Influence of Market Power on Leverage of Listed Manufacturing Companies in Sri Lanka

Abstract – Main purpose of this study is to investigate whether there is an impact of market power on leverage of listed manufacturing companies in Sri Lanka, because manufacturing sector has grown faster and has large number of listed companies compared to other sectors in the Sri Lankan economy. The population of the study is forty one companies and thirty five companies were selected, based on the data availability for the study. Annual reports of the listed manufacturing companies from 2013 to 2017 were used as the secondary data source to collect data. Market power, profitability, growth & tangibility are used as independent variables and leverage is the dependent variable. Data analysis was conducted using Eviews statistical package and several statistical measures such as descriptive analysis, correlation analysis and panel data regression analysis were used as analysis techniques. The study has proved that there is a significant and positive relation between market power and leverage. Profitability & tangibility remained significantly negative with leverage, whereas growth is remained significantly positive with leverage. The study generates valuable insight in the area of market power and leverage as little as known in Sri Lankan context.

Keywords— Leverage, Market Power, Trade-Off Theory, Pecking Order Theory

I. INTRODUCTION

Management is making decisions in manner that the value of firm is maximized within the corporate business form. Because decisions regarding to the capital structure are very important to the all type of businesses. Usually it is a job of management even-though it is not a simple task. Considering the various benefits and costs associated with these securities, it includes the choice of fair and equitable debt securities. Financial suffering and ultimately bankruptcy can be arises due to an incorrect decision during the process of selecting securities. Generally, the company can facilitate the acquisition of funds for both investment in both financial markets of debts and equity. The ratio of debt to equity is called as financial leverage. It shows the relationship between credit and shareholders' funds. Leveraged firms are having a mix of both the equity from owners and debts from lenders in their balance sheet and unlevered firms have only equity. The benefit of tax exemption on interest expense provided by the part of debt the financing. But it is include a disadvantage of financial distress associated costs. By exerting pressure for paying the debt amounts back on time, it is lowering the firm's

ability to increase equity and its growth. On the other hand, equity part of financing does not ensure any fixed amount of profit to the equity holders which also provide the growth opportunity by increasing cash flows.

A. Problem Statement

It is not clear the relationship between market power and leverage of manufacturing companies in the Sri Lankan context. The existing knowledge is not sufficient to get a meaningful understanding about the influence of the market power on leverage of manufacturing sector in Sri Lanka. In Sri Lanka, there are few research works, similar to this research work carried out by some authors in different periods (Thustanthi & Yogendrarajan, 2009; Buvanendra, 2013), but they haven't considered about the variables of market power.

B.Research Question

This study investigates the influence of market power on leverage of listed companies of Sri Lanka. It introduces market power as a determinant of leverage decisions. The study answers the main research question of:

1) Whether there is an influence of market power on leverage of listed manufacturing companies in Sri Lanka?

C. Objectives

In this study, main purpose is to assess whether there is an impact of market power on leverage of listed manufacturing companies in Sri Lanka. Accordingly, the main objective of this research is,

1) To investigate the impact of market power on leverage.

D. Literature Review

1) Theoretical Literature

Modigliani & Miller (1958) was presented their findings based on an assumption that there is the existence of market perfection in capital market. Therefore, market is free from transactions cost and bankruptcy costs. Also information is available to all in the market. That means companies have the same tax rate as the financial decisions. As a result of that, the cost of equity for both leveraged and not-leveraged firms is the same. For the non-leveraged firm, premium is included for financial risk. According to Modigliani & Miller (1958), financial leverage is unrelated to firm value in perfect capital markets. It means that, stability cannot be influenced at a high or low level. This theorem does not impact the company's value on the debt-equity ratio. That is also called as the concept of "capital structure irrelevance".

