a significant positive relationship but, firm size indicated no significant relationship with it.

Researched by (Hanithavijeyaratnam & Anandasayanan , 2015) on the topic of "The Determinants of Leverage of Sri Lankan Manufacturing Companies Listed on Colombo Stock Exchange" using the panel data for the period of 2008 – 2012 with 31 manufacturing companies. Statistical tools correlation analysis and multiple regression analysis were run to measure relationship among variables, to test the hypotheses. The result revealed that profitability and non-debt tax shield were relevant determinant for Sri Lankan manufacturing companies, except tangibility.

Menike, 2015 investigated a pecking order and life cycle concept on 300 SMEs by testing univariate and multivariate logistic regression models with variables age, size, ownership structure, imbalance information and level of intangible activity. The study revealed that older and larger firms, accumulate enough fixed assets by eliminating informal asymmetry to acquire long term loans providing fixed assets as securities. Further, revealed Metal and Wood industries used less internal finance while the SMEs in Textile industry used more long-term debts.

Banda & Riyad Rooly, 2014 conducted research on static trade-off concept with the sample of the top 50 companies to identify trade-off costs and benefits to derive an optimal debt ratio. The findings indicated that no significant association between management and firm characteristics and static trade-off theories and full impact on firm value. Furthermore, static trade-off theory differs from developed country to Sri Lanka.

Siromi & Chandrapala, 2017 discussed that, the corporate governance affect decisions on capital structure of 138 non-financial companies as a sample for five-year from 2009 to 2013. The variable such as board size, board composition, leadership structure, board committees, and managerial ownership were used as independent variables. The return on assets and firm size were dependent variable and control variable respectively. The multiple regression analysis was run on variables to test hypothesis and the findings revealed that no significant effect except board composition which showed positive relationship & board committee showed negative impact on this capital structure study.

Velnampy & Niresh, 2012 Analysed to what extent profitability is affected by such decision on financial strategy of companies in order to investigate the capital structure on profitability of ten financial institution listed over the past 8 year period from 2002 to 2009. The descriptive and correlation statistics were analysed to find out the relationship among the variables. It showed a negative association on profitability except the association between debt to equity and return on equity. Further the results showed more about 89% banks total assets are represented by debt capital.

Gowsika, 2015 Described that, main impact of Corporate Governance on Capital Structure of Listed beverage food and tobacco companies in Sri Lanka with 12 companies, over the period of 2009-2013. When there is a Good corporate governance practices, it will reduce risk for investors, and attracting more investment to improve the performance of companies. Corporate governance and capital structure has succeeded in attracting a good deal of public interest because it is a tool for socio-economic development. Also when there is good corporate governance and capital structure, there will be proper and efficient practice in the administration of business entities. Determining the optimal capital structure and making decision about financial resources are important issues which can significantly affect economic activities and commercial relationships of companies. Therefore corporate governance variables like size of board, composition of board, skill set at board and board meeting may have direct impact on capital structure decisions. The 'Board Composition , board size and board Meeting were considered as independent variables, whereas, long term debt to total assets, long term debt to equity, as dependent variable. According to the analysis capital structure impact significantly on board composition of the study of corporate governance.

Pratheepan & Banda, 2016 Explained the in pecking order studies that, profitability has inverse relationship and firm size and growth shows statistically significant of positive relationship with leverage for selected companies in Sri Lanka. A sample of 55

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companies were empirically examined using the panel data analysis during the period of 2003-2012. The results supported the pecking order concept of manufacturing.

Sangeetha & Sivathaasan, 2013 found that, use of loan capital is relatively low in Sri Lanka. The independent variables such as tangibility, size, growth rate, profitability, liquidity dividend pay-out showed statistically significant. The regression analysis, was impact 77 % on capital structure on samples of 50 companies with 13 sectors during for five years from 2002 to 2006.

Silva & Ranjani, 2010 conducted a study to identify significance of the corporate capital determinants considering size, profitability, tangibility, growth, tax, non-debt tax shields and volatility to leverage. The sample of five manufacturing and Plantations industries during the period of 2003 to 2010 was taken in to consideration from the CSE. The analysis of the multiple linear regression was run to test hypothesis There was positive association between leverage and non-debt tax shields, while negatively associate with profitability and growth opportunities. Finally, Static Trade-off, Pecking Order and Agency Cost concepts were tested to these companie

Pratheepkanth, 2011 mentioned in his analysis that there is negative association in determining capital structure of business companies for five years from 2005 to 2009 in Sri Lanka. This study used regression analysis to determine financial performance of the capital structure.

