

## Impact of Capital Structure on Firms Performance-A Study on Non-Banking Financial Institutions and Insurance Companies in Dhaka Stock Exchange (DSE)

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### Abstract

*This paper intends to analyse the impact of capital structure on DSE listed Non-Banking Financial Institution and Insurance company's performance. This study uses the secondary data collected from the annual reports over the five years from 2015 to 2019 of 20 samples Non-Banking Financial Institutions and Insurance companies in the Dhaka Stock Exchange. This study employed four performance indicators as dependent variables: earnings per share (EPS), return on equity (ROE), return on asset (ROA), and net profit after tax (NPAT), and three capital structure ratios as independent variables: total debt to total assets ratios, leverage ratio, and long-term asset ratio. The fixed asset rate and the firm's size are considered as control variables. The findings of the study show both positive and negative effects of capital structure on firm's performance. Regardless of the direction of links and implications, capital structure indicators have been proven to have a significant impact on firm's performance in Bangladesh. Instead, the impacts and relationships are weaker in ROE, higher on EPS, ROA and NPAT. These finding suggest that further research should be done to determine more accurate impacts and linkages. Studies should also be done to determine how the influence of capital structure might be amplified to enhance the performance of DSE listed Non-Banking Financial Institution and Insurance Companies. Further studies can be conducted with combining more industry data from extended time period to arrive at a more realistic scenario in future.*

**Keywords:** Capital structure, earnings per share (EPS), return on asset (ROA), return on equity (ROE)

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### 1. Introduction

Financial performance is a critical issue in organizations, and all firms must strive for the best financial performance possible. There are several aspects that influence a company's financial performance. These elements might be either internal or external in nature. Many studies have been conducted to demonstrate the influence of capital structure on the financial performance of firms; nevertheless, the results are not consistent. Furthermore, because each company sector has its unique features as well as capital management, the amount of influence is also highly diverse.

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The capital structure of a company is comprised of its long-term debt, common equity, and preferred equity, which are utilized to fund its overall operations and growth. Capital structure is a critical financial choice since it is directly tied to a firm's risk and return. Any immature capital structure choice can lead to a high cost of capital, decreasing the firm's value, whilst an effective capital structure decision can have the opposite impact. Some academics characterized capital structure in their own ways as well.

Weston *et al.* (1979) describes capital structure as the firm's long-term financing represented by long-term debt, preferred stock, and net worth. According to Van Horne and Wachowicz (1995), capital structure is the combination of a company's long-term debt, preferred stock, and common stock equity. According to the preceding explanation, capital structure consists mostly of stock and long-term debt. Traditionally, short-term debt is not considered in capital structure, but we do in our analysis.

The classic Modigliani-Miller theorem (1958) says that the debt-to-equity ratio asserts irrelevance on business value. However, because the authors analysed the Arrow-Debreu setting (full markets, no taxes, no transaction and bankruptcy costs), the idea of debt irrelevance is unlikely to be realistic. Modigliani and Miller (1963) later loosened the no-tax assumption and produced a theory on the tax advantages of debt. That work sparked a substantial academic debate on capital structure theory.

A firm might profit from debt in two ways. The first is a tax shield: interest payments are normally not taxed; therefore, debt can raise the firm's worth. Managers might also benefit from debt control (Jensen, 1976). Managers utilize the company's free cash flows to invest in projects, pay dividends, or keep cash on hand. However, if the company is not committed to some fixed expenditures, such as interest charges, managers may be tempted to "squander" extra free cash flows.

As a result, in order to penalize management, shareholders incur debt. Furthermore, it is common practice in debt agreements between banks and borrowers to include financial covenants for companies (minimal level of the free cash flow, debt-to-EBITDA ratio, EBITDA-to-interest expenses ratio etc.). Managers are unable to violate these covenants and, as a result, are obligated to be more effective. Furthermore, the law usually gives a right to partial information disclosure to the company's debt holders, which acts as a tool for further managers' monitoring. As a result, managers' activities become more open, and they have greater incentives to produce greater value for the owners. This is the essence of capital structure's "Free Cash Flow Theory" (Jensen, 1986).

Excessive investments are one manner in which managers may not act in the best interests of the owners. This is known as a "hazard problem" Jensen. (1988). A common example is the massive exploration expenditure by oil company executives in the late 1970s, when it was cheaper to buy oil on Wall Street than to explore for or pump it. Furthermore, executives at oil corporations spend a big portion of their spare wealth in non-core businesses. Blanchard. (1994) shown that managers of enterprises that got financial windfalls frequently spent it on purchases of unrelated firms and other activities

that added little value to shareholders. These and other data demonstrate the existence of a conflict of interest between management and owners.

According to the agency cost theory (Jensen and Meckling, 1976), higher levels of debt are correlated with better company performance. Agency costs are expenses incurred as a result of agency dispute. High leverage can lower agency costs and hence boost company value through a variety of processes, including:

- Keeping track on debt holders' activities.
- Managers' fear of corporate collapse and liquidation as a result of financial mismanagement, which might result in reputation and salary losses.
- Reducing overinvestment.

There are, without a doubt, alternative avenues for shareholders to censure executives. Owners may, for example, obligate managers to pay dividends, reducing the amount of free cash flow available to management. As a result, companies with clear management and ownership separation should pay bigger dividends (Damodaran, 2010). However, in this study, we will only look at debt as a means of self-discipline.

Because a business's worth is directly proportional to its performance (the better a firm performs, the greater its value), economists investigate the link between leverage and firm performance to test Jensen's (1986) hypothesis. Empirical investigations on the link between leverage and company performance have yet to come to a consensus. Coricelli *et al.* (2011) found a hump-shaped association between debt levels and productivity development in their EBRD research of Central and Eastern European enterprises. Majumdar and Chhibber (1999) discovered a strong negative effect of debt on business performance, demonstrating the inadequacy of western corporate governance processes in transitional economies. Harris and Raviv (1991) and Titman and Wessel (1988) conduct two famous empirical investigations that provide contradictory empirical outcomes, even on basic facts about capital structure. As a result, empirical proof of the link between leverage and company performance is still lacking.

There may also be an inverse relationship between corporate performance and leverage. According to the efficiency-risk theory, better business efficiency decreases expected bankruptcy costs, and such firms may attract more debt. According to the franchise value theory, more efficient businesses would prefer to safeguard the economic rent gained from their efficiency and may select lesser leverage (Berger and Bonaccorsi di Patti, 2006).

Furthermore, it may anticipate that the relationship between leverage and firm performance would not be immediate, and that temporal gaps may exist. This notion is confirmed by pecking order theory, which expressly asserts that previous business performance, rather than present firm performance, may have an influence on capital structure.

One of the most comprehensive studies on African marketplaces, including South Africa, done by Gwatidzo and Ojah (2009), discovered that enterprises in these markets tend to follow a modified pecking order. Their research looked at five African markets in total (Ghana, Kenya, Nigeria, South Africa, and Zimbabwe). Gwatidzo and Ojah (2009) investigated capital structure dependency on variables such as plus materiality, company tax, gain, size, and business age in their study.

