Impact of Financial Leverage on Firm Growth of Sri Lankan Listed Companies

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Abstract

This study investigates the impact of financial leverage on firm growth based on the data concerning twenty (20) listed companies in Sri Lanka during the five years ranging from 2013 to 2017. The study measures the firm growth in terms of sales growth, profit growth and assets growth whereas financial leverage are measured in terms of total debt to total assets ratio and total debt to total equity ratio. According to the correlation analysis, it was found that there is a positive significant relationship between TDTE and firm growth (all indicators) and there is only a positive relationship between TDTA and asset growth. According to the R2 values given that variation among variables shown by the model is not due to change and about 15% -26% (Approx.) of the changes in firm growth are explained by the changes in financial leverage of the firm and rest of the changes are due to the other factors. Furthermore, the results show that financial leverage has a significant effect on firm growth. Specifically, financial leverage was found positively influence firm growth, while older firms saw a faster increase in assets sales and profits, and it would be one of the key motivators in maintaining their optimal leverage on firm growth. Therefore, the financial managers and the key decision-makers in the business fields should make trustful decisions utmost concerning the financial leverage and firm growth changes with exploring the impact of other factors as well.

Keywords:
Financial Leverage
Firm Growth
Listed Companies
Sri Lanka

Introduction

The capital structure represents one of the most debated concepts in corporate finance (Akinoyin & Adebayo, 2013). Moreover, the majority of companies are showing concerned regarding capital structure and decision on capital structure and its decisions are most challenging for the management of the companies. This is because; capital structure decision plays an important role in the business survival and wrong decision may lead to financial breakdown to the companies even to failure (Schoubben & Halle, 2004).

Particularly, Leverage is defined as the amount of debt to be financed for acquiring the required assets (Perera, 2007). When managing the firm, firm value and shareholders wealth are considered almost importance (Hampton, 1993). Organizations have to make decisions on financing the firm. Capital Structure focuses on the mix of the firm’s debt and equity. Financial Leverage refers to using borrowing money to enhance the effectives of invested equity. The more debt financing company uses the higher Financial Leverage: Implies higher interest payment, which eventually results in adversely affecting the company’s Earnings per Share. In the financial management scenario, financial leverage is generally concerned with the relationship between the firm’s earnings before interest and tax and earnings per share. The measures for leverage are; Total Debt to Total Assets ratio, Total Debt to Equity Ratio, and Time to Interest Earned ratio. Then, Firm Growth can be explained as an important tool for measuring firm performance and financial policies directly influence the growth of a firm. The firm growth can be divided into two types: Internal Growth and External Growth. Growth can be determined including several factors such as Leverage, Profitability, Liquidity, Firm Size, Innovation, etc. Growth is to ensure the sustainability of a firm and it can be measured with turnover, market share, profit, sales, and personnel. Generally, operation in sales, profit, and assets are referred to as firm growth. It can be measured by the change in sales, profit, and assets (Bei & Wijewardana, 2012). However, Assets Growth is an important growth factor for increasing the profitability of the firm.

Internal Growth and External Growth mainly identified by financial management can be considered as the main two forms of Firm Growth. Internal Growth can be used as a key measure of company success. External Growth of the company can be identified as cash flow, rapid expansion, and reduction of risk. Financial Leverage is related to borrowing money to finance the purchase of assets. Financial Leverage positively affects fixed assets, non-debt tax shield, firm size, firm value (Gamlath & Rathiranee, 2013) and it will negatively affect to payback period, the volatility of cash flow, profitability, probability of bankruptcy (Perera, 2007). However financial management and investor should explain the relationship between financial leverage and growth of the firm’s assets, sales and profitability and how leverage can best be utilized to achieve the targeted growth level.

In the financial decision-making process, capital is an important source along with other sources. Capital can be divided into equity or non-equity capitals. These two show the assets and debts of the company. The combination of these two is called the financial leverage and varies in different conditions such as capital market, capital cost, management perspective, company size, company growth, organizational strategies, etc. (Arasteh, Nourbakhsh, & Pourali, 2013). Sri Lankan enterprises use a high level of bank borrowing to fund investment. A reduction in borrowing and increasing equity funding can help Sri Lankan enterprises become more competitive and grow faster. An increase in equity investments can also improve the country’s capital stock and wealth (Hettiarachchi, 2013). Normally high leverage transfers the large proportion of wealth to debt holders than equity holders. This will adversely affect to the owners of the firm that the credit risk limits the new investment due to credit risk and the bankruptcy problems will arise so that those will be affected for long-run survival (Perera, 2007)

Firm Growth is nowadays an important predominant benchmark for the investors to see their potentiality on their future investments in the Sri Lankan economy (Hettiarachchi, 2013). However, very few studies were conducted to show the impact of Financial Leverage on Firm Growth in our country. There is

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an argument that a low level of leverage can be affected by the growth of these firms. Sri Lankan firms use a low level of retained earnings and equity to fund new investment (Perera, 2007). There are possible causes associated with it. It implies that their firms do not have suitable internal capital to fund. It can be one of the factors lead the organizations towards lower growth, lower profitability and lower firm value. Sometimes high borrowings impact on the growth of firms. Loan of Small and Medium Enterprises (SME) of Sri Lanka use high-level bank borrowings (Wijesinha & Perera, 2015). SMEs can reduce the financial risk of borrowers and increase growth (Hettiarachchi, 2013).

