

**ANALYSIS OF FINANCIAL PERFORMANCE OF BANKING
SECTOR IN BANGLADESH: AN EMPIRICAL STUDY ON
SELECTED LISTED BANKS**

By

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A thesis submitted to the Department of BRAC BUSINESS SCHOOL in partial
fulfillment of the requirements for the degree of
Bachelor of Business Administration

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Declaration

It is hereby declared that

1. The thesis submitted is my/our own original work while completing degree at Brac University.
2. The thesis does not contain material previously published or written by a third party, except where this is appropriately cited through full and accurate referencing.
3. The thesis does not contain material which has been accepted, or submitted, for any other degree or diploma at a university or other institution.
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Approval

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Abstract/ Executive Summary

This study aims to provide scheduled commercial banking companies in Bangladesh with a detailed financial performance assessment. The analysis is descriptive. This inductive study uses cross-sectional data financial analysis techniques to calculate, identify, and evaluate the financial performance of Bangladeshi publicly traded business banks. To measure internal, market-based, and economic performance, financial performance was divided into profitability ratios, market ratios, and value-added metrics. Bank rankings were based on financial results between 2016 and 2019, and Bank Asia Ltd. was found to be one of the leading banks. The research found that most banks showed weak economic efficiency, negative economic added value (EVA), and underestimated market price per share. The research involved in assessing financial performance in Bangladesh covered primarily ten publicly listed commercial banking firms and raised the question of results generalization. Most corporate societies also use financial performance reviews. Thus, the study results will provide valuable guidance for company creditors, bank management, and general investors. The financial performance evaluation can also be a valuable source of knowledge for policy-makers in Bangladesh.

Keywords: Analysis of Financial Performance; Banking Sector; Cross-Sectional Data Financial Analysis; Economic Added Value; Publicly Listed Commercial Bank; Between 2016 and 2019

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List of Acronyms

EVA Economic Added Value

SOBs State-Owned Banks

PCBs Private Commercial Banks

FCBs Foreign Commercial Banks

NBFIs Non-Bank Financial Institutions

FRA Financial Ratio Analysis

SME Small and Medium-Sized Enterprises Development Organization

ROI Return on Investment

ROA Return on Assets

ROE Return on Equity

EPS Earnings per Share

MVA Market Value Added

Chapter-1

Introduction

Banks play a significant role in a nation's economy. An economy's health is closely linked to the health of its financial system. Although the banks do not produce new wealth other than their bonds, lending, and related activities make it easier to allocate, trade, and consume wealth. They are, therefore, significant partners in the economic development process. Modern banks today are instrumental in using the country's capital. The banks mobilize people's savings for investment purposes. A significant part of the country's capital would remain idle if there were no banks.

Bangladesh's banking sector is relatively larger than many neighboring economies with a comparable degree of growth and per capita income. The overall sector size currently amounts to 55.5% of GDP, which is proportionately high for a nation with a per capita income of only about 2068 USD. (bdnewsnet.com, 2019)

Bangladesh's banking sector is split into four scheduled bank groups. There are state-owned banks (SOBs), private commercial banks (PCBs), foreign commercial banks (FCBs), and non-bank financial institutions (NBFIs). There are currently 60 scheduled banks in Bangladesh working under complete regulation and oversight of Bangladesh Bank, which is empowered to do so by the Bangladesh Bank Order, 1972 and Bank Company Act, 1991. There are 6 SOCBs, three specialist banks, 42 private commercial banks, 34 traditional PCBs, 8 Islamic Shariah-based PCBs, 9 FCBs, and five non-scheduled banks. (Bangladesh Bank, 2020)

Since the Great Depression interns of the 1940s, banks' financial results review has been critical to university study. Commercial banks' financial success metrics have been well studied; several longitudinal research on commercial banks' performance around the world has been carried out. However, there has been little reference to the results of the Bank in Bangladesh.

This research uses a financial ratio analysis (hereafter FRA) to assess bank financial results during 2016 and 2019. A financial efficiency analysis by banks is justified as it has now been found that about BDT 2,12,100 cores are idling money in the bank sector in Bangladesh. (Alam, 2019)

Financial success encompasses economic growth, return, and efficiency, and is a general term. Financial accomplishment implies an aggregate indicator of the financial stability of a corporation for a specified period. It describes the productivity of firms as the most significant economic attribute. To consider their financial position and potential prospective, businesses must be capable of measuring their success correctly. Yalcin, Bayrakdaroglu, and Kahraman found that businesses and their partners' financial performance evaluation can be acceptable. The research is beneficial to FRA when it distinguishes high-performance banks. FRA acknowledges the strengths and shortcomings of banks in particular. Evaluating financial outcomes is critical because an entity's survival depends upon its capacity to evaluate both its financial state and its possible risks. This allows the organization to identify strategies for strengthening preparedness and controlling decision-making. The evaluation aims to explain how the organization operates, its strengths, and its inconveniences. (Yalcin, Bayrakdaroglu & Kahraman, 2012)

The key objective of this report is to determine the financial performance of Bangladesh's publicly traded banks. The central challenge of analysis is to decide which banks have performed well. The study also seeks to create a correlation between conventional performance measures focused on accounting and current value-based performance measures. The analysis attempted to update the current Bangladesh literature concerning the banking sector's financial performance indicators.

1.1 Introduction about Banking Industry in Bangladesh

Bangladesh's banking industry is mixed with nationalized, private, and foreign trade banks. Following independence, the Bangladesh banking industry began to fly with six nationalized banks, two state-owned specialized banks, and three international banks. With the entry of private banks, the banking sector in the 1980s achieved substantial growth. Bangladeshi banks now have two primary forms of banks.

