INFLUENCE OF CORPORATE CHARACTERISTICS ON FIRM LEVERAGE: EVIDENCE FROM BANGLADESH

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ABSTRACT

The purpose of the paper is to explore the influence of various corporate characteristics on financial leverage of the manufacturing companies listed at Dhaka Stock Exchange (DSE) in Bangladesh. A non-probability sampling technique has been used for selecting sample size from the population. Data from 40 manufacturing companies has been analyzed from 2015 to 2019-time period which are secondary in nature. Multiple regression methods were implied to explore the impact of corporate characteristics on leverage of the studied firms. The output from the regression models indicated that total assets, return on assets, return on sales and age are inversely and significantly connected to the leverage of companies. Selecting only the manufacturing company as the sample is a little limitation for this study. The study period is only five years including year of 2015-2019. The research results of this paper make contributions for the regulatory and enforcement authorities such as: ICAB, ICMAB, SEC and DSE. The information derived from the findings of the study will help financial managers to take decision regarding selection of optimal capital structure.

Contribution/Originality: This study contributes to the existing literature about the influence of corporate characteristics on companies’ financial leverage especially in reference to 40 manufacturing companies enlisted in DSE in Bangladesh.

1. INTRODUCTION

The main responsibility of a manager concerned with the finance division of any company is to boost the worth of their business entity by talking proper investment decision routinely in cherished projects as well as to distribute the existing resources in an optimal way (Rouf, 2018). Firm's decision regarding an effective capital formation choice, is a remarkable unanswered topics in the writing of financial arena (Myers, 2001). The trade-off model contends that organizations prefer finest level of obligation by switching the benefits of debt investment in contradiction of its expenses. The theory also depicts that, ideal level of debt, is gained only when the marginal benefit equals the bordering cost of an extra part of borrowing. From the strategies available to the organization, managers should choose an optimal capital structure that requires less interest on capital borrowing and give higher amount of revenues; in other words, ideal capital formation can be attained by an organization when the cost...
of capital remains to the minimum for that particular organization. Capital formation decision was the major substantially contended elements in the arena of corporate financial management. From the findings of Modigliani and Miller (1958), the query was on the top that how the mixing of equity and borrowing in the capital formation influence the company's value. Additionally, the elements which can influence the companies’ capital formation decision are arguable in related literatures. Earlier researches conducted in this particular field pointed out that, firms’ corporate characteristics can influence their leverage level significantly. Serrasqueiro and Rogão (2009); Erioticis, Vasilioou, Vasilioou, and Neokosmidis (2007); Viviani (2008); De Jong, Kabir, and Nguyen (2008); Sharif, Naeem, and Khan (2012); Deesomsak, Paudyal, and Pescetto (2004) and De Jong et al. (2008).

The present research is designed to inspect the impact of corporate characteristics on companies’ leverage of 40 listed companies on DSE during the tenure 2015-2019. The findings and output of the study will have a significant contribution in understanding the financial managers about the relationship among corporate characteristics and financial leverage of their firms. The information derived from the findings of the study will help financial managers to take decision regarding selection of optimal capital structure. In the section 2 the researchers have reviewed the existing literatures regarding the subject matter whereas in section 3 the methodological aspects of the study were described. In section 4 the researchers analyzed data and interprets the results and finally in section 5 the study concluded their remarks.

2. REVIEW OF RELATED LITERATURES

2.1. Firm Size and Leverage

Many of the researches conducted earlier explore notable influence of firm size on their leverage (Bauer, 2004; Deesomsak et al., 2004; Erioticis et al., 2007; Sharif et al., 2012). Sherif and Elsayed (2013) analyzed Egyptian insurance companies over the tenure from 2006 to 2011 and demonstrated that size of the companies are positive correlated with corporate leverage. Other researchers (Abobakr & Elgiziry, 2016) showed companies leverage are inversely influenced by their extent. Tong and Green (2005) recognized the opposite connection between firms’ size and leverage. Conversely, Vithessonthi and Tongurai (2015) examined a data from 170,013 companies in Thailand. They found conditional impact of leverage on firm size.

