Project Report
On

Determinants of Profitability of Commercial Banks in Bangladesh

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Subject: Submission of Project Paper on "Determinants of Profitability of Commercial Banks in Bangladesh"

Dear Sir,

With an immense pleasure, I am submitting the project report titled **"Determinants of profitability of commercial banks in Bangladesh".** In preparing this project I tried to follow the guidelines and assistance provided by you. This report concentrates on the factors that can influence the profitability of commercial banks in Bangladesh.

I would like to express my sincere gratitude for your valuable cooperation in the preparation the report. I hope with anticipation that you would accept my project report.

Sincerely yours,

Aatia Rahman

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Acknowledgement

I do convey my heartfelt gratitude to respected supervisor, Muhammad Enamul Haque, Assistant Professor; School of Business & Economics, United International University whose expertise was invaluable in formulating the project report. Without his full assistance, I could not have completed this project report. I am indebted to him for giving guidance and necessary instructions throughout my project completion period.

Declaration

I am AATIA RAHMAN, student of School of Business and Economics (Finance) of United International University, Bangladesh, do hereby declare that the Project Report on "**Determinants of Profitability of Commercial Banks in Bangladesh"** is an original work and has not been previously submitted for any degree, diploma, title, or recognition.

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Abstract

The banking sector plays a significant role in the Bangladesh economy by channeling funds from surplus groups to defect groups. The objective of this report is to determine the profitability of listed commercial banks in Bangladesh. The study uses a panel regression model to explore the factors that can influence the profitability of commercial banks. The data covers the periods over 2017-2021 for twenty listed commercial banks on the Dhaka Stock Exchange and has been collected from respective annual reports. The return on assets (ROA) and return on equity (ROE) are used as profitability indicators, whereas, economic growth, capital adequacy ratio, and size of the bank are used as explanatory variables in the model. Panel data regression is carried out to examine the factors that can influence the profitability of commercial banks. First, both fixed effect and random effects models are estimated, and then we choose the random effect model appropriate for the study based on the Hausman test. The results of the random effect model of ROE indicate that non-performing loans can significantly affect the profitability of commercial banks in Bangladesh. No other bank specific and macroeconomic variables can determine the profitability of banks.

Keywords: Profitability; Panel Regression; Hausman Test; Macroeconomic Variables

Chapter 01:

Introduction

1.1 Background

Banks and banking sector is vital for every economy around the globe. Its major activity is to safeguard the funds of depositors' and also providing loans. Bangladesh is still in the segment of developing countries so its banks are also in the position of development and the development is still ongoing. The commercial banks are helping Bangladeshi businesses as well as companies by providing loans and other services. These commercial banks have huge contribution upon economic improvement and advancement of the country. Particularly, this sector gives service to the people according to their needs. Again, credit is called "the blood of any economy". So, similarly it is putting an impact on economic growth also. Most countries have only banks as financial intermediaries, offering financial services (Alper & Anbar, 2011). On the other hand, banks face regulation and supervision problems also due to lack of proper operating knowledge.

In recent years, Bangladesh is facing many crises in banking sectors. Adding up of all these crises affected the growth of the banking sector of Bangladesh and exhibit multifarious challenges like liquidity crisis, degradation of income, slowing of export import businesses and foreign currency crisis(dollar) and increase of non-performing loans. A poor lending method by many banks in Bangladesh has risen up the range of NPLS. Many banks regarding this becoming insolvent. Also, macroeconomic variable like politics is majorly affecting the banking industry as well as other sectors.

However, there are internal and external variables which seem to influence bank's profitability. (A thanasoglou, Brissimis & Delis, 2005). Internal variables include: Size, Non-performing loans, Return on assets, Return on Equity, Capital adequacy ratio and Cost to income ratio. External includes exchange rates, GDP and economic growth.

Organizations and service sectors expect profit if they invest or borrow. Banks are the service providing sectors which also aim to earn profits from various services. As if they provide loans, they expect to get returns. Higher returns mean bank is making enough profit. On the other hands the non- performing loans often or most of the time get defaulted by the borrower in that case banks fail to get the loan amount thus makes a loss. Considering the NPL ratio it affects the asset quality of the banks as defaulting weakens the monetary system of banks.

Banks also make profit through exchange gains. The fluctuations of currency rates can be profitable often for banks. Foreign remittances play a major role in banks of Bangladesh. They get the exchange amounts of currency as part of their profit.