Very limited research work is available on this issue in Bangladesh especially in the field of Non-banking financial institutions and Insurance companies. The current study adds to the existing body of knowledge by empirically investigating the impact of capital structure on the financial performance of Non-Banking Financial Institutions and Insurance companies listed in Dhaka Stock Exchange.

## **2. Objective and Scope of the Study**

The objective of this study is to analyse the impact of capital structure on the financial performance of Non-Banking Financial Institutions and Insurance companies listed in Dhaka Stock Exchange.

This study has covered the level of capital structure practiced, performance of the firms, relationship of among the indicators of capital structure and firm's performance along with the impact of capital structure on the performance of the listed Non-Banking Financial Institution and Insurance Companies in the Dhaka Stock Exchange of Bangladesh. Besides, the study has collected data from limited number of companies from annual reports from the year 2015 to 2019. Firms that did not have precise information for the time period were removed from the study. As a result, data availability largely influenced the sample size and duration of the study.

## **3. Literature Review**

### **3.1 Empirical Evidence**

There has been a lot of study done on company performance. It should begin with Krishnan and Moyer (1997), who conducted an empirical examination of company performance and capital structure in four Asian economies. The research sample included 81 organizations from Hong Kong, Singapore, and South Korea from 1992 to 1997. The research measured the firm's performance using four dependent variables: ROE, ROIC, PTM, and RETURN. Leverage is measured using two metrics: debt on the market value of equity and long-term debt on the market value of equity. The findings revealed that the nation of origin has an impact on both financial performance and capital structure. Enterprises in Hong Kong, in particular, will have a higher ROE, and the influence of various overseas companies is not statistically significant. According to the survey, South Korean enterprises have larger financial leverage than companies from other nations. According to the findings, leverage has no effect on the financial success of the organization.

Some scholars discovered a positive association; others discovered a negative relationship; and yet others discovered a mixed or no relationship between capital structure and company performance. The following section discusses some of the main contributions to the literature on this issue.

Since Modigliani and Miller's (1958) "irrelevance theory of capital structure," finance economists have been interested in capital structure theory. Extensive study has been conducted in several countries to explore the link between capital structure and business performance, with Bangladesh making very little addition to the literature. The conduct of firms in industrialized nations may differ from that of firms in underdeveloped ones. Because Bangladesh is a developing country, it is sense to discuss earlier efforts from other developing countries.

Majumdar and Chhibber (1999) investigated the link between the debt level of a company's capital structure and its performance in India between 1988 and 1994. The findings show that there is a statistically significant adverse association between capital structure and financial performance in Indian firms. The author highlights the capital market structure in India, where both short-term and long-term lending institutions are government-owned, and confirms that Western corporate governance systems will be ineffective in the Indian environment. Gleason, Mathur, and Mathur (2000) investigated the connection between capital structure and performance. Data from 198 retail enterprises in 14 European nations were utilized in the study, which was divided into four research clusters. ROA was utilized as the dependent variable, while debt-to-assets ratio was employed as the independent variable. The results revealed that the debt-to-total-assets ratio had a negative impact on the ROA. Furthermore, firm size has a favourable link with business performance.

Roden and Lewellen (1995) studied 48 U.S. enterprises from 1981 to 1990 and discovered a favourable relationship between profitability and capital structure. Champion (1999), Ghosh *et al.* (2000), and Hadlock and James (2000) all found similar findings. They all concluded that organizations with high levels of profitability employ a high degree of debt.

Arbor (2005) investigated the impact of capital structure on the profitability of 20 Ghana Stock Exchange-listed firms. ROE was utilized as the dependent variable, with debt-to-assets, short-term debt-to-total-assets, and long-term debt-to-total-assets as the independent variables. The regression analysis approach was utilized by the author to estimate the association between ROE and capital structure. The findings revealed that debt-to-assets and short-term debt-to-total-assets ratios have a beneficial influence on ROE. Long-term debt, on the other hand, has a negative relationship with ROE. The study also demonstrates that debt has a favourable impact on a company's profitability. Berger and Patti (2006) investigated the connection between company performance and capital structure. The sample consisted of stores in the United States from 1990 to 1995. The study presented a novel way for demonstrating causal link by employing a

simultaneous model of two equations. According to the findings of the study, the larger the leverage, the better the profit of the firm.

According to Margaritis and Psillaki (2010), there is a considerable positive relationship between leverage and business performance. They examined a sample of both low and high growth French enterprises from 2003 to 2005 and discovered that leverage had a beneficial influence on company efficiency across the board.

Amjed (2007) explored the connection between capital structure and company financial performance. From 1999 to 2004, the sample included 100 businesses in Pakistan's textile industry that were listed on the Karachi Stock Exchange. The ROE was the dependent variable, while the independent variables were short-term debt, long-term debt, and total debt. The findings revealed a positive and substantial association between short-term debt and profit, as well as a negative and significant relationship between long-term debt and profit. Because short-term debt lowers the cost of capital, deploying more of it in the capital structure enhances profitability. However, because long-term debt raises expenses, the larger a corporation's long-term debt, the lower the degree of return that firm receives. Between 1989 and 2003, Zeitun, Tian, and Keen (2007) investigated the link between capital structure and company performance in 167 Jordanian enterprises. The ROA, ROE, and Tobin's Q were the dependent variables. Debt-to-assets, short-term debt to total assets, and long-term debt to total assets were the independent variables. The findings revealed that capital structure had an inverse relationship with company performance as evaluated by ROA and ROE. Furthermore, the short-term debt-to-total-assets ratio, long-term debt-to-total-assets ratio, and total debt-to-total-assets ratio all have the opposite effect on the Tobin's Q.

Fosu (2013) evaluated the relationship between capital structure and company performance using panel data from 257 South African enterprises from 1998 to 2009. He employed the GMM regression technique to assess the link and discovered a positive and substantial relationship between financial leverage and company performance. In the Tehran Stock Exchange, Aliakbar *et al.* (2013) discovered a substantial positive relationship between capital structure and business performance.

Gill *et al.* (2011) investigated the influence of capital structure on the earnings of 272 New York Stock Exchange service and manufacturing enterprises. The ROE was utilized as the dependent variable in the study, with the independent factors being short-term debt to total assets, debt-to-assets, and long-term debt to total assets. According to the findings, there is a positive association between debt and ROE, whereas long-term debt is adversely connected to ROE. Moradi and Salehi (2011) analysed panel data from 320 businesses registered on the Tehran stock exchange between 2002 and 2009. ROA, ROE, EPS, and Tobin's Q were used to assess the firm's financial performance.

In contrast, Rajan and Zingales (1995) conducted a comprehensive analysis on the capital structure of 48 US firms between 1981 and 1990. According to the findings of the study, there is a negative association between profitability and debt level, and the

relationship will become more obvious as company size increases. They also stated that if the return on shares and investments is set in the near term and debt is the primary source of external funding, there is a negative association between performance and leverage. Short-term debt, long-term debt, and overall debt were all independent factors. The study's findings revealed that EPS and Tobin's Q are favourably connected with capital structure, while there is a negative association between capital structure and ROA, and the relationship between capital structure and ROE is not statistically significant.