Scheduled Banks

The banks approved to operate in compliance with the Bank Company Law of 1991 are named Scheduled Banks. The following forms are listed as scheduled banks:

State-Owned Commercial Banks (SOCBs): The Government of Bangladesh has six SOCBs, wholly or principally.

Specialized Banks (SDBs): There are currently three specialized banks developed for specific purposes, such as agricultural or industrial development. These banks also belong to the Government of Bangladesh in whole or in large part.

Private Commercial Banks (PCBs): Private commercial banks are mostly private. There are 42 private business banks. In two classes, PCBs can be classified:

Conventional PCBs: There are now 34 typical PCBs in the market. In traditional mode, they execute banking functions, i.e., interest-based activities.

Shariah-based Islamic PCBs: there are eight shariah-based Islamic shariah PCBs in Bangladesh, which run according to Islamic Shariah principles, such as the profit-sharing (PLS) model.

Foreign Commercial Banks (FCBs): 9 FCBs operate in Bangladesh as branches of the foreign banks. FCBs are the branches of foreign banks.

There are 60 scheduled banks in Bangladesh, functioning under the complete supervision and control of the Bangladesh Bank, entitled to that by Bangladesh Bank Order of 1972 and Bank Society Law of 1991.

Non-scheduled Banks:

Banks designed for unique and unusual purposes and working under acts to accomplish these goals are referred to as non-scheduled banks. These banks cannot fulfill all scheduled banks' functions. In Bangladesh, five unregistered banks, the Ansar VDP Unnayan Bank, Karmashangosthan Bank, Grameen Bank, Palli Sanchay Bank, and Jubilee Bank, are now operating in the market.

1.2 Information About the Selected Banks

AB Bank Limited: AB Bank (formerly Arab Bangladesh Bank) was founded in Bangladesh on 31 December 1981, as a leading private sector bank. It was Bangladesh's first private joint venture. The AB Bank's change of name was authorized by the Arab Bangladesh Bank on 14 November 2007. The Bank was liable for embezzling 3.25 billion takas by a former deputy general manager. Cash link Bangladesh Limited was acquired by AB bank in 2014. In 2016, a former vice-chairman and his wife received jail sentences for embezzlement.

Al-Arafah Islami Bank Ltd: The Al-Arafah Islamic Bank is a Bangladeshi Islamic bank. The Al-Arafah Islamic Bank Limited was established on 27 September 1995 and is a Shariah-compliant bank in Bangladesh. The Bank's Shariah Council ensures that bank operations follow the criteria of the Shariah. The head office is in Motijheel, Dhaka. A project

entitled "Al-Arafah Islami Bank Limited initiated Krishi O Grameen Khudra Biniog Procholpa (Microfinance). This project works to alleviate poverty, grow agricultural industries, build employment, etc. Al Arafah Islami Bank Limited has initiated this project. An agreement with Millennium Knowledge Solution Ltd was signed with Al-Arafah Islami Bank Limited.

Bank Asia Ltd: Bank Asia Limited is a Bangladesh-based private sector commercial bank.

Mr. Arfan Ali is the Bank's President and CEO. In 1999, the Bank was established and incorporated in 1999. The acquisition of Bank of Nova Scotia and Muslim Commercial Bank Limited branches expanded. The third prize in corporate administration disclosures was given to Bank Asia, and the merit certificate was awarded under integrated reporting in the 17th ICAB BPAR-2016 National Award.

BRAC Bank Ltd: BRAC Bank is a privately-owned Bangladesh commercial bank

operated by the Small and Medium-Sized Enterprises Development Organization (SME) BRAC Bank. The Bank has its Dhaka, Bangladesh headquarters. As of 31 December 2018, the company has 186 branches and 50 banking offices, and 448 ATMs. On 4 July 2001, BRAC Bank was established to reach many unbanked individuals who were not subject to conventional bank coverage. Small and medium-sized enterprises (SME) were the core theme of the Bank. SME Banking, retail banking, card service, foreign exchange & related services, wholesale Bank and custodial service, probashi banking are all financial services they provide. BRAC Bank Limited is a leading credit card company in Bangladesh. In Bangladesh's card industry, the Bank aims to become the high-card issuer who provides Credit card, Platinum card, gold credit card, Silver Credit card, BRAC Bank Have, Credit Card Signature. BRAC Bank has 187 Branch (October 2019), 457 SME Unit Office, 1800 Remittance Delivery Point, and 447 ATM Booth. The lead organizer of the mutual ATM network OMNIBUS is in addition to this BRAC Bank. The OMNIBUS, an organization of member institutions providing banks

with a neutral mother, transfer to joint ATM and POS network facilities. The need for a neutral and centric gateway contributed to the creation of OMNIBUS.

Moreover, BRAC Bank has, therefore, taken the initiative. In partnership with BRAC Bank, Q-Cash has joined forces to form OMNIBUS with its members. The Bank is officially funding the national cricket team of Bangladesh, Under-19 cricket teams, Bangladesh's women's cricket team from 2018 until 2020, and the company has been the team's kit-partner since 2016.

Dhaka Bank Ltd: Dhaka Bank Limited is a Bangladesh-based private limited business bank. Its head office is in Dhaka. At present, the Bank has 100 branches throughout the country and 3 SME Service Centres. Bangladeshi politician Mirza Abbas founded the Bank in 1995. Abdul Hai Sarker, the founding Chairman of the Bank's Board of Directors. Dhaka Bank won the best manufacturing-friendly Bank in the 2014 SME banking competition.