Capital adequacy ratio which is an important variable for profitability is required to measure the strength of bank by utilizing its assets and capital. It also protects depositors and promote the stability and efficiency of financial systems around the globe.

ROE and ROA are the main source of measuring profitability. Return on assets ratio determines the investment bank received in terms of banks profitability benchmark. It is considered as profit earned by banks. Return on equity determines how the much profit is earned by the shareholders investment in company.

Lastly, the main purpose is that profitability refers to the ability of the business organization to maintain its profit year after year. So, the aim of this study is to determine that which specific factors have more profound effect on the earnings of banks profitability. The research includes the annual report data of 20 commercial banks of Bangladesh to analyze the panel data research.

1.2 Origin of the Report

The project report is the final requirement of undergraduate program for every student. Unlike each of the students need to submit a report for the completion of their degree of Bachelors of Business Administration Department at United International University. I have done my research report based on an interesting topic like "Determinants of profitability of Bangladesh". However, this report has enriched my knowledge about banks and much more of it. Banks are essential in economy and so on their growth also. So, again this topic has changed my perspective and I got to know more about banks and what impacts their profitability.

The topic is actually given by my supervisor Mr. Muhammad Enamul Haque, Assistant Professor, BBA Department, SOBE of UIU who really wanted me to gain knowledge about this specific term

1.3 Objective of the Report

The main objective of this research paper is to examine the determinants of profitability of commercial banks in Bangladesh. The paper depicts that how the determinants and variables of profitability have either positive or negative impacts on profitability. The research includes models and hypotheses testing. However, the hypothesis test is considered to find out the best appropriate model between the two selected models which has been selected for the study to test the significance of the variables taken for the research purpose.

1.4 Scope and Limitations

The report is primarily done for the completion of a degree. The scope of this report is very limited as the research is done through secondary data. Data collection process is abled through annual reports of the respective banks. Due to data availability constraints, all listed commercial banks are not considered for the study.

Chapter 02:

Banking Overview

2.0 Banking Overview

Bank is a financial institution. Banks and Banking system is vital in everyday life of every individual and also every business. As it deals

with credit facilities, cash storage and lastly investments.

For individuals who are not involved in business transactions can have banks accounts for saving money in order to get interest. Interest in savings account benefits individuals. However there remain some other facilities for customers such as loan.

For business purposes without banks organizations and industries face difficulties in trading. As for them, banks majorly play sanctioning loans. Multinationals trading globally requires loans for operating businesses. However, banks offer other services to businesses. Most importantly they prefer large amount of loans in order to get more interest.

After achieving victory at 1971 Bangladesh started its banking journey including six Nationalized commercialized banks, three State owned Specialized banks and nine Foreign Banks.

Now, it has a different perception towards banking industry. As Bangladesh has succeeded partially in banking industry with gradual developments.

However, there is a major rise in new banks establishment mostly private ones. Apart private ones, the sector of Islamic banking has gained more popularity among customers.

Till 2024, the quantity along with the quality has progressed a lot in Bangladesh banking industry. It is seen that only 61 scheduled banks in Bangladesh coming in operation under full control and supervision of Bangladesh Bank.

State Owned Commercial Banks (SOCBs): There are six SOCBs which are fully or majorly owned by the Government of Bangladesh.

Specialized Banks (SDBs): There seems three major specialized banks which have been particularly selected for operating which specific objectives like agricultural or industrial development. These banks are also fully or majorly owned by the Government of Bangladesh.

Private Commercial Banks (PCBs): However, the selected forty-three private commercial banks are majorly owned by individuals or the private entities.

Moreover, PCBs can be categorized into two groups:

Conventional PCBs: Among the sixty- one banks thirty-three are conventional. They are now operating in the industry by performing banking functions such as interest- based operations.

Islami Shariah based PCBs: There are 10 Islami Shariah based PCBs in Bangladesh and they only execute activities based on Islami Shariah such as Profit-Loss Sharing mode.

Foreign Commercial Banks (FCBs): Remaining nine banks are operating under foreign operations as the branches of the banks which are incorporated in abroad.

The scenario shows the particulars of banks of Bangladesh.

Banks make transactions easy through automated technology which is actually a good thing for customers. It is a hassle free one. This actually means that customers feel safe by keeping their cash in deposits, getting loans etc. This seems more interesting to the individuals who are educated as for them banking system is easy not critical.