From the above, it is apparent that the exact impact of financial leverage and Firm Growth is yet to be sharpened and it is calling for further investigations within the Sri Lankan context to find out the impact on Financial Leverage and Firm Growth of Listed Companies in the Colombo Stock Exchange. Also, most of the studies have not adopted the recent data in their studies and where researchers have considered the recent data they have not included the variables speculatively relate to investors. Also, this study would be an aid for the country as well as future researchers, managers, and investors to get an understanding on how capital structure (leverage) decisions effect to firm growth and investors’ return. These constitute the gaps to be filled by this study.

This study aims to examine the effect of financial leverage on firm growth (Firm Asset Growth, Firm Sales Growth, and Firm Profit Growth) in listed companies in Sri Lanka. More substantially, this aims to determine the focus on listed companies on the Colombo Stock Exchange (CSE). This research will be important to a number of groups. The management of the listed companies can get an overall understanding of the impact of Financial Leverage on Firm Growth of their companies. Furthermore, it will lead to a prudent financial decision by the management on how they can formulate their Capital Structure in a way that obtains the targeted growth level of the firm. It will also help to increase the firm’s stability, financial strength, and future financial performance. Another importance of this study is it focuses on measuring Financial Leverage by using Capital Structure. It is related to Total Debt to Total Equity and Total Debt to Total Assets ratios. Then this study helps future researchers to find the impact of other factors on firm growth in Sri Lankan listed companies

**Literature Review**

The type of financing and capital structure of a company has a risky and significant role in its wealth and financial position on decision making (Arasteh, Nourbakhsh, & Pourali, 2013). On the other hand, Bie and VWijewardana (2012) state, the capital is a significant portion of the financial decision-making process of the company along with the other resources and capital can be generally classified as ownership capital or non-ownership capital incorporate financial aspect. Equity capital and debt capital are representing by these two types. The combinations of equity capital and debt capital are identified as financial leverage. It is a great position and varies under different situations like cost of capital, capital market, manager’s perception, organizational strategies, firm size, growth, etc.

Capital structure plays the most significant role in a company when increasing the firm value and shareholders wealth. Debt and equity are two types to finance a company. Finance leverage is the proportion of debt in the financing mix of a company. However, maintenance of an optimal capital structure like Agency Theory, Net Income Approach, Net Operation Income Approach, Modigliani Miller Approach, Pecking Order Theory, and Agency Theory which can be used to maximize the firm growth.

First, the Agency model is measured as one of the oldest theories in the literature of management and economics (Dally, Dalton, & Rajagopalan, 2003). Agency theory discusses the problem that faces in the firms due to the seduction of owners and managers and emphasis on the decrease of this problem. This theory helps in implementing the different governance methods to manage the agent’s action in the jointly held corporations (Panda & Leepa, 2017). Berle and Means (1932) in their view found that the modern corporation of the USA was having enormous ownership and it leads to the separation of ownership separation from control. In a joint-stock company, the ownership is held by individuals or groups in the form of stock and these shareholders (principals) delegates the power to the managers (agent) to run the company on their behalf. But the main issue is whether these managers are performing for the owners or themselves (Jensen & Meckling, 1976). The impact of leverage on firm growth implications is related to the agency theory of capital structure. Jensen and Meckling (1976) found that the manager’s interest and shareholder’s interest is not always equal. There is a problem with the interest of shareholders, debt holders, and managers. When considering shareholders and managers, shareholders prefer leverage but managers do not prefer leverage. When considering shareholders and debtors, shareholders prefer dividend payout but debt holders have lower risk with their loan contract. Managers use the surplus free cash flows for their interest continuously on behalf of return to shareholders and surplus debt creates a conflict between shareholders and creditors. Finally, it can result in a natural relationship between leverage and firm performance.

Second, The Net income approach has been discussed that the value of a firm can be improved by decreasing the overall cost of capital. It can be done during a higher proportion of debt. However, the capital structure theory which was developed by Modigliani and Miller (1958) explains the negative relationship between profitability and debt ratio. The pecking order theory by Myers (1984) is explained the negative relationship between return to shareholders and surplus debt creates a conflict between shareholders and creditors. Finally, it can result in a natural relationship between leverage and firm performance.

There are several assumptions with the net income approach. The first one is interested in debt will affect the confidence level of the investors. The second one is the cost of debt is less than the cost of equity. The last one is there are no taxes charged. Net income approach, the cost of equity is assumed to enhance with leverage. As a result of the weighted average cost of capital is also constant. It means that the NOI approach was based on the value of the firm is not affected by the change of debt.

On this emphasis on the above two approaches, Modigliani and Miller (1958) defined capital structure decisions are no effect on the value of the firm. Namely, the firm value is assumed to increase as the interest on leverage increases. This theory reviewed that the future growth of a firm affects the market value of the firm. Besides, this theory reviews that the value of the firm does not depend on capital structure. MM approach is developed under some of the assumptions. The first one is there is no tax. The second one is there is no transaction cost for buying and selling securities as well as bankruptcy cost. The third one is investors will have access to the same information. The fourth one is the cost of borrowing is the same for investors as well as companies. The last one is debt financing does not affect companies EBIT. However Modigliani and Miller (1963) modified their original theory to MM II by reducing the zero tax assumption, starting that levered firms are more valued than the unlevered firms due to the factor that interest is a tax-deductible cost but the cost of equity increases due to high debt since shareholders accept higher business risk due possibility of bankruptcy, therefore no much difference between levered and unlevered firms, though levered firms are expected to have the tax advantage. There is a positive link between leverage and firm profits.