Pratheepkanth (2011) investigated 30 Sri Lankan firms that traded on the Colombo Stock Exchange between 2005 and 2009. The findings revealed an inverse association between capital structure and business performance. According to the findings of the study, the majority of businesses in Sri Lanka rely on debt and pay a high premium for the privilege of doing so. Khan (2012) investigated the association between financial leverage and firm financial performance. From 2003 to 2009, the sample comprised of 36 enterprises in Pakistan. The dependent variables in the study included ROA, gross margin, and Tobin's Q. Short-term debt to total assets and overall debt to total assets were the independent variables. Khan (2012) employed the OLS regression model in his study, which revealed that financial leverage is inversely connected to financial success as evaluated by dependent variables. Furthermore, company size as measured by asset has a statistically minor influence on ROA and gross margin but has a statistically significant reverse effect on Tobin's Q.

Fama and French (2002) both observed a negative relationship between capital structure and company performance. They discovered that highly profitable enterprises with a reduced risk of financial trouble are less leveraged, which violates the trade-off assumption.

San and Teh (2012) investigated the link between capital structure and business performance. From 2005 to 2008, the study focused on 49 Bursa Malaysia-listed construction businesses. The dependent variable was the ROA. The debt-to-equity market capitalization, EPS, and long-term debt to equity were the independent factors. The findings revealed a link between capital structure and company performance. For big firms, there is a positive association between ROA and debt on equity market capitalization, as well as between EPS and long-term debt to equity. Smaller corporations, on the other hand, have an inverse connection between EPS and debt to total assets.

Noreen (2019) collected data from eleven banks between 2006 and 2016. Except for bank size, the data revealed that the capital structures of both types of banks were identical. Furthermore, the capital structure of both conventional and Islamic banks was adversely connected with ROA. In contrast, the capital structure of both conventional and Islamic banks was positively connected with ROE. This result contributes to the literature as well; however, it concentrates on the financial sector rather than the general business.

Nani and Mustafa (2012) attempted to investigate the influence of debt and equity financing on the performance of Bursa Malaysia-listed enterprises. They found a statistically significant negative relationship between capital structure and business performance using a sample of 130 firms from 2001 to 2010, coupled with multiple regression analysis.

Manawaduge *et al.* (2011) stated that most Sri Lankan enterprises utilize short-term borrowed capital rather than long-term debt, and that the usage of debt has a detrimental impact on company performance. Furthermore, they demonstrated that corporations first employ retained earnings, then debt, and ultimately equity.

Chowdhury and Chowdhury (2010) used a cross-sectional time series fixed effect model to investigate the relationship between capital structure and business value in Bangladesh. They discovered that maximizing shareholder wealth necessitates a perfect balance of debt and equity, but the cost of capital has a negative correlation with this decision and must be as low as feasible. In Bangladeshi enterprises, Alom (2013) observed a substantial negative relationship between profitability and leverage.

However, other authors' findings were mixed. Kinsman and Newman (1998) investigated the association between debt level (including three measures of debt level) and company performance and discovered a variety of outcomes. According to this study, earnings are adversely connected with short-term debt but positively correlated with long-term debt. Mesquita and Lara (2003) discovered a similar finding in Brazil.

Tianyu (2013) investigated the impact of capital structure on company performance in established and emerging economies. In his analysis, he examined a sample of 1200 listed enterprises in Germany and Sweden, as well as 1000 listed firms in China, from 2003 to 2012. Using the OLS regression approach, he demonstrated that capital structure had a considerable negative influence on company performance in China, but a significant positive effect in two European nations, namely Germany and Sweden, prior to the 2008 financial crisis.

Saeedi and Mahmoodi (2011) discovered that company performance, as measured by EPS and Tobin's Q, is favourably connected to capital structure, but capital structure and ROA are negatively associated. They did not, however, see a substantial link between ROE and capital structure.

Abor (2005) evaluated the relationship between capital structure and profitability of enterprises listed on the Ghana Stock Exchange from 1998 to 2002. Using regression analysis, he discovered a substantial positive relationship between ROE and the short-term and overall debt ratios, as well as a negative relationship with long-term debt.

Some researchers, on the other hand, found little to no correlation. Phillips and Sipahioglu (2004) found no meaningful relationship between capital structure and company performance for publicly traded UK lodging enterprises; lodging firms appear to prefer external sources since capital return is poor.

Ebaid (2009) also investigated the impact of capital structure selection on company performance in Egypt. His study employed multiple regression analysis on a sample of non-financial listed corporations from year 1997 to 2005. According to the findings, company performance has little to no link with capital structure selection. Al-Taani (2013) discovered a negative and negligible association between short-term and long-term debt ratios, as well as ROA and profit margin.

### **3.2 Background Theories**

#### **3.2.1. Modigliani – Miller Theory (M&M)**

Modern financial theory is founded on the research of two Nobel Prize-winning economists, Modigliani and Miller, on the financial system (M&M theory). Modigliani and Miller's (1958) is the starting point for current capital structure theory. According to the M&M theory, the decision between debt and equity is unrelated to the worth of the firm. The optimal capital structure is one that balances risks and earnings and so optimizes the share price of the firm. Initially, M&M theory stated that there is no optimal capital structure for enterprises in a 1958 research that did not consider the influence of corporate income tax. In a follow-up study in 1963, Modigliani and Miller (1963) demonstrated that the value of the company with debt is greater than the value of the company without debt by the tax rate multiplied by the value of debt, implying that M&M theory states that increasing the use of financial leverage will increase the value of businesses. Thus, according to the M&M theory and the optimum capital structure theory, we can understand how the choice and use of capital affects enterprise business and financial performance.

#### **3.2.2. The Trade-Offs Theory**

Kraus and Litzenberger (1973) pioneered the trade-off hypothesis, which was later expanded by Myers and Majluf (1984) and other investigations. The trade-offs hypothesis was developed to refute Modigliani and Miller (1958), because the advantages of utilizing debt are often zero or negative. For example, when a business becomes inefficient and insolvent (or bankrupt). The capacity of a company to declare bankruptcy is determined in part by its business risks, but it is also determined by its capital mobilization, management, operation, and utilization policies. According to Kraus and Litzenberger (1973), optimal financial leverage indicates a trade-off between the tax advantages of debt and the cost of bankruptcy.

#### **3.2.3. The Pecking Order Theory**

According to Myers and Majluf (1984), there is no optimal capital structure for a corporation and no explanation for the precedence of internal capital over borrowed capital when enterprises increase capital. They divide finance into two categories: internal capital (retained earnings) and external capital (equity and debt issues). The capital structure choice is made not on the basis of the ideal debt/total assets ratio, but on the priority of capital usage in the following order: Internal financial resources

(particularly retained earnings), then debt and final and equity capital. This hypothesis is based on the asymmetry of knowledge among managers, investors, and creditors. Managers understand the true worth and dangers of firms better than outside investors.