However, for the uneducated and illiterate analyzing the concept of banking system is quite difficult. It is also a difficult task to make them understand that it is the safest place to deposit money and taking loans for their specific purpose. As they limited knowledge towards banking system. This is the actual disadvantage nation like Bangladesh as most of them were previously uneducated they often get scared hearing the term "Bank". This fear was very popular in urban areas but now it has come to an end. Considering the most popular "Grameen Bank" by professor Younus many illiterate ones has got their micro loans just to start over a business. So now Bangladesh and its banking system is developing widely.

Concluding, Banks always take the charge to guarantee their deposits and initiating loans based on the needs of the customers with the safest possible way.

Banks play vice-versa system. Generating surpluses is a two-way method as for the banks itself and also for the clients. So, it shows that banking service benefits both of them. Their profits depend on the money that is being kept in their vault as deposits which they use to invest as loans in business and other services. This leads to earn huge profits.

Profits are important to organizations. Great returns turn to great profits but not always. Banks profitability depends on many issues which will be further discussed below.

Chapter 03:

Literature Review

Financial performances are analyzed by different writers. Different writers have different research patterns in analyzing or demonstrating variables of profitability. The most commonly used methods include panel data research, regression analysis and CAMEL method. However, banks profitability is measured through internal and external based factors. Based on the writers' perspective there are many analyzations that took place in their articles.

Tarawneh (2006) he has conducted research on Omani commercial banks in Oman. He found out that factors influence include operational productivity asset management and the size of bank.

During 2011, Almazari in his research on Jordonian banks discovered that larger deposits, credits, assets, and shareholders' assets did not significantly affect profitability. However, his research came to an end using a simple regression analysis model, with bank size, asset management, and operating efficiency as independent variables, and return on assets and interest income as dependent variables.

The study conducted by Macit in 2012 revealed that quarterly unconsolidated balance sheets of banks in Turkey operating from 2005 to 2010 were analyzed. The study also mentioned that profitability is positively influenced by the equity to total asset ratio. Conversely, there exists a negative correlation between the ratio of nonperforming loans to total outstanding loans and advances.

In their 2011 study, Gul and colleagues employed the pooled Ordinary Least Square (POLS) method to examine the connection between bank-specific and macroeconomic factors on bank profitability. They utilized data from the top 15 commercial banks in Pakistan from 2005 to 2009. Their findings indicated that assets, loans, equity, and deposits have a positive influence on all three profitability indicators: ROA, ROE, and NIM.

In 2014, Saeed in his analyzation visualized that how profitability was affected by various factors of 73 commercial banks of the UK from 2006 to 2012. The findings of the study indicated that capital ratio, outstanding loans, deposit volume, liquidity amount, and interest rate all have a positive impact on ROA and ROE. However, Sufian and Chong investigated the determinants of bank performance in the Philippines from 1990 to 2005 in 2008. Based on their research, it was shown that operating expenses had a negative association with ROA and ROE, while capital and non-interest income had a positive effect on profitability.

Batten and Xuan in their study on 2019 analyzed the influence of various factors on Vietnamese banks by conducting panel data approach. Variables such as risk, expense, productivity, bank size, and capital adequacy had a negative impact on bank profitability when compared to industry-related characteristics and macroeconomic variables that was shown in their research Additionally, they also noted that the effect on profitability measures varied across different proxies.

Lipunga examined the profitability of listed commercial banks in Malawi in 2004. He discovered that ROA is impacted by liquidity, bank size, and management performance, with CAR having a minimal impact. His analysis also proved the utilization methods of correlation and multivariate analysis.

The study conducted by Islam and Rana in 2017 majorly focused on some 15 specific private banks of Bangladesh. Considering the panel data analysis, they tried to examine the internal factors or variables that influence bank profitability metrics. Their research revealed a significant detrimental effect of operating expenses and nonperforming loans (NPL) on bank profitability.

Rani and Zergaw used multiple regression models to analyze the factors affecting profitability in 2017 over Ethiopian banks. Their research disclosed that profitability faced negative impacts through the internal and industry-related variables while macroeconomic factors showed a positive, yet relatively insignificant, relationship with the net profit margin of Ethiopian banks

Ali and Puah analyzed 24 Pakistani commercial banks from 2007 to 2015 on 2018. They used the panel regression and discovered a significant impact of bank size, credit, and funding risk on profitability. However, they found out that liquidity risk did have a negative statistical impact on profitability.