The purpose of the trade-off theory is to explain why firms are financed partly by equity and partly by debt. The optimal capital structure of a firm means a tradeoff between the cost of debts and the merits of debt. When the merit and cost of debt is equal, the optimal capital structure occurs. In this theory cost represented by the agency cost arising among creditors and owners and the cost of financial distress (Jensen & Meckling, 1976). This theory is based on a tradeoff between the tax advantages of debt financing and the costs of financial distress. As per Modigliani and Miller (1963) and DeAngelo and Masulis (1980), one of the advantages of this theory, is about costs which are fiscally deductible from the company's tax as a result of paying interests and the other advantage is lessening of the free cash flow problem (Jensen & Meckling, 1976).

The Pecking Order theory was first initiated by Myers (1984) and Myers and Majluf (1984) & it is an alternative to trade-off theory. Myers (1984) argued that retained earnings are better than debt and debt is better than equity. Pecking order theory detects the costs of asymmetric information. It assumes that the management of the company knows more about the future prospects of the firms than do outsiders. In contrast to the trade-off theory, there are no predictions about an optimal debt ratio in the pecking order theory. It rather express that a firm's capital structure is the result of the firm's financing requirements over time and its attempt to minimize adverse selection costs. The market will give a positive reaction if the company starts to buy back its shares. Accordingly, the optimal decision for a firm is to use internal funds whenever available. Such financing avoids all asymmetric information problems. If internal funds are exhausted, a firm will next issue debt. Because the value of debt less affected by information asymmetry than equity. It serves as a residual claim (Myers, 1984).

2) Empirical Literature

In a comprehensive comparative cross-country study of Rajan and Zingales (1995) found growth, tangibility, profitability and size as important determinants of capital structure. Also the results of Ajanthan (2013) found that, profitability was confirmed to be a relevant determinant for Sri Lankan hotels and restaurant companies. More profitable companies tend to have fewer debts, because they use retained earnings rather than debts. Growth, tangibility and size, variables were confirmed not to have material effect in capital structure decisions for Sri Lankan hotels and restaurant companies. Based on the relevant determinant of profitability, there was a strong evidence to support the pecking order theory by hotels and restaurant companies. According to Buvanendra (2013), profitability, tangibility & growth rate were used as independent variables, while leverage ratios such as total debt ratio, long term debt ratio and short term debt ratio were the dependent variables and the result was only profitability variable was statistically significant with leverage ratio at manufacturing companies in Sri Lanka. Alzomaia (2014) presented a study of capital structure determinants for 93 listed companies in Saudi Arabia for the period 1999-2010. The analysis is conducted using a cross-sectional pooled model. The study suggested size and growth opportunities are positively related to leverage. Tangibility and profitability are negatively related with leverage. Moreover, the results indicated that profitability is the major factors driving capital structure decisions for listed companies in Saudi Arabia. Their results provided some unexpected signs for some coefficients namely growth opportunities and tangibility of assets. In general, most empirical results of the study support the pecking order theory.

The findings of the Wanjogu (2014) confirmed that, there exists an inverse relationship between market power and leverage. It can be explained by various factors, such as increasing market share in a high market value. This has the effect of exerting pressure on companies to issue a higher fair price. Upon examining other variables that have an impact on leverage, profitability depicted a negative relationship with leverage. The positive relationship with leverage was established among the following control variables, tangibility and growth. Therefor market power is one of the variables which need to be taken into account as firms decide on the target capital structure. Jahanzeb, et al. (2015) used market power, tangibility and profitability as independent variable in their investigation except the variable of growth.

Hussain, et al. (2016) and Nagesha & Murthy (2016) found that same variables like market power, profitability, growth, tangibility influence on leverage in different ways. Also they have used the same analysis model as this investigation. Also, as per the findings of Pratheepan & Banda (2016), profitability exhibits statistically significant and inverse relationship with leverage while growth shows statistically significant positive relationship with leverage for selected listed companies in Sri Lanka. Tangibility and non-debt tax shields also indicate insignificant impacts on leverage. The results of this empirical study show that there is strong evidence to support the pecking order theory by manufacturing based companies on the leverage determinants of profitability and growth also strongly supports to the association of the pecking order theory. Though, trade off theory also cannot be rejected because of the correct estimate of the positive sign of size of manufacturing based companies. Accordingly, implication of pecking order theory is more appropriate in Sri Lankan perspective.