### 3.2.4 Agency Cost Theory

A conflict of interest between stockholders and debt holders. This sort of issue stems from the conceptual distinction between shareholders and debt holders. The former is more risk-averse and wants a larger return, whereas the latter is less risk-averse and accepts a lesser return. As a result, shareholders may opt to take on higher-risk initiatives than debt holders. In the event that these initiatives are successful, stockholders will get an additional return, and in the event that they fail, all losses will be shared by loan holders and stockholders (Jensen and Meckling, 1976). As a result, more leveraged corporations pursue lower-risk ventures. Myers and Majluf (1984), on the other hand, demonstrated that disparities in aims between debt holders and shareholders might lead to underinvestment. As a result, higher leverage might as well lead to poorer corporate performance.

### 3.3 Conceptual Framework

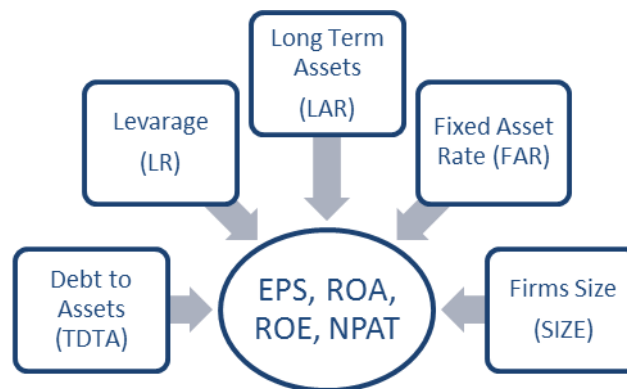


Figure 1: Conceptual Framework of the study

#### 3.3.1 Definition of Capital Structure and Financial Performance

Many distinct perspectives exist on capital structure. Stephen *et al.* (2003), a firm's capital structure is the mix of debt and equity used to finance the enterprise's production and commercial operations in a certain proportion. To put it another way, a company's capital structure refers to the mix of debt and equity it utilizes to support its activities. To put it another way, the enterprise capital structure is a balance of long-term debt and equity. As a result, the correlation ratio's structure is frequently proportionate to a company's debt and equity. In terms of financial performance, it is commonly understood that financial performance is the result of an enterprise's mobilization, use, and management of capital. The amount of utilization of factors in the manufacturing process is reflected in the level of business performance of companies. As a result, business

efficiency is an integrated economic indicator that reflects the extent to which an enterprise's material and financial resources are used to achieve maximum efficiency. One of the most controversial and discussed topics in financial management is assessing and monitoring business financial performance. It is critical to utilize any instrument to evaluate a company's financial performance. There are several indications for assessing an organization's financial success, however the most generally used criteria in studies may be split into two categories:

- I. It is the ratio between the outcomes obtained and the inputs such as ROA, ROE and EPS, calculated using accounting procedures employed by many authors in prior research.
- II. Use market-based economic models like the Marris coefficient (MBRV) and Tobin's Q.

### **3.3.2 Return on Assets (ROA)**

Return on Assets is regarded as a performance measuring metric. It measures a company's profitability in relation to its total assets. This ratio is derived by dividing the firm's net income by its total assets. It informs a manager about the efficiency with which a company's management uses its assets to create earnings (Al-Taani, 2013).

### **3.3.3 Return on Equity (ROE)**

Return on equity measures a company's profitability in relation to its book value of shareholder equity. ROE is calculated by dividing net income by the book value of the equity. This ratio is calculated using after-tax net income. The entire equity of a company may be calculated by subtracting net assets from liabilities. It is a measure of how well a firm can apply its investment to generate earnings growth. ROE is particularly useful for evaluating the performance of firms in the same industry. In the case of stock valuation, ROE is employed in conjunction with other financial ratios. The ROE ratio might be relatively high or low, depending on the industry. In general, a ROE ratio of 15-20% is regarded desirable for any firm (Amidu's, 2007).

### **3.3.4 Earnings Per Share (EPS)**

Earnings per share refers to the portion of a company's profit that is distributed to each share of common stock. EPS is used as a measure of a company's profitability. It is computed by dividing net income less preferred dividends by the weighted average common share. In its income statement, every firm discloses earnings per share that have been adjusted for unusual events, including possible share dilution (Desai and Dharmapala, 2007).

### **3.3.5 Net Profit After Tax (NPAT)**

On their income statement, companies must declare their net income after taxes. Net income is calculated by deducting all expenditures and losses from all revenues and profits. The corporation will then subtract the taxes paid for the year to calculate net

profit after taxes. Companies often prefer a bigger net income after taxes since it demonstrates the company's profitability (Harris, and Raviv, 1991).

### 3.3.6 Debt to Assets Ratio

Total-debt-to-total-assets is a leverage ratio that describes a company's total debt in relation to its total assets. Analysts can use this statistic to compare a company's leverage to that of other firms in the same industry. This information might indicate a company's financial stability. The higher the ratio, the greater the degree of leverage (DOL) and, as a result, the greater the risk of investing in that firm (Mathur and Mathur, 2000).

### 3.3.7 Financial Leverage

Financial leverage ratio (LR): The leverage ratio shows the financial autonomy of the enterprise. (Chu *et al.*, 2015)

### 3.3.8 Long-term asset ratio (LAR)

This is computed by dividing long-term assets by total assets, and it shows an enterprise's capital structure. There are studies throughout the world that employ long-term assets to depict capital structure. (Berger and Patti, 2006),

### 3.3.9 Fixed Asset rate

Fixed assets as a percentage of total assets indicates how much of asset is covered by fixed assets. This ratio reflects the assets strength of the firm. (Trang Thu *et al.*, 2020)

The following Table 1 summarizes the indicators of capital structure and firm's performances.

Table 1: Summary Indicators of capital structure and performance

| Authors                          | Origin     | Capital Structure Indicators               | Performance Indicators   |
|----------------------------------|------------|--------------------------------------------|--------------------------|
| Trang Thu <i>et al.</i> , (2020) | Vietnamese | TDTA, LR, LAR                              | ROE                      |
| Hasan <i>et al.</i> (2014)       | Bangladesh | STDTA, LTDTA and TDTA                      | ROE, ROA, Tobin's Q, EPS |
| Mahafuja and Yadav (2012)        | Malaysia   | STD, LTD, TD                               | ROA, ROE, EPS,           |
| Ebaid (2009)                     | Egypt      | Leverage level                             | ROE, ROA                 |
| Lavorskyi (2012)                 | Ukrain     | Return on invested capital, Debt to equity | ROA, EBIT, ROE           |
| Noer and Maulana (2014)          | Indonesia  | Debt to equity, Debt to total assets       | ROA, ROE                 |

Sources: Authors Compilation.

## **4. Data and Methodology**

### **4.1 Population and Sample Size**

The study focuses mostly on companies listed on the Dhaka Stock Exchange (DSE). Until January 20, 2022, 75 companies from the Insurance and Non-Banking Financial Institutions are listed on the Dhaka Stock Exchange. The Insurance sector has 52 companies and the Non-Banking Financial institution sector has 23. So, the population of the study is all Non-Banking Financial Institutions and Insurance companies listed on the DSE.