Kawshala and Panditharathna in 2017, where they employed the panel data method to examine 12 domestic commercial banks. The results of this study indicate that variables such as capital ratio and deposit ratio have a positive and significant relationship with bank profitability, while liquidity is negatively associated with profitability.

Many researchers had conducted different methods to analyze profitability. So, prior to many differences in the setting and data used in the study, the findings of the studies differ a lot. However, a number of researchers have established common factors that influence profitability. Various indicators of costs are usually negatively linked to earnings, according to the findings of numerous studies. Larger bank sizes, a greater dependence on loans for revenue, higher market concentration, higher GDP growth, and a higher proportion of equity capital to assets have all been related to higher profitability.

Chapter 04:

Methodology and Analysis

4.1 Data Collection

The study comprises of 61 scheduled banks as population that are in Bangladesh. Considering the availability of data, from the total population, randomly selected 20 commercial banks. Past 5 years' data (secondary data) have been used in this study, which covers 2017 to 2021 and 100 observations were formed from panel data method. Using the economic regression model below, a statistical model has been employed called "Hausman Test Model" just to ensure which method is appropriate in comparison to another.

The data includes variables which are dependent and independent. With these the analyzation will take place, also the variables selected in this study are as follows:

$$ROA=\alpha+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5\ldots\ldots (1)$$

$$ROE=\alpha+\beta_1X_1+\beta_2X_2+\beta_3X_3+\beta_4X_4+\beta_5X_5\ldots\ldots (2)$$

X_1=Size

X_2=Capital Adequacy Ratio

X_3=Operating expense to Total Revenue

X_4=Non-Performing Loan

X_5=Economic growth

Table 1: List of Variables

Variables	Measure	Type of Variable	Notation
Return on Asset	Return on Assets (ROA) =Net Profit/Total Assets	Dependent	ROA
Operating expenses to total revenue	Operating expenses/ total revenue	Independent	OP/TR
Nonperforming loan Ratio	Non -Performing/classified loans (NPLs)	Independent	NPL
Capital Adequacy Ratio	Total equity/Total assets	Independent	CAR
Economic Growth	GDP per capita	Independent	

4.2 Descriptive Statistics

Descriptive analysis shows how a set of data is processed to elaborate the main features of it. Considering its central tendency, variability, and distribution, these methods provide an overview of the data and help identify patterns and relationships.

Table 2: Descriptive Statistics

	ROA	ROE	CRAR	OPEX	SIZE	NPL	ECO.G
Mean	0.005246	0.388549	0.121143	2.008506	12.58098	0.080577	0.064320
Median	0.006900	0.092950	0.134700	0.598116	12.71580	0.048400	0.059600
Max	0.022800	32.45240	0.180500	38.27859	14.30776	0.503900	0.086200
Min	-0.058700	-1.752600	-0.189800	-6.282178	10.50219	0.000000	0.049400
Std. Dev	0.011169	3.246322	0.058273	5.327397	0.801605	0.093338	0.013953
Skewness	-3.706098	9.777355	-3.745071	4.366242	-0.799632	2.872968	0.466890
Kurtosis	19.31350	97.10383	18.22982	25.81534	3.858259	11.35496	1.664817
Jacque- Bera	1337.796	38491.32	1200.207	2486.649	13.72607	428.4211	11.06109
Probability	0.000000	0.000000	0.000000	0.000000	0.001046	0.000000	0.003964
Sum	0.524600	38.85490	12.11434	200.8506	1258.098	8.057700	6.432000
Sum.Sq.Dev.	0.012350	1043.322	0.336183	2809.735	63.61443	0.862478	0.019275

Measure of tendency is known as the mean, median and mode.

Measure of variability includes range, standard deviation and variance.

However, description analysis also aids to find out the strength and weakness of organization.

The analysis revealed that the mean and median of ROA is 0.005246 and 0.006900 whereas the maximum value is 0.0228 and minimum value is -0.058700. Coming to SD, the value is 0.011169 which suggests a slight dispersion between mean and SD. It means that the SD is quite close to mean. It shows a high chance of elevating profit.

Other part shows that Bank size has mean of 12.58 and median of 12.71 but the SD is 0.80. Analysis of NPL provides the information that the mean and median value includes 0.081 and 0.048 respectively. But the SD 0.093338, it is found that SD is closer to mean. It is concluded that the dispersion between mean and SD is low.

