# A Project Report

On

The Effects of Capital Structure on Banks’ Profitability in Bangladesh

**Submitted to:**

Muhammad Enamul Haque

Assistant Professor

 School of Business and Economics

**Submitted by:**

 Mahbubur Rahman

ID- 111161205

Major: Finance

Program:BBA

**Date of Submission: November 04, 2020**

Letter of Transmittal

November 04, 2020

Muhammad Enamul Haque, Assistant Professor

United International University, Dhaka- 1212

**Subject: Submission of report “The Effects of Capital Structure on Banks’ Profitability”**

Dear Sir,

I am really glad to present my project report on “**The Effects of Capital Structure on Banks’ Profitability”.**

This study assists me to extend my knowledge about the capital structure of banking industry in Bangladesh. The knowledge that I have gather through this study is deemed to be helpful for me in my personal and professional life.

I would like to convey my special thanks and gratitude to you for your proper instruction and guidance. From my observation and secondary data, I tried to complete this report. Despite having so many limitations I tried my best to furnish this report. I personally feel like that I could satisfy the purpose of this program and I also expect that it will find your acceptance. Thank you again for your unconditional support and guidance.

Sincerely yours,

Mahbubur Rahman

#

# Acknowledgement

Firstly, I would like to thank Almighty ALLAH (SWT) for keeping all circumstances in favor to me and let me complete my project successfully.

I am also thankful to my parents who supported, encouraged, and prayed for my great success, their blessing and good wishes turn my work easier for me.

Finally, I would like to thanks to my instructor “**Muhammad Enamul Haque**” who gave me an opportunity to work under him and I learned a lot under his supervision. It is my pleasure to acknowledge the fact that I developed my quantitative knowledge from my respected supervisor to empirically test the topic “The E**ffect of Capital structure on Banks’** **Profitability**” in this study. Just giving thanks is not enough for the contribution of him in my efforts in preparation of this project report.

.

# Executive Summary

This report attempts to measure the effects of capital structure on banking profitability listed in the Dhaka stock exchange. I considered 21 listed banks out of 30 using the data for the period of 2014-2018. Three profitability measures are used to understand whether the capital structure has any influence on the bank’s earnings. These are: return on assets, return on equity, and net interest margin. I applied the panel data regression model using both fixed-effects and random-effects models. But random effects panel regression has been found appropriate model applying the Hausman test for measuring the capital structure effect on the profitability of the banks.

The results found that when the return on assets is used as a measure of profitability, both the capital structure ratios (total debt to asset and total debt to equity ratios) are found statistically significant. No other controlling variables except ROE have been found significant. When the return on equity is used as a measure of profitability, only the total debt total asset ratio has been found statistically significant. But no debt ratios have any significant influence on the bank’s profitability when net interest margin is used as a measurement of earnings variable. The conclusion can be made that only the total debt to total asset ratio can have a positive impact on influencing the profitability of commercial banks in Bangladesh. Other variables considered in the study do not have any significant impact on the bank’s profitability.

Table of Contents

[Project report on effect of capital structure on Profitability 2](#_Toc27904396)

[Letter of transmital\_. 2](#_Toc27904397)

[Acknowledgement’,, 3](#_Toc27904400)

[Executive Summery,, 4](#_Toc27904401)

[Background 6](#_Toc27904402)

1. [Introduction 8](#_Toc27904404)

2. [Literature Review 9](#_Toc27904405)

3. [Methodology 14](#_Toc27904406)

[4. Empirical Analysis 16](#_Toc27904407)

5. Conclusion 19

6. References……………………………………………………………………………………………. .20

# Background

Capital structure is basically the mixture of debt and equity of a firm. It tells as to what portion of debt and what portion of equity a firm should be using to run its Business operation. A firm that is using a huge portion of debt in its operation is known as highly levered firm whereas a firm with low portion of debt is known as low levered firm. It becomes very imperative for the firm to know whether capital structure has any influence on the banks’ earnings.

**Origin of the report**

This project is originated as a partial completion of the BBA program of School of Business and Economics (SoBE), United International University (UIU). The submission of report on a selected topic is required as a part of BBA program besides this report carries three credits as well. Throughout this report I have implemented my knowledge of finance with the instruction of my Honorable advisor. Preparing a report is basically the initial phase for a student to expose themselves in professional life.

