

# Profitability Analysis of Commercial Banks: Evidence from Bangladesh

Tanzina Haque

Lecturer, Department of Business Administration, European University of Bangladesh

## Abstract

The aim of this study is to examine the performance of local commercial banks of Bangladesh. Considering the coefficients and their significance level, it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS) play an important positive role in determining commercial banks' overall profitability. The suggestion of this study for future analysis is to introduce additional bank specific, industry specific and macroeconomic variables in order to get more appropriate results. In order to determine the profitability of the private sector commercial banks of Bangladesh, this report took into consideration ten banks and measured the profitability by the Return on Asset (ROA). From the two regression models, the strongest one was the internal measure of profitability that has been done by taking Return on asset (ROA) as the dependent variable. This study will help the management to look into areas that are relevant and can thus exert potential and strong impact on their banking profitability. Since, this study breaks away from the traditional ratio analysis, which is retrospective and based on accounting rather than economic data; it can be beneficial as a base for other researches.

**Keywords:** Financial Performance, Local Banking Scenario, Internal Based Performance, Profitability Measurement, Economic Growth.

## 1. Introduction

The financial environment of any economy consists of typically five components namely: money, financial instruments, financial institutions, rules and regulations and financial markets. Among the various financial institutions, banks are a fundamental component and the most active players in the financial system [18]. Bank is a financial intermediary that channels funds from surplus units, the depositors, to the deficit units, the borrowers, in the process gaining from the spread of the different interest charged. By the scope of its functions, banks are the key to economic growth of any economy [20]. Further, banks are a fundamental component of the financial system, and are also active players in financial markets [19]. The essential role of a bank is to connect those who have capital (such as investors or depositors), with those who seek capital (such as individuals wanting a loan, or businesses wanting to grow). Banks have control over a large part of the supply of money in circulation. Through their influence over the volume of bank money, they can influence the nature and character of production in any country [11]. It is strongly believed that the financial system of a country plays a constitutive role in the economic growth and development of a country. The importance of an efficient financial sector lies in the fact that it ensures domestic resources mobilization, generation of savings, and investments in productive sectors.

In fact, it is the system by which a country directs its most profitable and efficient sectors to most productive sources of future growth. The main role of a financial system is not only to transfer funds from savers to investors but also to ensure that funds are being transferred to the sectors which are most important for an economy. Banks are the most crucial financial intermediaries in the most economies that render a bundle of different services. Banking Services offered include: savings and checking accounts, mortgages, personal loans, debit cards, credit cards, and so forth. Commercial banks are profit seeking organizations. Portfolio management refers to the management of assets and liabilities in such a way that the profits are maximized. Though banks want to make profits but at the same time they are concerned about liquidity and safety. In fact, these three namely liquidity, profitability and safety are the main objectives of a monetary policy [6].

The major objective of this study is to analyze the financial performance of the selected private sector banks. The following are the main objectives of the study.

- To determine whether Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning per Share (EPS) have impact on internal based performance ROA of Bangladeshi Private Sector commercial banks.
- To find out ROE of 10 selective banks.
- To know the ROA of 10 selective banks.
- To specify the correlation of their profitability ratios.
- To give an overview of theoretical overview and previous studies.

Since, private commercial banks form the larger portion of the banking sector, this study aims at measuring the profitability of selected private sector banks (Twelve) in Bangladesh through extensive use of financial ratios that mainly indicate the adequacy of the risk-based capital, credit growth, Net Interest Margin (NIM), Net Profit Margin, return on assets (ROA), return on equity (ROE), Earning Per Share (EPS) etc. Financial ratio analysis allows analysts to scrutinize a firm's financial performance. Though in line with (Yap 2012), ratio analysis is simply a postmortem analysis of past financial data, an effort has been made to know whether and to what extent different ratio affects profitability and productivity of the selected banks through correlation analysis, followed by regression analysis comparing performances of different selected private sector banks and a forecast of the future trend is also deduced [7].

## 2. Literature Review

### Overview of the Banking Sector in Bangladesh:

Determining how well an organization is doing is simply its performance evaluation. In other words, setting some standards for performance measurement, comparing the performance of an organization in a certain period of time with respect to some established standards- internal or industry wise and determining how well it has confirmed to those standards along with the reasons for that performance is broadly called performance evaluation. A well guided performance evaluation can bring out the strengths and weaknesses of the organization and it also provides a guideline for future improvements. For being the performance evaluation system efficient, it must cover all aspects of the organization [9].

A commercial bank is a type of financial institution that provides services such as accepting deposits, making business loans, and offering basic investment products. Commercial bank can also refer to a bank, or a division of a large bank, which more specifically deals with deposit and loan services provided to

corporations or large/middle-sized business - as opposed to individual members of the public/small business - retail banking, or merchant banks [8].

After independence, the banking industry in Bangladesh started its journey with 6 nationalized commercialized banks, 3 State owned specialized banks and 9 foreign banks. In the 1980's banking industry achieved significant expansion with the entrance of private banks. Now, banks in Bangladesh are primarily of two types: [2].

- **Scheduled Banks:** The banks which get license to operate under Bank Company Act, 1991 (Amended up to 2013) are termed as Scheduled Banks.
- **Non-Scheduled Banks:** The banks which are established for special and definite objective and operate under the acts that are enacted for meeting up those objectives, are termed as Non-Scheduled Banks. These banks cannot perform all functions of scheduled banks.

There are 61 scheduled banks in Bangladesh who operate under full control and supervision of Bangladesh Bank which is empowered to do so through Bangladesh Bank Order, 1972 and Bank Company Act, 1991. Scheduled Banks are classified into following types:

- **State Owned Commercial Banks (SOCBs):** There are **6 SOCBs** which are fully or majorly owned by the Government of Bangladesh [2].
- **Specialized Banks (SDBs):** **3 specialized banks** are now operating which were established for specific objectives like agricultural or industrial development. These banks are also fully or majorly owned by the Government of Bangladesh [2].
- **Private Commercial Banks (PCBs):** There are **43 private commercial banks** which are majorly owned by the private entities. PCBs can be categorized into two groups:
- **Conventional PCBs:** **33 conventional PCBs** are now operating in the industry. They perform the banking functions in conventional fashion i.e., interest-based operations [2].
- **Islami Shariah Based PCBs:** There are **10 Islami Shariah based PCBs** in Bangladesh and they execute banking activities according to Islamic Shariah based principles i.e., Profit-Loss Sharing (PLS) mode [2].
- **Foreign Commercial Banks (FCBs):** **9 FCBs** are operating in Bangladesh as the branches of the banks which are incorporated in abroad [2].

