Financial leverage, firm growth and financial strength in the listed companies in Sri Lanka

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Abstract

This study attempts to extend knowledge of Financial Leverage (FL), firm growth (FG) and Financial Strength (FS) in the listed Sri Lankan companies. Most of the scholars have studied of FL and its related attributes in developed and emerging capital market. The pioneering work of [17] and many scholars [10 11, 22, 23,4,24,18,25,26,21] revealed that the FL is one of the most influencing factors in determining the FG. The common approach in empirical capital structure (CS) studies has been toexamine the relationship between observed FL and value of the firm and share prices. In this study test the problem towards Sri Lankan context. The main problem of this study is to investigate whether the FL influences negatively or positively on signaling the firms' growth. Sample size of this study is 30% of thirteen sectors. The required data were collected from published annual reports, Handbook of listed companies in CSE and annual reports of Central Bank of Sri Lanka from 2000 to 2009. The FL variables calculated based on the Bowman [4] findings and, growth of the companies is represented by total assets, profit, and sales these are calculate. [1] Multiple discriminant function was constructed to ascertain study FS variable. Multiple regression model employ. The overall results of the study find FL in the Sri Lankan context to be positively related to the growth and FS. Conversely, this situation supports this view that there is a positive rather than a negative relationship between FL and other growth variables as implied by the negative signals about the future growth of the company. It is explained, therefore, that the study of FL is incomplete without a detailed examination of all aspect of FL.

Key words: Financial Leverage, Financial Strength, Company Growth, Capital Structure, Financial Distress.

1. Introduction

The capital is an important resource in the firm's financial decision marking process along with the other resources. The capital can be basically classified as ownership or non-ownership capital in corporate financial aspect. These two usually represent equity and debt capital. The combinations of equity and debt capital are known as FL. It is dynamic position and varies under different conditions like, cost of capital, capital market, manager's perception, organizational strategies, firm size, growth etc. In this context, CS is one of the attractive fields in finance and financial management. The historical attempt for building theory of FL or CS began with the presentation of a paper by [17] cost of various sources of capital the firm's select CS and benefits related to debt and equity financing.

They revealed the situations under what conditions that the FL is relevant or irrelevant to the value of the firm and cost of capital.

Most of the decision-making processes related to the CS are deciding factors when determining the CS, a number of issues e.g. cost, various taxes and tax rate, interest rate have been proposed to explain the variation in FL across firms [27],[12], [28]and [26]. These issues suggested that the depending on attributes that caused the based on the financial management view, an ultimate objective of a firm is to maximize wealth or value of that firm [15], [16] and [17]. The relationship between FL and maximization of wealth has been the subject of remarkable milestone over the past decade throughout the irrelevance theory. In the seminal article, presented by [17] irrelevance theory, they argued that the FL is unrelated to firm's value. In the presence of corporate income tax and the cost of capital in [16] they argued that the market value of a firm is positively related to the amount of long term debt used in CS. [15] added personal tax to the analysis and revealed that the firm's value and FL is positively related. [24] have generalized Miller's argument. The modern business environment in the firm conducts its business in highly complex and competitive environment. Therefore, these types of

theoretical and empirical research findings have benefited in selecting the FL levels to achieve the optimum level of firm's wealth. The implications of CS changes are signals for the various parties of a firm. Financing decision is one of the important basic function more than the other functions of corporate financing decision making which helps financial manager to decide when, where and how to acquire funds to meet the firm's investment needs. The choice of debt and equity capital of a firm is to consider the longer funds from three sources.

[7] reported the three sources influencing the long-term funds; such as retained earnings, long term debts, and issues of new equity. In addition, [26] presented various determinants of CS choice or levels of FL .These determinants are denoted as collateral value of assets, non-debt tax shields, growth, uniqueness, industry classification, size, earnings volatility and profitability. The determinants and its relation to the FL and their observable implications are different.

Among these determinants growth is a controversial factor when determining firm's CS or FL [26]. Growth defines as the annual percentage change in total assets; sales and operating profit [12]. According to [26] and [11] revealed that a firm's growth opportunities are an indication for the agency cost of debt.