Capital adequacy ratio suggests that it has a mean value of 0.121143 and median value of 0.134700. SD is 0.058. It is closer to mean value thus suggests lower dispersion.

In the end within the 100 observations the probability and Jarque-Bera tests results shows that the hypothesis done here is normal and significant by the calculated values. It is seen that the probability tests results have the significant level.

4.3 Correlation Analysis

Correlation analysis depicts the relationship between variables. It helps to find out whether there exists a relationship between variables or not and determine the action of that relationship, either it's a positive or negative relationship.

Table 3: Correlation Matrix

	ROE	ROA	CRAR	NPL	OPEX	SIZE	ECO.G
ROE	10.43322						
	1.000000						
ROA	-0.010119	0.000123					
	-0.281907	1.000000					
CRAR	-0.076872	0.000567	0.003362				
	-0.410458	0.879324	1.000000				
NPL	0.124214	-0.000850	-0.004785	0.008625			
	0.414081	-0.823848	-0.888678	1.000000			
OPEX	-0.044880	-0.000645	0.004834	0.079188	28.09735		
	-0.002621	-0.010950	0.015730	0.160862	1.000000		
SIZE	-0.585250	0.002865	0.021544	-0.035931	0.677604	0.636144	
	-0.227172	0.323193	0.465857	-0.485086	0.160275	1.000000	
ECOG	0.007076	-5.01E-06	-2.73E-05	0.000112	0.004793	-0.000183	0.000193
	0.157791	-0.032465	-0.033911	0.086838	0.065127	-0.016511	1.000000

In this research it is wise to use the co relation analysis as the fact contains many variables related to the topic. In order to make the analysis work co relation will help to find the best relationship among the variables with a proper result.

CRAR and ROA has a positive relationship at 1% significant level. On the other hand, NPL and OPEX both have a negative relationship with ROA whereas the bank size shows a positive relation with ROA. The co-relation analysis depicts a blend of relationships among ROA and other variables.

4.4 Fixed Effects Model of ROA

We have used panel data to investigate the factors that influence bank profitability. A panel data, also known as longitudinal data, is a data set that includes both time series and cross-sectional components.

Table 4: Fixed Effect Panel Regression Model

Variables	Coe efficient	Std.Error	T-stat	Prob
C	0.083680	0.038318	2.183866	0.0321
ROE	0.000392	0.000173	2.268811	0.0262
ROA	-0.007058	0.003034	-2.326466	0.0227
OPEX	1.89E-05	0.000141	0.133287	0.8943
CRAR	0.110351	0.028687	3.846693	0.0003
NPL	-0.026357	0.019771	-1.333105	0.1866
ECO.G	-0.016615	0.036410	-0.456316	0.6495
R-squared	0.85880			
Adjusted R squared	0.81111			

In fixed panel model it is seen that ROE, OPEX and CRAR are significant as t – value is greater than 2 which means these variables are within the significant level. The probability is also at the significant stage. However, the relationship between variables is not high except that for NPL. To know the effectiveness impact of variables regression analysis has been used to understand the significance of the study. In the table above the r-squared value is 0.86 which means 86% so the regression analysis suggests that the research done is feasible. The data also depicts that 86% of the result is accepted.

4.5 Random Effects Model of ROA

The random-effects model assumes that the true effect could vary from study to study due to the differences (heterogeneity) among studies.

Table 5: Random Effect Panel Regression ROA

Variables	Coe efficient	Std.Error	T-stat	Prob
C	0.017660	0.011000	1.605457	0.1118
ROE	0.000381	0.000168	2.258963	0.0262
ROA	-0.002040	0.000802	-2.543201	0.0126
OPEX	0.000109	0.000108	1.006720	0.3167
CRAR	0.133786	0.020654	6.477648	0.0000
NPL	-0.038746	0.013618	-2.845103	0.0055
ECO.G	-0.003138	0.035682	-0.087940	0.9301
R-squared	0.778325			
Adjusted R squared	0.764024			

In random effect model of ROA, it is found that ROE and CRAR have been found significant. The value of t-statistic shows that SIZE, NPL and economic growth are found to be insignificant due to their negative value. This means that their relationship among ROA and these variables are negative. Thus, these variables do not put much impact on Random effect model of ROA to visualize profitability. However, it is proven under this model that the bank size is lower due to lower capital and assets which also depicts higher NPLS. High loan outstanding leads to low capital as their money is stuck in the market. On the other hand, economic growth is a macroeconomic variable. Its negative value depends on many issues like inflation. To know the effectiveness impact of variables regression analysis has been used to understand the significance of the study. In the table above the r-squared value is 0.77 which means 77% so the regression analysis suggests that the research done is feasible. The data also depicts that 77% of the result is accepted.