Even though, the pecking order theory does not take an optimal capital structure as a starting point but instead asserts the empirical fact that firms show several preferences for using internal finance over external finance. If internal funds are not as much as essential to finance investment opportunities, firms may or may not get external financing and if they do, they will select among the several external finance sources in such a way to reduce additional costs of unsold information (Gweyi & Karanja, 2014).

Myers (1984) described, this theory based on the cost of asymmetric information. It means managers have more information about firms rather than investors. As well as managers issue debt when they are positive about their firms future and will issue equity when they are unsure. This shows that the company has many investment opportunities and growth predictions rather than internal funds. In here the company expects firm cash flow to pay to a fixed amount of interest as well as equity issues would indicate that the current share price is overvalued. According to the pecking order theory, there are two kinds of equity capital. Those are internal and external financing. The firm always uses internal financing when available. Debt is chosen when external financing is required and debt financing does not control equity financing. As well as debt is cheaper than external and internal equity due to interest deductibility. Further pecking order theory by Myers (1984) is explained the negative relationship between profitability and debt ratio.

In the trade-off theory, the term trade-off theory is used to explain a family of related theories. A firm evaluates the different costs and different benefits of alternative leverage plans by the decision-maker. Normally it is understood that an internal solution is obtained so that managerial costs and managerial benefits are balanced (Gweyi & Karanja, 2014). Besides, DeAngelo and Masulis (1980) found the trade-off theory allows the bankruptcy cost to exist. It states that there is a trade-off between financing with debt (tax benefit with debt) and there is a cost of financing with debt (bankruptcy cost and finance distress). The interest...
The focal problem of this study is to examine how the financial leverage affects the firms’ growth factors in an emerging market in Sri Lanka within these conflicts in the results of previous works. Only a few researchers have looked into Sri Lankan firm growth issues, especially in the association of financial leverage. Some studies have examined the correlation between firm size and firm growth (e.g. Al-Mahrooq, 2014; Ahsanfar, Nassar, Al-Mahrooq, & Amin, 2012). Al-Mahrooq in year +1 estimated the impact of financial leverage upon performance and firm profitability (Al-Taani, 2013; Ramudan, 2015). The above theories emphasized that the leverage is some-what occasional and fulfill the capital requirement of the firm thereby enriching the effective utilization of funds for the long-run survival of the firms as well as the firm growth. Also, the impact of Financial Leverage on Firm Growth is not yet to be sharpened and impact the research theme is significantly explored to country perspective by conducting this research. With that, this research addressed several shortcomings detected in the above theoretical literature evidence by investigating the impact of financial leverage upon firm growth among Sri Lankan listed firms as under-mentioned.

The direction of correlation between firm growth and capital structure is uncertain as it is variable-dependent, whereby leverage, in particular, has exerted varied impacts upon varying firm growth variables (Hamouri, Al-Radayh&Ghazalet, 2018). Thus, this study determined the viability of the results by evaluating growth via assets, sales, and employment to detect the precise impact upon firm growth variables. With that, the study examined selected firms in Jordan to identify the vital aspects of economic progress through the correlation of firm growth with financial leverage. Company operations of sale, profit, and asset are referring to by growth. There are three scales to measure growth changes in scale, profit, and asset. These changes help to enhance stock holder’s revenue (Hampton, 1993). Pandey (1994) confirmed that earning per share (EPS) is regarded as the mainly important indicator in investment and the company effectiveness scale. Adjustments in the EPS are determinate through growth as well as scale reliability which confide on the firm growth rate. Therefore, investment on asset is essentially required to develop production and sale promotion. On the other word, the expansion or promotion can be calculated during the assets growth rate. Assets growth is of the significant factors base on liquidity and no critical need for outsider financing. A firm value consisted of perpetual, consistent development of company evaluation rather than short-term earlier profit making from the capital market perspective (Bei & Wijewardana, 2012). Firm growth theory is a single theory to analyze the impact, evaluation of firm growth, though firm growth impact on employment, industry concentrations, firm survival, and economic activities. Some researchers say that the reason for it is the meaning of “firm” is difficult and different one by one. According to the empirical shreds of evidence on firm growth, it highlights the following determinants which affect the firm growth.

Frank and Goyal (2009) stated that the firm-specific factors affecting company capital structure are firm size, profitability, tangibility, growth, and volatility. On the other hand, Zhou and Wit (2009) review three sections for determinants of firm growth. There are individual, organizational and environmental dimensions. The growth of a firm is to a certain extent a matter of decision made by an individual entrepreneur. Shane, Locke, and Collins (2003) investigated individual determinants as personality traits, growth motivation, individual, and personal background. There are the most important determinants that determine the growth of the firm.