There are now **5 non-scheduled banks** in Bangladesh which are:

- ✓ Ansar VDP Unnayan Bank,
- ✓ Karmashangosthan Bank,
- ✓ Grameen Bank,
- ✓ Jubilee Bank,
- ✓ PalliSanchay Bank

### **Review of Related Literature:**

Commercial banks are 3 types. These are public sector banks, private sector banks and foreign banks. The general role of commercial banks is to provide financial services to the general public, business and companies, ensuring economic and social stability and sustainable growth of the economy.

Performance evaluation is one of the important issues for any bank especially for private commercial banks because a link exists between performance and profit earning. It also helps a bank to determine how well it is performing in comparison to others. Performance evaluation is needed for a bank to position

itself in a way to see what is needed to add, remove or change to improve the current condition. Simply how well the bank is using its resources to earn profit it indicated by its performance evaluation [11].

N. Jahangir, S. Shill, & M. A. J. Haque (2007) examined the profitability in the context of the Bangladeshi banking industry [13]. The study was carried out on the data from the year 2000 to 2005 of only the listed commercial banks in DSE (Dhaka Stock Exchange). It was found that there is a strong and significant relationship between market size and bank's return on equity. It seems that capital adequacy is an important factor for a bank to be profitable.

S. Chantapong (2005) made a comparative cost efficiency analysis between the domestic and foreign banks in Thailand [14]. This study also examined the effect on banking efficiency due to the foreign bank entry in Thailand after the 1997 financial crisis. The foreign banks seemed to be more efficient than domestic banks in terms of better capitalization and lower levels of nonperforming loans. The increased competition arising from the foreign bank entry through acquisition forced the domestic banks to improve their cost efficiency. As the profitability gap between foreign and domestic banks became narrow, it can be assumed that the financial restructuring program has yielded some positive results.

S. S. Debashis & N. C. Shil (2011) tried to find out the key discriminators of bank profitability in India [15]. The study was pursued with the help of data of 93 commercial banks for a period about 8 years from 2001 to 2009. To identify the most critical profitability ratios the technique of multiple discriminant analysis (MDA) was used as an important methodology. The analysis identified only five variables namely. Priority Sector Advance / Net Advances, Interest Income/ Total Assets, Net interest Spread/ Total Assets, Net interest Spread/ Total Assets, Wage Bills/ Total Expenses as the significant discriminators of bank profitability (ROA- the dependent variable) among the total 13 variables.

Bhaskar Podder (2012) found that the PCBs in Bangladesh are performing well [16]. The deposit, advance, total asset, equity and net income of Private Commercial Banks (PCBs) are found to have their increasing trend over the period. CAGR of deposit, advance, total asset, total equity and net income of the PCBs of second generation is higher than that of first generation and CAGR of those variables of third generation is mentioned ably higher than that of second generation respectively. CAGR of Deposit, Advance, Asset, Equity and Net Income of PCBs is higher in almost every respect that that of SCBs, DFIs & FCBs over time. This shows PCBs' dominance in the banking sector of Bangladesh. During 2001-2010, the PCBs are found to achieve mentionable growth in the above selected variables. This reflects their gradual expansion of business and earning an increasing amount of profit over the period.

Banking industry is now one of the most competitive and fastest growing services-based industries throughout the globe. In Bangladesh, it is also equally true. Considering the overall development of the country, the government has converted some state-owned firms into privately-owned firms through public share offering. They offer share issuance for privatization at a low price, make an allocation of the share to select favored domestic investors, have controlling restrictions on privately owned firms and typically use fixed price offers rather than competitive tender offers. It is also said that private ownership is preferable to public ownership because it fosters competition and reduces political patronage and corruption [22].

Moreover, the services of private commercial banks in this country are now better than before. As a result, the clients are rushing to the private banks. Consequently, the private commercial banks are constantly growing in different branches, creating employment opportunities, increasing deposit, loan disbursement, net income and earnings per share over a period of time. As competition is rising in the

banking industry due to the emergence of new banks in the market, it has become important to evaluate the performance of every private commercial bank [12].

Most common indicator of performance of any organization is its profitability. Higher profitability indicates better performance whereas lower profitability indicates poor performance. But the measurement of a bank's profitability is quite different from any other sector of business because it is the only bank which works with loans and deposits. The loan-to deposit ratio works as a very good indicator of banks' profitability as it depicts the status of asset liability management of banks [23].

As profit earning is the main target of any private commercial bank, its earning capacity shows how capable the bank is to earn profit. This earning capacity can be measured by profitability ratio. Among profitability ratios, return on equity (ROE) is one of the most popular indicators of earning capacity. It is also suggested by the return on equity ratio that the higher the return on equity a company will show; the more capable it is to earn profit [21].

To measure the performance of banks, several models are available. One of the models is the predictive model which works with dependent and independent variables. Such type of model allows a comparison between the predicted and actual levels of key business drivers and thus it measures unrealized performance [10].

In the literature of bank performance, numerous scholars have made significant contributions. They have developed and used different models to measure the current performance of banks and also the future prospects (Alkhatib & Harsheh, 2012) examined the financial performance of five Palestinian commercial banks using three indicators: Internal-based, Market-based and Economic-based performance measures. Return on Assets, Tobin's Q model and Economic Value add methods have been used for measuring these three indicators. Correlation and multiple regression analysis have been applied in this study to analyze the influence of bank size, credit risk, operational efficiency and asset management on financial performance and to create a good-fit regression model to predict the future financial performance of these banks. As findings, the study has indicated that there is a significant impact of bank size, credit risk, operational efficiency and asset management on financial performance of Palestinian commercial banks.

Sangami & Nazir (2010) evaluated the financial performance of the two major northern Indian banks using CAMEL Parameters. In this study the positions of these two banks have been highlighted as sound and satisfactory with respect to their capital adequacy, asset quality, management capability and liquidity.