Goyal and Packer (2017) examined the leverage of seven emerging countries of Asia: Indonesia, Hong Kong SAR, Korea, Philippines, Malaysia, Thailand and Singapore for the time period of 1991 and 2015. Their result indicates that, firm asset tangibility and size have major influence on financial leverage. The firms which are large in size are exposed to less risky as they are more diversified and the scope for bankrupt of these organizations is little (Ahmed, Ahmed, & Ahmed, 2010). The data findings of this research are persistent with the trade-off theory of previous research conducted by Sharif et al. (2012). Trade-off method claimed that, the organizations that are big in size are requires to make more debt borrowings in order to formulate an ideal capital structure policy. Gill, Mand, Sharma, and Mathur (2012) examined the components that create an impact on debt borrowings of minor business organizations operated in Punjab of India. They found that total assets and sales, small business growth and performance, have noteworthy influence on the debt borrowings of small business conducting their operations in India. Hallajan and Hashemi (2016) provided an illustrative proof for leverage influenced by the organizations’ size. They have analyzed 139 firms from 13 economic sectors listed on Indian National Stock Exchange. Based on the empirical results firm size didn’t not found any correlation between size and leverage of some sectors like energy, chemicals and fertilizers, textiles, FMCG and consumer durables is positive and significant. In another study investigated the relationship size and leverage in the context of India. The research conducted on long periods of 17 years during 2002 to 2018. They investigates that, firms’ leverage are inversely influenced by their size, which is supported by the pecking order theory. As large firms have more scope of generating internal capital raising or equity financing, so they tends to less amount of debt financing. Ibhadugui and Olokoyo (2018) conducted research on 101 Nigerian companies during the tenure 2003 to 2007. Using a panel data they explored in-case the effect of firm
size on debt financing is negative; their results showed that small-sized firms are effected most exceedingly and significantly.

Total Assets (TA) and Total Sales (TS) have been considered for reflecting the company size in this study. To test the relation between firm size and leverage, the following hypothesis have been developed:

H1. Total assets have noteworthy effect on leverage of the firms.
H2. Total sales have noteworthy effect on leverage of the firms.

2.2. Firm Profitability and Leverage

Sherif and Elsayed (2013) conducted a study on Egyptian insurance companies over the period from 2006 to 2011 and found that, companies' profitability and total leverage are positively correlated. Witthessonti and Tongurai (2015) concluded that in small firms there have a remarkable relation between leverage and performance, but for the big firms it is opposite and leverage and performance are inversely correlated. On the other hand, many previous studies by Saiedi and Mahmoodi (2011); San and Heng (2011) and Pratheepkanth (2011) showed that, firms performance has negative influence on capital formation decision whereas, based on the theory of trade-off approach there is a strong significant connection between debt financing and profit level of a firm (Bauer, 2004; Chen, 2004; De Jong et al., 2008; Huang & Song, 2006; Serrasqueiro & Rogão, 2009; Viviani, 2008; Zou & Xiao, 2006). Weill (2008) has conducted another research in which he argued that, association between leverage and corporate performances may differ due to regional differences, which bolster the effect of organizational factors. Kartikasari and Merianti (2016) studied about the effect of leverage of a company to its profitability. They have used the annual reports of 100 producing companies from the Stock market from Indonesia during the tenure of 2009 to 2014. The research explored that, the debt ratio had a positive significant relation with profitability. Yoon and Jang (2005) conducted a research by using Ordinary least Square regression model in where he investigated the association between firm leverage and return on equity of the entities. They had selected restaurant industries and the study tenure was 1998 to 2003. Their research results showed that smaller restaurant firms were much riskier than the larger firms by the means of having lower financial leverage. Fengju, Yari Fard, Ghassab Maher, and Akhteghan (2013) analyzed the relation between financial leverage and profitability 60 companies from the Tehran Stock Exchange (TSE). The study tenure was 2006-2010. They have found the presence of notable significant relationships among both debt financing and firms profit level.