Dutch-Bangla Bank Ltd: DBBL, a planned joint venture between M Sahabuddin Ahmed (founder & president) and the Holland company FMO, is a private commercial bank between local Bangladeshi parties. DBBL has been established under the Banking Companies Act 1991 and has been created in Bangladesh as a public limited company according to the Company Act 1994. From 3 June 1996, the DBBL began its structured operations. DBBL operates its automation and network. Bangladesh is home to over 4,930 ATMs, making it Bangladesh's most massive grid. In the GlaxoSmithKline in Chittagong factory on 10 October 2010, DBBL inaugurated its 1,000th ATM. The Dutch Bangladesh Bank gateway system (Nexus Gateway) reported on 3 June 2010 on internet payments. Visas, Masters, DBBL Nexus, and Maestro cards are available to traders using their Internet Payment Gateway. DBBL currently has over 400 traders in e-commerce. Mobile Apps: DBBL has recently released nexus Pay Software for their clients. Dutch Bangla Bank is one of the largest private donors of social services in Bangladesh. The Bank supports social work. The Bank gives funds to social,

medical, and educational awareness programs. In Bangladesh, DBBL provides the most massive bursary scheme. The Bank was identified as the "Best Financial Institution" for its contribution to technology and community service in Bangladesh Business Awards 2007.

Eastern Bank Ltd: Eastern Bank Limited is a Bangladesh-based private commercial Bank. On 8 August 1992, it was formed following the Bank Companies Act, 1991, as a public limited company. It offers retail banking, corporate finance, wealth management, stock brokerage, and security products and services. It hires around 3000 people with 85 branches and 214 ATMs in Bangladesh. On 16 August 1992, Eastern Bank Limited started operations. EBL operated as BCCI, which became Eastern Bank Limited, before 1992.

Export-Import (Exim) Bank of Bangladesh Limited: EXIM Bank is one of the leading private sector banks in Bangladesh. Export-Import Bank of Bangladesh Limited. As a commercial bank on 3 August 1999, the Bank was established under Bangladesh Bank's rules and regulations. The Bank was called BEXIM Bank Limited from its foundation. The Bank was, however, renamed EXIM, the Export-Import Bank of Bangladesh Limited, because of legal constraints. As of May 2015, 88 branches and 45 ATM booths were established throughout the country. The Bank moved to Shariah-based Islamic banking after July 2004 for all of its traditional banking operations. One of the areas most involved is Corporate Social Responsibility (CSR). The Bank has supported needy and deserving students in recent years. In 2007, approximately 80 students were granted scholarships from various institutions such as DU, BUET, DMC, VNCS, and NDC. The Dhaka City Corporation's "Beautification Scheme" was funded by the Bank.

First Security Islami Bank Limited: First Security Islami Bank Limited was founded as a commercial bank on 29 August 1999. It began operations with an authorized

capital of 1 billion takas on 25 October 1999 and began sharia banking from 2009. 2014 was the Best Sponsor of the Bank awarded by the Bangladesh Sports Press Association (BSPA). The Bank funded the Hockey Tournament at National School. Via its corporate social responsibility, it gives grants to worthy students. The Bank set up a charity hospital and school.

The City Bank Ltd: The City Bank is a private commercial bank in Bangladesh that operates all over Bangladesh. It has a centralized system and is one of the few banks in Bangladesh. The Bank began operations as the "City Bank Limited" on 28 March 1983 and revised its picture and services on its 25th anniversary in 2008. This includes a new logo, credit cards, the brokerage company, and City Wallet (Sms Banking) service introduced by American Express. In his earlier "The City Bank Limited," the Bank's name was simplified to "City Bank." The new logo was introduced in July 2008, featuring a red and white checked box kite.

1.3 Description of Financial Performance Measures:

This analysis distinguishes financial performance measurements in two groups: tradition-based accounting performance measurement and modern value measurement.

Tradition-based accounting performance measurement:

Return on Assets (ROA): ROA shows the assets' efficiency, which means how much the company's net sales or profit can earn assets invested with each BDT. The efficiency with which the company's management produces net profits from all of the institution's capital. A formula can be determined:

$$\text{ROA} = \text{EBIT} / (\text{Average Assets})$$

This report used the profit and loss account and balance sheet as the net sales and total asset estimates. However, the average sum of assets is used in the estimation of ROA to replace total

assets. The organization uses its money more efficiently with a higher ROA. Under the Basel-II agreement, ROA is estimated to be over 1%.

Return on Investment (ROI): Due to its flexibility and simplicity, the return on investment calculation is a widespread metric. In essence, ROI can be used to calculate the profitability of an investment. If an investor is not optimistic or other opportunities with higher ROI are open to an investor, such ROI values will tell the investor what investments are better for others. In the following method, ROI is calculated:

$$\text{ROI} = \text{EAT} / (\text{Average Equity})$$

Return on Equity (ROE): This ratio demonstrates how a bank's money will produce a profit for shareholders. The higher value of this ratio is, the more profitable it is. Like ROA, this ratio is a management performance measure. The return on equity, according to Kieso, is calculated with the division by average equity stockholder of net income less preferred dividend. The higher ROE value is a symbol of high equity efficiency.

Earnings per Share (EPS): Earnings per share reflect the profits of each share of the business. The formula below is used:

$$\text{Earnings per Share} = (\text{Profit After Tax}) / (\text{Weighted Average Number of Share Outstanding})$$

Tobin's Q: The following formula is used to evaluate the Tobin Q ratio:

$$\text{Tobin's Q} = (\text{Market Value of Assets}) / (\text{The Market Value of Equity} + \text{Book Value of Total Debt})$$

It is believed that when Tobin Q is below one and above one, respectively, the company is underestimated and overestimated. Screen Annex-2

Net Profit: In a given amount of time, net profit is the surplus of revenue over expenditure. Two functions result in the income function and the cost function. The income feature shows a bank's total income from its operations, while cost features represent the total expenditures for one year. The performance of a bank is a full measure. Net profit in this study means net profit after tax and depreciation provision.