Within the context of Bangladesh Roy & Khan (2013) investigated the effect of overall service quality, product quality, and corporate social performance on reputation of private commercial banks. After the survey of eighty clients and employees of ten private commercial banks of Dhaka City area, the study applied correlation and stepwise regression to assess the hypothesis. The correlation analysis supported the entire hypothesis but the stepwise regression provided partial support. However, the study concluded that overall service quality, overall product quality, and corporate social performance are statistically and significantly correlated with bank reputation.

Karim & Alam (2013) intended to measure the performance of five selected private banks. Financial ratios indicating the adequacy of the risk-based capital, credit growth, credit concentration, non-performing loan position, liquidity gap analysis, liquidity ratio, return on assets (ROA), return on equity (ROE), net interest margin (NIM), etc. have been used. Internal-based, Market-based and Economic-based performance indicators have been measured by Return on Assets, Tobin's Q model and Economic Value add.

Employing multiple regression analysis, they also attempted to apprehend the impact of bank size, credit risk, operational efficiency and asset management on financial performance and found that the impact is significant. It has also created a good-fit regression model to predict the future financial performance of the selected banks.

In China case, F. Sufian & M. S. Habibullah (2009) studied the bank specific and macroeconomic determinants of bank profitability for the post-reform period of 2000–2005 [17]. It was found that the determinant variables do not have uniform impacts on profitability across bank types. Liquidity, credit risk, and Capitalization are found to have positive impacts on the state-owned commercial banks (SOCBs) profitability, while joint stock commercial banks (JSCB) with higher credit risk tend to be more profitable. On the other hand, diversified and relatively better capitalized city commercial banks (CITY) seem to exhibit higher profitability levels. The effect of economic growth is positive on banks' profitability.

### 3. Methodology

Since the main objective of this study is to measure Private sector banks' financial performance using the two indicators as well as to predict the future financial performance of the banks, therefore the nature of the study is descriptive. Based on the research approach, a deductive approach has been chosen for this study. Quantitative analysis has been chosen for this study to analyze the data.

- i. **Types of Study:** It will be an analytical type of study. The methodology of this report is totally different from conventional reports. I have emphasized on my practical observation. Almost the entire report consists of my practical observations.
- ii. **Sources of Data:** The report is fully analytical in nature. All of the data collected from secondary sources. These quantitative data have been collected from:
  - Annual report of 10 commercial banks (2013-2021).
  - Different manuals of commercial banks.
  - Different circulars of commercial banks.
  - Bangladesh Bank Annual Report (2020-2021).
  - Different textbooks.
  - Newspapers.
  - Different websites.
  - Bangladesh Economic Review (2013-2021) [4], [5].
- iii. **Methods of Data Collection:** The data that have been used in this study are basically collected informally. This is totally an analytical study. As a result, data is collected by studying and reviewing the annual reports, statements, circular and manuals of the bank. The relevant data was collected from annual reports regarding the profitability of banking of the selective commercial banks to describe the present situation of those commercial banks.
  - **Data:** For this study, data has been taken from secondary sources such as the Annual reports of Private sector banks were used to collect the data regarding of Net Interest Margin (NIM), Return on Equity (ROE), Return on Asset (ROA) and Earning per Share (EPS) have impact on internal based performance Net Profit Margin for the time span 2013-2021.
  - **Sample Size:** The sample of the study consists of 10 Bangladeshi private commercial banks listed on both the Dhaka Stock Exchange (DSE) and the Chittagong Stock Exchange

(CSE). Annual Time Series data for both independent and dependent variables were extracted from the respective banks' annual audited financial statements from the period 2013-2021.

- iv. **Population of the Study:** Ten selected banks (AB Bank, National Bank, United Commercial Bank, Dutch Bangla Bank, IFIC Bank, City Bank, NCC Bank, Premier Bank, Southeast Bank, Bank Asia,) among 61 commercial banks in Bangladesh banking sector.
- v. **Period of The Study:** The study is covered for nine years from the year 2013 to 2021.
- vi. **Data analysis:** For the comparison between the groups, some statistical tests have been used according to the nature and objectives of the study. The collected information is analyzed by statistical technique "Correlation" used to find out the impact of different ratios and also perform "Regression" in this report. Analyses are done with the help of "Microsoft Excel 2010" software.
- vii. **Determinants of Bank Performance Variables:** Profitability ratios are a class of financial metrics that are used to assess a business's ability to generate earnings relative to its associated expenses.[1] For most of these ratios, having a higher value relative to a competitor's ratio or relative to the same ratio from a previous period indicates that the company is doing well.
  - **Return on Equity (ROE)** expresses the percentage of net income relative to stockholders' equity, or the rate of return on the money that equity investors have put into the business. The ROE ratio is one that is particularly watched by stock analysts and investors [1].
  - **Return on Assets (ROA)** shows the percentage of net earnings relative to the company's total assets. The ROA ratio specifically reveals how much after-tax profit a company generates for every one dollar of assets it-holds [1].
  - **Earnings per Share (EPS)** This ratio measures profitability from the point of view of the ordinary shareholder [1].
  - **Net Interest Margin (NIM)** is a measure of the difference between the interest income generated by banks or other financial institutions and the amount of interest paid out to their lenders (for example, deposits), relative to the amount of their (interest-earning) assets [3].
  - **Net Profit Margin (NPM)** is the ratio of net profits or net income to revenues for a company, business segment or product. Net profit margin is typically expressed as a percentage but can also be represented in decimal form [3].

#### 4. Analysis & Findings

In order to the profitability analysis of selected private commercial banks in Bangladesh, five profitability ratios such as Return on Asset (ROA), Return on Equity (ROE), Earning Per Share (EPS), Net Interest Margin (NIM) and Net Profit Margin (NPM) and each of them has one dependent variable and four identical independent variables as shown in table 1. Statistical tools like Regression analysis and correlation have been used to assess and interpret data.

**1. Specification of Regression Models:**

Dependent Variables	Description	Independent variables	Description
ROA	Net Income / Total Assets	Net Profit Margin	Net Profit / Revenue
		ROE	Net Income/ Shareholder Equity
		Earnings Per Share- (EPS)	Total Earnings/ Outstanding Share
		Net Interest Margin-(NIM)	(Income-interest expense)/Avg. Earnings Asset

**Table-1: Dependent Variables and independent variables.**

**Findings and Analysis:**

**Results for Model:**

The hypothesis being tested is H1: Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS) have impact on internal based performance ROA of Bangladeshi Private Sector commercial banks. Therefore, the null and alternative hypotheses are:

**Ho:** Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning Per Share (EPS) have no impact on internal based performance Return on Asset (ROA) of Bangladeshi Private Sector commercial banks.