Then another important thing is the organizational determinants. Firm growth is an increase in certain attributes as sales, employment, and profit of a firm between two points in time. Organizational determinants should have more direct impacts on firm growth. Dimensions of organizational determinants are firm attributes, firm strategies such as market orientation and entrepreneurial orientation, firm-specific resources including human capital and financial resources, organizational structure and dynamic capability (Zhou & Wit, 2009). The last one is the environmental determinants. Dess and Beard (1984) show that the environment varies along some dimensions, such as dynamism, heterogeneity, hostility, and munificence and this may be the biggest dimension of the growth potential of firms. Theses dimensions are adopted and further developed to investigate the effect on firm growth. Inherently, the capital structure is the most significant aspect of the decision making involving financing and it signifies the types of financing and capital structure lead to liquidation, financial limitation, and bankruptcy. Most of the literature has the same opinion that there is a relationship between financial leverage and firm growth.

Firm growth is directly related to the operation is assets, sales, and growth of the firm. Financial strength is also connected to influence its ability to develop. Lang, Olek, and Stulz (1995) defined the relationship between leverage and future growth. Here researcher has investigated the factor of leverage, investment and firm growth at the firm level and for identified firms at the segment level. Finally, researchers found was the relationship between leverage and growth over 20 years and find a strong negative relationship. The sample was 640 different firms and 142 firms were satisfied with the sampling criteria every year. Through researchers use three growth measures first one was a net change in total assets in year +1, the second asset in year 0, the second measurement is the growth rate of real capital expenditure and the third measured final rate captures the growth rate of employment.

The research of financial leverage, firm growth and financial strength in the listed companies in Sri Lanka was done by Bei and Wijewardana (2012). Researchers investigated whether the financial leverage influences negatively or positively on the relationship among financial leverage, firm growth and financial strength. The last one is the environmental determinants. Dess and Beard (1984) show that the environmental determinants are firm attributes, firm strategies such as market orientation and dynamic capability (Zhou & Wit, 2009). As a result of the study financial leverage is positively related to the growth and financial strength. On the other hand, there is a positive relationship than a negative relationship between financial leverage, firm growth and it is a negatively signal about future growth.

Abor (2005) study on the effect of capital structure on profitability of twenty two firms listed on the Ghana Abor (2005) study on the effect of capital structure on profitability of twenty two firms listed on the Ghana Stock Exchange and annual reports of Central Bank of Sri Lanka. Data were analyzed by multiple regression models. As a result of the study financial leverage is positively related to the growth and financial strength. The on the other hand, there is a positive relationship than a negative relationship between financial leverage, firm growth and it is a negatively signal about future growth.

Assets growth of a firm is necessary for an increase sales and profitability of firm by considering these factors Saberi and Asadipour (2016) has investigated the relationship between financial leverage and firm growth factors. This study evaluated functions relating the Return on Equity (ROE) with measures of capital structure by used regression analysis. The results explain a significantly positive relationship between the ratio of short-term debt to total assets and ROE. However, a negative relationship between the ratio of long-term debt to total assets and ROE was found. With consider to the relationship between total debt and return rates, the results explain a significantly positive association between the ratio of total debt to total assets and return on equity.

Firm growth is an expansion of firm assets, sales, and profit. In here most of the researchers have investigated the relationship between financial leverage and firm growth. Avarmaa (2011) has investigated that do leverage affects company growth in Baltic countries. Here researcher has considered the relationship between leverage and company growth with a focus on the differences in the financial behavior of local and multinational companies (MNCs). Sales growths of multinational companies were compared with local companies in Baltic countries (Estonia, Latvia, and Lithuania) for 2001-2008 by considering financial statement data. A fixed-effect regression model on financial statement data was made and as a result of research, there is a positive impact of Financial leverage on the growth of local companies, especially at a low level of leverage and there is no significant impact on the growth of multinational companies. The positive effect of leverage on growth seems to be the highest for local companies with low use of external financing.

A company can maintain optimal capital structure by making financing decision to achieve the value of the firm and strength of the financial position of an organization is considered as the financial performance of the firm Rajkumar (2014) has investigated that impact of financial leverage on the financial performance of John Keels Holding Plc in Sri Lanka. It is the biggest listed company on the Colombo Stock Exchange. Data were analyzed from 2006 through 2012 with ratio analysis and inferential statistics which involves multiple regression analyses to find out this relationship. Financial leverage was the
independent variable. It measured by debt to equity and debt to total assets ratio. Another independent variable was financial performance. It was based on Net Profit, ROE (Return on Equity) and ROC (Return on Capital Employed). Finally, the researcher has reviewed that the negative relationship between the financial leverage and the financial performance of John Keels Holding Plc in Sri Lanka. But there is a significant impact on the financial performance of the company.

Further, studying the literature on Financial Leverage, there is an interrelated relationship with Firm Growth. Arasteh, Nourbaksh, and Pourali (2013) also have investigated the relationship between Capital Structure, Firm Growth and financial strength with financial leverage of the company listed in the Teheran Stock Exchange. This research is focused that whether or not there is a significant relationship between the ownership structure and financial leverage. 140 companies were selected as the sample of Teheran stock exchange and used deducted simultaneous equation system and panel data relating to 2007-2011. According to researchers, finding, there is a negative relationship between organization ownership and managerial financial leverage, profit growth, financial strength is negatively related to managerial financial leverage. Sales growth and assets growth are positively related to managerial financial leverage of companies listed in Tehran Stock Exchange.