It is critical to collect enough data in order to create a valid regression model. Actually, the needed sample size is determined by the size of the predicted performance. This is due to the fact that the estimate of R is affected by the sample size and the number of predictors. There are several guidelines for determining sample size. And the most common rule is that the larger the better. A minimum of 30 observations for each variable is required to generate a valid multiple linear regression model. Otherwise, there is a good possibility that collinearity prevails. In this study, a purposive sampling technique is employed in selecting non-banking financial institutions and Insurance companies. The sample comprises of 20 firms, 10 from Insurance and 10 from Non-Banking Financial Institutions listed in Dhaka Stock Exchange (DSE). These firms are monitored over the year 2015–2019 time period, permitting the formation of a canister of panel data with 100 observations.

### **4.2 Sources of Data**

The data of this study has been extracted from the year 2015 to 2019 from a total of 20 company's published annual reports. Due to Covid-19, which greatly impacted the firm's performance, the years 2020 and 2021 were neglected. Annual reports were gathered from the websites of the companies that were chosen. The annual report was gathered once again for the period ending June 30 or December 31, depending on the financial year of the various companies.

### **4.3 Data Analysis**

First, a descriptive analysis to determine which variable is more impacted by capital structure by determining the higher mean. The basic objectives of the study are met by these analyses. Then, using correlation analysis, determine how these variables are connected to one another. Whether or not these connections are substantial. Then, using multiple regressions, determine the capital structure's influence on the firm's performance. ANOVA is also used to evaluate hypotheses in this case. The data are analysed by the statistical package SPSS.

### **4.4 Variables Measure**

The capital structure and firm performance are two critical components of this research in a broader sense. For this study, financial performance parameters are employed as

dependent variables, whereas capital structure (financial structure) is used as an independent variable. Dependent variables include total debt to total assets, leverage ratio, and long-term assets. Firm performance is measured using independent variables such as return on equity, return on assets, earnings per share, and net profit after tax. Because the study uses a causal design, there are a few aspects or variables to examine that may indirectly impact the company's performance, therefore the size of the firm and the fixed asset rate are the selected as control variables supported by literature.

| <b>Dependent Variable (Performance Factors)</b> |                      |               |                                                                |
|-------------------------------------------------|----------------------|---------------|----------------------------------------------------------------|
| <b>S. L</b>                                     |                      | <b>Symbol</b> | <b>Measurements</b>                                            |
| 1                                               | Earnings Per Share   | EPS           | $\frac{\text{Net Income}}{\text{Number of Share Outstandins}}$ |
| 2                                               | Return on Asset      | ROA           | $\frac{\text{Net Income}}{\text{Total Assets}}$                |
| 3                                               | Return on Equity     | ROE           | $\frac{\text{Net Income}}{\text{Total Equity}}$                |
| 4                                               | Net Profit After Tax | NPAT          | Net Profit – Tax Paid                                          |

| <b>Independent Variables (Capital Structure)</b> |                                  |               |                                                       |
|--------------------------------------------------|----------------------------------|---------------|-------------------------------------------------------|
| <b>S. L</b>                                      |                                  | <b>Symbol</b> | <b>Measurements</b>                                   |
| 5                                                | Total Debt to Total Assets Ratio | TDTA          | $\frac{\text{Total Debt}}{\text{Total Assets}}$       |
| 6                                                | Leverage Ratio                   | LR            | $\frac{\text{Total Asset}}{\text{Total Equity}}$      |
| 7                                                | Long Term Asset                  | LAR           | $\frac{\text{Non Current Asset}}{\text{Total Asset}}$ |

| <b>Control Variables</b> |                  |               |                                            |
|--------------------------|------------------|---------------|--------------------------------------------|
| <b>S. L</b>              |                  | <b>Symbol</b> | <b>Measurements</b>                        |
| 8                        | Firm Size        | SIZE          | Revenue, Total Assets                      |
| 9                        | Fixed Asset Rate | FAR           | $\frac{\text{Fixed Asset}}{\text{Equity}}$ |

#### 4.5 Model Specification

In this study, we used four regression model based on the above variables specified to justify our objective.

##### Model 1

$$EPS = \alpha_0 + \beta_1 TDTA + \beta_2 LR + \beta_3 LAR + \beta_4 SIZE + \beta_5 FAR + \varepsilon$$

##### Model 2

$$ROA = \alpha_0 + \beta_1 TDTA + \beta_2 LR + \beta_3 LAR + \beta_4 SIZE + \beta_5 FAR + \varepsilon$$

##### Model 3

$$ROE = \alpha_0 + \beta_1 TDTA + \beta_2 LR + \beta_3 LAR + \beta_4 SIZE + \beta_5 FAR + \varepsilon$$

##### Model 4

$$NPAT = \alpha_0 + \beta_1 TDTA + \beta_2 LR + \beta_3 LAR + \beta_4 SIZE + \beta_5 FAR + \varepsilon$$

Where,  $\beta_1, \beta_2, \beta_3, \beta_4$  and  $\beta_5$  represents the regression coefficient for the variable  $TDTA, LR, LAR, SIZE$  and  $FAR$ .  $\alpha_0$  is constant and  $\varepsilon$  is denoted as the error of this model.

#### 4.6 Research Hypothesis

To examine the influence of capital structure on firm performance, the study utilized the following hypothesis:

##### **Model 1 (EPS)**

Hypothesis: There is no significant impact of capital structure on earnings per share (EPS).

##### **Model 2 (ROA)**

Hypothesis: There is no significant impact of capital structure on return on asset (ROA).

##### **Model 3 (ROE)**

Hypothesis: There is no significant impact of Capital Structure on Return on Equity (ROE).

##### **Model 4 (NPAT)**

Hypothesis: There is no significant impact of capital structure on net profit after tax (NPAT).

## 5. EMPIRICAL RESULTS AND DISCUSSION

### 5.1 Descriptive Statistics

Table 2 provides a summary of the descriptive statistics for all the dependent and independent variables included in this study. Table 2 reports the range, mean, standard deviation, number of observations, minimum and maximum of all variables to give an overall description of data used in this study.

Table 2: Descriptive statistics of all variables ( $N=100$ )

| Variables | Range   | Mean     | Minimum | Maximum | Std. Deviation |
|-----------|---------|----------|---------|---------|----------------|
| EPS       | 9.62    | 1.8319   | -3.49   | 6.13    | 1.50395        |
| ROA       | 12.66   | 3.4770   | -3.64   | 9.02    | 2.75253        |
| ROE       | 21.76   | 9.0023   | -.47    | 21.29   | 4.48998        |
| NPAT      | 2682.38 | 229.7603 | -405.38 | 2277.00 | 411.35083      |
| TDTA      | 1.12    | .5744    | .18     | 1.30    | .29075         |
| LR        | 15.62   | 4.8722   | 1.24    | 16.86   | 4.01019        |
| LAR       | .60     | .1252    | .00     | .60     | .13114         |
| FAR       | .86     | .2760    | .02     | .88     | .18602         |
| SIZE      | 5.50    | 22.3947  | 19.99   | 25.49   | 1.42515        |

The earnings per share (EPS) of selected companies range from -3.49 to 6.13, with a mean of 1.8319 and a SD of 1.50395. Return on asset (ROA) ranges from -3.64 to 9.02, with a mean of 3.4770 and a SD of 2.75253. Return on equity (ROE) ranges from -.41 to 21.29, with a mean of 9.0023 and a SD of 4.48998. The range of net profit after tax (NPAT) is -405.38 to 2277.00, with the mean being 229.7603 and the SD being 411.25083.