**Ha:** Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning Per Share (EPS) have impact on internal based performance Return on Asset (ROA) of Bangladeshi Private Sector Commercial Banks.

**Correlation**

Correlation refers to the interdependence or co-relationship of variables.

In the context of regression examples, correlation reflects the closeness of the linear relationship between X and Y. Pearson's product moment correlation coefficient rho is a measure of this linear relationship. Rho is referred to as R when it is estimated from a sample of data.

R lies between -1 and 1 with

R = 0 is no linear correlation

R = 1 is perfect positive (slope up from bottom left to top right) linear correlation

R = -1 is perfect negative (slope down from top left to bottom right) linear correlation

**Regression**

Regression is a way of describing how one variable, the outcome, is numerically related to predictor variables.

The simple linear regression equation can be generalized to take account of k predictors:



$$Y = b_0 + b_1x_1 + b_2x_2 + \dots + b_kx_k$$

b is the gradient, slope of regression coefficient

a is the intercept of the line at Y axis or regression constant

Y is a value for the outcome

x is a value for the predictor

## 2. AB Bank

	ROA	NIM(%)	EPS	ROE	NPM (%)
ROA	1				
NIM(%)	-0.79897	1			
EPS	0.53067	-0.34583	1		
ROE	-0.76129	0.995165	-0.33637	1	
NPM (%)	-0.74027	0.994544	-0.31723	0.998477	1

**Table 2. Correlation matrix**

From the table it is evident that there is a positive correlation of Return on Asset (ROA) with Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning Per Share (EPS). This indicates that with increase in Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning Per Share (EPS) there has been an increase in Return on Asset (ROA). While the results show that with the rest of the variables decreasing, there can be a decrease in Return on Asset (ROA).

### Regression Statistics

Multiple R	0.9955
R Square	0.9911
Adjusted R Square	0.9822
Standard Error	0.0003
Observations	9

Referring to the table above, it was found that the R-square value is 0.9911 and from this it is concluded that 99.11% of the variation in the dependent variable ROA is explained by the independent variables. This indicates that it is a strong explanatory power of the regression.

### ANOVA

	df	SS	MS	F	Significance F
Regression	4	4.33E-05	1.08E-05	111.4098	0.000236
Residual	4	3.89E-07	9.71E-08		
Total	8	4.37E-05			

From the table above it is known that the value of F-stat is significant as the level of significance is less than 5%. In addition, this indicates that the null hypothesis is accepted and the alternative hypothesis is rejected. Hence it can be concluded that return on Asset (ROA), Return on Equity (ROE), Net Profit

Margin (NPM) and Earning per Share (EPS) have no significant impact on internal financial performance of private sector commercial banks measured by Net Profit Margin (NPM).

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
	0.0000072				-		-	
<b>Intercept</b>	1	0.000348	0.020691	0.984483	0.00096	0.000975	0.00096	0.000975
					-		-	
<b>NIM (%)</b>	-0.00363	0.007777	-0.46647	0.665151	0.02522	0.017964	0.02522	0.017964
					-		-	
<b>EPS (Tk)</b>	0.001593	0.002428	0.656118	0.547573	0.00515	0.008334	0.00515	0.008334
					-		-	
<b>ROE</b>	0.024087	0.087466	0.275391	0.796656	0.21876	0.266932	0.21876	0.266932
<b>NPM (%)</b>	0.02672	0.109187	0.24472	0.818714	0.27643	0.329871	0.27643	0.329871

**Table: P-value table of Regression Analysis of ROA.**

Thus, the analysis predicts the average NPM with about 99.11% explanatory power by the following model:

$$ROA = 0.00000721 - 0.00363NIM + 0.001593EPS + 0.024087ROE + 0.02672NPM + e$$

From the above table p- value of all independent are above 5%. From the analysis we can say Net Interest Margin (NIM), Return on Equity (ROE), Earning per Share (EPS) and Net Profit Margin have effect on Return on Asset (ROA).

### 3. National bank

	<i>ROA</i>	<i>EPS(Tk)</i>	<i>ROE</i>	<i>NIM(%)</i>	<i>NPM(%)</i>
<b>ROA</b>	1				
<b>NIM (%)</b>	0.990978	1			
<b>EPS (Tk)</b>	0.994004	0.996201	1		
<b>ROE</b>	0.816958	0.809721	0.806635	1	
<b>NPM (%)</b>	-0.68044	-0.75615	-0.74076	-0.56647	1

**Table 3- Correlation matrix**

From the table it is evident that there is a positive correlation of Return on Asset (ROA) with Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS). This indicates that with increase in Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning Per Share (EPS), there has been an increase in Return on Asset (ROA). While the results show that with the rest of the variables decreasing, there can be decreased ROA.

<i>Regression Statistics</i>	
<b>Multiple R</b>	0.9982
<b>R Square</b>	0.9965
<b>Adjusted R Square</b>	0.9929
<b>Standard Error</b>	0.0004
<b>Observations</b>	9

Referring to the table above, it was found that the R-square value is 0.9965 and from this it is concluded that 99.65% of the variation in the dependent variable ROA is explained by the independent variables. This indicates that it is a strong explanatory power of the regression.

**ANOVA**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
<b>Regression</b>	4	0.000216	0.0000541	282.5015	0.0000372
<b>Residual</b>	4	0.000000765	0.000000191		
<b>Total</b>	8	0.000217			

From the table above it is known that the value of F-stat is significant as the level of significance is less than 5%. In addition, this indicates that the null hypothesis is accepted and the alternative hypothesis is rejected. Hence it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS) have no significant impact on internal financial performance of private sector commercial banks measured by Return on Asset (ROA).