**Objectives of the study**

The prime objective of the study is to measure the effects of capital structure on Banks’ profitability in Bangladesh.

**Methodology of the study**

In order to empirically study I mostly rely on secondary data about all banks that have been listed on Dhaka stock exchange over a five-year period from (2014-2018). And mostly secondary data were collected from the annual reports of the respective banks considered in the study. To empirically measure the effects of capital structure on banks’ profitability, I apply panel data regression model. We consider ROA, ROE, and NIM as profitability indicator which is known as dependent variable whereas TDTA, and TDTE were taken as capital structure indicator which is known as independent variable and Asset growth, size, and age were used as control variables.

**Limitation of the study**

No matter how flawlessly we try to fulfill our study we are bound to have some limitation. In the study I used 21 banks due to difficulties to get the data from all banks. The use of data for the more number of periods might enable us to get the robust outcome from the study. Due to time constraints I could not apply some extensions of panel data model to measure the effectiveness of capital structure on banks’ profitability.

1. **Introduction**

Capital structure refers to the mix of funds from debt and equity that a firm can use to operate its business. Capital structure basically limits the use of capital. So, this is one of the basic financing decision managers usually make. In case of capital structure, the first thing managers have to decide is how much of their funds will be coming from equity and how much of this fund will be coming from debt, and this is the decision which is known as capital budgeting or capital structure. So, what are the important concept regarding capital structure is the effect of leverage on firms earning. When there is a loan that must have an impact on firms earning. Financial leverage means company taking loan whenever company taking loans, they are leveraging their income.

Capital structure decision is important for the company to maximize the firm’s value or maximizing the stockholder’s interest. And that is the prime objective of a company to maximize the share price. Firm’s capital structure has effect on the firm’s overall performance and its profitability. And thus, it ultimately affects the shareholder’s equity. That is why capital structure decision is being considered the crucial part of a company, it’s investors and managers as well. and that is the focal point for an investor to know the relationship between the firm’s capital structure and its performance and profitability. The strength of relationship between firm’s capital structure and its profitability will provide a rough idea about firm’s stability and its present and future condition.it goes without saying that an wise investor will look for the strength of relation between capital structure and its profitability before going to investment. When managers make the decision wisely as to firm’s capital structure, they can easily reach their goals as to maximizing the value of firm and its shareholder’s equity.

Banking Industry plays an important role in the economy of Bangladesh. They provide investable funds to both public sectors and specially the private sectors. It basically works as intermediaries that facilitate the funds between its lenders and borrower.as intermediaries’ banks provide funds or loan to its user who it for a certain interest rate and it need also keep funds of individual or firms for a certain rate. And there is spread of Interest that is the profit of Banks. Banks have huge immense contribution to the process of economic growth and stability of Bangladesh. However, their contribution would have been greater to the economy of Bangladesh if they had effectively addressed whatever challenges they are facing while performing or generating their activities.

The number of enlisted industries in DSE is 22, and a lot of studies have been conducted over those industries to find out the strength of relationship between firm’s capital structure and its profitability. Two studies have been conducted on baking industries in previous years on the effect of capital structure on banks profitability by Md. Jakir Hussain in 2016, and another one was by conducted jointly by Md.Nur Alam Siddique , sajal kabiraj and shanmugan joghee in November 22,2016.

1. **Literature review**

The capital structure of a company refers to the mix between owners’ equity and borrowed funds. That means how much equity and how much debt a company needs to operate it’s business activities. So, a company needs to decide what would be the portion of owners and debt equity. Here owners’ equity is what you have raised from the market and borrowed fund are nothing but that you borrowed from Banks or any other financial institutions. Mostly capital structure decision is used by a company to fund their business and extend it throughout it’s’ life span. The decision of capital structure of a company has a great influence over its return and risk. Hundreds of scholars have provided their concept regarding capital structure according to their perception and thought. Besley and Brigham (2008) is one of them who take into account long term debt capital, preferred share capital and the net worth in their observation. When it comes to capital structure decision their focal point was on long term financing of a firm. Van horne and Wachowicz (2008) these two financial analysts provide a statement regarding capital structure where they describe capital structure as a mixture firm’s own fund (equity and preferred capital) and debt capital. For that reason, it could be reasonable to say that capital structure has been described as a combination of long-term debt capital and long-term equity capital, and thus, theses scholars took short-term debt capital for granted in their statement. however, some scholars have incorporated short- term capital as a component of capital structure in their observation.