Modern Value-based Performance Measures:

Value Added Statement: It is the assets that banking services make. The excess cost of the service offered is the benefit obtained from the revenue generated from banking services. The value-added statement indicates the overall wealth generated, how specific responsibilities have been allocated, and how those who have produced it have been compensated and the portion retained for the continued operation and expansion of the Bank.

Economic Value Added (EVA): The financial output method of estimating the Bank's actual financial return is economic value-added. It calculates the economic success or failure of business over time and demonstrates how much value banks produce. This is a valuable indicator compared to other sectors for investors who want to maintain their funds for better returns. Shareholders are still thinking with their share added value. EVA is a metric to determine the degree to which the company has achieved its target of growing shareholder capital, according to Brewer, Chandra, & Hock. For the first time, the EVA model had been developed and launched by a US-based consultancy Stren Stewart & Co. The basis for determining business worth is now considered. EVA is a corporate output calculation based on accounting, single duration, and there are several approaches for calculating EVA which can be explained: (Altaf, 2016)

One way of measuring EVA is at the start of the year to multiply the business book value of capital 'C' by the difference between its return on capital "r" and the capital cost "k" and can be reported as follows:

$$EVA_t = (r - k) \times C_{t-1}$$

We can calculate the EVA in another way. Since EVA calculates the value of the shareholders' funds, EVA can be calculated based on the difference between a company's net operating profit after tax and its capital cost (NOPAT).

$$EVA_t = NOPAT_t - (k \times C_{t-1})$$

Market Value Added (MVA): In comparison to EVA, which calculates internal performance, market value added (MVA) shows how the market measured the business's performance concerning share's market worth relative to book value. In the presence of surplus capital invested by the owners, MVA typically is the existing valuation of a set of EVA values. It is a valuable indicator that management produces. It is also the best external indicator of long-term management efficiency. The value added to the market (MVA) relates to the difference between the overall price of the shares and the total equity book value of the Bank at the time of its reporting.

Positive and increased MVA suggests that the Bank generates considerable value for its shareholders and that the market is optimistic that the Bank can expand and cash flows and a sustainable manner. On the other hand, negative MVA shows that the Bank's wealth is lower than the investors' money.

Chapter-2

Objectives of the Study

An overview of the financial results of selected banks is the main aim of this study.

2.1 Literature Review:

In this section, several related studies with concepts and results produced by previous researchers will be discussed. The research discrepancy found for the present analysis, and the planned assessment's related goals will also be rationalized. The present study is intended to assess commercial banks' financial success in Bangladesh. There are two hierarchical approaches available to quantify bank efficiency and alternative methods, including non-parametric DEA and the parametric Stochastic Frontier Approach. The first is Ncube's accounting strategy, mostly focused on financial ratios, and the second is econometric.

As a metric to assess businesses' financial results, Samad and Van Horne & Wachowicz Jr. use the financial link. Likewise, Pandey says it is the best way of comparing the company's current financial ratio with the past to see whether the financial result is strengthened, worsened, or stays stable over time (Pandey, 2004). The interest that the Bank gets from shareholders. If the benefit and the related risks are effectively regulated better, the Bank is profitable. The study results Mujeri & Younus indicate that interest rate spread is driven substantially by classified loans and borrowing costs, inflation, funding costs, deposit market share, and the need for regulatory reserves (Mujeri & Younus, 2009). Chowdhury & Ahmed note a steady growth rate of the branches, staff, deposits, loans, advances, net profits, and EPS during the period 2002-2006 while calculating the banking industry's financial output in Bangladesh. Research by the European Central Bank has contributed to evaluating bank success for its ability to produce sustainable profitability in which the analysis prefers financial factors such as ROA, P / B ratio, and economic efficiency rather than utilizing ROE. The study implies that success forecasting can consider risk and sustainability, using more forward-looking proxies (Chowdhury & Ahmed, 2009). Data from the Duncan & Elliott report indicate that consumer loyalty is strongly associated with financial performance metrics such as net profit, ROA, and capital appropriations. Evaluate Jordanian and Pakistani commercial banks' financial performance

indicators, using ROA as a performance proxy (Duncan & Elliott, 2004). Siddiqui & Shoaib, however, uses Tobin's model to assess the efficiency of the Bank. The results indicate that the Bank's profitability greatly influences ROE and Tobin's Q. (Shah & Jan 2014)

The multiple regression analysis methodologies employed by Tarawneh to analyze Omani commercial banks' financial output metrics can be considered a guideline in the econometric method. ROA and interest income are used in his research as proxies for results. (Tarawneh, 2006)

The present analysis analyzed banks' financial results with a profitability ratio, market ratio, and value-added metrics. Furthermore, the studies mentioned above have identified these ratios. Furthermore, the study tried to create a connection between EVA and income, a market ratio. As EVA has been paying a little attention, a crucial management instrument in the corps, except Mohammad Jahur & Riyadh and Shil studies, is now being looked at. Their findings indicate that EVA is an essential metric to evaluate a bank's success, given the scenario in which large numbers of shareholders have to fulfill their profits. They find that EVA has statistically essential ties to other success assessment metrics, including ROA, net benefit, and profit per employee and deposit per employee. (Jahur & Riyadh, 2002), (Shil, 2009)

2.2 Methodology:

The analysis here is a descriptive and related form. This thesis has adopted an inductive approach to science. This analytical analysis was based primarily on objective secondary data from the released annual report from 2016 to 2019 on the respective commercial Bank website. Another type of this study, as a reference time in research, is cross-sectional. The use of cross-sectional data has some pitfalls, said Bowen, Wiersema. It helps to analyze the banks' results quite well, in any case. (Bowen & Wiersema, 1999)

The target population of this study is all licensed domestic and foreign commercial banks currently operating in Bangladesh. This report's research portion is the whole of the Dhaka Stock Exchange (DSE) domestic and foreign market banks. DSE has listed a total of 30 business banks. This report found ten commercial banks for review. Out of 10 banks, seven were Private Commercial Banks (PCBs), and 3 were Islami Shariah Based PCBs.