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
<b>Intercept</b>	-0.00354	0.001063	-3.32735	0.029178	-0.00649	-0.00059	-0.00649	-0.00059
<b>EPS (Tk)</b>	0.00328	0.002884	1.137305	0.318915	-0.00473	0.011287	-0.00473	0.011287
<b>ROE</b>	0.079823	0.04189	1.905679	0.129389	-0.03648	0.196135	-0.03648	0.196135
<b>NIM (%)</b>	0.012336	0.026448	0.466435	0.665174	-0.0611	0.085768	-0.0611	0.085768
<b>NPM (%)</b>	0.055033	0.018577	2.962475	0.041452	0.003456	0.106611	0.003456	0.106611

**Table: P-value table of Regression Analysis of Net Profit Margin.**

Thus, the analysis predicts the average NPM with about 99.65% explanatory power by the following model:

$$ROA = -0.00354 + 0.00328EPS + 0.079823ROE + 0.012336NIM + 0.055033NPM + e$$

From the above table p- value of Return on Equity (ROE), Net Interest Margin (NIM) and Earning per Share (EPS) are above 5% and Net Profit Margin (NPM) is below 5%. From the analysis we can say Return on Equity (ROE), Net Interest Margin (NIM) and Earning per Share (EPS) have no effect on ROA.

**4. United Commercial Bank Limited**

	<i>ROA</i>	<i>EPS(Tk)</i>	<i>ROE</i>	<i>NIM (%)</i>	<i>NPM (%)</i>
<b>ROA</b>	1				
<b>EPS (Tk)</b>	0.969802	1			
<b>ROE</b>	0.99461	0.981704	1		
<b>NIM (%)</b>	0.885225	0.806605	0.851633	1	
<b>NPM (%)</b>	0.719416	0.578455	0.670691	0.870194	1

**Table 4 - Correlation matrix**

From the table it is evident that there is a positive correlation of Return on Asset (ROA) with Return on Equity (ROE), Earning per Share (EPS), Net Profit Margin (NPM) and Net Interest Margin (NIM). This indicates that with increase in Return on Equity (ROE), Earning per Share (EPS), Net Profit Margin

(NPM) and Net Interest Margin (NIM) there has been an increase in Return on Asset (ROA). While the results show that with the rest of the variables decreasing, there can be decreased ROA.

**Regression Statistics**

<b>Multiple R</b>	0.9975
<b>R Square</b>	0.9951
<b>Adjusted R Square</b>	0.9902
<b>Standard Error</b>	0.0004
<b>Observations</b>	9

Referring to the table above, it was found that the R-square value is 0.9951 and from this it is concluded that 99.51% of the variation in the dependent variable Net Profit Margin (NPM) is explained by the independent variables. This indicates that it is a strong explanatory power of the regression.

**ANOVA**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
<b>Regression</b>	4	0.000122	0.0000306	202.0648	0.0000725
<b>Residual</b>	4	6.06E-07	0.00000152		
<b>Total</b>	8	0.000123			

From the table above it is known that the value of F-stat is significant as the level of significance is less than 5%. In addition, this indicates that the null hypothesis is accepted and the alternative hypothesis is rejected. Hence it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), NIM and Earning per Share (EPS) have no significant impact on internal financial performance of private sector commercial banks measured by Return on Asset (ROA).

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
<b>Intercept</b>	-0.00237	0.00068	-3.48374	0.025266	-0.00426	-0.00048	-0.00426	-0.00048
<b>EPS (Tk)</b>	-0.000046	0.001107	-0.04135	0.968995	-0.00312	0.003027	-0.00312	0.003027
<b>ROE</b>	0.095376	0.026144	3.648142	0.021807	0.022789	0.167962	0.022789	0.167962
<b>NIM (%)</b>	0.048598	0.060038	0.809452	0.463656	-0.11809	0.215289	-0.11809	0.215289
<b>NPM (%)</b>	0.015014	0.029099	0.51597	0.633085	-0.06578	0.095807	-0.06578	0.095807

**Table: P-value table of Regression Analysis of ROA.**

Thus, the analysis predicts the average NPM with about 99.51% explanatory power by the following model:

$$ROA = -0.00237 - 0.000046EPS + 0.095376ROE + 0.048598NIM + 0.015014NPM + e$$

From the above table p- value of Net Interest Margin (NIM), Net Profit Margin (NPM) and Earning Per Share (EPS) are above 5% and Return on Equity (ROE) is below 5%. From the analysis we can said that

Net Interest Margin (NIM), Net Profit Margin and Earning per Share (EPS) have no effect on return on Asset (ROA).

### 5. Dutch Bangla Bank Limited

	<i>ROA</i>	<i>NIM (%)</i>	<i>EPS (Tk)</i>	<i>ROE</i>	<i>NPM(%)</i>
<b>ROA</b>	1				
<b>NIM (%)</b>	-0.40534	1			
<b>EPS (Tk)</b>	0.411814	-0.045	1		
<b>ROE</b>	0.990698	-0.44942	0.463939	1	
<b>NPM (%)</b>	0.502631	-0.9707	0.085977	0.537622	1

*Table 5 - Correlation matrix*

From the table it is evident that there is a positive correlation of Return on Asset (ROA) with Return on Equity (ROE), Net Interest Margin (NIM), Net Profit Margin (NPM) and Earning Per Share (EPS). This indicates that with increase in Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning per Share (EPS), there has been an increase in (ROA). While the results show that with the rest of the variables decreasing, there can be decreased ROA.

#### *Regression Statistics*

<b>Multiple R</b>	0.9941
<b>R Square</b>	0.9883
<b>Adjusted R Square</b>	0.9766
<b>Standard Error</b>	0.0003
<b>Observations</b>	9

Referring to the table above, it was found that that the R-square value is 0.9883 and from this it is concluded that 98.83% of the variation in the dependent variable Net Profit Margin (NPM) is explained by the independent variables. This indicates that it is a strong explanatory power of the regression.

#### **ANOVA**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
<b>Regression</b>	4	0.0000332	0.0000829	84.51517	0.000407
<b>Residual</b>	4	0.00000392	0.000000981		
<b>Total</b>	8	0.0000336			

From the table above it is known that the value of F-stat is significant as the level of significance is less than 5%. In addition, this indicates that the null hypothesis is accepted and alternative hypothesis is rejected. Hence it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), Net Profit

Margin (NPM) and Earning Per Share (EPS) have no significant impact on internal financial performance of private sector commercial banks measured by Return on Asset (ROA).