Ghosh (2008) examined the relation between corporate leverage and profitability based on manufacturing sector in India over the period of 1995-2004, his findings indicates that corporate profitability and cash flows declines as leverage rises. Hussan (2016) in his research study concluded that, firms the capability of increasing return on its assets or investment is mostly relies on the proper utilization of leverage which is an important decision in designing the capital structure of a firm. He explained that, as they use leverage to make investment so their return on that investment and assets are much more risky than others if they are failed to produce higher amount of return in comparison to the cost of capital of the debt. So, any change in leverage has the potential of maximizing the wealth of organization also to create an influence for a organizations' economic ability, risk, return and investment. Ahmad, Salman, and Shamsi (2015) conducted study on cement sector of Pakistan. They choose 18 cement manufacturers out of 21, and used financial statements for gathering data from the tenure 2005-2010 based on the corporate leverage and firms performance. They found that firms leverage are inversely related with profitability. Zelalem (2020) identified the of financial leverage on the financial performance of Ethiopian Commercial Banks for the period of 2008 to 2017 for the 5 selected commercial banks. He showed that, Debt Ratio has an inverse influence on Banks’ performance expressed by ROA and ROE. Ihagui and Olokoyo (2018) examined 101 firms to inspect the connection between debt financing and profitability. The study was took placed in the period 2003 to 2007. In that particular research the researchers argued that, profitability of small firms are highly influenced by leverage whereas, in large companies the influence level is not same as like as small firms.
Alfiyah (2019) conducted a study to find the association between the debt financing and profitability on CSR. The study focused on Sharia Commercial Banks from the time period of 2014-2016. The results indicated that CSR of selected firms are not influenced by the profitability but highly influenced by the leverage structure. Another researchers (Akinlo & Asaolu, 2012) investigated performance of the companies in Nigeria. During the study time period 1997-2007 they have found that decrease in profit level of the companies by 0.02 percent annually. The results revealed that leverage has negative effect and firm performance and size are remarkably correlated with each other. Zeitun and Tian (2007) depicted that, the amount of physical assets are affirmatively connected with leverage inversely linked to liquidness, incomes changeability, productivity and firm age. Serrasqueiro and Rogão (2009) revealed that leverage profitability are inversely correlated. The study was conducted in Sweden by analyzing 130 management consulting firms during the time period of 2012-2016. The study also found that, consulting firms which are profitable in nature also seek to use less temporary and lasting obligation. Viviani (2008) investigated the effect of financial leverage on firms’ profitability. In his study he found that, firm leverage and the ratio of equity to assets negatively correlated whereas, the probability of output variations and the impact of output changes on total cost may influence the level of firms’ leverage.

Return on Assets (ROA) and Return on Sales (ROS) have been considered for reflecting the company profitability in this study. To test the relation between firm profitability and leverage, the following hypothesis have been developed:

\[ H_3. \text{Return on assets has noteworthy effect on leverage of the firms.} \]
\[ H_4. \text{Return on sales has noteworthy effect on leverage of the firms.} \]

2.3. Firm Liquidity and Leverage

Many researchers like Fama and French (2002) and Ahmed et al. (2010) explored an affirmative connection between liquidity and debt level of their studied companies. Sherif and Elsayed (2013) did a research on Egyptian insurance enterprises over the period from 2006 to 2011 in where they disclosed that, liquidity and leverage are remarkably correlated. Sarlija and Harc (2012) inspected 1058 Croatian companies to identify the impact of liquidity position on the capital formation decision. The researchers found a significant correlation between liquidity ratios and leverage ratios.

However, Oduol (2011) examined the association between liquidity and leverage of thirty companies out of forty-seven companies from the NSE from the tenure 2006 to 2010. They unearth that there is an insignificant association in between liquidity and leverage. They've found an inverse connection of leverage with liquidity. Rouf (2018) examined 106 companies listed in DSE. The tenure of the research was 2011-2015 to. He tried to identify the influence of various corporate characteristics on leverage structure of the sampled firms. In his research he has argued that liquidity is unfavorably associated with the firms leverage. Tong and Green (2005) and Sharif et al. (2012) conducted their studies in this particular arena and highlighted that, liquidity and leverage of the firms are negatively correlated. A number of previous researchers suggested that internally generated funds should use by the highly liquid firms (Deesomsak et al., 2004; Mazur, 2007; Viviani, 2008). Nurchaqiqi and Suryarini (2018) conducted study on 59 real estates, property and building construction companies registered in Indonesian Stock Exchange (IDX) in which they found that the effect of leverage on strategy regarding cash dividend isn’t moderated by the profitability but the consequence of liquidity on cash dividend policy can be moderated by the profitability. Hallajian and Hashemi (2016) studied the stimulus of liquidity on the corporate leverage. They used data from 35 countries during the time period of 1996 and 2016. They found that speed of adjustment is depends on how liquid the firm is; the firms with large amount of liquidity have normally quick speed of modification than the firms having smaller amount of liquidity. Lastly, found that the firms in strong institutional environments has positive liquidity speed of adjustment relationship which is less pronounced.
Current ratio (CR) has been considered for reflecting the company liquidity in this study. To examine the relation among the firm liquidity and leverage, the following hypothesis have been developed:

\[ H_5. \text{ Current ratio has noteworthy effect on leverage of the firms.} \]