Most of the research conclusions are disclosed about the relationship between firm growth and financial leverage. The final result reviewed that there is a significant relationship between leverage and firm performance as measured by return on assets. The effect of financial leverage on financial performance was investigated by Gweyi and Karanja (2014) as the effect of financial leverage on the financial performance of deposit-taking saving and credit co-operative in Kenya. Researchers selected sample data was 40 saving and credit co-operative societies from 2010 to 2012 period. Used secondary data of financial statements were collected for analyzing. Financial leverage was the independent variable and it was measured by the debt-equity ratio. The dependent variable was financial performance and it measured by profitability, return on equity, returns on assets and income growth. Finally, researchers found that there is a strong correlation between financial leverage and financial performance of deposit-taking saving and credit co-operative in Kenya.

**Research Methodology**

This study was used in secondary data for the study. Data was collected from the audited financial statements published by the listed companies on the CSE website. The sample of this research is twenty (20) companies (Table 1) selected by considering the top performers ranging from 50% of market capitalization in the CSE trading list for the year 2018. Then, the data were collected for five years ranging from 2013 to 2017.

<table>
<thead>
<tr>
<th>Table 1: Sectors for Sample of Study</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sector</td>
</tr>
<tr>
<td>Beverage Food &amp; Tobacco</td>
</tr>
<tr>
<td>Manufacturing</td>
</tr>
<tr>
<td>Diversified Holding</td>
</tr>
<tr>
<td>Telecommunication</td>
</tr>
<tr>
<td>Health Care</td>
</tr>
<tr>
<td>Bank, Finance &amp; Insurance</td>
</tr>
<tr>
<td>Total</td>
</tr>
</tbody>
</table>

Descriptive statistics, correlation analysis, and regression analysis were used to find the impact of financial leverage on Firm Growth. Here financial leverage is an independent variable and firm growth is the dependent variable. The financial leverage is measured in terms of total debt to total assets (TDTA) ratio and total debt to total equity (TDTE) ratio. Firm growth is measured in terms of asset growth, sales growth and profit growth.

After referring the literature, identifying the research gap and formulating the objectives, the following conceptual framework is formulated to illustrate the relationship between the financial leverage on firm growth of Sri Lankan listed companies.

Accordingly, the following three data analysis models have been formulated in order to analyse the effect of financial leverage and firm growth.

Model 01 \( AGit = \alpha + \beta_1TDTAit + \beta_2TDTEit + \varepsilon \) \(........ (1) \)

Model 02 \( SGit = \alpha + \beta_1TDTAit + \beta_2TDTEit + \varepsilon \) \(........ (2) \)

Model 03 \( PGit = \alpha + \beta_1TDTAit + \beta_2TDTEit + \varepsilon \) \(........ (3) \)

Where,
AG = Assets Growth, SG = Sales Growth, PG = Profit Growth, TDTA = Total Debt to Total Assets, TDTE= Total Debt to Total Equity, ε is the residual term, i is the company, t is the time.

**Data Analysis and Results**

**Descriptive Analysis**

Descriptive analysis described the behavior of independent and dependent variables. Researchers have used descriptive analysis tools such as minimum, maximum, mean and standard deviation, to identify the behavior of the financial leverage (independent variable) and firm growth (dependent variable). Table 4.1 shows the results of descriptive analysis.

Table 4.1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDTA</td>
<td>.015</td>
<td>1.892</td>
<td>.4650</td>
<td>.424861</td>
</tr>
<tr>
<td>TDTE</td>
<td>.013</td>
<td>1.972</td>
<td>.50392</td>
<td>.443271</td>
</tr>
<tr>
<td>AG</td>
<td>-.0520</td>
<td>1.9150</td>
<td>.38297</td>
<td>.415468</td>
</tr>
<tr>
<td>SG</td>
<td>-.4370</td>
<td>3.7260</td>
<td>.54231</td>
<td>.665712</td>
</tr>
<tr>
<td>PG</td>
<td>-.389</td>
<td>2.893</td>
<td>.66811</td>
<td>.615557</td>
</tr>
</tbody>
</table>

Table 4.1 shows the descriptive statistics of the dependent and independent variables. TDTA has a minimum value of 0.015, the maximum value is 1.892 and the average value of TDTA has 0.465. According to that variance of TDTA is 43% for 5 years. TDTE shows a minimum value of 0.13, a maximum of 1.972 and TDTE has a mean value of 0.50392. According to that, the variance shows 44% off during the study period. TDTE shows the maximum range and a higher variation than another financial leverage measure (TDTA).

Assets Growth (AG), Sales Growth (SG) and Profit Growth (PG) are used as firm growth measures. AG has a minimum of -0.0520 and a maximum of 1.915 with a mean assets growth rate of 0.38297. Also, this variable shows a 41% variance during the study period. SG represents a minimum of -0.437 and a maximum of 3.7260. The mean value of the PG is 0.54231 with 67% of the variance of the sample companies. PG has a minimum growth of -0.389, maximum profit growth is 2.893 and means the level of profit growth is 0.66811 and its variation is 61%. SG shows the maximum range and a higher variation than the other two firm growth variables (AG & PG).

**Correlation Analysis**

To identify the relationship between independent and dependent variables, correlation analysis was used. Correlation matrix defined as a set of correlation between a numbers of variables. Table 4.2 represents its results and sig. values are presented italic type.