In previous years, several studies have been conducted to observe the effect of capital structure on firm’s profitability and performance. Some of the studies explore that there is positive relationship between capital structure and Banks profitability while others conclude a negative relation. “Nikoo(2005), has conducted a study on 17 banks enlisted in Tehran Stock Exchange over five years period from 2009-2014, Found out a significant positive relationship of capital structure decision with firms performance” (Nikoo, 2015). Umar et al, (2012) to investigate the relationship between firms performance and its capital structure decision, collected the data of hundred enlisted firms over a four year period from (2006-2009) and observed a positive between performance of firms and capital structure (Riaz, Impact of Capital Structure on Firm’s Financial Performance: An, 2015) .Joshua Abor (2017) investigate the relationship between capital structure and firms profitability. They used the available data of the firm listed in Ghana stock exchange over five years period, their investigation found out a strong positive relation between short-term debt ratio to total assets and short-term debt ratio to total equity. (Abor, The effect of capital structure on profitability, 2005). Muhammad Raghib Zafar (2016) conduct a research to investigate the influence of capital structure on banks performance, this research considers 25 banks listed in state bank of Pakistan. They observe the influence of capital structure on banks performance. The finding of that study concludes a positive relationship between capital structure and performance of banking industry (Zafar\*, Impact of Capital Structure on Banking Profitability, 2016) .

Apart from these, there are several studies which explore a negative impact of capital structure over the firms’ performance and its profitability. Ramadan and Ramadan (2005) scrutinize the data over five years period from 2008-2012, with the purpose to investigate the capital structure decision and its influence over firm’s profitability and performance. they used the data of 72 companies and found a strong negative effect of capital structure (Ramadan & Ramadan1, 2015). Md Nur Alam siddik, Sajal kabiraj and Shanmugan joghee (2017) investigate the data of 22 banks enlisted in Dhaka stock exchange over the period of 2005-2014 with an aim to revel the impact of capital structure on these bank’s profitability have found an inverse relation (Md. Nur Alam Siddik 1, 2017). Md. Zakir Hosain also use the 10 years panel data from 2005-2025 to observe the dividend policy of 10 listed private commercial banks in Dhaka stock exchange and the result show that the firms liquidity, previous years dividends and firms growth has a positive impact on dividend payout ratio, whereas leverage and profitability is negatively affecting the dividend payout ratio.

pervez Akhtar & Sabeen masood scrutinize the capital structure determinants of chemical industry in Pakistan. they considered 34 enlisted companies of Pakistan for their observation. debt/ equity ratio has been considered as dependent variable whereas profitability, firm’s growth, financial cost, size, and tangibility was considered as independent variable. The result shows that tangibility and financial cost are positively related with debt/equity ratio. While other variables are negatively related with the dependent variable (Akhtar & Masood, 2013).

Modigliani and Miller (MM), (1958) provided that the well-known theory of irrelevance of capital structure where they indicate that financial leverage doesn’t have any impact on the firm’s value. MM come up with the conclusion that it doesn’t matter even if you change your company from unlevered to levered firms’ value will not change. as value of the firm will not change shareholder will not be better switching, that means leverage or not the value of the firm will remain same that is one of the proportions they have.

They have another proportion also, where they mentioned that when company become levered, company becomes riskier and because company become risky the shareholders of the company will ask for larger return because investor know that there is a tradeoff between risk and return. If they take more risk, they will ask for more return this proportion was also given by Modigliani and Miller (MM).

These two proportion was explain under the assumption that investors have homogeneous expectation, homogeneous business class risk, perpetual cashflow that means year after year company will be generating same earnings before interest and taxes and there must be perfect competition that means number of buyer and seller of the securities are infinite one buyer or seller can’t change the price individuals and firms can borrow and lend at the same interest rate, there is equal access for borrower and lender to all relevant information and there is no taxes and no transaction cost and they also ignore the financial distress cost which increase as more leverage is used.so these are the assumption MM when they have given their proposition.