RKajanantha & Nimalathanan, 2013 examined the firm performance and capital structure in a sample derived from manufacturing firms for 2008 to 2012. The independent variables of the study are gross profit, net profit, returns on equity and return on assets as indicators of firm performance whereas the dependent variable is debt assets ratio. The study measures descriptive statistics, correlation and regression analyses. The findings show that no significant correlation with independent variables with equity ratio and there was significant correlation between gross profit margin and return on equity with debt assets ratio. The findings highlighted the effects of the capital structure.

InnunJariya, 2015 Argued that, the debt and equity capitals impact of capital structure on profitability. The debt and equity capital did not bring favourable results to the food, beverage and tobacco companies from which data were taken for five years from 2007 to 2012. The findings showed that capital structure has a negative impact on profitability in a developing market like in Sri Lanka.

METHODOLOGY

The objective of this research is to find out the way for appropriate formation of capital structure of companies listed CSE. The chapter is discussing the methodology used to achieve the research objective under the several heading.

PROBLEM STATEMENT

It is a responsibility of the management of the Beverage food and tobacco to ensure that the maximization of profitably for that the cost of capital employed. But it is not easy identify the optimal capital structure. Identification specific factors of sharing among debt and equity formation not much easier one. However, some specific factors have been determined leverage level of optimal capital structure of Beverage food and tobacco firms. Even though, many empirical studies reported all over the world, no specific solution to this problems can be observed. Therefore, the researcher interested to know those factors influenced in determining optimal capital structure of the Beverage food and tobacco company.

RESEARCH QUESTIONS

From this study the researcher tries to identify answers to the following:

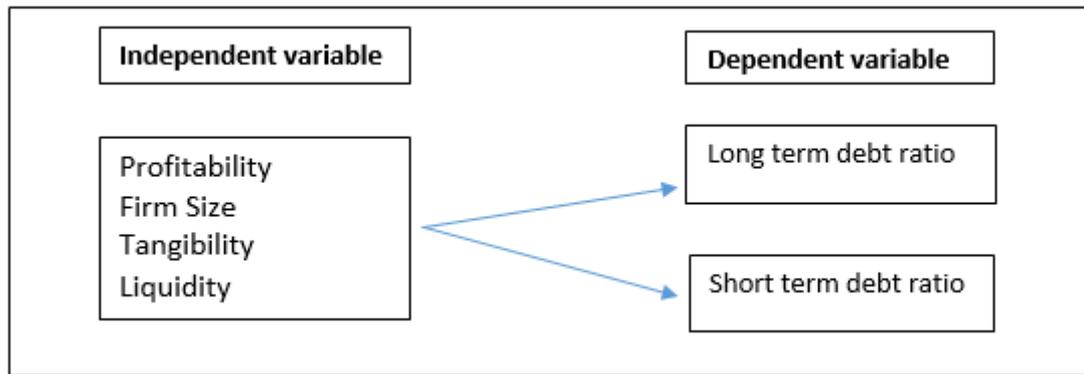
- Which factors are specifically determining leverage level of Beverage food and Tobacco Company?
- What type of relationship exists in determining leverage level?
- Which factors are significantly impact on leverage level?

OBJECTIVE OF THE STUDY

It has three objective for this research:

- Identify firms' specific factors which determining leverage level
- Analyse and measure the relationship of the variables.
- Calculate whether each factors contribute significantly of this study.

CONCEPTUAL MODEL



(Source: developed for this study)

DEVELOPMENT OF HYPOTHESES

With the view to identify the relationship of determinants, the researcher has developed the following hypotheses are to be tested.

Hypotheses;

H₀₁ : There is no significant relationship between profitability and long term debt.

H_{a1} : There is a significant relationship between profitability and long term debt.

H₀₂ : There is no significant relationship between firm size and long term debt.

H_{a2} : There is a significant relationship between firm size and long term debt.

H₀₃ : There is no significant relationship between tangibility and long term debt.

H_{a3} : There is a significant relationship between tangibility and long term debt.

H₀₄ : There is no significant relationship between liquidity and long term debt.

H_{a4} : There is a significant relationship between liquidity and long term debt.

H₀₅ : There is no significant relationship between profitability and short term debt.

H_{a5} : There is a significant relationship between profitability and short term debt.

H₀₆ : There is no significant relationship between firm size and short term debt.

H_{a6} : There is a significant relationship between firm size and short term debt.