Table 4.2: Results of Correlation Analysis

<table>
<thead>
<tr>
<th></th>
<th>TDTA</th>
<th>TDTE</th>
<th>AG</th>
<th>SG</th>
<th>PG</th>
</tr>
</thead>
<tbody>
<tr>
<td>TDTA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDTE</td>
<td></td>
<td>.900</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AG</td>
<td></td>
<td>.374</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| SG    |     |     | -229 | .251 | 1 
|       |     |     | .000 | .012 |    |
| PG    |     |     |     | .022 | .003 | .007 |
|       |     |     | .211 | .270 | 1 
|       |     |     | .349 | .035 | .003 |

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

Correlation is significant at the 0.05 level (2-tailed).

Table 4.2 shows that the significant values of financial leverage (TDTA and TDTE) and firm growth (AG, SG, and PG). If the correlation coefficients are significant at the level of 0.01 or 0.05, the researcher can identify a significant relationship between financial leverage and firm growth. According to the above coefficients with its significant levels, it showed the correlation of a significant level among explanatory variables. Some variables showed a positive correlation value. It means that there is a positive association between dependent and independent variables. Some variables are showed a negative correlation value. It means that there is a negative association between dependent and independent variables. The TDTA and AG have positive significant correlation (r=0.462) at the 0.01 level. The TDTA and SG have a negative significant correlation (r=-0.229) at the 0.05 level. The TDTE and PG have a negative significant correlation (r=-0.368) at the 0.01 level. The TDTE and AG have positive significant correlation (r=0.251) at the 0.05 level. The TDTE and SG have positive significant correlation (r=0.295) at the 0.01 level. Therefore, the analysis revealed that there is a positive significant correlation between TDTE on firm growth (SG, PG & AG at 1%, 1%, and 5% levels respectively). On the other hand, it was found that there is only a positive significant correlation between TDTA on the 1% level, whereas there are only a negative significant correlation between TDTA on PG and SG at the 1% and 5% levels.

**Regression Analysis**

The previous section investigated the relationship between key research variables. This section aims to examine those relationships using regression analysis. In the below-mentioned multiple regression analysis models, AG, SG and PG were entered as dependent variables and TDTA TDTE were entered as independent variables.

**Model 01 Financial Leverage and Assets Growth**

The regression coefficients for AG are expressed according to the above designed regression model as in below mentioned table.

Table 5: Regression Analysis - Financial Leverage and Assets Growth

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>.081</td>
<td>.066</td>
<td>1.239</td>
<td>.218</td>
</tr>
<tr>
<td>TDTA</td>
<td>.434</td>
<td>.086</td>
<td>.443</td>
<td>5.049</td>
</tr>
<tr>
<td>TDTE</td>
<td>.198</td>
<td>.082</td>
<td>.212</td>
<td>2.409</td>
</tr>
</tbody>
</table>

On the basis of the results shown above, the regression coefficients for financial leverage in relation to the firm growth can be expressed as:

\[
AG = 0.081 + 0.434 (TDTA) + 0.198 (TDTE) + \epsilon
\]

According to the above regression coefficients, those indicate a positive effect between financial leverage (TDTA and TDTE) and AG. TDTA has positively influenced to AG and the result indicates that there is a significant. Because reported sig value is 0.000 which is less than 0.05 level. On the other hand, TDTE has positively affected to AG and the result indicates that there is a significant. Because reported sig value is 0.018 which is less than 0.05 level. Also, t values of both TDTA and TDTE are greater than 2 and therefore this result indicates that the first hypothesis (H1) has been accepted.

**Model 02 Model Summery - Financial Leverage and Assets Growth**

The model summary shows that there is a high relationship among dependent and independent variables. Moreover, the R² value given that variation among variables shown by the model is not due change and about 26% (Approx.) of the changes in AG are explained by the changes in financial leverage of the firm and other 74% of the changes are due to the other factors.
Also, the above ANOVA analysis indicated that, there is a linear relationship between dependent variable (SG) and independent variables (TDTA and TDTE). The model is significant as the sig-value of .000 is less than 0.05.

Model 02 Effect of Financial Leverage on Firm Sales Growth

The regression coefficients for SG are expressed according to the above designed regression model as in below mentioned table.

**Table 8: Regression Analysis - Financial Leverage and Sales Growth**

<table>
<thead>
<tr>
<th>Model Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>T</th>
<th>Sig.</th>
<th>B</th>
<th>Std. Error</th>
<th>Beta</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. (Constant)</td>
<td></td>
<td></td>
<td></td>
<td>.489</td>
<td>.113</td>
<td>4.344</td>
</tr>
<tr>
<td>b. TDTE</td>
<td>-403</td>
<td>-.257</td>
<td>-2.741</td>
<td>.007</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TDTE</td>
<td>.477</td>
<td>.318</td>
<td>3.388</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Dependent Variable: SG</td>
<td></td>
<td></td>
<td></td>
<td>.489</td>
<td>.113</td>
<td>4.344</td>
</tr>
</tbody>
</table>

Therefore, on the basis of the results shown above, the regression coefficients for financial leverage in relation to the firm growth can be expressed as:

\[ SG = 0.489 - 0.403(\text{TDTA}) + 0.477(\text{TDTE}) + \varepsilon \]

According to the above regression coefficients, those indicate positive and negative effects between financial leverage on SG. According to TDTE, it indicates a positive effect between TDTE and sales growth. TDTE has negatively influenced sales growth and indicating that there is a significant value (0.007) less than 0.05 level. On the other hand, TDTE has positively affected PG and indicating that there is a significant value (0.000) less than 0.05 level. Therefore, this result indicates that second hypothesis (H2) has been accepted.