4.6 Hausman Test

Hausman test has been performed to decide which method is appropriate for the analysis, which is particularly based on its p- value. It means the probability value. This is actually a straight forward response to the test. There seems having a problem towards different hypotheses. As different hypotheses result to different interpretation. Choosing between the most appropriate model between fixed effect model and random effect model Hausman test needs to be applied.

As it shows the result of most specific model. It basically tests whether the unique errors are co-related with the regressors.

This means if the p-value is greater than 0.05 the hypotheses is accepted if not then it is rejected. The null hypothesis is dependent on the p- value.

4.7 Random Effects Model of ROA

Table 6: Random Effects Panel Regression of ROA

Variables	Fixed	Random	Var(Diff)	Prob
ROE	0.000392	0.000381	0.000000	0.7625
SIZE	-0.007058	-0.002040	0.000009	0.0863
OPEX	0.000019	0.000109	0.000000	0.3267
CRAR	0.110351	0.133786	0.000396	0.2392
NPL	-0.026357	-0.038746	0.000205	0.3874
ECO.G	-0.016615	-0.003138	0.000053	0.0629

Hypothesis testing

H_0: $\sigma=0$

H_1: $\sigma\neq0$

Hausman test is known as to find the best model between the two models, Fixed effects model and random effects model. It is considered that fixed effects and random effects model is correctly specified under this model. To understand broadly, if the p value is less than the significance level the Hausman test is rejected and if it is higher than the significance level it is accepted. In the study it is shown that the p- value is greater the significance level. So, we are accepting the null hypothesis under Random effect model.

As we find from Hausman test, random effect model is appropriate over fixed effects model, the following part only reports the analysis of random effects panel regression.

4.8 Random Effects Model of ROE

Table 7: Random Effects Panel Regression of ROE

Variables	Coe efficient	Std.Error	T-stat	Prob
C	-4.149491	6.601158	-0.628600	0.5311
SIZE	0.068081	0.488309	0.139422	0.8894
OPEX	-0.065973	0.065888	-1.001287	0.3193
ROA	62.43648	53.32753	1.170811	0.2446
NPL	21.08567	7.187164	2.933796	0.0042
ECO.G	27.79013	23.11367	1.202324	0.2323

In random model effects of ROE determines that the t- statistic value is at the significant level as well as its probability. The effect of the variables in this model is insignificant except of NPL. The t-value is lower than the significant level which means the variable have negative impact on profitability. Based on the results shown above the random model effects is found appropriate in comparison to fixed effects model.

Chapter 05:

Conclusion

Bangladesh is still in under development. Banking industry of Bangladesh in permanent, sustainable and continuous economic growth is undeniable. Consisting of private commercial banks, specialized banks, Islamic banks and Public sector banks Bangladesh is emerging in a state of development. From the past decades banking sector of Bangladesh has made significant changes in terms of growth of profitability for which are the main concern of this study. The aim of this research is to analyze the factors affecting profitability in the banking sector of Bangladesh. The focus of this study is to investigate firms' specific factors and macroeconomics factors' which has an impact on the profitability in the banking sector of Bangladesh.

This research paper comprises data of the 20 listed commercial banks of Bangladesh from 2017 to 2021. In this case, panel data method, multiple regression method and hypotheses test has been conducted to measure the significant impact of variables upon profitability.

Initially considering the facts that the internal variables through the fixed effect model and random effect model proved the significant impacts upon profitability. However, the hypotheses testing proves the most accurate one. The internal variables proved that CAR, Bank size, the ratio of operating expenses and Economic growth has significant impact on ROA and NPL has significant impact on ROE. However, the analysis viewed that if asset size increases the ROE will decrease also an increase in operating expense can lead a decrease to ROE. Further analysis has also been done to understand the methods among multiple regression analysis.

Considering all the facts of the tests done to analyze the profitability it is shown that the hypotheses test is found the accurate one under random effects model of ROE. The null hypotheses test is accepted if the p- value is greater than 0.05 significant levels. It is found that non-performing loan is statistically significant and indicates that it can influence the profitability of commercial banks in Bangladesh. No other variables have been found significant which can affect profitability of banks.

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