Selected firms' capital structure indicators are also included in Table 2. The ratio of total debt to total equity (TDTA) ranges from .18 to 1.30, with a mean of .5744 and a SD of .29075. Leverage (LR) ranges from 1.24 to 16.86, with a mean of 4.8722 and a SD of 4.01019. The Long-term asset (LAR) ranges from .00 to .60, with a mean of .1252 and a SD of .13114.

Table 2 also provides a summary of the firm-specific characteristics which have been used as the control variables in this study. The Fixed asset rate (FAR) ranges between .02 and .88, with a mean of .2760 and a SD of .18602. SIZE ranges from 19.99 to 25.49, with a mean of 22.3947 and a SD of 1.42515.

## 5.2 Correlation Matrix

In order to identify the relationship of Capital Structure and Firm's Performance among DSE listed Non-Banking Financial Institutions and Insurance Companies of Bangladesh, Pearson's linear correlation has been used.

Table 3: Correlation Matrix

| Variables | EPS    | ROA     | ROE    | NPAT   | TDTA    | LR      | LAR     | FAR     | SIZE    |
|-----------|--------|---------|--------|--------|---------|---------|---------|---------|---------|
| EPS       | 1      | .498**  | .700** | .716** | -.195   | -.213*  | .363**  | .232*   | .179    |
| ROA       | .498** | 1       | .363** | -.055  | -.845** | -.769** | .527**  | .212*   | -.670** |
| ROE       | .700** | .363**  | 1      | .616** | .026    | .056    | -.103   | -.213*  | .213*   |
| NPAT      | .716** | -.055   | .616** | 1      | .268**  | .236*   | -.122   | -.166   | .574**  |
| TDTA      | -.195  | -.845** | .026   | .268** | 1       | .863**  | -.656** | -.344** | .838**  |
| LR        | -.213* | -.769** | .056   | .236*  | .863**  | 1       | -.641** | -.388** | .831**  |
| LAR       | .363** | .527**  | -.103  | -.122  | -.656** | -.641** | 1       | .844**  | -.463** |
| FAR       | .232*  | .212*   | -.213* | -.166  | -.344** | -.388** | .844**  | 1       | -.214*  |
| SIZE      | .179   | -.670** | .213*  | .574** | .838**  | .831**  | -.463** | -.214*  | 1       |

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

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

Table 3 provides, return on assets (ROA), return on equity (ROE), net profit after tax (NPAT), long term assets (LAR), and fixed asset rate (FAR) has positive correlation with earnings per share (EPS). ROA, ROE, NPAT, LAR are significant at 0.01 level. FAR is significant at 0.05 level. However, Leverage (LR) has negative relation with EPS. This relationship is significant at 0.05 level. Firm size and total debt to total assets (TDTA) has no significant influences on EPS.

ROA has positive correlation with EPS, ROE, LAR and FAR. TDTA, LR, and Size are negatively correlated with ROA. The relationship of ROA and other variables are significant at 0.01 level. FAR is significant at 0.05 level.

ROE has positive relationship with EPS, ROA, NPAT, and Firm Size. On the other hand, FAR has negative relationship with ROE. The relationship of ROE and other variables are significant at 0.01 level. FAR and Firm Size is significant at 0.05 level.

NPAT has positive relation with LR, EPS, ROE, TDTA and Firm Size. There is no negative correlation with other variables. The relationship between NPAT and other variables are significant at 0.01 level.

TDTA has positive relationship with NPAT, LR and Firm Size. Total TDTA has significant negative correlation with ROA, LAR and FAR. This relationship is significant at 0.01 level.

LR has positive correlation with NAPT, TDTA and Firm Size. LR has negative correlation with EPS, ROA, LAR and FAR. The relationship between LR and other factors are significant at 0.01 level. EPS and NPAT is significant at 0.05 level.

LAR has positive correlation with EPS, ROA and FAR. LAR has negative correlation with TDTA, LR and Firm Size. The relationship between LAR and other variables are significant at 0.01 level.

FAR has positive correlation with EPS, ROA and LAR. FAR has negative correlation with ROE, TDTA, LR and Firm Size. The relationship between FAR and other factors are significant at 0.05 level. On the other hand, the relationship between FAR and remaining factors are significant at 0.01 level.

Firms size has positive correlation with ROE, NPAT, TDTA and LR. However, it has negative correlation with LAR, FAR and ROA. The relationship between Firm Size and other factors are significant at 0.01 level. ROE and FAR is significant at 0.05 level.

### **5.3 Impact of Capital Structure on Firms' Performance**

#### **5.3.1 Impact of capital Structure on Earnings Per Share (Model 1)**

Table 4 indicates that there is strong positive relationship between capital structure and EPS. Together the indicators of capital structure have a multiple correlation value of  $R = .770$ . In combination, TDTA, LR, LAR, FAR and Size of the firm accounted for 59.3% of the variability in firms' performance.

Table 4: Model Summary

| Model                                                                                                        | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|--------------------------------------------------------------------------------------------------------------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|                                                                                                              |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1                                                                                                            | .770 <sup>a</sup> | .593     | .571              | .98493                     | .593              | 27.365   | 5   | 94  | .000          |
| a. Predictors: (Constant), Firm Size, Fixed Asset Rate, Total Debt to Total Asset, Leverage, Long Term Asset |                   |          |                   |                            |                   |          |     |     |               |
| b. Dependent Variable: Earnings Per Share                                                                    |                   |          |                   |                            |                   |          |     |     |               |

From Table 5, since  $F = 27.365$ ,  $p < .000$  implies that the regression model fits and is statistically significant. Also, it means that the data fit the model, or that the capital structure model enhances the capacity to forecast the outcome variable or profits per

share considerably. In other words, this conclusion implies that capital structure has a considerable influence on earnings per share.

Table 5: ANOVA

| Model                                                                                                        |            | Sum of Squares | df | Mean Square | F      | Sig.              |
|--------------------------------------------------------------------------------------------------------------|------------|----------------|----|-------------|--------|-------------------|
| 1                                                                                                            | Regression | 132.736        | 5  | 26.547      | 27.365 | .000 <sup>b</sup> |
|                                                                                                              | Residual   | 91.189         | 94 | .970        |        |                   |
|                                                                                                              | Total      | 223.925        | 99 |             |        |                   |
| a. Dependent Variable: Earnings Per Share                                                                    |            |                |    |             |        |                   |
| b. Predictors: (Constant), Firm Size, Fixed Asset Rate, Total Debt to Total Asset, Leverage, Long Term Asset |            |                |    |             |        |                   |

From Table 6, the tolerance for independent variables in collinearity statistics is  $> 0.1$ , and the VIF  $< 10$ . As a result, the suggested model is free of collinearity problems.