H₀₇ : There is no significant relationship between tangibility and short term debt.

H_{a7} : There is a significant relationship between tangibility and short term debt.

H₀₈ : There is no significant relationship between liquidity and short term debt.

H_{a8} : There is a significant relationship between liquidity and short term debt.

DATA COLLECTION

This quantitative non-experimental study uses the data annual report; balance sheet, income statement the select companies. Other relevant data which are not available in the above sources taken from the websites of Colombo Stock Exchange (CSE). Further secondary data will collect from manager's reports, journals, magazines, articles and websites.

SAMPLE SELECTION

There are 20 sectors identified in CSE of which the beverage food and tobacco is a sector that has currently 50 companies. A sample of 25 companies with availability of data for a consecutive five years from 2015-2019 were considered for the study. Also the sample include companies with different financial year ending periods.

VARIABLES

In this study the researcher used the capital structure determinations as independent variable such as Profitability, Firm size, Tangibility, Liquidity. It has two dependent variables such as Long-term debt ratio and Short-term debt ratio.

Profitability (Return on Assets)

A basic measure of profitability is the return on assets, the net profit after taxes per dollar of assets. The formula is:

Return on Asset (ROA) = Net Income/ Total Assets

Asset Tangibility

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A rational scale is used to fix total assets to liquidate more assets in case bankruptcy. The formula for calculating Tangibility is:

$$\text{Tangibility} = \text{Fixed Assets} / \text{Total Assets}$$

Corporate Tax

Interest can be manipulated to get corporate income tax benefits. Companies with major taxpayers try to reduce their tax burden by using interest on loans. The corporate tax for this study is the amount profit before tax (EBT) as measured by a rational scale.

The formula is:

$$\text{Corporate Tax} = \text{EBT} - \text{EAT} / \text{Total Assets}$$

Firm size

The size of business unit means the size of firm. It means the scale or volume of operation turned out by a single firm size. The term size of firm refers to the scale of organization and operations of business enterprise. The firm size empirically found to be strongly positively related capital structure. The firm size calculating by:

$$\text{Firm size} = \log \text{ of sales}$$

Liquidity

Liquidity is an asset or security, can be converted into cash without any rebate its market price. The most liquid of assets is Cash. There are two types of liquidity called market liquidity and accounting liquidity. The formula is as follows:

$$\text{Liquidity} = \text{current asset} / \text{current liability}$$

METHOD OF ANALYSIS

The data collection for a period of five years are analysed with the use of SPSS software. In these selected companies, average of long term debt ratio and short term ratio and their profitability, firm size, tangibility, and liquidity will be analysed in descriptive manner. The correlation and regression analysis will be employed to examine the objective of the study. The analysis be done in the following manner, first part of analysed using above mentioned statistical techniques and results will be interpreted for each model.

DESCRIPTIVE STATISTICS

Descriptive statistics includes the mean, median and standard deviation. Mean value is the most common description of the central tendency. Standard deviation is useful to assess how a variable deviates from the mean.

CORRELATION ANALYSIS

In statistical data analysis, coefficient of correlation was used to quantify the relationship between two variables. The most commonly used correlation statistic is the Pearson correlation coefficient. This statistic measures both the strength and direction of linear relationship between two variables.

REGRESSION ANALYSIS

Linear regression analysis is a form of regression analysis in which the relationship between one or more independent variables and a dependent variable, it is modelled by a least squares function, called linear regression equation. In order to predict the dependent variable as accurately as possible, it is usually necessary to include multiple independent variables in the model. Multiple linear regressions allow testing how well researchers can predict a dependent variable on the basis of multiple independent variables. This function is a linear combination of one or more model parameters, called regression coefficients, the sign (+/-) of the regression coefficient indicates the direction of the causal relationship between dependent and independent variables.

In this study the researcher used the coefficient of determination (R-square) value for overall predictive accuracy of a multiple regression model. It is always between 0 to 1. If the R square value is 1.0 it means 100% of the variance and so the model will produce perfect accuracy but, it will not happen in practical. The point is, the closer to 1.0 the R square value is, the better model. The closer R square value is to 0, the worse model.

Based on the variables, two multiple regression models formulated as follows.

Model – 1

$$\text{LTDR} = a + \beta_1 \text{PROF} + \beta_2 \text{FSIZE} + \beta_3 \text{TANG} + \beta_4 \text{LIQ} + \hat{\epsilon}$$

Model- ii

$$\text{STDR} = a + \beta_1 \text{PROF} + \beta_2 \text{FSIZE} + \beta_3 \text{TANG} + \beta_4 \text{LIQ} + \hat{\epsilon}$$

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ANOVA (F-value) indicate that the model explains the most possible combinations of predictor variables that could contribute to the relationship between the dependent variable.