The secondary information was obtained using the data collection sheet from the end of 2016 to 2019. Descriptive analyzes are carried out for the review of the Bank's financial results. The information was edited, coded, and cleaned (if required). The benefits of this study inspired the selection of FRA methods. Due to its advantages, the FRA solution was chosen. The FRA is mainly entitled to distinguish between high-performance banks and other banks and compensate for the differences and controls that Samad's economic variables have on any side effects. The financial ratio can also define a bank's particular strengths and weaknesses and provide quantitative information on the Bank's benefit, liquidity, and credit quality policy. (Samad, 2004)

The final ranking of the ten banks selected as a sample was based on internal market-based performance and economic performance, respectively, and a separate ranking was given for each of the parameters listed above. Non-parametric research, the coefficient of correlation of rank, was used to test the hypotheses. The hypothesis test's object is to assess whether the correlation coefficients between the measurements are relevant. According to Levin & Rubin, the option to use a rank correlation coefficient has certain benefits over a parametric correlation coefficient (Levin & Rubin, 2007). Firstly, it does not recognize whether the data are usually distributed; secondly, it is less susceptible to extreme data collection values. Finally, we do not need to count the sample size below thirty for this analysis. The formula of the coefficient of correlation of rank is as follows:

$$r_k = 1 - \frac{6 \sum d^2}{n(n^2 - 1)}$$

Where, RK = Rank correlation co-efficient

d = the difference between the two ranks

n = number of observations

The present study has ensured the quality of analysis by concentrating on the results' validity and reliability. The study's financial and quantitative aspects are focused on the applicable financial measures that are acceptable for answering the research question. ROA, ROI, ROE are profitability indicators used to measure internal efficiency. Similarly, EPS and Tobin Q for market metrics, and EVA, MVA, Market Capitalization for value-added metrics were used to measure market-based and economic efficiency, respectively. By integrating the profitability ratio, the market ratio, and the value-added metrics, the goal is to gain insight into the respective banks' success. The problem of reliability concerns the accuracy of the study results. To be accurate, other researchers should be able to reproduce it and achieve the same result. The research used data from public records, the company's website. This means that if others were able to analyze the data, they would have the same results.

Chapter-3

Analysis and Findings

From 2016 to 2019, the Above indicates banks' financial performance as a profitability ratio, market ratio, and value-added metrics. The whole industry's overall profitability rates, which comprise the ROA, ROI, and ROE, are 2.33%, 11.56%, and 11.13%, respectively. The results show, that 95% confidence in the ROA percentage, ROI percentage and ROE percentage range from 2,14% to 2,51%, from 10% to 13,12% and from 9,67% to 12,59% respectively. See appendix no 3.

On the other hand, the average EPS, Economic Value Added (EVA), Market Value Added (MVA), Tobin Q are BDT 3.63, BDT 1478.90 million, BDT 10952.64 million, and 0.0813 million, respectively. Additional information on EPS can be given as 95 times out of 100 times, with EPS dropping between BDT 2.41 and BDT 4.84. In the cause of Economic Value Added (EVA), Eastern Bank Ltd and Export-Import (Exim) Bank of Bangladesh Limited's annual report did not mention enough information to calculate it. Also, to calculate Market Value Added, there was an information gap in the Export-Import (Exim) Bank of Bangladesh Limited and First Security Islami Bank Limited's annual report. The stock value per share of almost all banks is much less than the book value per share. The Tobin Q ratio could best understand this situation.

Finally, the presentation of bank performance in terms of market capitalization. From 2016 to 2019, the total market capitalization in Dhaka Stock Exchange (DSE) was BDT 1145.30, 4285, 47.34 billion, respectively. Out of 10 banks, BRAC Bank Ltd. has secured the highest percentage, 8.62% in 2016, 17.55% in 2017, 14.76% in 2018, and 13.33% in 2019 of total market capitalization in DSE. See appendix no 7.

Chapter 4

Assessment of Financial Performance of the Selected Banks

Different ratios were applied, which are graded for analysis into profitability, market ratios, and value-added metrics. The ratios for the four-year cycle from 2016 to 2019 have been measured. The results of the ratio study are shown in appendix no 1 and 2.

Points were given for each type of relationship to the corresponding Bank, and thus each type of ratio gives the banks a different rank. Appendix – 8 offers descriptive information on basic (ratios) financial output assessments of individual banks. The banks were eventually graded

according to Coefficient of Variation (CV) percent of the overall point score "See Appendix 6."

The statistics based on profitability, market ratios, and value-added metrics are listed in Appendix - 4 and Appendix — 5. These categories were drawn up for interested stakeholders to see results about each of the above three ratios. The results of the study show that the top five banks are Bank Asia Ltd., Dhaka Bank Ltd., Eastern Bank Ltd., Exim Bank of Bangladesh Limited, and Al-Arafah Islami Bank Ltd., according to their profitability ratios. On the other hand, Bank Asia Ltd., AB Bank Limited, Dhaka Bank Ltd., Dutch-Bangla Bank Ltd., and BRAC Bank Ltd. are representative of the top 5 banks in the category of the market-based and economic-based performance ratios.