2.4. Firm Age and Leverage

Different studies conducted earlier have considered age of the firm as a descriptive variable which can influence capital structure decisions. Sherif and Elsayed (2013) did a research on Egyptian insurance enterprises over the period from 2006 to 2011 in where they disclosed that, firms’ liquidity is greatly influenced by their age. Sharif et al. (2012) argued in their study that, the firms which are successful in their business operation and earned goodwill or reputation in the market are capable to produce their required short-range debt financing effortlessly as because creditors be familiar with the ability of the payment of obligations by the firms on the payable timeframes. Since the age of firm has inverse influence on financial leverages, i.e. Long-term debt has a direct connection with firm age and an inverse connection of age with short-range obligation (Hall, Hutchinson, & Michaelas, 2004).

Ezeoha and Botha (2012) conducted a study on 177 firms which are not financial in nature from South Africa, listed in Johannesburg Stock Exchange. The study tenure was 1999-2009. Majority companies of South Africa have standard leverage ratios which is demonstrated by their study. The organizations have the policies to design the capital formation outlay from time to time in such a way that will be helpful to attain their goals. So the researchers concluded that, a non-monotonic relationship exists among the leverage and firm size. Rouf (2018) examined 106 companies for the tenure of 2011-2015; listed in DSE, where he found that, firm age and leverage are inversely correlated. Ikechukwu and Cyril (2017) examined oil and gas firms to find the impact of age on financial leverage. They conducted their study in oil and gas firms in Nigeria. The output of research analysis depicted that studied companies’ age have a notable inverse impact on their leverage structure. From the result the researchers concluded that, the firms which are older than others required less financial leverage in their capital structure formation decision. As a result the firms are advised less borrowing since they are older in age. Influence of the financial leverage and the age of the company on profit distribution policy of the companies are inspected by Tamimi and Takhtaei (2014). The manufacturing companies listed in Tehran Stock Exchange (TSE) were selected as sample. The study period was over the tenure of 2005 to 2011. Their findings suggested that there is a positive and important linkage between company age and dividend ratio, but a negative and noteworthy connection with financial leverage and dividend.

Time gap between year of the study and the establishment year is considered as the dimension of age in this study. The following hypothesis have been developed to explore the association between firm age and leverage.

\[ H_6. \text{ Age of the firms has noteworthy effect on leverage of the firms.} \]

2.5. Control Variables and Leverage

On the basis of prior studies conducted by several researchers the researcher of this study decided to consider four control variables for the purpose of testing the main hypotheses in multiple regression models (Hossain, Khan, & Haque, 2018). These variables are Debt-to-Equity Ratio, Current Debt Ratio, Proprietary of Equity Ratio and Current Assets Proprietors’ Funds Ratio.

3. RESEARCH METHODOLOGY

3.1. Sampling Design and Sources of Data

The population of this study consisted of manufacturing firms enlisted in DSE. From the total population 40 companies have been considered as sample size using non probability sampling technique. Companies having available data were originally designated according to their sectorial segments. Annual report of the sampled
companies were mainly used as data source from where the researchers collected necessary data for conducting the study.

3.2. Model Development

The economic model which is developed for conducting the research was as follows:

\[ Y = \beta_0 + \beta F_{it} + \varepsilon_{it} \]  

(1)

In the equation,

- \( Y \) indicates for the dependent variable.
- \( \beta_0 \) is the constant.
- \( \beta \) indicates the coefficient of the independent variable.
- \( F_{it} \) indicates the independent variables and finally,
- \( \varepsilon_{it} \) is the error term.

The study considered leverage (LEV) as dependent variable whereas, corporate characteristics of the companies are considered as independent variables. Corporate characteristics include size, profitability, liquidity and age of the firms. Firms’ size reflected by Total Assets (TA) and Total Sales (TS) whereas profitability reflected by Return on Assets (ROA) and Return on Sales (ROS). Firms’ Liquidity (LIQ) is measured by Current Ratio (CR) and Age is reflected by time gap between establishment of the firm and study period. In addition there are also some control variables which are considered in the study like: Debt to Equity Ratio (DER), Current Debt Ratio (CDR), Proprietary of Equity Ratio (PER), Current Assets Proprietors’ Fund Ratio (CAPFR). By considering economic model showing in Equation 1 more specifically the Equation 2 is developed as follows:

\[ LEV_{it} = \beta_0 + \beta_1(TA_{it}) + \beta_2(TS_{it}) + \beta_3(ROA_{it}) + \beta_4(ROA_{it}) + \beta_5(LIQ_{it}) + \beta_6(AGE_{it}) + \beta_7(DER_{it}) + \beta_8(CDR_{it}) + \beta_9(PER_{it}) + \beta_{10}(CAPFR_{it}) + \varepsilon_{it} \]  