Test of significant level: the significant is two type, one is two tailed and another one is one tailed probabilities. If the direction of association is known in advance, select one tailed. Otherwise select two tailed. In the analysis, the direction is unknown that's why the researcher uses two tailed.

If significant two tailed value of probability value (p-value) is lesser than the significant level value (tested alpha value) then researcher statistically concluded that, there is a significant between two variable (dependent and independent) otherwise, insignificant or no significant relationship exists between two variable.

DATA PRESENTATION AND ANALYSIS

Correlation Analysis

The Pearson's correlation was calculated for variables such as profitability, firm, size, tangibility and liquidity and leverage and it is presented in table 1

Table 1. Summarized Pearson's correlation Analysis of the model 01 and 02

		Long term debt Model 01	Short term debt Model 02
Profitability	Pearson Correlation Sig. (2-tailed) N	-.243** .006 125	-.310** .000 125
Firm size	Pearson Correlation Sig. (2-tailed) N	.116 .198 125	.068 .452 125
Tangibility	Pearson Correlation Sig. (2-tailed) N	-.016 .863 125	-.059 .516 125
Liquidity	Pearson Correlation Sig. (2-tailed) N	-.144 .110 125	-.340** .000 125

** . Correlation is significant at the 0.01 level (2-tailed).

(Source: Result of SPSS analysis)

The above table shows the relationship between the various independent and dependent variables used in the study. The table further shows the positive and negative correlation values between the variables.

In the model 01

The correlation of coefficients long term debt ratio (LTDR) to profitability (PROR) is -0.243, this negative coefficients illustrates; A moderate negative correlation is identified with the long term debt and profitability of the beverage food and tobacco firms. This correlation insignificant, because the significant value of LTDR (p -value=0.006) is not equal to the significant value (0.01). This suggest that the correlation between the profitability and long-term debt is negatively insignificant in firmss.

The correlation of coefficients between form size (FMSZ) of the firm and long term debt is 0.116 this is moderate positive relationship, which means that the growing size of firm increases the beverage food and tobacco firms leverage also increase (long term debt). However, the significant value (p -value = 0.198) is greater than the listed value (0.01), then statistically concludes that, the positive correlation of firm size and long term debt is insignificant.

The correlation of coefficients between tangibility (TANR) of the firm and long term debt is -0.016 this is moderate negative relationship, which means that the tangibility of firm increases the beverage food and tobacco firm's leverage level will be decrease (long term debt). The significant (p -value=0.863) is greater than the tested value (0.01), Therefore, at 1% significant level statistically concludes that, the correlation between tangibility and long-term debt is positively insignificant.

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Liquidity of the firm and long term debt has moderate negative correlation (-0.144). And also tangibility is insignificant with leverage level (long term debt) because significant value (p -value=0.110) greater than the tested value (0.01). Therefore, at 1% significant level statistical concludes that, the correlation between liquidity in long term debt is negatively insignificant.

In the model 02

The correlation of coefficients of short term debt ratio (STDR) to profitability (PROR) is -0.310, this negative coefficients illustrates; there is a moderate positive correlation between the short term debt and profitability of the beverage food and tobacco firms. This correlation is strongly significant, because the significant value of PROR (p value=0.000) is lesser than the significant value (0.01). This suggests that correlation between the profitability and short term debt is positively significant in the beverage food and tobacco firms in Sri Lanka.

The correlation of coefficients between firm size (FMSZ) of the firm and short-term debt is 0.068 this moderate positive relationship, which means that the growing size of firm increases the beverage food and tobacco firm's leverage (shot term debt) also increase. The significant value (p -value=0.452) it is greater than the tested value (0.01). At 1 percent significant level statistically conclude that, the correlation between firm size and short term debt is positively significant.

Tangibility (TANR) of the firm and short term debt has moderate negative correlation (-0.059). And also tangibility is insignificant with short term debt, because significant p -value = 0.516 is greater than the tested value (0.01), Therefore, at 1% significant level statistically concludes that, the correlation between tangibility and short term debt is negatively significant.

Liquidity (LIQR) of the firm and long term debt has moderate negative correlation (-0.340). And also liquidity is strongly significant with short term debt, because significant value (p -value=0.000) lesser than the tested value (0.01). Therefore, at 1% significant level statistically concludes that, the correlation of liquidity to short term debt is negatively significant.