Appendix-6 displays the banks in ranges between 1 and 10 depending on all ratio forms. Bank Asia Ltd. was ranked first due to the lowest Coefficient of Variation (CV) of – 2880.99%. AB Bank Limited's next lowest percentage of Coefficient of Variation (CV) -256.96%. Moreover, it won second place. The other banks were listed in this way. The study findings show that Bank Asia Ltd., AB Bank Limited, Dhaka Bank Ltd., Dutch-Bangla Bank Ltd., and Export-Import (Exim), respectively, have been among the top five.

All rankings, including the final rankings, were based on the Coefficient of Variation (CV percent) ratios and not on bases of the individual's ratio performance results. The lower Variable Coefficient (CV%) of the Bank suggests that all ratios are stable and do not fluctuate much in financial results. If we had used the ratios to rate the banks, it would be inaccurate.

Chapter-5

Conclusion:

This paper analyzed Bangladeshi public-traded banks' financial results through an overview of the financial ratios between 2016 and 2019. Several ratios generally measure the financial performance of a corporation. The profitability ratio, financial indicators ratio, and business ratios demonstrate the company's capacity and the exact market place, respectively, to generate profit. Value-added metrics, on the other side, measure the assessment of economic output. Financial ratios function for investors and stakeholders as valuable quantitative financial information so that businesses can be measured over time. The profitability ratio, market ratio, and value-added metrics were used to calculate output in this context. The above study led the investigator to conclude that Bank Asia Ltd.'s financial performance is excellent compared with other banks with all kinds of ratios. The study results showed that most of the banks' market output is inadequate because they have been undervalued on the market and have added hostile market prices that make them much struggled over this time.

5.1 Limitations of the Study:

Due to the pandemic situation, interviews by workers from banks were not feasible, and thus the internal output of the Bank could not be measured.

The data of 10 banks for four years were included in the study. Improve the validity of the study by increasing the sample size.

Because only secondary information sources are used, the accuracy of the information depends entirely on the secondary data's accuracy.

Some data was missing like Al-Arafah Islami Bank Ltd did not publish the 2019 annual report, so the calculation for that Bank was based on three years data only, and in calculating Economic

Value Added, Eastern Bank Ltd and Export-Import (Exim) Bank of Bangladesh Limited did not have sufficient data in the annual report. Also, for Market Value Added calculation, Export-Import (Exim) Bank of Bangladesh Limited and First Security Islami Bank Limited did not publish enough data in their annual report.

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Appendix

Appendix – 1: Profitability Ratio

Name of the Banks	Year	Return on Assets (ROA)	Return on Investment (ROI)	Return on Equity (ROE)
AB Bank Limited	2019	1.87%	0.51%	0.51%
	2018	1.07%	0.18%	0.18%
	2017	1.59%	0.17%	0.17%
	2016	1.71%	6.20%	6.20%
Al-Arafah Islami Bank Ltd	2018	1.92%	10.68%	10.46%
	2017	2.35%	14.45%	14.07%
	2016	2.75%	15.70%	15.70%
Bank Asia Ltd	2019	2.84%	8.20%	7.96%
	2018	2.73%	10.12%	9.63%
	2017	2.54%	10.61%	10.09%
	2016	2.43%	8.72%	8.72%
BRAC Bank Ltd	2019	2.32%	10.37%	9.82%
	2018	2.77%	16.17%	13.60%
	2017	3.21%	21.08%	19.34%
	2016	3.21%	17.17%	17.17%
Dhaka Bank Ltd	2019	2.20%	9.24%	9.07%
	2018	2.63%	8.52%	8.17%
	2017	2.52%	10.47%	10.16%
	2016	2.74%	10.41%	10.41%
Dutch-Bangla Bank Ltd	2019	3.06%	17.18%	15.82%
	2018	2.64%	19.74%	18.20%
	2017	1.97%	13.22%	12.60%
	2016	2.09%	10.04%	10.04%
Eastern Bank Ltd	2019	2.69%	16.18%	15.37%
	2018	2.72%	13.75%	13.31%
	2017	3.01%	11.37%	11.10%
	2016	3.07%	13.04%	13.04%
Export-Import (Exim) Bank of Bangladesh Limited	2019	1.72%	8.30%	8.16%
	2018	1.96%	8.35%	8.27%
	2017	1.91%	12.19%	11.93%
	2016	2.43%	11.48%	11.48%
First Security Islami Bank Limited	2019	1.47%	14.46%	13.50%
	2018	1.52%	12.69%	11.93%
	2017	1.51%	12.34%	11.81%
	2016	1.24%	13.11%	13.11%
The City Bank Ltd	2019	2.52%	10.66%	10.74%
	2018	2.31%	8.71%	8.93%
	2017	2.55%	15.03%	13.21%
	2016	3.03%	20.16%	20.16%