They proposed that the tendency to invest sub-optimally to expropriate wealth from firm's debt holders is likely to be higher for firms in growth may also be an indicator of profitability and success of the firm. If this is the case, growth will be the proxy for available internal funds. When a firm performs well and earns profits, there should be sufficient internal funds available for their investments. Both private and the public sector investments are the primary contributors for the economic growth in the most of the countries under the open market economy. The objective of this paper is to identify the relationship among FL position, growth and FS of the quoted companies traded on the CSE. The Main problem of this paper is to study how the FL influences on signaling the firms' growth and FS. The rest of the study is organized as follows. Section 2 reviews theory regarding the FL, FG and, FS. Section 3 describes the data and methodology used in the study and. Section 4 provides the empirical results and section 5 presents study hypotheses. Finally, conclusions and further studies are given in Section 6.

2. The concept and determinants of capital structure

CS is the composition of debt and equity capital that is required for a firm to finance its assets. The choice of amount of debt and equity capital is determined after comparison of internal and external factor related to the each firm operations environment and certain characteristic of source of fund that can affect the firm. When analyzing the operating performance of a firm, one has to be careful about understanding the behaviour of the CS. The behaviour of the CS of the firm influences by many factors which can strive for income variability, tangibility, expected growth, size, profitability, non debt tax shields, uniqueness, and industry classification [25]1nd [2] CS can exist with many factors ranging from retain earnings, longterm debt, and equity capital [7]. According to [25] and [2] determinants of CS are the followings; asset structure, non-debt tax shields growth, uniqueness, industry classification, size, earnings volatility, and profitability. The relevance of these factors is situational. Researchers of this field fund these determinants are varied from deferent business and economic conditions.

2.1 Capital structure theories

Most of CS theories are mainly concerned what happens to the value of the firm and firms' cost of capital when FL is changed. Study conducted by [8] area of corporate finance has identified three approaches such as the net income (NI), the net operating income (NOI), and traditional approach. His study revealed that the FL and its relationships among the cost of capital and value of the firm. [6] reported three concepts relating to the FS such as firm's CS, cost of capital, and firm market value. These approaches are mainly divided into two groups based on the excluding of tax and including of corporate or personal tax. In the absence of taxes, there are four approaches; NI; NOI, [17], and traditional approach. Assert of the NI approach is that the total market value and the Weighted Average Cost of Capital (WACC) of a firm depend on its CS [6]. According to the NOI approach, the total market value and WACC of a firm are independent from its CS. The [17] findings are same as the NI. Furthermore they reveal that its real assets determine the firm's value, not by securities it issues. The traditional view suggests that the value of the firm can be increased or cost of capital can be reduced to a certain level of debt and equity capital [6] and [20]. Under this approach the firm reaches an optimum CS at the same time the firm does not use its highest possible level of debt capital. The traditional approach is similar to

the NI approach. In the presence of taxes, [17] reported two approaches, which are [17] with both corporate and personal taxes and, Miller corporate taxes and equal debt and equity tax rates.

MM hypothesis under corporate tax, that the value of the firm with levered firm is higher than the value of the firm with unlevered firm. Conversely, WACC of the firm decreases as the firm increases the level of FL in its CS (MM, 1966). These results make the debt financing advantage. MM hypothesis with corporate and personal tax, that the total market value of the firm is positively or negatively related to the amount of long-term debt used [6]. [15] argued that as long as the value of the firm increased with FL, firm will prefer more debt in their CS. The remarkable essence of the model is that there is no optimum CS for individual firm, but taking the economy as a whole, it identifies equilibrium level of aggregate debt. [17] pointed the direction that such theories must take by revealing under what condition CS is irrelevant.

2.2 Measures financial leverage and firm growth

There are various measures of FL, but most relevant measures depend on the objective of the analysis [4] and [21]. The broadest definition of measures of FL is the ratio of total liabilities to total assets (TL/TA).
This measure can be indicated as a proxy for what is left for shareholders in case of liquidation. TL consists of current liabilities (CL) and long term liabilities that are inclusive of long term and short-term liabilities. TA includes current assets (CA) and fixed assets (FA). Another more appropriate measure of FL is calculated by ratio of debt to TA, debt that includes short term and long-term debts. It is usually expressed as debt over TA, total debt over net assets or capital employed, earnings before interest and tax (EBIT) over interest charge. According to [4] the FL can be measured in three ways such as Book value equity is equal to book value debt divided in the book value equity; Book value debt to market value equity is equal to book value debt divided in the market value equity; Market value debt to market value equity is equal to market value debt over market value equity. Book value equity was defined as common stockholders' equity. Book value of debt is defined as total asset minus common stockholders' equity.
Market value of debt is a reasonable approximation for their market value. Market value of equity is equal to number of equity multiplied by market value per share. [10], [20], and [12] explained that the financial manager as believes the growth of the firm an increasing of size and activities of a firm in the long run. Conversely, growth implies that the expansion of a firm activities in terms of sales, profits and assets. There are two types of firm growth have been identified in the field of financial management; internal growth and, external growth. The growth and development of the firm internally and externally is directly influenced by the financial policies adapted by the management. Hence, the growth of the firm actions determine solvency of the firm. According to [12] three measures use to measure the corporate growth such as increases in sales, increases in profits and increases in assets. The assumption that sales, profits and assets remain constant is unrealistic. Sales and profit of most firms grow over time at least, because of their survival. These sign help to increase the shareholders equity at the same time firms' objective is fulfilled. Conversely profit is the most important measure of the firm's performance. In the open market economy, profit is a signal for allocating resource efficiently and answers for basic economic questions too. [20] revealed that Earning per Share (EPS) is a most important indicator for investors. Variability of EPS relay on the growth and stability of sales. Further, the magnitude of EPS with sales will depend on the degree of firm growth. It is, therefore necessary to invest in fixed assets in order to sustain growing production and sales. This will in turn increase assets to support enlarged scale of operations.