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Several empirical studies have reported a positive relationship between tangibility and leverage (Wald, 1999; Huang and Song, 2006; Viviani, 2008). But the firms with less tangibility may choose higher debt levels to stop managers from using more than the optimal level of perquisites. Some other empirical studies have reported a negative relationship between tangibility and leverage (Ferri and Jones, 1979; Karadeniz, et al., 2009; Ali, 2011). On the other hand, large liquid assets can use these assets for their investment money. Therefore, firm's liquidity position should exert a negative impact on its leverage ratio (Basu & Rajeev, 2013). Tangibility cause to arise lower cost of debt and less probability of bankruptcy. Thus, tangible assets are mostly meant to be of high credit capacity. The relationship between tangible assets and debt ratio is expected to be positive (Xiaomeng Xu, 2013).

II. METHODOLOGY

In this study, panel data method controlled the firm's heterogeneity and reduces the collinearity between the independent variables of market power, profitability, growth and tangibility. Thus, the study uses a two-way, fixed-effect model. This design has been used in other similar studies such as Al-shubiri (2011), Pandey (2004) and Wanjogu (2014).

Sri Lanka is a developing country with one and only stock exchange, called as Colombo Stock Exchange (CSE). Nearly 298 companies are listed on CSE representing 20 business sectors as at 29th June 2018. Listed manufacturing companies are selected for the purpose of this study. The reason for taking manufacturing companies are, it is the second largest sector in case of number of companies in CSE and manufacturing industry is one of the most important sector for country's economic development. The population of the study is forty one companies and thirty five companies were selected, based on the data availability for the study. The data representing the periods of 2013-2017 is taken into consideration for the purpose of ratio computation and analysis.

The study uses secondary data extracted from the financial statements of selected manufacturing companies. The annual financial statements were obtained from the CSE. The data extracted include current liabilities, current assets, long-term debt, net income, sales and book value of equity, stock prices and number of share outstanding, fixed assets, total assets and long-term debts. Based on the prior literature, the following hypothesis was developed for the current study.

Hypothesis 1: Market power has a positive impact on leverage. (Krishnaswamy, et al., 1992; Phillips, 1995; Jahanzeb, et al., 2015; Nagesha & Murthy, 2016).

This study investigates the influence of market power on leverage of listed manufacturing companies in Sri Lanka. The elements of the model are explained below.

Equation 1: Estimated Regression Equation

LVG = β 0 + β 1 (MP) it + β 2 (PRO) it + β 3 (GRO) it + β 4 (TAN) it + €it

Where: LVG = Leverage β0 = Intercept Coefficient MP it = Market power PRO it = Profitability GRO it = Growth TAN it = Tangibility € it = Error Term

Variable	Measurement	Sources	
Leverage ratio (LVG)	(Current Liabilities + Non- Current Liabilities)/Total Assets	(Mateev, et al., 2013)	
Market power (MP)	(Market value of equity + Book value of long term debt + Net current assets)/(Book value current of Equity + Long term debt + Net assets)	(Lindenb erg & Ross, 1981)	
Growth(GRO)	(Salest - Salest-1)/(Salest-1)	(Forte, et al., 2013)	
Tangibility of assets(TAN)	Tangible Fixed assets/Total assets	(Alzomai a, 2014)	
Profitability (PRO)	Net profit/Total assets	(Pandey, 2004)	

Source: KDU IRC 2019

Regression Analysis, Correlation Analysis and Descriptive Statistics are used as the analytical tools of the study. The data were analyzed using Econometric Views (Eviews) package. The study consists with panel data which comprise of both time series and cross sectional data. Hausman test was used to select the most appropriate regression model to analyze the panel data. Correlation analysis explains the relationship between the dependent variable and independent variable. Correlation between the independent variables and the dependent variables can be tested by using the Pearson's Correlation Matrix. It would be used to identify the strength and the direction of the relationship between the independent and the dependent variables selected for the study. Maximum, Minimum, Mean, Median and Standard deviation of the data were discussed under the descriptive statistic.