Regression Analysis

The registration analysis is a statistical method for evaluating the relationship between more independent variables and one dependent variable. The impact of PROF, FSZE, TAN, and LIQ on the leverage level (LTDR and STDR) in the firms listed in CSE. The result of regression of two models are shown in the following tables.

Table 2. Regression output summary of model 01

Model	R	R Square	Adjusted R ²	F	Sig.F
1	.308 ^a	.095	.064	3.135	.017 ^b

Dependent Variable: LTDR

b. Predictors: (Constant), LIQR, TANR, PROR, FMSZ

(Source: Result of SPSS analysis)

In model 01

R square value of 0.095 denotes that 9.5% in long term debt can be explained by the independent variables. The remaining 90.5% is attributed to other variables. Therefore, statistically conclude that these selected four independent variables lower impact on LTDR

ANOVA, F -value indicates that the model explains the most possible combination of predictor variables. The F value is 3.135, it is insignificant at 1%, because significant value (p =0.017) is greater than the tested value (0.01), which suggests that the indicators (independent variables) that have insignificantly in the long-term debt. And also indicate the model is not good fit for the data.

Table 3. Regression summary output of model 02

Model	R	R Square	Adjusted R ²	F	Sig.F
2	.479 ^a	.229	.203	8.912	.000 ^b

a. Dependent Variable: STDR

b. Predictors: (Constant), LIQR, TANR, PROR, FMSZ

(Source: Result of SPSS analysis)

In model 02

The above R square value of 0.479, denotes that 47.9% of observed variability in short term debt can be explained by the independent variables. The remaining 52.1% variance is attributed to other factors.

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ANOVA, *F*-value indicates that the model explains the most possible combination of the dependent variables. The *F* value is 8.912 it is significant at 1% because significant value, $p = 0.000$ is lesser than the tested value (0.01), which suggest that the indicators (independent variables) that have strong significant impact on the short term debt indicate the model good fit for the data.

Table 4. Coefficients^a

Model ((LTDR)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.026	.045		.583	.561
PROR	-.073	.026	-.241	2.756	.007
FMSZ	.007	.005	.109	1.243	.216
TANR	-.002	.037	-.006	-.065	.948
LIQR	-.006	.003	-.164	1.877	.063

a. Dependent Variable: LTDR

(Source: Result of SPSS analysis)

The following multi linear regression (MLR) model explained the linear relationship of dependent variable (LTDR) to independent variable (PROR, FMSZ, TANR, LIQR)

$$\text{LTDR} = 0.026 - 0.073 \text{ PROR} + 0.007 \text{ FMSZ} - 0.002 \text{ TANR} - 0.006 \text{ LIQR}$$

According to the above regression model, the constant value is 0.026 indicates, where the regression line intercepts the LTDR axis, representing the amount the dependent LTDR will be when all the independent variables are 0.

The results of regression showed that, the beta coefficient of PROR is -0.073, this coefficient illustrates; there is a negative correlation between the long term debt and profitability of the beverage food and tobacco farms. It is apparent 0.026 units increase in LTDR is associated with 0.073 units decrease in profitability.

The beta coefficient for FMSZ is 0.007 on LTDR indicates very small positive value. This finding raises a question as whether firm size is an important factor in the long-term debt of the firms listed in CSE.

The beta coefficient TANR is -0.002, this coefficient illustrates that there is a negative correlation between the long term debt and tangibility. It is apparent 0.026 units increase in LTDR is associated with 0.002 units decrease in tangibility

The beta coefficient of liquidity -0.006, is negative correlation between the long-term debt and liquidity. It is apparent 0.026 units increase in LTDR is associated with 0.006 units decrease in liquidity of the firms listed in CSE.

Table 5. Coefficients^a

Model (STDR)	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.128	.074		1.730	.086
PROR	-.172	.044	-.319	-3.957	.000
FMSZ	.008	.009	.069	.849	.398
TANR	-.039	.061	-.051	-.637	.525
LIQR	-.023	.005	-.361	-4.482	.000

a. Dependent Variable: STDR

(Source: Result of SPSS analysis)

The following multi linear regression model explained the linear relationship of the dependent variable (STDR) to the independent variable (PROR, FMSZ, TANR, and LIQR).

$$\text{STDR} = 0.128 - 0.172 \text{ PROR} + 0.008 \text{ FMSZ} - 0.039 \text{ TANR} - 0.023 \text{ LIQR}$$

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According to the above regression model, the constant value is 0.128 indicators, where the regression line intercepts the STDR axis, representing the amount the dependent STDR will be when all the independent variables are 0.