Most importantly it is assumed that there is no transaction cost, but in reality whenever you go to share market or a stock exchange and buy or sell share you has to pay fee which is the transaction cost. When you earn profit, you must have to pay taxes. So, given these assumptions they have concluded that they are getting larger amount from the company but that is the compensation for additional risk they are taking.so we can reasonably say that Modigliani-Millers provided assumption was based on unrealistic ideology, that we can’t see in our real life. Their theories don’t suit with the real world perception. And they consider capital structure as irrelevance to the firm’s value. but there are some reasons that make the capital structure relevant to the firm’s value such as bankruptcy cost, higher interest rate and lower credit rating. The presence of bankruptcy cost, tax and interest payment will lead the firms to an optimal capital structure.

Agency cost the relationship between stockholders and managers is called agency relationship. So, the stockholders hire the managers, the CEO, the CFO to act on their behalf but when it comes to managers and stockholders’ goal it might differ from each other. to see how a management goal, differ from stockholders’ goal let’s consider a new investment, so the new investment is expected to favorably impact to the share values. But it is relatively risky. and owner of the firm wish to make the investment because they are better off. They might have more return. but management don’t want to take this venture because they think if somehow this investment fails then management look bad. That’s why manager don’t go for this investment.so the term agency costs refer to the cost of the conflict of interest between the stockholders and management this cost can be direct or indirect. Indirect cost is when management don’t make the investment where most opportunity existed. And direct cost is corporate expenditure such as luxurious car, expensive office utilities for manager. So, while company is making the decision about capital structure, they should take the agency conflict into account to minimize the agency cost and increase the profitability of the company. (investopedia, 2020).

 The Trade-off theory state that the best capital structure is exchange between tax protection, interest, and cost of financial suffering. (Myers 1984) suggests the company should balance the cost and benefit by choosing a certain level of debt and equity financing which will help the company to maximize the value of it because an optimal capital structure exists when company balance the cost and benefit of it. This theory gives importance to the leverage of firm because at low leverage level tax benefit overweigh financial benefits whereas high leverage level financial cost overweigh financial benefits , if company’s use a large portion of debt in business they can get the tax benefit and that will ultimately increase the value of the firm.

Peaking order theory, If a company doing well in a market may be its revenue is growing also maybe profitability is growing as company is growing they must decide to fund in new project then how does the company fund its new project one option is to use peaking order theory. The pecking order theory (Donaldson 1961) suggests that firm don’t have any target capital structure, no capital structure will be termed as optimal capital. Peaking order theory simply state the order in which new project should be funded. even though peeking order theory don’t suggest any optimal capital structure but there is some way of funding new project that will tell about the strength of the company those are retain earnings, debt financing and equity financing. if the company chose retain earing as the first option it makes a signal to the market that the company is strong it rely on it own funding this also brings value to the share price of the company. On the other hand, debt financing makes a signal to the market that the company is confident in meeting its borrowing obligations, it’s still has to pay interest, but this interest is tax deductible. Finally, equity financing well it is more expensive due to the risk take by the equity owner hence thy demand a higher return. Equity financing give a signal to the market that the company can’t fund itself and may have cash flow issues. It may also mean that share price is overpriced.

Signaling theory: Modigliani-Miller assumes that every market participant has same information about a firm’s prospect. This is called symmetric information. However, manager often have better information than outside investor because they know what is happening in the company. Now the signal theory say that we would expect a firm with very favorable prospects to avoid selling stock and instead rise required new capital by using debt even if this moved its debt ratio beyond the target level. This theory suggests that when a company found an impressive project that is expected to generate return at that time company would prefer to debt funding on this project. Because here they will use a fixed interest no profit sharing and no risk sharing, on the other hand if the company find a risky or unfavorable project they would prefer to equity funding cause they can share its loses when incur a loss.