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
<b>Intercept</b>	-0.00032	0.001244	-0.25489	0.811377	0.00377	0.003137	0.00377	0.003137
<b>NIM (%)</b>	0.030844	0.042298	0.729191	0.506287	-0.0866	0.148283	-0.0866	0.148283
<b>EPS (Tk)</b>	-0.000037	3.18E-05	-1.15473	0.312491	0.00013	5.16E-05	0.00013	5.16E-05
<b>ROE</b>	0.067244	0.005062	13.28393	0.000186	0.05319	0.081299	0.05319	0.081299
<b>NPM (%)</b>	0.00356	0.007505	0.474279	0.660032	0.01728	0.024397	0.01728	0.024397

**Table: P-value table of Regression Analysis of ROA.**

Thus, the analysis predicts the average NPM with about 98.83% explanatory power by the following model:

$$ROA = -0.00032 + 0.030844NIM - 0.000037EPS - 0.067244ROE - 0.00356NPM + e$$

From the above table p-value of Net Interest Margin (NIM), Earning Per Share (EPS) and Net Profit Margin (NPM) are above 5% and Return on Equity (ROE) is below 5%. From the analysis we can say Net Interest Margin (NIM), Net Profit Margin and Earning per Share (EPS) have an effect on ROA.

### 3.6 IFIC Bank

	<i>ROA</i>	<i>Net interest margin</i>	<i>EPS-Earning per share</i>	<i>ROE</i>	<i>Net profit margin</i>
<b>ROA</b>	1.00				
<b>Net interest margin</b>	0.33	1.00			
<b>EPS-Earning per share</b>	0.90	0.13	1.00		
<b>ROE</b>	0.99	0.23	0.93	1.00	
<b>Net profit margin</b>	0.98	0.16	0.93	1.00	1.00

**Table 6 - Correlation matrix**

From the table it is evident that there is a positive correlation of ROA with Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning per Share (EPS). This indicates that with increase in Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning per Share (EPS) there has been increase in ROA. While the results show that with the rest of the variables decreasing, there can be an increase in ROA.

<i>Regression Statistics</i>	
<b>Multiple R</b>	0.989
<b>R Square</b>	0.978
<b>Adjusted R Square</b>	0.913

<b>Standard Error</b>	0.001
<b>Observations</b>	5.000

Referring to the table above, it was found that the R-square value is 0.978 and from this it is concluded that 97.80% of the variation in the dependent variable Net Profit Margin is explained by the independent variables. This indicates that it is not a strong explanatory power of the regression.

**ANOVA**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
<b>Regression</b>	3.000	0.000	0.000	14.962	0.187
<b>Residual</b>	1.000	0.000	0.000		
<b>Total</b>	4.000	0.000			

From the table above it is known that the value of F-stat is significant as the level of significance is more than 5%. In addition, this indicates that the null hypothesis is rejected and an alternative hypothesis is accepted. Hence it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), NPM and Earning Per Share (EPS) have significant impact on internal financial performance of private sector commercial banks measured by Return on Asset (ROA).

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
<b>Intercept</b>	0.000	0.003	0.189	0.881	-0.034	0.033	-0.034	0.033
<b>EPS- Earning per share</b>	0.000	0.001	0.285	0.823	-0.015	0.014	-0.015	0.014
<b>ROE</b>	0.079	0.122	0.643	0.636	-1.474	1.631	-1.474	1.631
<b>Net profit margin</b>	0.001	1.166	0.001	0.999	-14.814	14.816	-14.814	14.816

**Table: P-value table of Regression Analysis of ROA.**

Thus, the analysis predicts the average NPM with about 97.80% explanatory power by the following model:

$$ROA = 0.000 + 0.000EPS + 0.079ROE - 0.001NPM + e$$

From the above table p- value of Return on Equity (ROE), Earning per Share (EPS) are above 5% and NPM is less than 5%. From the analysis we can say Net Profit Margin (NPM) has an effect on ROA.

**3.7 City bank**

	<i>ROA</i>	<i>NIM</i>	<i>EPS</i>	<i>ROE</i>	<i>NPM</i>
<b>ROA</b>	1.00				
<b>NIM</b>	0.60	1.00			
<b>EPS</b>	-0.97	-0.58	1.00		
<b>ROE</b>	0.40	0.96	-0.35	1.00	
<b>NPM</b>	-0.37	-0.96	0.33	-1.00	1.00

**Table 7- Correlation matrix**

From the table it is evident that there is a positive correlation of Return on Asset (ROA) with Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning per Share (EPS). This indicates that with increase in Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS) there has been an increase in Return on Asset (ROA). While the results show that with the rest of the variables decreasing, there can be an increase in Return on Asset (ROA).

<i>Regression Statistics</i>	
<b>Multiple R</b>	0.989
<b>R Square</b>	0.979
<b>Adjusted R Square</b>	0.915
<b>Standard Error</b>	0.001
<b>Observations</b>	5.000

Referring to the table above, it was found that the R-square value is 0.979 and from this it is concluded that 97.90% of the variation in the dependent variable Net Profit Margin is explained by the independent variables. This indicates that it is a strong explanatory power of the regression.

**ANOVA**

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
<b>Regression</b>					
<b>n</b>	3.000	0.000	0.000	15.310	0.185
<b>Residual</b>	1.000	0.000	0.000		
<b>Total</b>	4.000	0.000			

From the table above it is known that the value of F-stat is significant as the level of significance is more than 5%. In addition, this indicates that the null hypothesis is rejected and an alternative hypothesis is accepted. Hence it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), NPM and Earning Per Share (EPS) have significant impact on internal financial performance of private sector commercial banks measured by Return on Asset (ROA).

	<i>Coefficien t</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
<b>Intercept</b>	0.019	0.005	3.437	0.180	-0.050	0.088	-0.050	0.088
<b>EPS (TK)</b>	0.004	0.004	0.870	0.544	-0.049	0.056	-0.049	0.056
<b>NPM</b>	-0.444	0.245	1.811	0.321	-3.561	2.673	-3.561	2.673
<b>ROE</b>	-0.107	0.133	0.804	0.569	-1.802	1.587	-1.802	1.587

**Table: P-value table of Regression Analysis of Net Profit Margin.**

Thus, the analysis predicts the average NPM with about 97.90% explanatory power by the following model:



$$ROA = 0.019 + 0.004EPS - 0.444NPM - 0.107ROE + e$$

From the above table p- value of Return on Equity (ROE), Return on Equity (ROA) and Earning per Share (EPS) are below 5%. From the analysis we can say Return on Equity (ROE), Net Interest Margin (NIM), Net Profit Margin and Earning per Share (EPS) have an effect on ROA.