The results of regression indicated that, the beta coefficient of PROR is -0.172, this coefficient illustrates; there is a negative correlation between the short-term debt and profitability of the beverage food and tobacco firms, It is apparent 0.128 units increase in STDR is associated with 0.172 units decrease in profitability.

The beta coefficient of FMSZ is 0.008, this coefficient illustrates that there is positive correlation between the show term debt and firm size. It is apparent 0.128 units increase in STDR is associated with 0.008 units increase in firm size.

The beta coefficient TANR is -0.039, this coefficient illustrates that there is negative correlation between the short-term debt and tangibility. It is apparent 0.128 units increase in STDR is associated with 0.039 units decrease in tangibility.

The beta coefficient of LIQR -0.023 is , negative correlation to the short-term debt and liquidity. It is apparent 0.128 units increase in STDR is associated with 0.023 units decrease in liquidity of the company listed in Sri Lanka

Hypothesis Testing

This is the statistical model and it can be used to test the hypothesis, in this section, hypothesis is basically going to be tested by using coefficient of regression model. As this study involves with more independent variable the coefficient regression analysis used to drive conclusion.

Table 6. summarized coefficient of regression model 01 and 02

	Long term debt ratio (LTDR) Model 1			Short term debt ratio (STDR)Model 2		
	Beta	t	sig	beta	t	sig
(Constant)		.583	.561		1.730	.086
PROR	-.241	-2.756	.007	-.319	-3.957	.000
FMSZ	.109	1.243	.216	.069	.849	.398
TANR	-.006	-.065	.948	-.051	-.637	.525
LIQR	-.164	-1.877	.063	-.361	-4.482	.000

(Source: Result of SPSS analysis)

The beta coefficient of PROR -0.241, is a moderate negative association between the long-term debts to profitability. The *t*-statistic and significant value are -2.756, 0.007 respectively. It reflects that *t*-value is insignificant at 5% significant level, because significant value of profitability 0.007 is smaller than 0.05 the tested alpha value. So, researcher can reject the null hypothesis H_{01} and accept the alternative hypothesis H_{a1} . Therefore, at 5% significant level statistically conclude that, there is no significant relationship between profitability and long-term debt.

The beta coefficient of FMSZ 0.109, is illustrated that there is no significant between the long-term debt and firm size. The *t*-statistic and significant values are 1.243, 0.216 respectively. It reflects that *t*-value is insignificant at 5% significant level, because the significant value 0.216 is greater than 0.05, the tested alpha value, so, researcher can accept the null hypothesis H_{02} and reject the alternative hypothesis H_{a2} . Therefore, at 5% significant level statistically conclude that, there is a significant relationship of firm size to long-term debt.

Tangibility is insignificant relationship with long term debt. Because the beta coefficient TANR is -0.006. The *t*-statistic and significant values are -0.065, 0.948 respectively. It reflects that *t*-value is insignificant at 5% significant level, because significant value 0.948 is greater than the tested alpha value (0.05). So, researcher can accept the null hypothesis H_{03} and reject the alternative hypothesis H_{a3} . Therefore, at 5% significant level statistically conclude that, there is no significant relationship between of tangibility and long-term debt.

The beta coefficient of liquidity is -0.164 this illustrates that there is insignificant relationship between the liquidity and long term debt. The *t*-statistic and significant value are -1.877, 0.063 respectively. It reflects that *t*-value is insignificant at 5% significant level, because significant value 0.063 is greater than the tested alpha value (0.05) so, researcher can accept the null hypothesis H_{04} and reject the alternative hypothesis H_{a4} . Therefore, the 5% statistically concluded that, there is no significant relationship is liquidity to long-term debt.

The beta coefficient of PROR is -0.319 illustrates that there is significant relationship between PROR and short-term debt. The *t*-statistic and significant values are -3.957, 0.000 respectively. It reflects that *t*-value is significant at 5% significant level, because the significant value of profitability 0.000 is lesser the tested alpha value 0.05, so, researcher can reject the Null hypothesis H_{05}

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and accept the alternative hypothesis H_{a5} . Therefore, at 5% significant level statistically conclude that, there is significant relationship between profitability and short time debt.