**3. Methodology**

We have chosen the banking industry for our project work, as banking industry has a huge contribution to the economic growth of any nation. For our observation we consider those banks which are enlisted in Dhaka stock exchange and tried to work out how much a bank’s profitability and performance can be influenced by its capital structure. At present, we have found 30 banks enlisted in Dhaka stock exchange ltd, Dhaka, Bangladesh. for the purpose of having reliable, and flawless information we considered the data of five years over the period

from (2014-2018). Due to lack of information in the annual financial statement of banks enlisted in DSE We couldn’t consider all the banks listed in DSE. out of 30 banks listed in DSE we have found the data of 21 Banks from its annual financial statement of years 2014-2018. Therefore, we extended panel data of 21 banks from their annual financial statements over the period from 2014 to 2018. And those Banks were selected on which our model was applied on to figure out the strength of relationship.

the variables used in this study consist of secondary yearly data collected mostly from annual report of selected commercial banks, Bangladesh security and exchange commotion’s (BSEC) annual report, Dhaka stock exchange annual report, local and international journal etc. given the fact that the available data of latest period are included in the study, The time frame of the study will be limited in period from 2014-2018.

Variables:

Debt to Asset

Debt to Equity

Asset Growth

Size

Age

Profitability

ROA, ROE, NIM

As this study concentrated on examining the impact of capital structure on firm’s profitability, for this purpose we have considered three profitability indicator such as ROA, ROE, and Net interest margin, those indicators were used as dependable variables. On the other hand, debt to asset, debt to equity ratio and Asset growth were used as independent variables. Since profitability of firms depend on the other variables rather than capital structure size and age of the Banks also included in this study while running the model to find out the accurate information, and these two variables are the control variables of this regression model.

The study measures the effects of capital structure on banking sector profitability by applying three Panel data models:

$ \_{ROA}$=$ β\_{0}$+$β\_{1}$(TDTA)+$β\_{2}$(TDTE)+$β\_{3}$(GTH)+$β\_{4}$(SIZ)+$β\_{5}$(AGE)+ε……………Model 1

$Y\_{ROE}$=$ β\_{0}$+$β\_{1}$(TDTA)+$β\_{2}$(TDTE)+$β\_{3}$(GTH)+$β\_{4}$(SIZ)+$β\_{5}$(AGE) +ε…………..Model 2

$Y\_{NIM}$=$ β\_{0}$+$β\_{1}$(TDTA)+$β\_{2}$(TDTE)+$β\_{3}$(GTH)+$β\_{4}$(SIZ)+$β\_{5}$(AGE) +ε…………..Model 3

Where,

$ β\_{0}$ is the intercept,$ β\_{1}$,$ β\_{2}$,$ β\_{3}$,$ β\_{4}$,$ β\_{5}$ are the coefficients . and ε is the error terms.

4. Empirical Analysis:

 **Descriptive statistics**

 For this empirical analysis three dependent and five independent variables has taken and all the variables has been described in table 1, according to table 1 it is reasonable to say that the mean value of dependent variable ROA of banking industry in Bangladesh is .1052, this mean value indicate that the return generated by banking industry from its total asset is 10% with maximum value of .1747 whereas .0311 is the minimum value. And the standard deviation of ROA is 0.0439. in case of dependent variable ROE, the descriptive statistics explain a mean value of ROE is .1133 whereas the standard deviation of this mean value is .0378. This value concludes that a reasonable deviation among the tasted banks. Last but not the least dependent variable is NIM, here we observed an average value of NIM, which is .02243 with the highest value 0.04283 measured by standard deviation of .00961.

Table: 1 Descriptive Statistics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **variable** | **ROA** | **ROE** | **NIM** | **DTA** | **DTE** | **GTH** | **SIZ** | **AGE** |
| Mean | 0.105 | 0.113 | 0.0224 | 0.9678 | 12.41151 | 0.120017 | 26.0529 | 23.238 |
| Standard deviation | 0.043 | 0.037 | 0.0096 | 0.1966 | 4.739552 | 0.044655 | 0.74328 | 9.3322 |
| min | -0.031 | 0.003 | -4E-05 | 0.8988 | -2.250095 | -0.046229 | 23.2449 | 13 |
| Max | 0.1747 | 0.1634 | 0.04283 | 1.82348 | 24.064434 | 0.1732391 | 27.42592 | 36 |

Apart from these, the independent variable debt to equity and debt to asset which play an important role in Banking industry for generating interest which is known as the main source of earning in Banking industry. We observed 9.6% mean value of independent variable debt to asset with 19.66% standard deviation. On the other hand, the mean value of another independent variable debt to equity is 12.41 with the standard deviation of 4.739. Which indicate that bank’s operation is being conducted with a considerable amount of debt. And for the control variable growth opportunity, size and age of company has mean value of .1200, 26.05 and 23.23 respectively. The mean value of asset growth .1200 with standard deviation .0446 implies that banking industry in Bangladesh can enjoy an advantage of growing with less risk.