2.3 Internal and external growth

Hampton (1993) explained that the means of internal growth is the firm's ability to increase sales and expand its own operations. Firm may purchase new plant or machinery to expand its capacity to produce existing products or firm purchases plant or machinery and train its sales force to produce and sell a new product. In addition, for expansion of existing production, the firm seeks a larger volume of sales with the existing product, captures the new market and emphasizes product diversification. The internal fund derived from retained earnings, depreciation, tax shield, and from other non-cash transactions. The outside funds generate by debt and equity or both. However, the firms, which generate internal funds, are at the advantage for its internal growth than firms depending on external funds. The firm depends on internal fund has the greater ability to compete with the other firm in the market. The external growth means that it has potentiality to acquire operations of another firm. [12] explained that the term acquisition is generally used to refer to the taking over assets in the process of external growth. Takes over process seem to be the purchases of the assets or stock combined with another firm or firms.

According to [12], number of advantages is occurred when the firm is acquired external growth such as rapid expansion; immediate cash inflows; reduction of risk; economics of scale. Number of reason for firm seeking growth, most important reasons are diversification, stability, operating economics and, profit from turnaround situation.

2.4 Financial strength

It has been proved that the growth is no longer in the firm due to the relative financial unhealthy of a firm.
The performance of a business enterprise is based on the number of factors, one of the main factors is firm financial strength FS and it directly affects the firms' growth ability. The assessment of firm's FS is very useful to the interested parties who are seeking firms' growth. The detection of firm strength and financial difficulties is a subject that has been particularly susceptible to financial ratio analysis. A firm with inadequate profitability and or solvency record may be regarded as a potential financial difficulty.
However, inadequate liquidation position may not be considered serious. According to the [1] there are differences between bankrupt firm's FS and healthy firm's FS. There are two types of FS, which the firm should achieve in the short term and long term. [20] emphasis the short-term FS has a great effect on a firm's profitability, liquidity and its structural health. This can be reached by managing firm's CA and CL or managing a firm's working capital. [12] has explained that the firms' working capital comprises permanent working capital and variable working capital. According to [12], and [20] if a firm acquired short-term strength it may achieve three goals such as adequate liquidity; minimization of risk and, contribution to maximizing the firm's value.

2.5 Debt financing and financial distress

According to Pandey (1993), FD occurs when the firm finds it difficult to honour the obligations of creditors. The extreme point of FD is solvency. The cost of FD is important when firm is formed its CS.
Cost of FD include the legal and administration cost of bankruptcy [19]. In contrast, raising of debt capital through equity is of much beneficial for these reasons; (i) the additional payments on the additional cash flow does not affect the debt financing, (ii) interest tax shield increases with debt borrowings. Hence, the use of debt in CS has both benefits as well as cost. Since debt tax is proportionate to amount of debt to enjoy the tax benefit the firm has increased in debt capital leads to FD of a firm, end result of this process is bankruptcy. If a firm has already employed higher percentage of debt in CS more important consideration is the inflexibility of raising funds when needed.

3. Derivation of hypotheses

The review of theoretical and previous literature suggest that the firm may not be homogeneous entity with regard to their FL level practicing. The take up of particular types of FL by listed firms may be associated with resource available, informational requirements, agency relations, and cost benefits.
Evidence suggests that firms are less likely to take-up debt or total debt. Evidences suggested by the [11] and [18] following study hypotheses are formulated.