Table 6: Coefficients

| Model                                     |                           | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | Collinearity Statistics |       |
|-------------------------------------------|---------------------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
|                                           |                           | B                           | Std. Error | Beta                      |        |      | Tolerance               | VIF   |
| 1                                         | (Constant)                | -27.406                     | 2.900      |                           | -9.450 | .000 |                         |       |
|                                           | Total Debt to Total Asset | -2.658                      | .873       | -.514                     | -3.046 | .003 | .152                    | 6.571 |
|                                           | Leverage                  | -.274                       | .056       | -.729                     | -4.899 | .000 | .195                    | 5.117 |
|                                           | Long Term Asset           | 5.338                       | 2.112      | .465                      | 2.528  | .013 | .128                    | 7.827 |
|                                           | Fixed Asset Rate          | -2.657                      | 1.168      | -.329                     | -2.276 | .025 | .208                    | 4.814 |
|                                           | Firm Size                 | 1.436                       | .146       | 1.361                     | 9.810  | .000 | .225                    | 4.442 |
| a. Dependent Variable: Earnings Per Share |                           |                             |            |                           |        |      |                         |       |

Regression result indicates that TDTA, LR, FAR has negative influence on EPS, in other words if TDTA, LR, FAR increases then EPS decreases. LAR and Firm size have positive influences on EPS, that means if LAR and Firm size can be increased then the EPS also like to be increased.

### 5.3.2 Impact of Capital Structure on Return on Assets (Model 2)

According to Table 7, there is a significant positive relationship between capital structure and return on assets. The capital structure indicators have a multiple correlation value (R) of 0.866 and a multiple regression value (R Square) of 0.751 when integrated. It implies that the change in capital structure may explain about 75.1 percent of the change in return on assets.

Table 7: Model Summary

| Model                                                                                                        | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|--------------------------------------------------------------------------------------------------------------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|                                                                                                              |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 2                                                                                                            | .866 <sup>a</sup> | .751     | .737              | 1.41036                    | .751              | 56.617   | 5   | 94  | .000          |
| a. Predictors: (Constant), Firm Size, Fixed Asset Rate, Total Debt to Total Asset, Leverage, Long Term Asset |                   |          |                   |                            |                   |          |     |     |               |
| b. Dependent Variable: Return on Asset                                                                       |                   |          |                   |                            |                   |          |     |     |               |

From Table 8,  $F = 56.617$ ,  $p = .000$  indicates that the regression model fits and is statistically significant. It also signifies that the data fit the model, or that the capital structure model significantly improves the ability to estimate the outcome of return on assets. In other words, this study indicates that capital structure has a significant impact on return on assets.

Table 8: ANOVA

| Model                                                                                                        |            | Sum of Squares | df | Mean Square | F      | Sig.              |
|--------------------------------------------------------------------------------------------------------------|------------|----------------|----|-------------|--------|-------------------|
| 1                                                                                                            | Regression | 563.089        | 5  | 112.618     | 56.617 | .000 <sup>b</sup> |
|                                                                                                              | Residual   | 186.977        | 94 | 1.989       |        |                   |
|                                                                                                              | Total      | 750.065        | 99 |             |        |                   |
| a. Dependent Variable: Return on Asset                                                                       |            |                |    |             |        |                   |
| b. Predictors: (Constant), Firm Size, Fixed Asset Rate, Total Debt to Total Asset, Leverage, Long Term Asset |            |                |    |             |        |                   |

From Table 9, We find that the tolerance for independent variables in collinearity statistics is  $> 0.1$ , and the VIF  $< 10$ . As a result, the suggested model is free of collinearity problems.

Table 9: Coefficients

| Model                                  | Unstandardized Coefficients |            | Standardized Coefficients | t     | Sig.   | Collinearity Statistics |      |
|----------------------------------------|-----------------------------|------------|---------------------------|-------|--------|-------------------------|------|
|                                        | B                           | Std. Error | Beta                      |       |        | Tolerance               | VIF  |
| 1                                      | (Constant)                  | -1.985     | 4.153                     |       | -.478  | .634                    |      |
|                                        | Total Debt to Total Asset   | -7.556     | 1.250                     | -.798 | -6.046 | .000                    | .152 |
|                                        | Leverage                    | -.217      | .080                      | -.316 | -2.713 | .008                    | .195 |
|                                        | Long Term Asset             | 2.304      | 3.024                     | .110  | .762   | .448                    | .128 |
|                                        | Fixed Asset Rate            | -3.264     | 1.672                     | -.221 | -1.952 | .054                    | .208 |
|                                        | Firm Size                   | .512       | .210                      | .265  | 2.443  | .016                    | .225 |
| a. Dependent Variable: Return on Asset |                             |            |                           |       |        |                         |      |

Regression result indicates that TDTA, LR, FAR has negative influence on ROA, in other words if TDTA, LR, FAR increases then ROA decreases. LAR and Firm size have positive influences on ROA, that means if LAR and Firm size can be increased then the ROA also like to be increased.

### 5.3.3 Impact of Capital Structure on Return on Equity (Model 3)

Table 10 represents that, there is a weak positive correlation between capital structure and ROE. Together, the indicators of capital structure have a multiple correlation value (R) of 0.475 and multiple regression value (R Square) of 0.225. It indicates that, about 22.5% change in return on equity can be explained by the change in capital structure.

Table 10: Model Summary

| Model                                                                                                        | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|--------------------------------------------------------------------------------------------------------------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|                                                                                                              |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1                                                                                                            | .475 <sup>a</sup> | .225     | .184              | 4.05517                    | .225              | 5.474    | 5   | 94  | .000          |
| a. Predictors: (Constant), Firm Size, Fixed Asset Rate, Total Debt to Total Asset, Leverage, Long Term Asset |                   |          |                   |                            |                   |          |     |     |               |
| b. Dependent Variable: Return on Equity                                                                      |                   |          |                   |                            |                   |          |     |     |               |

From the Table 11, the regression model fits and is statistically significant ( $F = 5.474$ ,  $p = .000$ ). It also indicates that the data fit the model or that the capital structure model greatly enhances the capacity to estimate the ROE. In other words, the results of this study show that capital structure has a considerable influence on ROE.

Table 11: ANOVA

| Model                                                                                                        |            | Sum of Squares | df | Mean Square | F     | Sig.              |
|--------------------------------------------------------------------------------------------------------------|------------|----------------|----|-------------|-------|-------------------|
| 1                                                                                                            | Regression | 450.060        | 5  | 90.012      | 5.474 | .000 <sup>b</sup> |
|                                                                                                              | Residual   | 1545.775       | 94 | 16.444      |       |                   |
|                                                                                                              | Total      | 1995.835       | 99 |             |       |                   |
| a. Dependent Variable: Return on Equity                                                                      |            |                |    |             |       |                   |
| b. Predictors: (Constant), Firm Size, Fixed Asset Rate, Total Debt to Total Asset, Leverage, Long Term Asset |            |                |    |             |       |                   |

From Table 12, the tolerance for independent variables in collinearity statistics is  $> 0.1$ , and the VIF  $< 10$ . As a result, the suggested model is free of collinearity problems.