Table: 2 Correlation Coefficients

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | ***ROA*** | ***ROE*** | ***NIM*** | ***debt to asset*** | ***debt to equity*** | ***growth*** | ***size*** | ***age*** |
| **ROA** | 1 |  |  |  |  |  |  |  |
| **ROE** | 0.1636603 | 1 |  |  |  |  |  |  |
| **NIM** | 0.2281752 | 0.728677967 | 1 |  |  |  |  |  |
| **debt to asset** | -0.709683 | -0.513231606 | -0.46923626 | 1 |  |  |  |  |
| **debt to equity** | 0.5900881 | 0.075805786 | 0.018809209 | -0.65688646 | 1 |  |  |  |
| **growth** | 0.7960753 | 0.533001568 | 0.355810795 | -0.837844573 | 0.727637351 | 1 |  |  |
| **size** | 0.6080087 | 0.26880947 | 0.443111523 | -0.854550199 | 0.70965242 | 0.697089 | 1 |  |
| **age** | -0.190313 | -0.505612524 | -0.22289923 | 0.165159198 | -0.063810046 | -0.32831 | 0.1164446 | 1 |

Correlation analysis: from the correlation chart ( table 2) it has been shown that the TDTA and TDTE are -70% and 59% respectively correlated with return on Asset ( ROA).so we can conclude that there is a strong negative relation between ROA and TDTA, on the other hand, there is a positive relation between ROA and TDTE.

The correlation between Total debt to total asset (TDTA) with Total Debt to Total Equity (TDTE) observed a value -.65 which indicate a strong negative correlation between TDTA and TDTE.

The correlation of ‘Return on equity’ with Total debt to total asset (TDTA) and total Debt to Total Equity are -.5132 and .785 respectively, which indicate a negative relation between ROE and TDTA whereas there is a week positive relation between ROE and TDTE.

The correlation analysis of ‘Net interest margin (NIM) with Total debt to total Asset (TDTA) is -46.92%. And the correlation between net interest margin (NIM) and Total debt to total equity (TDTE) is 1.88%.the former one indicates a negative relation between NIM and TDTA, and the later one indicates a positive relation between NIM and TDTE.

**Results from Random effect model**

In this study I applied both fixed effects and Random effects model to identify the strength of relationship between capital structure and banks profitability. I found random effects panel regression is more appropriate model than fixed effect model, which has been tested by Hausman methodology.

*Table: 3 Results from Model 1(ROA)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | *Coefficient* | *Std. Error* | *t Value* | *p-value* |
| const | 0.0428127 | 0.00295356 | 14.50 | 0.0001 |
| TDTA | −0.0396776 | 0.00182334 | −21.76 | 0.0001 |
| TDTE | −0.0002903 | 6.24784e-0 | −4.648 | 0.0001 |
| ASSG | −0.0047241 | 0.00552228 | −0.8555 | 0.3923 |
| AGE | 4.56670e-0 | 2.56377e-0 | 0.1781 | 0.8586 |
| NIM | 0.0307453 | 0.0293707 | 1.047 | 0.2952 |
| ROE | 0.0546808 | 0.00666078 | 8.209 | 0.0001 |

The results indicate that total debt to total assets and total debt to equity ratios are statistically significant. This means both capital structure ratios can influence the earnings of the banking sectors. Asset growth and age do not have any impact on profitability.

*Table: 4 Results from Model 2(ROE)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | *Coefficient* | *Std. Error* | *t- value* | *p-value* |
| const | −0.247561 | 0.0538634 | −4.596 | 0.0001 |
| TDTA | 0.272600 | 0.0415611 | 6.559 | 0.0001 |
| TDTE | 0.00079568 | 0.00079210 | 1.005 | 0.3151 |
| Asset growth | 0.207680 | 0.0604850 | 3.434 | 0.0006 |
| AGE | −0.0005853 | 0.00029985 | −1.952 | 0.0509 |
| NIM | 1.13412 | 0.334035 | 3.395 | 0.0007 |
| ROA | 7.11446 | 0.886227 | 8.028 | 0.0001 |

It is observed from the above table that the p value for only total debt to assets ratio is statistically significant indicating that it can influence the bank’s profitability. Other capital structure ratio total debt to equity does not found significant. But asset growth has positive impact on bank’s profitability which was not found significant in first model.