III. RESULTS

Descriptive statistics analysis was done to measure central tendency and variability of the distribution. This study analyse mean, median under central tendency. Variability measures using standard deviation.

Table 1. Descriptive Statistics

	LVG	MP	PRO	GRO	TAN
Mean	0.407898	0.123875	0.115595	0.370253	0.375598
Median	0.390599	0.082664	0.089602	0.392886	<mark>0.376536</mark>
Maximum	0.914086	1.019156	0.802259	0.883077	0.937846
Minimum	0.140122	9.10E-05	0.004912	0.000312	0.057555
Std. Dev.	0.176348	0.155204	0.122638	0.199872	0.188025

Source: KDU IRC 2019

Table 2. Regression Analysis							
Variable	Coefficient	Std. Error	t-Statistic	Prob.			
С	0.587071	0.052894	11.09910	0.0000			
MP	0.398005	0.073854	5.389105	0.0000			
PRO	-0.266156	0.089714	-2.966705	0.0036			
GRO	0.168621	0.071836	2.347306	0.0204			
TAN	-0.692609	0.128759	-5.379103	0.0000			
	Effects Sp	ecification					
Cross-section fixed (dumm	ıy variables)						
R-squared	0.834188	Mean dependent var		0.407898			
Adjusted R-squared	0.787858	S.D. dependent va	0.176348				
S.E. of regression	0.081224	Akaike info criteri	-1.989633				
Sum squared resid	0.897234	Schwarz criterion	-1.284338				
Log likelihood	213.0929	Hannan-Quinn cri	-1.703545				
F-statistic	18.00542	Durbin-Watson st	1.809337				
Prob(F-statistic)	0.000000						

Source: KDU IRC 2019

LVG=0.587+0.398MP-0.266PRO+0.168GRO-0.692TAN+€

These models test the relationship between leverage and independent variables of Market Power, Profitability, Growth and Tangibility. The (C) shown in the regression output represent the intercept coefficient. The intercept coefficient discusses the impact on the dependent variable when the independent variables are equal to zero. According to result of table 2 intercept coefficient indicate the impact on the leverage when the independent variables of Market Power, Profitability, Growth and Tangibility equal to zero. Based on the result of regression model each individual variable are significant at 5% confidence level.

1. Hypothesis 01

H1 = Market power has a positive impact on leverage.

The coefficient value of market power is 0.398005.which explain that when market power changes by 1 unit, leverage increases by 0.398005 units. The Probability value of the coefficient is 0.0000 which is significance at 5 % confidence level. Therefore, Null Hypothesis was

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on the above result, can conclude that market power has a positive and statistically significant impact on leverage at 5 % confidence level.

Overall Model Significance

The probability value of F statistic is the benchmark of identifying the significance of overall model. When discuss about the results of regression model, the probability F statistic value of 0.0000 proves that the model is significant at 1 % and 5 % confidence levels. The F statistic of 18.00542, which is a higher value proves that the overall model is significant. The R2 value indicates the percentage of the variance in the dependent variable that the independent variables explain collectively and also explain how well the selected dependent variables and the independent variable fit to the model. Based on the results the R2 value of the model is 83.4 %. It explains that 83.4 % of the variance in the dependent variable of leverage explains by the independent variables of market power, profitability, growth and tangibility collectively. From the finding, the study found that the value of Adjusted R squared was 0.788; this was an indication that there was variation of 78.8% on the leverage of manufacturing companies listed at the CSE due to changes in the market power, growth, tangibility and profitability. This shows that 78.8% changes in leverage of manufacturing companies listed in the CSE could be accounted for by changes in the market power, growth, tangibility and profitability.

IV.