Table 12: Coefficients

| Model                                   |                           | Unstandardized Coefficients |            | Standardized Coefficients | t      | Sig. | Collinearity Statistics |       |
|-----------------------------------------|---------------------------|-----------------------------|------------|---------------------------|--------|------|-------------------------|-------|
|                                         |                           | B                           | Std. Error | Beta                      |        |      | Tolerance               | VIF   |
| 1                                       | (Constant)                | -41.184                     | 11.940     |                           | -3.449 | .001 |                         |       |
|                                         | Total Debt to Total Asset | -6.517                      | 3.593      | -.422                     | -1.814 | .073 | .152                    | 6.571 |
|                                         | Leverage                  | -.366                       | .230       | -.327                     | -1.593 | .114 | .195                    | 5.117 |
|                                         | Long Term Asset           | 6.110                       | 8.695      | .178                      | .703   | .484 | .128                    | 7.827 |
|                                         | Fixed Asset Rate          | -11.100                     | 4.807      | -.460                     | -2.309 | .023 | .208                    | 4.814 |
|                                         | Firm Size                 | 2.590                       | .603       | .822                      | 4.298  | .000 | .225                    | 4.442 |
| a. Dependent Variable: Return on Equity |                           |                             |            |                           |        |      |                         |       |

Regression results indicates that TDTA, LR, FAR has negative influence on ROE, in other words if TDTA, LR, FAR increases then ROE decreases. LAR and Firm size have positive influences on ROE.

#### 5.3.4 Impact of Capital Structure on Net Profit after Tax (Model 4)

Table 13 represents that, there is a strong positive correlation between capital structure and NPAT. Together, the indicators of capital structure have a multiple correlation value (R) of 0.794. And multiple regression value (R Square) of 0.630. It indicates that, about 63.0% change in NAPAT can be explained by the change in capital structure.

Table 13: Model Summary

| Model                                                                                                        | R                 | R Square | Adjusted R Square | Std. Error of the Estimate | Change Statistics |          |     |     |               |
|--------------------------------------------------------------------------------------------------------------|-------------------|----------|-------------------|----------------------------|-------------------|----------|-----|-----|---------------|
|                                                                                                              |                   |          |                   |                            | R Square Change   | F Change | df1 | df2 | Sig. F Change |
| 1                                                                                                            | .794 <sup>a</sup> | .630     | .611              | 256.61064                  | .630              | 32.079   | 5   | 94  | .000          |
| a. Predictors: (Constant), Firm Size, Fixed Asset Rate, Total Debt to Total Asset, Leverage, Long Term Asset |                   |          |                   |                            |                   |          |     |     |               |
| b. Dependent Variable: Net Profit After Tax                                                                  |                   |          |                   |                            |                   |          |     |     |               |

From Table 14, since  $F = 32.079$ ,  $p = .000$  implies that the regression model fits and is statistically significant. Also, it means that the data fit the model, or that the capital structure model enhances the capacity to forecast the outcome variable NAPT considerably. In other words, this conclusion implies that capital structure has a considerable influence on NAPT.

Table 14: ANOVA

| Model                                                                                                        |            | Sum of Squares | df | Mean Square | F      | Sig.              |
|--------------------------------------------------------------------------------------------------------------|------------|----------------|----|-------------|--------|-------------------|
| 1                                                                                                            | Regression | 10561933.427   | 5  | 2112386.685 | 32.079 | .000 <sup>b</sup> |
|                                                                                                              | Residual   | 6189807.732    | 94 | 65849.018   |        |                   |
|                                                                                                              | Total      | 16751741.159   | 99 |             |        |                   |
| a. Dependent Variable: Net Profit After Tax                                                                  |            |                |    |             |        |                   |
| b. Predictors: (Constant), Firm Size, Fixed Asset Rate, Total Debt to Total Asset, Leverage, Long Term Asset |            |                |    |             |        |                   |

From table 15, the tolerance for independent variables in collinearity statistics is  $> 0.1$ , and the VIF  $< 10$ . As a result, the suggested model is free of collinearity problems.

Table 15: Coefficients

| Model                                       |                           | Unstandardized Coefficients |            | Standardized Coefficients | t       | Sig. | Collinearity Statistics |       |
|---------------------------------------------|---------------------------|-----------------------------|------------|---------------------------|---------|------|-------------------------|-------|
|                                             |                           | B                           | Std. Error | Beta                      |         |      | Tolerance               | VIF   |
| 1                                           | (Constant)                | -8335.751                   | 755.555    |                           | -11.033 | .000 |                         |       |
|                                             | Total Debt to Total Asset | -439.466                    | 227.383    | -.311                     | -1.933  | .056 | .152                    | 6.571 |
|                                             | Leverage                  | -69.156                     | 14.547     | -.674                     | -4.754  | .000 | .195                    | 5.117 |
|                                             | Long Term Asset           | 1092.678                    | 550.216    | .348                      | 1.986   | .050 | .128                    | 7.827 |
|                                             | Fixed Asset Rate          | -1147.985                   | 304.200    | -.519                     | -3.774  | .000 | .208                    | 4.814 |
|                                             | Firm Size                 | 416.834                     | 38.142     | 1.444                     | 10.929  | .000 | .225                    | 4.442 |
| a. Dependent Variable: Net Profit After Tax |                           |                             |            |                           |         |      |                         |       |

Regression result indicates that TDTA, LR, FAR has negative influence on NPAT, in other words if Total TDTA, LR, FAR increases then NPAT decreases. LAR and Firm size have positive influences on net profit after tax.

## 6. Conclusion

The capital structure is a critical issue in today's business environment. Developed countries have previously attempted to comply with the principles of a sound capital structure. In response to global demand, developing and emerging nations are also attempting to implement capital structure mechanisms in their businesses. Bangladesh is a promising country that is growing quickly in terms of economic growth. In this approach, the country is also attempting to develop a capital structure system in companies in order to enjoy the benefits of it. The goal is to improve business performance and, eventually, the economy's development. In Bangladesh, capital structure regulations and recommendations are expected to be followed by companies. Firms are likewise attempting to stick to these requirements. However, the issue remains: is compliance with such guidelines improving or affecting business performance? This study was carried out in order to find the answer to this question.

This study aims to examine the influence of capital structure on firm's performance using a sample of 20 Bangladeshi Non-Banking Financial Institution and Insurance companies for the period 2015–2019.

This study discovered both positive and negative effects of capital structure on firms performance. Regardless of the direction of links and implications, capital structure indicators have been proven to have a significant impact on company performance in Bangladesh. Instead, the impacts and relationships are weaker in ROE, Higher on EPS, ROA and NPAT. These finding suggest that further research should be done to determine more accurate impacts and linkages. Studies should also be done to determine

how the influence of capital structure might be amplified to enhance the performance of DSE listed Non-Banking Financial Institution and Insurance Companies. Further studies can be conducted with combining more industry data from extended time period to arrive at a more realistic scenario in future.

### 7. Limitation of the Study

There may be some limitations to this study. The internal operations of a corporation are influenced by its capital structure and performance. As a result, most businesses do not disclose their actual financial information. On the other side, there is a time limitation and, for these reasons, research is organized hastily, which does not produce high accuracy. Due to a lack of relevant information, one is bound to assume. The aspects of these study may be lacking. Again, because this study is based on secondary sources of data, the majority of the data is collected from the firms' annual reports. Some of the data is not widely obtainable in the annual report, and the firm may not reflect the actual information honestly in some situations.

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