(2)

3.3. Data Analyzing Procedure

Various statistical tools such as descriptive statistics, normality test, correlation test, regression analysis have been used to fulfill the objectives of the study. Descriptive statistics has been shown to draw mean, median, maximum and minimum. Normality test has been run to show the normal distribution of the data. SPSS (version-22.0) has been used for analyzing the data. Ordinary least squares (OLS) method is considered for regression analysis.

3.4. Variables Description

Table 1. List of dependent and independent variables.

<table>
<thead>
<tr>
<th>Variables</th>
<th>Legend</th>
<th>Description/ Measurement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leverage</td>
<td></td>
<td>(Total liabilities/total assets)×100</td>
</tr>
<tr>
<td>Total Assets</td>
<td>TA</td>
<td>Logarithm of the total assets of the firm</td>
</tr>
<tr>
<td>Total Sales</td>
<td>TS</td>
<td>Total sales of the firm</td>
</tr>
<tr>
<td>Return on Assets</td>
<td>ROA</td>
<td>(Net profit after tax/total assets)×100</td>
</tr>
<tr>
<td>Return on Sales</td>
<td>ROS</td>
<td>(Net profit after tax/total sales)×100</td>
</tr>
<tr>
<td>Liquidity</td>
<td>LIQ</td>
<td>Current assets/current liabilities</td>
</tr>
<tr>
<td>Age</td>
<td>AGE</td>
<td>Time gap between study year and establishment year</td>
</tr>
<tr>
<td>Debt-to-Equity Ratio</td>
<td>DER</td>
<td>(Total debt/outside funds to total assets)×100</td>
</tr>
<tr>
<td>Current debt ratio</td>
<td>CDR</td>
<td>(Total current liabilities/shareholder equity)×100</td>
</tr>
<tr>
<td>Proprietary of Equity Ratio</td>
<td>PER</td>
<td>(Shareholder funds/Total assets)×100</td>
</tr>
<tr>
<td>Current Assets Proprietors’ Fund</td>
<td>CAPFR</td>
<td>(Total current assets/Shareholder equity)×100</td>
</tr>
</tbody>
</table>
4. RESULTS AND DISCUSSIONS

4.1. Descriptive Statistics

Table 2 represents the descriptive statistics of the dependent and independent variables (shown in Table-1) of sampled manufacturing companies. The results portrays that the average leverage level in the studied companies is 53.21 percent whereas, the highest leverage belongs to 161.38 percent, and the lowest leverage belongs to 11.26 percent having variance of 22.19 percent.

The average firm size of the sampled companies reflected by amount of total assets and total sales revenue are 5523629.38 lakh tk. and 34263.20 lakh tk. respectively. The average profitability of the firms in terms of ROA and ROS are 7.19 and 10.28 percent respectively with standard deviation of 7.63 and 18.69 percent respectively. The table also shows that, the mean of liquidity of studied firms is 169.23 percent with the standard deviation being 157.24 percent.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEV</td>
<td>53.21</td>
<td>52.36</td>
<td>22.19</td>
<td>11.26</td>
<td>161.38</td>
</tr>
<tr>
<td>TA</td>
<td>5523629.38</td>
<td>14977.21</td>
<td>11123825.63</td>
<td>1701</td>
<td>61236582</td>
</tr>
<tr>
<td>TS</td>
<td>34263.20</td>
<td>8712.95</td>
<td>118255.61</td>
<td>42.98</td>
<td>782635.21</td>
</tr>
<tr>
<td>ROA</td>
<td>7.19</td>
<td>4.21</td>
<td>7.63</td>
<td>0.15</td>
<td>41.25</td>
</tr>
<tr>
<td>ROS</td>
<td>10.28</td>
<td>5.62</td>
<td>18.69</td>
<td>0.16</td>
<td>102.54</td>
</tr>
<tr>
<td>LIQ</td>
<td>169.23</td>
<td>124.62</td>
<td>157.24</td>
<td>10.25</td>
<td>1263.25</td>
</tr>
<tr>
<td>AGE</td>
<td>28.25</td>
<td>28</td>
<td>10.25</td>
<td>7</td>
<td>48</td>
</tr>
<tr>
<td>DER</td>
<td>219.85</td>
<td>118.41</td>
<td>127.85</td>
<td>7.25</td>
<td>1571.89</td>
</tr>
<tr>
<td>CDR</td>
<td>182.69</td>
<td>103.52</td>
<td>118.32</td>
<td>4.56</td>
<td>1576.35</td>
</tr>
<tr>
<td>PER</td>
<td>48.27</td>
<td>45.63</td>
<td>4.58</td>
<td>342.68</td>
<td></td>
</tr>
<tr>
<td>CAPFR</td>
<td>116.95</td>
<td>107.29</td>
<td>61.24</td>
<td>28.97</td>
<td>423.61</td>
</tr>
</tbody>
</table>