### 3.8 Premier bank

	<i>ROA</i>	<i>EPS(TK)</i>	<i>NPM</i>	<i>ROE</i>	<i>NIM</i>
<b>ROA</b>	1.00				
<b>EPS(TK)</b>	0.96	1.00			
<b>NPM</b>	0.56	0.37	1.00		
<b>ROE</b>	0.99	0.99	0.46	1.00	
<b>NIM</b>	0.47	0.64	0.07	0.58	1.00

*Table 8- Correlation matrix*

From the table it is evident that there is a positive correlation of Return on Asset (ROA) with Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning per Share (EPS). This indicates that with increase in Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS) there has been an increase in Return on Asset (ROA). While the results show that with the rest of the variables decreasing, there can be an increase in Return on Asset (ROA).

<i>Regression Statistics</i>	
<b>Multiple R</b>	1.000
<b>R Square</b>	0.999
<b>Adjusted R Square</b>	0.996
<b>Standard Error</b>	0.000
<b>Observations</b>	5.000

Referring to the table above, it was found that the R-square value is 0.999 and from this it is concluded that 99.90% of the variation in the dependent variable Net Profit Margin is explained by the independent variables. This indicates that it is a strong explanatory power of the regression.

### ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
<b>Regression</b>					
<b>n</b>	3.000	0.000	0.000	348.342	0.039
<b>Residual</b>	1.000	0.000	0.000		
<b>Total</b>	4.000	0.000			

From the table above it is known that the value of F-stat is significant as the level of significance is less than 5%. In addition, this indicates that the null hypothesis is accepted and the alternative hypothesis is rejected. Hence it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), NPM and

Earning Per Share (EPS) have significant impact on internal financial performance of private sector commercial banks measured by Return on Asset (ROA).

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
<b>Intercept</b>	-0.002	0.001	-1.263	0.426	-0.018	0.015	-0.018	0.015
<b>EPS(TK)</b>	-0.006	0.002	-3.566	0.174	-0.027	0.015	-0.027	0.015
<b>NPM</b>	-0.041	0.031	-1.346	0.407	-0.433	0.350	-0.433	0.350
<b>ROE</b>	0.199	0.040	4.997	0.126	-0.307	0.704	-0.307	0.704

**Table: P-value table of Regression Analysis of Net Profit Margin.**

Thus, the analysis predicts the average NPM with about 99.90% explanatory power by the following model:

$$ROA = -0.002 - 0.006EPS - 0.041NPM - 0.443ROE + e$$

From the above table p- value of Return on Equity (ROE), Return on Equity (ROA) and Earning per Share (EPS) are below 5%. From the analysis we can say Return on Equity (ROE), Net Interest Margin (NIM), Net Profit Margin and Earning per Share (EPS) have an effect on ROA.

### 3.9 Bank Asia

	<i>ROA</i>	<i>EPS(TK)</i>	<i>NPM</i>	<i>ROE</i>	<i>NIM</i>
<b>ROA</b>	1.00				
<b>EPS(TK)</b>	0.92	1.00			
<b>NPM</b>	0.84	0.98	1.00		
<b>ROE</b>	0.98	0.98	0.93	1.00	
<b>NIM</b>	-0.71	-0.49	-0.38	-0.58	1.00

**Table 9- Correlation matrix**

From the table it is evident that there is a positive correlation of Return on Asset (ROA) with Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning per Share (EPS). This indicates that with increase in Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS) there has been an increase in Return on Asset (ROA). While the results show that with the rest of the variables decreasing, there can be an increase in Return on Asset (ROA).

<i>Regression Statistics</i>	
<b>Multiple R</b>	0.994
<b>R Square</b>	0.988
<b>Adjusted R Square</b>	0.951
<b>Standard Error</b>	0.001
<b>Observations</b>	5.000

Referring to the table above, it was found that the R-square value is 0.988 and from this it is concluded that 98.80% of the variation in the dependent variable Net Profit Margin is explained by the independent variables. This indicates that it is a strong explanatory power of the regression.

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
<b>Regression</b>					
<b>n</b>	3.000	0.000	0.000	26.620	0.141
<b>Residual</b>	1.000	0.000	0.000		
<b>Total</b>	4.000	0.000			

From the table above it is known that the value of F-stat is significant as the level of significance is more than 5%. In addition, this indicates that the null hypothesis is rejected and an alternative hypothesis is accepted. Hence it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), NPM and Earning Per Share (EPS) have significant impact on internal financial performance of private sector commercial banks measured by Return on Asset (ROA).

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
<b>Intercept</b>	-0.002	0.002	0.986	0.504	-0.028	0.024	-0.028	0.024
<b>EPS(TK)</b>	-0.003	0.007	0.416	0.749	-0.088	0.082	-0.088	0.082
<b>NPM</b>	-0.028	0.098	0.284	0.824	-1.276	1.220	-1.276	1.220
<b>ROE</b>	0.180	0.077	2.343	0.257	-0.796	1.156	-0.796	1.156

**Table: P-value table of Regression Analysis of Net Profit Margin.**

Thus, the analysis predicts the average NPM with about 98.80% explanatory power by the following model:

$$ROA = -0.002 - 0.003EPS - 0.028NPM - 0.443NPM + e$$

From the above table p- value of Return on Equity (ROE), Return on Equity (ROA) and Earning per Share (EPS) are below 5%. From the analysis we can say Return on Equity (ROE), Net Interest Margin (NIM), Net Profit Margin and Earning per Share (EPS) have an effect on ROA.

**3.10 Southeast Bank**

	<i>ROA</i>	<i>EPS(TK)</i>	<i>NPM</i>	<i>ROE</i>	<i>NIM</i>
<b>ROA</b>	1.00				
<b>EPS(TK)</b>	0.98	1.00			
<b>NPM</b>	0.96	0.99	1.00		
<b>ROE</b>	1.00	0.97	0.95	1.00	
<b>NIM</b>	-0.62	-0.45	-0.42	-0.64	1.00

**Table 10- Correlation matrix**

From the table it is evident that there is a positive correlation of Return on Asset (ROA) with Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning per Share (EPS). This indicates

that with increase in Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS) there has been an increase in Return on Asset (ROA). While the results show that with the rest of the variables decreasing, there can be an increase in Return on Asset (ROA).