DISCUSSION

Interpretation of findings

The findings of the study confirmed that there exists a positive relationship between leverage and the market power of listed manufacturing companies in Sri Lanka. It explain that, the companies which try to manipulate their share prices in market or control their production accordingly, tend to increase their debt levels. As market power rises, firms tend to use more debt on their capital structure, fighting the incumbents and creating an entry barrier for the entrants. As per the previous findings, Jahanzeb, et al. (2015), Nagesha & Murthy (2016) and Tavares (2013), this study also confirmed the positive relationship between leverage and market power.

Since the study employed few other variables, which can be had a possible impact on leverage as control variables to the model. The impacts of these variables were found as follows.

This study investigates the significant factors which determine the leverage. Upon examining other variables that have an impact on leverage, profitability depicted a negative relationship with leverage. The negative relationship between leverage and profitability shows that, profitable companies prefer to use more of equity compare to debt. The findings of this study also concur with findings of Myers (1984) who found that there exists a negative relationship between profitability of the company and leverage of the company.

The study found a positive relationship between growth of the company and leverage. This concur with the findings of Nagesha & Murthy (2016), who found future growth positively related to leverage, because the firms which can regulate their shares prices timely are expected to get more debt financing for their future growth opportunities.

When consider about more significant factors, as per this study a negative relationship between tangibility and leverage was established. This is consistent with Studies have also revealed that leverage is negatively associated with the firm's assets. Booth, et al (2001) in ten developing countries and Huang and Song (2002) in China, found that tangibility is negatively related to leverage. However, this relation depends on the type of debt as per their findings.

Finally this investigation was expected also to suggest possible implications to maintain an optimal capital structure for listed manufacturing firms in Sri Lanka. According to the Miller (1977), the optimal capital structure of a firm means a tradeoff between the cost of debts and the merits of debt. When the merit and cost of debt is equal, the optimal capital structure occurs. As per Myers (1984), merit is measurable by the tax shield of debt. However, due to the characteristics of each firm, the optimal point differs from one firm to another. Under the trade-off theory framework, a firm is viewed as setting a target debt to equity ratio and gradually moving toward it. It indicates that some form of optimal capital structure exist that can maximize the firm value.

Accordingly, the optimal decision for a firm is to use internal funds whenever available. Such financing avoids all asymmetric information problems. If internal funds are exhausted, a firm will next issue debt. Because the value of debt less affected by information asymmetry than equity. It serves as a residual claim. Also Companies with higher growth rates are moving rapidly towards optimal capital structure, showing a significant positive relationship between the company's growth prospects and lending rates (Cassar & Holmes, 2003).As per this study, many theories and much empirical findings are providing evidences relating to the existence of optimal capital structure in the real world.

This study conducts to find out the impact of market power on leverage of listed manufacturing companies in Sri Lanka and findings of the study have confirmed that there is a significant positive relationship between market power and leverage. Further, the major implications related to the capital structure decisions of the listed manufacturing companies in Sri Lankan are the leverage ratio of listed manufacturing companies is around 83%. That means capital structure decision is influenced by the market power, profitability, growth and tangibility variable. Factors other than selected variables could have an influence on capital structure decision. In Sri Lankan context, implication of pecking order theory is more relevant than static trade off to maintain an optimal capital structure. Also, Findings of this study suggests that, many theories and much empirical findings are providing evidences relating to the existence of optimal capital structure in the real world.

Limitations of the Study

The study suffers from certain limitations which are, the study is purely based on listed manufacturing companies, so the results of the study are only indicative and not conclusive. And data representing the period of 5 years from the year 2013 to 2017 were used for the study. Various economic significances such as booms and recessions can be captures using a longer duration for the study. It will be a broader dimension to the problem. The study was limited to establishing the relationship between the market power and leverage of manufacturing firms listed in the CSE. Also, currently there are 298 companies listed in the CSE under 20 sectors. The study covered only the listed manufacturing sector companies. Also non listed firms are not considered.

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