The mean age of the studied firms is 28.25 years where 7 is minimum age and 48 is maximum age. From the table the researchers also found the mean for control variables namely, DER is 219.85 percent, CDR is 182.69 percent, PER is 48.27 percent and CAPFR is 116.95 percent.

4.2. Pearson Correlation Analysis

Table 3 shows the correlation matrix of the dependent and independent variables considered in this study as following:

<table>
<thead>
<tr>
<th>Variables</th>
<th>LEV</th>
<th>TA</th>
<th>TS</th>
<th>ROA</th>
<th>ROS</th>
<th>LIQ</th>
<th>AGE</th>
<th>DER</th>
<th>CDR</th>
<th>PER</th>
<th>CAPFR</th>
</tr>
</thead>
<tbody>
<tr>
<td>LEV</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TA</td>
<td>-0.401**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TS</td>
<td>-0.052</td>
<td>0.512**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROA</td>
<td>-0.352**</td>
<td>0.296**</td>
<td>0.252**</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ROS</td>
<td>-0.059*</td>
<td>0.135</td>
<td>-0.019</td>
<td>0.016</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIQ</td>
<td>-0.215*</td>
<td>0.024</td>
<td>0.016</td>
<td>-0.121</td>
<td>-0.042</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGE</td>
<td>-0.254**</td>
<td>0.126</td>
<td>0.134</td>
<td>0.162</td>
<td>0.127</td>
<td>0.124</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DER</td>
<td>0.537**</td>
<td>0.325**</td>
<td>0.052</td>
<td>-0.024</td>
<td>0.234*</td>
<td>0.124</td>
<td>0.256*</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CDR</td>
<td>0.152</td>
<td>0.312**</td>
<td>-0.042</td>
<td>-0.045</td>
<td>0.248*</td>
<td>-0.187</td>
<td>0.278*</td>
<td>0.162</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PER</td>
<td>-0.128</td>
<td>-0.126</td>
<td>-0.057</td>
<td>-0.049</td>
<td>-0.129</td>
<td>0.016</td>
<td>-0.015</td>
<td>-0.124*</td>
<td>0.421**</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>CAPFR</td>
<td>-0.521**</td>
<td>-0.007</td>
<td>-0.002</td>
<td>0.015</td>
<td>0.041</td>
<td>0.426</td>
<td>0.412*</td>
<td>-0.137</td>
<td>-0.216</td>
<td>0.216</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: *Correlation is significant at the 0.05 level (two-tailed). **Correlation is significant at the 0.01 level (two-tailed).

The results of correlation matrix depicted that, there is an inverse influence of TA, ROA, AGE and CAPFR on the LEV of the firm (p < 0.01, two-tailed), but DER of the firm has significantly notable influence on the LEV of the firm (p < 0.01, two-tailed). There is no significant correlation of leverage with TS, CDR and PER.
Table 4. Multiple regression results (n=40).