The beta coefficient of FMSZ is 0.069, indicates that there is moderate positive correlation between the short term debt and firm size. The t -statistic and significant values are 0.849, 0.398 respectively. It reflects that t -value is insignificant at 5% significant level, because the significant value 0.398 is higher than the tested alpha value 0.05. So, researcher can accept null hypothesis H_{06} and reject the alternative hypothesis H_{a6} . Therefore at 5% significant level statistically conclude that there is a significant relationship between profitability and short term debt.

Tangibility has -0.051, moderately negative association with short term debt. The t -statistic and significant value are -0.637, 0.525 respectively. It reflects that t -value is insignificant at 5% significant level, because significant value 0.525 is higher than the (0.05), tested alpha value. So, researcher can accept the null hypothesis H_{07} and reject the alternative hypothesis H_{a7} . Therefore at 5% significant level statistically conclude that, there is a significant relationship between tangibility on short term debt.

The beta coefficient of liquidity is -0.361 mentioned that there is moderate negative association between liquidity and short term debt. The t -statistic and significant value are -4.482, 0.000 respectively. It reflects that t -value is significant at 5% significant level, because significant value of liquidity 0.000 is lesser than the alpha value (0.05). So, researcher is in a position to reject the null hypothesis H_{08} and accept the alternative hypothesis H_{a8} . Therefore, at 5% significant level statistically conclude that, there is a significant relationship between liquidity and short term debt of the company under the study.

CONCLUSION AND RECOMMENDATION

The conclusion and recommendation discusses the findings based on the data analysis in the study. It describes the summary adopt in this study, and also the key findings and conclusion for the study. This research was carried out in order to investigate the significant impact between capital structure determinants and leverage level of the firms in the beverage food and tobacco sector. It has analysed capital structure determinants and leverage level by descriptive, regression and correlation analysis. The conclusions for objective have been identified and appropriate recommendations for the future work in the same area were given in the researcher point of view.

FINDING FROM OVER ALL ANALYSIS

The present study evaluated the relationship between capital structure determinate and leverage level of the companied under the study for 2015 to 2019.

The objective of this article was to test the postulated hypotheses and to provide evidence with respect to the impact of firm capital structure determinants and leverage level, by examining factors such as profitability, firm size, tangibility, liquidity.

The research considered two model to test the hypotheses, using long and long-term debt along with independent variables, for the selected companies. Pearson correlation coefficient and multiple regression parameters were computed to analyses the impact of capital structure determinants on the leverage level. In the regression model 01 the LTDR is used as dependent variable and in the model 02 STDR used as dependent variable. While profitability, firm size, tangibility and liquidity variables are used as independent variables in both two models. According to the above table, the models coefficient determinations (R square) are represents 10% and 50% respectively. Based on that, second model can be well fitted and accepted.

Based on the second model, the current study extends the very interesting discussion about the profitability ratio on leverage level. The results from above correlation and regression analysis revealed a negative correlation and regression analysis revealed a negative correlation between long term debt and positive relation between profitability and leverage level, this result of correlation find that more profitable companies will employ more debt since they are more likely to have a high tax burden and low bankruptcy risk. So there is an evidence to support the trade-off theory. Some empirical studies also reported a positive relationship between the profitability and leverage level. And the result of regression profitability not to have a significant material impacts on capital structure decision for beverage food and tobacco firms listed in Sri Lanka.

Since firm size, has positive significant relationship with leverage level (Short term debt ratio).The result of correlation of reveals that larger firms are expected to have a higher debt capacity and are able to be more highly geared. So there is an evidence, to support the trade-off theory. Some empirical studies also reported a positive relationship between the profitability and leverage level. Some empirical studies also reported positive relationship between firm size and leverage level. And also the result of regression firm size has a significant impact on leverage level.

Tangibility has negative significant relationship with leverage level. The result of correlation of reveal that, the firm with a higher asset diversification and a larger fixed asset ratio tends to use more long term debt less than short term debt. Some empirical evidence also reported this result. And also the result of regression tangibility has a significant impact on leverage level. Liquidity

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has negative significant relationship with leverage level. The result of correlation of reveals that, a firm with greater liquidity prefers to use internally generated funds while financing new investments. So there is an evidence to support the pecking order theory. A few empirical studies have shown their results consistent with this result.

CONCLUSION

The finding of this study is expected to contribute towards a better understanding of capital structure decision in the Sri Lankan context. This study analysis the determinants of the capital structure of 25 beverage food and tobacco sector firms listed in Sri Lanka from the period of 2016 to 2020, and to what extent the influence of these determinants on leverage decision.