**Table 9: Model Summery - Financial Leverage and Sales Growth**

<table>
<thead>
<tr>
<th>Model R R Square Adjusted R Square Std. Error of the Estimate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 .391a .153 .135 6191134</td>
<td></td>
</tr>
<tr>
<td>a. Predictors: (Constant), TDTE, TDTE</td>
<td></td>
</tr>
</tbody>
</table>

The model summary shows that there is a relationship among dependent and independent variables. Moreover, the R² value given that variation among variables shown by the model is not due change and about 15% (Approx.) of the changes in SG are explained by the changes in financial leverage of the firm and other 85% of the changes are due to the other factors.

Model 03 Effect of Financial Leverage on Firm Profit Growth

The regression coefficients for SG are expressed according to the above designed regression model as in table as follows.

**Table 11: Regression Analysis - Financial Leverage and Profit Growth**

<table>
<thead>
<tr>
<th>Model Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. (Constant)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>b. TDTE</td>
<td>-556</td>
<td>-.391</td>
<td>-2.743</td>
</tr>
<tr>
<td>TDTE</td>
<td>.384</td>
<td>.246</td>
<td>2.691</td>
</tr>
<tr>
<td>a. Dependent Variable: PG</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Therefore, on the basis of the results shown above, the regression coefficients for financial leverage in relation to the firm growth can be expressed as:

\[ SG = 0.759 - 0.556(\text{TDTA}) + 0.384(\text{TDTE}) + \varepsilon \]

According to the above regression coefficients, those indicate positive and negative effects between financial leverage on PG. According to TDTE, it indicates a positive effect between TDTE and PG. TDTE has positively influenced PG indicating that there is a significant value (0.008) less than 0.05 level. On the other hand, TDTE has negatively affected PG and indicating that there is a significant value (0.000) less than 0.05 level. Therefore, this result indicates that third hypothesis (H3) has been accepted.

**Table 12: Model Summery - Financial Leverage and Profit Growth**

<table>
<thead>
<tr>
<th>Model R R Square Adjusted R Square Std. Error of the Estimate</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 .443b .196 .179 .557674</td>
<td></td>
</tr>
<tr>
<td>a. Predictors: (Constant), TDTE, TDTE</td>
<td></td>
</tr>
</tbody>
</table>

The model summary shows that there is a relationship among dependent and independent variables. Moreover, the R² value given that variation among variables shown by the model is not due change and about 20% (Approx.) of the changes in SG are explained by the changes in financial leverage of the firm and other 80% of the changes are due to the other factors.

**Table 13: ANOVA Analysis - Financial Leverage and Profit Growth**

| Model Sum of Squares df Mean Square F Sig. |
|-------------------------------------------|----|----------------|---|------|
| Regression 6.694 2 3.347 8.732 .000a |
| Residual 37.180 97 .383 | |
| Total 43.874 99 | |

Also, the above ANOVA analysis indicated that, there is a linear relationship between dependent variable (SG) and independent variables (TDTA and TDTE). The model is significant as the sig-value of .000 is less than 0.05.

**Hypothesis Testing**

The testing of hypothesis expects to do by using the methods of regression result. According to all t values in the range (t< -2 and t > +2) and p values (p< 0.05), All tests of significance are given by a sig-value. The sig-value is the statistical power of the test. The criteria sig-value is widely used for sig-value is 0.05. If sig-value is less than 0.05, the hypotheses are accepted. Further if sig-value is more than 0.05, the hypotheses are rejected. Hypothesis which is developed in the study are follows.

H1 There is a significant effect of Financial Leverage on firm Assets Growth.
H2. There is a significant effect of Financial Leverage on firm Sales Growth.
H3. There is a significant effect of Financial Leverage on firm Profit Growth.

Based on the hypotheses testing, the following findings were listed by using the regression results.

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>TDTA</th>
<th>TDTE</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1</td>
<td>+ Significant</td>
<td>+ Significant</td>
<td>Accepted</td>
</tr>
<tr>
<td>H2</td>
<td>- Significant</td>
<td>+ Significant</td>
<td>Accepted</td>
</tr>
<tr>
<td>H3</td>
<td>- Significant</td>
<td>+significant</td>
<td>Accepted</td>
</tr>
</tbody>
</table>

Based on the significance of regression coefficients, the variables TDTA and TDTE have been accepted from the model as highly significant variables in depicting the impact to the firm growth. This indicates that the higher the level of TDTA and TDTE of financial leverage, the higher the impact with firm growth. These results show that TDTA and TDTE affect most to the firm growth which should be considered by managers at their optimal decision making on the impact of financial leverage on firm growth. Therefore, the researcher is of the view that all hypotheses have been accepted since all correlation values were significant at the 1% or 5% levels and all beta coefficients are significant considering their t and p values.

Findings and Discussion

This study identified how financial leverage affects firm growth in listed companies in Sri Lanka. In this study firstly tested descriptive analysis. Base on the descriptive analysis all of the independent variables (TDTA and TDTE) and dependent variables (AG, SG, and PG). According to Table descriptive analysis, TDTA and TDTE are used as financial leverage measures. TDTE shows the maximum range and a higher variation than another financial leverage measure (TDTA) for 5 years. On the other hand, Table 4.1 shows that Assets Growth (AG), Sales Growth (SG) and Profit Growth (PG) are used as firm growth measures. SG shows the maximum range and a higher variation than the other two financial growth variables (AG&PG) for 5 years.