<table>
<thead>
<tr>
<th>Variables</th>
<th>Standard error</th>
<th>Coefficients</th>
<th>Beta t values</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>TA</td>
<td>0.009</td>
<td>-0.238</td>
<td>-2.012</td>
<td>0.043**</td>
</tr>
<tr>
<td>TS</td>
<td>0.000</td>
<td>0.125</td>
<td>1.063</td>
<td>0.281</td>
</tr>
<tr>
<td>ROA</td>
<td>0.023</td>
<td>-0.141</td>
<td>-0.356</td>
<td>0.006***</td>
</tr>
<tr>
<td>ROS</td>
<td>0.121</td>
<td>-0.062</td>
<td>0.549</td>
<td>0.0452***</td>
</tr>
<tr>
<td>LIQ</td>
<td>0.012</td>
<td>-0.031</td>
<td>-0.298</td>
<td>0.682</td>
</tr>
<tr>
<td>AGE</td>
<td>0.215</td>
<td>-0.049</td>
<td>-0.591</td>
<td>0.025**</td>
</tr>
<tr>
<td>DER</td>
<td>0.031</td>
<td>1.128</td>
<td>2.716</td>
<td>0.043***</td>
</tr>
<tr>
<td>CDR</td>
<td>0.038</td>
<td>-0.526</td>
<td>-1.346</td>
<td>0.168</td>
</tr>
<tr>
<td>PER</td>
<td>0.044</td>
<td>0.129</td>
<td>1.235</td>
<td>0.189</td>
</tr>
<tr>
<td>CAPFR</td>
<td>0.032</td>
<td>-0.345</td>
<td>-3.246</td>
<td>0.000***</td>
</tr>
</tbody>
</table>

Note: *P< 0.1, two-tailed; **P< 0.05, two-tailed; ***P< 0.01, two-tailed; \( R^2 = 0.545; \) adjusted \( R^2 = 0.472; \) F value = 10.728, F significance = 0.000.

4.3. Multiple Regression Analysis

Table 4 represents the output produced by multiple regression analysis. Multiple regression analysis is a popular method which is used by different studies conducted in earlier (Bhuiyan, Hossain, & Akther, 2017; Rouf, 2018). From the analysis it can be seen that, the \( R^2 \) value is 0.545 with an F value of 10.728, which is significant at 0.000 level of significance. It can be also depicted that, a noteworthy percentage of the change in leverage structure of the studied companies can be elucidated through the change in the entire set of independent variables.

From the table it can be explained that, if the TA is maximized by one percent, the LEV reduced by -0.238 where the standard error (SE) and beta t-values are 0.009 and -2.012 respectively at a significance level of 0.043. The findings of the result concludes that, leverage of the companies are inversely influenced by the firm size. The data findings are supported by the previous researchers (Abobakr & Elgiziry, 2016; Tong and Green (2005). On the other side, the coefficient value of regression for the variable ROA. It explains that, if the ROA is maximized by one percent, the LEV reduced by -0.141 where the standard error (SE) and beta t-values are 0.023 and -0.356 respectively at a significance level of 0.007. ROS has negative correlation with leverage as the coefficient shows -0.062 significant at 0.492 level of significance. This result is supported by many earlier researchers namely San and Heng (2011); Pratheepkanth (2011); Saeedi and Mahmoodi (2011) and Zeitun and Tian (2007). Furthermore, if we see to other corporate attributes like age of the firm, then we found that, leverage of the companies are negatively correlated with firms age (Coefficient -0.049) at 0.029 level of significance. This result is similar to the findings of Rouf (2018). From the regression results table of controls, the research depicts that firms leverage is remarkably influenced by the Debt to Equity Ratio at the significance level of 0.045 whereas, leverage is inversely influenced by the CAPFR at 0.000 level of significance.

5. CONCLUSION

This research is basically conducted to investigate corporate attributes and their impact on firm financial leverage. The attributes which are considered in this research study are size, profitability, liquidity and age of the firms. The researchers got the evidence that, the leverage of sampled companies financial leverage is inversely affected by their total assets, return on assets, return on sales, age and current assets proprietors’ funds ratio whereas, leverage is positively affected by debt equity ratio. The output of this particular research make assistances for the regulatory and execution authorities like: ICAB, ICMAB, SEC and the DSE.

6. LIMITATION AND STUDY FORWARD

The findings of the study were limited to the manufacturing companies in Bangladesh and could not be generalized to other organizations currently doing business in Bangladesh. Another limitation of the study was that, the study considered only five years (2015-2019) data for conducting the research which is short period to observe the changes in targeted variables over time. To overcome the limitations of the present study, further
studies may be conducted by the researchers after considering all the organizations financial and non-financial in nature as sample and taking long time period such as 10-15 years. There is also scope for future researchers to consider more variables like number of oversees stockholders, ownership style and auditors’ viewpoint etc. for conducting more extensive studies and obtain more authentic output from their researches.

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**REFERENCES**


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