<i>Regression Statistics</i>	
<b>Multiple R</b>	0.999
<b>R Square</b>	0.999
<b>Adjusted R Square</b>	0.995
<b>Standard Error</b>	0.000
<b>Observations</b>	5.000

Referring to the table above, it was found that the R-square value is 0.999 and from this it is concluded that 99.90% of the variation in the dependent variable Net Profit Margin is explained by the independent variables. This indicates that it is a strong explanatory power of the regression.

ANOVA

	<i>Df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
<b>Regression</b>					
<b>n</b>	3.000	0.000	0.000	286.851	0.043
<b>Residual</b>	1.000	0.000	0.000		
<b>Total</b>	4.000	0.000			

From the table above it is known that the value of F-stat is significant as the level of significance is less than 5%. In addition, this indicates that the null hypothesis is accepted and the alternative hypothesis is rejected. Hence it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), NPM and Earning Per Share (EPS) have significant impact on internal financial performance of private sector commercial banks measured by Return on Asset (ROA).

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
<b>Intercept</b>	-0.001	0.001	2.108	0.282	-0.009	0.006	-0.009	0.006
<b>EPS(TK)</b>	0.000	0.002	0.046	0.971	-0.022	0.022	-0.022	0.022
<b>NPM</b>	1.368	3.708	0.369	0.775	-45.744	48.480	-45.744	48.480
<b>ROE</b>	0.096	0.017	5.660	0.111	-0.119	0.311	-0.119	0.311

*Table: P-value table of Regression Analysis of Net Profit Margin.*

Thus, the analysis predicts the average NPM with about 99.90% explanatory power by the following model:

$$ROA = -0.001 + 0.000EPS + 1.368NPM + 0.096ROE + e$$

From the above table p- value of Return on Equity (ROE), Return on Equity (ROA) and Earning per Share (EPS) are below 5%. From the analysis we can say Return on Equity (ROE), Net Interest Margin (NIM), Net Profit Margin and Earning per Share (EPS) have an effect on ROA.

### 3.11 NCC Bank

	<i>ROA</i>	<i>EPS (TK)</i>	<i>NPM</i>	<i>ROE</i>	<i>NIM</i>
<b>ROA</b>	1.00				
<b>EPS (TK)</b>	0.78	1.00			
<b>NPM</b>	0.83	0.93	1.00		
<b>ROE</b>	0.90	0.97	0.95	1.00	
<b>NIM</b>	-0.16	0.20	-0.01	0.05	1.00

*Table 11- Correlation matrix*

From the table it is evident that there is a positive correlation of Return on Asset (ROA) with Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin and Earning per Share (EPS). This indicates that with increase in Net Interest Margin (NIM), Return on Equity (ROE), Net Profit Margin (NPM) and Earning per Share (EPS) there has been an increase in Return on Asset (ROA). While the results show that with the rest of the variables decreasing, there can be an increase in Return on Asset (ROA).

<i>Regression Statistics</i>	
<b>Multiple R</b>	0.993
<b>R Square</b>	0.987
<b>Adjusted R Square</b>	0.946
<b>Standard Error</b>	0.000
<b>Observations</b>	5.000

Referring to the table above, it was found that the R-square value is 0.987 and from this it is concluded that 98.70% of the variation in the dependent variable Net Profit Margin is explained by the independent variables. This indicates that it is a strong explanatory power of the regression.

#### ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
<b>Regression</b>					
<b>n</b>	3.000	0.000	0.000	24.368	0.148
<b>Residual</b>	1.000	0.000	0.000		
<b>Total</b>	4.000	0.000			

From the table above it is known that the value of F-stat is significant as the level of significance is more than 5%. In addition, this indicates that the null hypothesis is rejected and an alternative hypothesis is accepted. Hence it can be concluded that Net Interest Margin (NIM), Return on Equity (ROE), NPM and Earning Per Share (EPS) have significant impact on internal financial performance of private sector commercial banks measured by Return on Asset (ROA).

	<i>Coefficient</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>Lower 95.0%</i>	<i>Upper 95.0%</i>
<b>Intercept</b>	-0.001	0.002	0.634	0.640	-0.024	0.021	-0.024	0.021
<b>EPS (TK)</b>	-0.009	0.002	3.601	0.172	-0.039	0.022	-0.039	0.022
<b>NPM</b>	-0.654	2.411	0.271	0.831	-31.294	29.987	-31.294	29.987
<b>ROE</b>	0.273	0.059	4.634	0.135	-0.475	1.021	-0.475	1.021

**Table: P-value table of Regression Analysis of Net Profit Margin.**

Thus, the analysis predicts the average NPM with about 98.70% explanatory power by the following model:

$$ROA = -0.001 - 0.009EPS - 0.654NPM + 0.273ROE + e$$

From the above table p- value of Return on Equity (ROE), Return on Equity (ROA) and Earning per Share (EPS) are below 5%. From the analysis we can say Return on Equity (ROE), Net Interest Margin (NIM), Net Profit Margin and Earning per Share (EPS) have an effect on ROA.

## 5. Conclusion

The major function of a bank is to accumulate the excess money from the mass people who are not involved in any investment as well as unresponsive to take risk and capitalize to those who are interested to invest the money and give higher return to the bank. For any country's profitable growth, banking representation has been considered to be the most significant factor. Academic experts need to know the profitable growth that's why they're probing the banking performance and its outgrowth. The purpose of this study is to actually probe the financial representation of conventional banks of the People's republic of Bangladesh, for the period of 2013 to 2021. This study depicts that the test of the execution of regional commercial banks of our country, considering the coefficients and their significance level, to determine the gross profitability of commercial banks' Net Interest Margin (NIM) Return on Equity (ROE), Net Profit Margin (NPM) and Earning Per Share (EPS) take part in a remarkable role. To find out the inter-connection between the profitability and the financial parameters, we apply regression, correlation examination and t- test. Financial institutions and investors will be benefited for a better banking performance by the findings of the paper and academic researchers will get more suggestions for further examining the financial field.

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