The find that tangibility, firm size and liquidity were confirmed to be significant determinants for beverage food and tobacco firm in Sri Lanka. The profitability confirmed no significant impact in capital structure decision for Sri Lankan beverage food and tobacco firms. There was a strong evidence to support the pecking order theory based on the significant determinant of tangibility. Nevertheless, trade off theory also strong evidence based on the significant determinants of firm size and correct prediction sign of profitability. Therefore, it could be concluded the both pecking order concept and trade-off concept are important in Sri Lankan context.

LIMITATION OF THE STUDY

- The study based on secondary data will be collect from various sources. The conclusion of the study arrive on an aggregate basis on a simple which is subject to the accuracy of the data use.
- The sampling design of this study restricts generalization. The study is carried out based on selected 25 beverage food and tobacco firms, although there are 50 companies quoted in this sector. There for analyse of the particular sector could be major limitation, as they not represent all the companies from the sector.
- The researcher only used 4 dependent variables but, variables may influence in determining the study.

REFERENCE

- 1) Banda, Y. W., & Riyad Rooly M.S.A2, M. (2014). Static trade-off theory and practice on corporate debt financing in sri lanka: evidence from management and firm characteristics. *The International Journal of Social Sciences and Humanities Invention*, 1(09), 813-844.
- 2) HARRIS , M., & RAVIV, A. (1991). The Theory of Capital Structure. *THE JOURNAL OF FINANCE*, 46(1), 297-355.
- 3) InunJariya, A. (2015). EFFECT OF CAPITAL STRUCTURE ON PROFITABILITY OF FOOD AND BEVERAGE SECTORS IN SRI LANKA. *EPRA International Journal of Economic and Business Review*, 3(2), 57-63.
- 4) Pratheepan, T., & Banda, Y. W. (2016). The Determinants of Capital Structure: Evidence from Selected Listed Companies in Sri Lanka. *International Journal of Economics and Finance*, 8(1), 94-106.
- 5) Pratheepkanth , P. (2011). CAPITAL STRUCTURE AND FINANCIAL PERFORMANCE: EVIDENCE FROM SELECTED BUSINESS COMPANIES IN COLOMBO STOCK EXCHANGE SRI LANKA. *Journal of Arts, Science & Commerce*, 2(2), 171-183.
- 6) Velnampy , T., & Niresh , J. A. (2012). The Relationship between Capital Structure & Profitability. *Global Journal of Management and Business Research*, 12(13), 67-74.
- 7) Gowsika , S. (2015). IMPACT OF CORPORATE GOVERNANCE ON CAPITAL STRUCTURE OF LISTED BEVERAGE FOOD AND TOBACCO COMPANIES IN SRI LANKA. *Proceeding of International Conference on Contemporary Management*, 117-129.
- 8) Hanithavijeyaratnam, & Anandasayanan , s. (2015). The Determinants of Leverage of Sri Lankan Manufacturing Companies Listed on Colombo Stock Exchange. *International Journal of Research in Business Studies and Management*, 2(2), 30-37.
- 9) Hassan, s. M. (2012). factors determing capital stucutre the analysis of beverage food andtobacco sector firms listed in cse. *factors determing capital stucutre the analysis of beverage food andtobacco sector firms listed in cse*, 52-61.
- 10) Menike, L. (2015). Capital Structure and Financing of Small and Medium Sized Enterprises: Empirical Evidence from a Sri Lankan Survey. *Journal of Small Business and Entrepreneurship Development*, 13(1), 54-65.
- 11) RKajanantha, R., & Nimalthasan, P. (2013). CAPITAL STRUCTURE AND ITS IMPACT ON FIRMS PERFORMANCE ; A STUDY ON SRI LANKAN LISTED MANUFACTURING COMPANIES. *Merit Research Journal of Business and Management*, 1(2), 37-44.
- 12) Sangeetha , M., & Sivathaasan , N. (2013). Factors Determining Capital Structure: A Case study of listed companies in Sri Lanka. *Research Journal of Finance and Accountin*, 4(6), 236-247.
- 13) Silva, P., & Ranjani , R. (2010). An Empirical Analysis on Determinants of Capital Structure in Sri Lankan Companies. *Proceedings of the Research Symposium*, 146.

Analysis of Factors Determining Capital Structure of Firms Listed in Colombo Stock Exchange in Sri Lanka

- 14) Siromi, B., & Chandrapala, P. (2017). The Effect of Corporate Governance on Firms' Capital Structure of Listed Companies in Sri Lanka. *Journal of Competitiveness*, 9(2), 19-33.