*Table: 5 Results from Model 3(NIM)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | *Coefficient* | *Std. Error* | *t- value* | *p-value* |
| const | 0.0230677 | 0.0167182 | 1.380 | 0.1677 |
| TDTA | −0.0092794 | 0.0141073 | −0.6578 | 0.5107 |
| TDTE | −0.0001075 | 0.00022622 | −0.4756 | 0.6344 |
| ASGT | −0.0247788 | 0.0180362 | −1.374 | 0.1695 |
| AGE | 1.48106e-0 | 8.74468e-0 | 0.01694 | 0.9865 |
| ROA | 0.270826 | 0.322301 | 0.8403 | 0.4007 |
| ROE | 0.0940104 | 0.0271689 | 3.460 | 0.0005 |

The results from table 5 indicate that no capital structure ratios are statistically significant. Other controls variables are also not found significant except the return on equity. Thus, it can be said that when net interest margin is considered as measurement of profitability, capital structure does not have any influence on bank’s earnings.

5. Conclusion

The prime objective of the study is to measure the effects of capital structure on banking sector profitability in Bangladesh. To do this I used 21 listed commercial banks out of 30 using the data for period of 2014-208. The Panel data regression model has been applied to measure the impact of capital structure. First I applied both the fixed effects and random effects panel regression models. Then Hausman test is used to identify which model is suited to the data set to measure the impact of capital structure on bank’s earnings. The results indicate that random effects panel model is appropriate over the fixed effects model.

In the first model when return on asset is considered as profitability measurement variable, both total debt to asset and total debt to equity ratios are found statistically significant. This means that the capital structure of the banks have influence to explain their earnings. Other control variables are not found significant. But when return on equity is used as profitability measure in the second model of the study, only total debt to asset ratio has significant p value indicating that it has positive influence on bank’s profitability. Total debt to equity does not have influence on earnings. In this model, asset growth and both net interest margin and return on asset ratios are found significant. In third model where net interest margin is represented as a measure of profitability, no capital structure ratios are found statistically significant meaning that borrowed funds do not have any influence on banks’ earnings. The conclusion can be made that only total debt to total asset ratio can have a positive impact in influencing the profitability of commercial banks in Bangladesh. Other variables considered in the study do not have any significant impact on bank’s profitability.

# References

1) Abor, J. (2005). The effect of capital structure on profitability. *The Journal of Risk Finance, 6*(5), 438-445.

2) Akhtar, P., & Masood, S. (2013). Analysis of Capital Structure Determinant” A case from Pakistan’s chemical sector. *International Journal of Business and Social Research (IJBSR)*, 43.

3) Hosain, \*. Z. (2016). Determinants of the Dividend Payout Policy: A Study on Listed. *Journal of Economics and Finance*, 01-10.

4) investopedia. (2020, july 12). *business*. Retrieved from investopedia: www.investopedia.com

5) Jaffe, R. W. (2013). *corporate finance.* Joe Smolira .

6) Md. Nur Alam Siddik 1, \*. S. (2017). Impacts of Capital Structure on Performance of Banks. *International Journal of Financial Studies*, 13.

7) Nikoo, S. F. (2015). Impact of Capital Structure on Banking Performance:. *International Research Journal of Applied and Basic Sciences, 9*(7), 1148-1152.

8) Ramadan, Z. S., & Ramadan1, I. Z. (2015). Capital Structure and Firm’s Performance of Jordanian Manufacturing . *International Journal of Economics and Finance;*, 166.

9) Riaz, S. (2015). Impact of Capital Structure on Firm’s Financial Performance: An. *Journal of Poverty, Investment and Development, 12*.

10) Zafar\*, M. R. (2016). Impact of Capital Structure on Banking Profitability. *International Journal of Scientific and Research Publications*, 186.