Appendix – 2: Market Ratio and Value-Added Metrics

Name of the Banks	Year	EPS (in BDT)	EVA (BDT in million)	MVA (BDT in million)	Tobin's Q	Undervalued/ Overvalued (Based on Tobin's Q)
AB Bank Limited	2019	0.16	-36.00	-16850.00	0.02	Undervalued
	2018	0.06	-2312.00	-13550.00	0.03	Undervalued
	2017	0.05	86.00	-6020.00	0.05	Undervalued
	2016	2.00	38.00	-8090.00	0.05	Undervalued
Al-Arafah Islami Bank Ltd	2018	2.35	2859.94	824.74	0.06	Undervalued
	2017	3.00	2535.78	6234.66	0.08	Undervalued
	2016	3.15	2908.66	-2407.75	0.06	Undervalued
Bank Asia Ltd	2019	1.68	-44.17	1831.84	0.06	Undervalued
	2018	1.92	-1376.13	267.00	0.07	Undervalued
	2017	2.14	-1271.32	3412.24	0.08	Undervalued
	2016	1.67	-265.77	-3615.00	0.07	Undervalued
BRAC Bank Ltd	2019	4.01	5238.00	58092.00	0.17	Undervalued
	2018	4.50	4688.00	67246.00	0.22	Undervalued
	2017	6.07	4257.00	83811.00	0.29	Undervalued
	2016	4.55	3187.00	38506.00	0.17	Undervalued
Dhaka Bank Ltd	2019	1.90	1523.06	1706.42	0.04	Undervalued
	2018	1.65	2664.00	3412.85	0.04	Undervalued
	2017	2.23	1874.00	8667.55	0.07	Undervalued
	2016	2.15	2439.33	5434.42	0.06	Undervalued
Dutch-Bangla Bank Ltd	2019	8.70	2065.00	8207.00	0.09	Undervalued
	2018	21.00	3054.00	5794.00	0.08	Undervalued
	2017	12.30	938.00	11138.00	0.10	Undervalued
	2016	8.90	817.00	5667.00	0.09	Undervalued
Eastern Bank Ltd	2019	4.94	0.00	18834.00	0.08	Undervalued
	2018	4.17	0.00	19188.00	0.09	Undervalued
	2017	3.26	362.00	30332.00	0.15	Undervalued
	2016	3.78	308.44	13354.00	0.10	Undervalued
Export Import (Exim) Bank of Bangladesh Limited	2019	1.69	0.00	0.00	0.03	Undervalued
	2018	1.65	0.00	0.00	0.05	Undervalued
	2017	2.34	0.00	0.00	0.07	Undervalued
	2016	2.15	0.00	0.00	0.06	Undervalued
First Security Islami Bank Limited	2019	2.38	1051.40	0.00	0.02	Undervalued
	2018	1.84	13377.00	0.00	0.02	Undervalued
	2017	1.89	1272.14	0.00	0.02	Undervalued
	2016	1.97	797.84	0.00	0.02	Undervalued
The City Bank Ltd	2019	2.59	518.00	11282.00	0.06	Undervalued
	2018	2.19	141.00	19553.00	0.09	Undervalued
	2017	3.90	1518.00	39826.00	0.18	Undervalued
	2016	4.57	2464.00	15064.00	0.09	Undervalued

**EPS = Earnings Per Share, EVA = Economic Value Added and MVA = Market Value Added

Appendix – 3: Descriptive Statistics of Variables

Ratios	N	Minimum	Maximum	Mean	Std. Deviation
Return on Assets (in %)	39	0.0107	0.0321	0.0233	0.0057
Return on Investment (in %)	39	0.0017	0.2108	0.1156	0.0482
Return on Equity (in %)	39	0.0017	0.2016	0.1113	0.0451
Earnings Per Share (in BDT)	39	0.05	21.00	3.6269	3.7445
Economic Value Added (BDT in million)	39	-2312.00	13377.00	1478.9026	2562.9629
Market Value Added (BDT in million)	39	-16850.00	83811.00	10952.6401	21081.3952
Tobin's Q	39	0.0163	0.2901	0.0813	0.0575

Appendix – 4: Banks Financial Performance (Based on Profitability Ratio)

Name	Mean Score	Standard Deviation	Coefficient of Variation	Ranking
AB Bank Limited	0.0170	0.0220	129.43%	10
Al-Arafah Islami Bank Ltd	0.0979	0.0589	60.23%	5
Bank Asia Ltd	0.0705	0.0336	47.62%	1
BRAC Bank Ltd	0.1135	0.0704	62.03%	6
Dhaka Bank Ltd	0.0721	0.0354	49.11%	2
Dutch-Bangla Bank Ltd	0.1055	0.0668	63.30%	8
Eastern Bank Ltd	0.0989	0.0537	54.27%	3
Export-Import (Exim) Bank of Bangladesh Limited	0.0735	0.0423	57.53%	4
First Security Islami Bank Limited	0.0906	0.0567	62.65%	7
The City Bank Ltd	0.0983	0.0650	66.10%	9

Appendix – 5: Banks Financial Performance (Based on Market Ratio and Value-Added Metrics)

Name	Mean Score	Standard Deviation	Coefficient of Variation	Ranking
AB Bank Limited	-2920.7237	5404.1894	-185.03%	2
Al-Arafah Islami Bank Ltd	1080.3937	2224.0667	205.86%	9
Bank Asia Ltd	-65.8516	1452.6238	-2205.90%	1
BRAC Bank Ltd	16565.3111	28391.1269	171.39%	5
Dhaka Bank Ltd	1733.1102	2450.0174	141.37%	3
Dutch-Bangla Bank Ltd	2358.2038	3495.2962	148.22%	4
Eastern Bank Ltd	5149.6879	9651.1696	187.41%	7
Export-Import (Exim) Bank of Bangladesh Limited	0.5029	0.8810	175.19%	6
First Security Islami Bank Limited	1031.6591	3319.3910	321.75%	10
The City Bank Ltd	5648.7293	11017.4749	195.04%	8

Appendix – 6: Banks Financial Performance (Considering All Types of Ratio)