In this study, secondly tested correlation analysis. The researcher identified how financial leverage affects firm growth in listed companies in Sri Lanka. According to the result of correlation analysis shows that the significant values of financial leverage (TDTE and TDTA) and firm growth (AG, SG, and PG). If these are less than 0.01 or 0.05, the researcher can identify a significant relationship between financial leverage and firm growth. Further, correlation analysis shows the correlation of a significant level among explanatory variables. Some variables are showed a positive correlation value. It means that there is a positive relation between dependent and independent variables. Some variables showed a negative correlation value. It means that there is a negative correlation between dependent and independent variables.

According to a correlation analysis result, the researcher can identify there is a positive significant correlation of TDTA on firm assets growth. The other hand, the researcher can identify there is a negative significant correlation of TDTA on firm sales growth and profit growth. The researcher can identify there is a positive significant correlation of TDTE on firm assets growth, sales growth, and profit growth.

Finally, this study tested regression analysis to hypothesis testing. According to the regression analysis result, the researcher can identify there is a significant effect of financial leverage on firm assets growth. Hence the first hypothesis (H1) is accepted. Further, regression analysis present there is a significant effect of financial leverage on firm sales growth. Hence the second hypothesis (H2) is accepted. On the other hand, regression analysis present, there is a significant effect of financial leverage on firm profit growth. Hence the third hypothesis (H3) is accepted.

According to literature, Bei and Wijewardana (2012) state done the research of financial leverage, firm growth and financial strength in the listed companies in Sri Lanka. Researchers investigated whether the financial leverage influences negatively or positively on singling the firm growth toward Sri Lanka firms. As a result of their research financial leverage is positively related to the growth and financial strength. On the other hand, there is a positive relationship between financial leverage, firm profit growth and it is a negatively signal about future growth.

Saberis and Asadipour (2016) state investigated the relationship between Financial Growth and Strength with Leverage Ratios of Companies Listed in the Tehran Stock Exchange. The outcome of the study was a significant level between assets growth and leverage ratio. Further, Avarmaa (2011) investigated that “Does the leverage affect company growth in Baltic countries. He identified there was a significant impact of financial leverage on the growth of local companies. Rajkumar (2014) investigated the impact of financial leverage on the financial performance of John keels holding plc in Sri Lanka. Finally, he identified there was a significant impact on the financial performance of the company. Further, this study researcher identified there is a significant effect of financial leverage on firm profit growth.

Therefore Yasemi, Farshidhaksoori, Fatahiedehpahni and Jalilian (2014) Studied the Financial Leverage Relation to Firms Growth and Financial Strength in the Accepted (Listed) Companies in Tehran Stock Exchange in Various Industries. Finally, the results of their study were reviewed that there is no significant relationship between financial leverage, firm growth and there is a significant negative relationship between financial leverage and financial strength. However, they have concluded that financial leverage has no influence on the firm’s growth & financial structure may influence the financial strength.

Conclusions, Recommendations and Future Research Directions

The main objective of the study is to find the effect of Financial Leverage on Firm Growth in Listed Companies in Colombo Stock Exchange of Sri Lanka. The research used statistical tools to identify the relationship between financial leverage and firm growth. Further TDTE is significant with all growth variables such as asset growth, sales growth and profit growth of sample companies. Total Debt to Total Equity ratio positively affected asset growth, profit growth, and sales growth. But TDTE is significant with two growth variables such as asset growth and sales growth. Further TDTE is significant with profit growth. Also, it is evident that the present study has employed for reaching the objectives of the study. According to these objectives, financial leverage has a significant relationship with AG and PG. TDTE negatively impact on FG, and TDTE positively affected on FG of Sri Lanka listed companies.

This study can generate many possibilities for future research. It would be interesting in identifying how financial leverage affects firm growth in listed companies in different industries and countries separately. This study selected a mixture of different types of companies in CSE in Sri Lanka due to the lack of time and resources. But it would be a good idea to categorize companies in CSE and then study and explain the behavior of financial leverage and firm growth of those particular groups of companies. According to these factors, future researchers can use more than 3 year period, results may show better than these results and actual view of the effect on financial leverage and firm growth. The present study made a picture of all the firms. But sector-wise analysis which clarifies broader important to compare in order get real investment in the share market would be researchable in an added advantage.

However, the researcher used only twenty (20) listed companies out of a total of 297 listed companies in CSE because it is difficult to find out the companies which have Intangible Assets. It does not represent the entire population of the company because of the constraint of time and cost. Therefore the results of the study may not create a clear perception of the impact of Financial Leverage on Firm Growth. The ratio has been calculated, analyzed and interpreted for the period under five years from 2013/2014 to 2017/2018. The Financial Statements are subject to window dressing. It can be one of limitation to the process of analysis. Further Ratio analysis is one of qualitative analysis and it is not reviewing the qualitative impact of listed companies. Another limitation is the lack of comparison of individual sectors. The conclusion of the study has made a conclusion to all firms in similar situations. Therefore, these hidden gaps will be ideal for future research.
References