H_1 = Among the FL measurement TD/TA are significantly associated with growth and FS variables.
H_2= Profit growth is positively associated with FL.
H_3= Sales growth is negatively associated with FL.
H_4= Financial strength is negatively associated with FL.
H_5= Asset growth is positively associated with FL.

4. Data and methodology

The sample consist 62 firms traded in the CSE out of 13 sectors from the period from 2000 to 2009.
Sample size is 30% of 13 sectors. For the selection of 62 companies out of 235 traded. We apply the basic multiple regression model as bellow;

$$ = \langle + ®_1 _1 + ® _2 _2 + ® _3 _3 + ® _4 _4 + \sum Y X X X X \text{ [1]} $$

Where;
Y = Financial leverage (FL), $®_1 \ to \ ®_4$ = Coefficient of growth and FS, X_1 = Assets growth (AG),
X_2 = Profit growth (PG), X_3 = Sales Growth (SG), X_4 = Financial strength (FS) (Z score)
F- Statistics was performed to test the significance of the $®$ parameters in the above model at the 5%

level of significance, multiple R square (R^2) model fitness separately.

Growth index and Z- Score

Growth variables of the study were calculated taking some items as trends from a base year 1989 the higher the index, the greater the growth. The growth index of the total assets, profit, and sales were calculated using the following.

Growth index= Selected year – Based year (1989) [2]

Based year (1989)

Firm FS performs growth ability; [1] presented multiple discriminat function. It is constructed to ascertain FS of firm and it's namely Z score. The initial model for this was developed composing a sample of 66 firms. The author has used following ratios; Net working capital to total assets, Retain earnings to total assets, EBIT to total assets, Market value equity to book value debt, Sales to total assets

FS of this study based on [1] multiple functions. The analyzed results are showed on table 1 to 2.

5. Analysis of results

The regression result indicated in the table 1 and 2, it shows that first, table 1 the R^2 0.1935, 0.5490, and 0.6571 respectively. It shows that the interpreting power of the regression model does not fit for the study models and prediction of LD/TA, LD/FA and TD/EC does not depend on firm growth of the listed companies. We see table 8, the R^2 0.9424. It shows that the interpreting power of the regression model fit for study model and prediction that TD/TA is significant determination of the firm growth of the listed companies. Second, according to the table 2 all growth indicators and FS that are seen remarkably in the proportion of the growth indicators and FS and LD/TA,LD/FA and TA/EC relevant relations. Meanwhile, the relevant relations are not remarkable between the growth indicators and FS and LD/TA FL ratio. Third, 2 of model 4 presents the results from coefficients of the growth variables and FS to TD/TA. PG, SG and FS have significantly associated with TD/TA of FL ratio. However, SG and FS are negatively related with TD/TA of FL ratio. Finally, profit growth has remarkable positive correlation with the TD/TA with FL ratio. Above results proves the same with the findings of Jenson [11] and [18]. As expected (H_1) evidence in the table 8 suggests TD/TA type FL firms were associated growth variables and FS. At the same time H_2, H_3 and H_4 hypotheses are significantly associated with TD/TA type FL firms and accepted at the 5% confidence levels. H_5 rejected at the 5% confidence level and results revels that assets growth does not affect the financial leverage. Increase the ownership capital may improve the profit, and debt capital inversely affects the sales growth and FL of the listed companies. Reason for the above results showed there is direct relationship between sales growth and FS; hence both negatively affect the FL TD/TA ratio.

At the same time, increasing capital in any type improve the company's performance (profit).

6. Conclusion and further research

The object of this study was to investigate the relationship between FL and growth and FS of the listed companies CSE in Sri Lanka. First that higher profit growth rate is positively associated with TD/TA FL ratio and this implication does not support the other FL ratios and profit growth. Second, which the listed companies experiencing higher sales growth rate and FS would tend to have low TD/TA FL ratio. This low TD/TA FL ratio of the listed companies is related to large equity investment associated for large growth rate of sales and FS. Conversely, when higher profit growth and FS growth are associated with listed companies, the TD/TA FL ratio tends to be affect by positive affect of listed companies on these ratio but when listed firms have profit and FS decreases which are near zero or negative, their TD/TA financial ratio may be very high. In addition, the empirical results suggest a number of potential areas for further research can be state as follows; Investigate the Small firm and FL and its effect on the firm growth, Monitoring the FL levels and growth cycle and its changes affects, Investigate the macro and institutional determinants of FL.

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