Name	Mean Score	Standard Deviation	Coefficient of Variation	Ranking
AB Bank Limited	-1668.9777	4288.5522	-256.96%	2
Al-Arafah Islami Bank Ltd	617.4098	1738.0034	281.50%	9
Bank Asia Ltd	-37.5993	1083.2314	-2880.99%	1
BRAC Bank Ltd	9465.9407	22748.6108	240.32%	6
Dhaka Bank Ltd	990.3796	2024.2389	204.39%	3
Dutch-Bangla Bank Ltd	1347.5903	2863.4766	212.49%	4
Eastern Bank Ltd	2942.7211	7647.3565	259.87%	7
Export-Import (Exim) Bank of Bangladesh Limited	0.3189	0.6919	217.00%	5
First Security Islami Bank Limited	589.5583	2528.1545	428.82%	10
The City Bank Ltd	3227.8875	8691.3375	269.26%	8

Appendix -7:

No	Selected Banks	Years	Market Capitalization	Weight
1	AB Bank Limited	2019	5,989,229,489	1.13%
		2018	9,097,563,780	1.72%
		2017	16,754,679,962	3.17%
		2016	16,906,306,025	3.20%
2	Al-Arafah Islami Bank Ltd	2018	20,776,032,825	3.93%
		2017	23,962,784,915	4.54%
		2016	15,809,472,205	2.99%
3	Bank Asia Ltd	2019	21,219,504,852	4.02%
		2018	20,636,551,422	3.91%
		2017	22,799,956,387	4.32%
		2016	17,667,498,672	3.34%
4	BRAC Bank Ltd	2019	70,425,731,172	13.33%
		2018	77,970,770,720	14.76%
		2017	92,704,730,830	17.55%
		2016	45,539,005,931	8.62%
5	Dhaka Bank Ltd	2019	10,238,400,000	1.94%
		2018	11,538,636,000	2.18%
		2017	15,890,600,000	3.01%
		2016	12,313,410,000	2.33%
6	Dutch-Bangla Bank Ltd	2019	35,650,000,000	6.75%
		2018	28,880,000,000	5.47%
		2017	30,620,000,000	5.80%
		2016	23,340,000,000	4.42%
7	Eastern Bank Ltd	2019	26,951,744,960	5.10%
		2018	26,567,985,204	5.03%

		2017	37,711,778,998	7.14%
		2016	20,382,845,808	3.86%
8	Export-Import (Exim) Bank of Bangladesh Limited	2019	13,953,040,552	2.64%
		2018	18,571,101,544	3.52%
		2017	23,160,917,515	4.38%
		2016	18,867,674,268	3.57%
9	First Security Islami Bank Limited	2019	7,607,331,797	1.44%
		2018	7,771,208,559	1.47%
		2017	8,247,299,424	1.56%
		2016	6,985,612,304	1.32%
10	The City Bank Ltd	2019	21,446,040,000	4.06%
		2018	29,233,600,000	5.53%
		2017	49,045,080,000	9.28%
		2016	23,821,760,000	4.51%

Appendix -8:

<i>Return on Assets (ROA)</i>		<i>Return on Investment (ROI)</i>		<i>Return on Equity (ROE)</i>	
Mean	0.023281596	Mean	0.115631952	Mean	0.111321465
Standard Error	0.000909421	Standard Error	0.007711903	Standard Error	0.007223708
Median	0.024277286	Median	0.113714951	Median	0.111000517
Mode	0.024277286	Mode	#N/A	Mode	#N/A
Standard Deviation	0.005679334	Standard Deviation	0.048160816	Standard Deviation	0.045112043
Sample Variance	3.22548E-05	Sample Variance	0.002319464	Sample Variance	0.002035096
Kurtosis	- 0.710029823	Kurtosis	0.851607967	Kurtosis	1.139662745
Skewness	- 0.418423531	Skewness	-0.46804497	Skewness	- 0.564962947
Range	0.021394421	Range	0.20909991	Range	0.199943779
Minimum	0.010710315	Minimum	0.001689549	Minimum	0.001701177
Maximum	0.032104735	Maximum	0.21078946	Maximum	0.201644956
Sum	0.907982255	Sum	4.509646141	Sum	4.341537122
Count	39	Count	39	Count	39

Confidence Level (95.0%)	0.001841027	Confidence Level (95.0%)	0.015611931	Confidence Level (95.0%)	0.014623633
<i>EPS (in BDT)</i>		<i>EVA (BDT in million)</i>		<i>MVA (BDT in million)</i>	
Mean	3.626923077	Mean	1478.902576	Mean	10952.64013
Standard Error	0.599599749	Standard Error	410.4025187	Standard Error	3375.724898
Median	2.34	Median	817	Median	3412.847277
Mode	1.65	Mode	0	Mode	0
Standard Deviation	3.744499231	Standard Deviation	2562.962908	Standard Deviation	21081.39523
Sample Variance	14.02127449	Sample Variance	6568778.868	Sample Variance	444425225
Kurtosis	12.24581358	Kurtosis	11.62501812	Kurtosis	3.925156032
Skewness	3.153625791	Skewness	2.748616053	Skewness	1.938285804
Range	20.95	Range	15689	Range	100661
Minimum	0.05	Minimum	-2312	Minimum	-16850
Maximum	21	Maximum	13377	Maximum	83811
Sum	141.45	Sum	57677.20045	Sum	427152.965
Count	39	Count	39	Count	39
Confidence Level (95.0%)	1.21	Confidence Level (95.0%)	830.8164638	Confidence Level (95.0%)	6833.797783
<i>Tobin's Q</i>					
Mean	0.08131421				
Standard Error	0.009206389				
Median	0.068841589				
Mode	#N/A				
Standard Deviation	0.057493884				
Sample Variance	0.003305547				
Kurtosis	3.982064993				
Skewness	1.821185046				
Range	0.273838333				
Minimum	0.016271722				
Maximum	0.290110055				
Sum	3.171254177				
Count	39				
Confidence Level (95.0%)	0.018637361				