

Profitability measurement of selected Islamic Shariah-based private commercial banks in Bangladesh: A comparative Study

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World Journal of Advanced Research and Reviews, 2024, 22(01), 264–276

Publication history: Received on 19 February 2024; revised on 30 March 2024; accepted on 01 April 2024

Article DOI: <https://doi.org/10.30574/wjarr.2024.22.1.0999>

Abstract

The purpose of this study is to analyze the profitability of five selected five Islami banks with a Shariah foundation and to determine whether these banks are more or less profitable. This study makes use of secondary data that was gathered from selected banks' annual reports between 2013 and 2022. This study employed a parametric approach; comparisons were assessed using descriptive analysis; the ANOVA test was used to assess reliability; and multiple regressions was utilized to assess impact. SPSS version 2014 is utilized for multiple regression analysis, and Excel 10 is used for ANOVA tests. The results indicate that the profitability of the selected banks is fairly high, with every bank under examination achieving favorable outcomes. The percentage of deposits with assets and the distribution of assets among the sample banks are not moderate. The inadequate asset allocation of FSIBPLC is indicated by its low return on assets. Furthermore, the bank has a deficiency in the area of net profit margin (NPM). Additionally, SIBL's debt collection and repayment are inadequate. Investors will be deterred from investing by the significant variations in return on equity found in almost every bank during the research period. Reducing overhead costs and enhancing the appropriate distribution of loans and advances will boost operating income and net profit efficiency. Above all, FSIBPLC and AIBPLC have fared well across the board. To optimize their profitability, the three remaining banks—IBBPLC, SIBL, and UBBPLC—had to step up their efforts.

Keywords: Profitability; Parametric Approach; Reliability; Positive; Return on Asset; Deficiency; Net Profit Margin; Return on Equity; Step up

1. Introduction

Islami Shariah Based Banks in Bangladesh uphold the fundamentals of Islamic Shariah, which is founded on the "Quran" and the "Sunnah," in an effort to maximize societal welfare. The following is the definition of an Islamic bank as accepted by the OIC General Secretariat. "An Islamic Bank is a Financial Institution that clearly declares in its statutes, rules, and procedures that it adheres to the principles of Shariah and that it is prohibited from receiving or paying interest on any of its operations." However, the popularity of Islamic banking has grown so quickly that there are now more than 300 Islamic financial institutions globally, holding more than \$400 billion in investment capital (El-Qorchi, 2005). Expanding the application of Islamic laws and principles to banking, finance, and related business affairs is the aim of Islamic banking in the modern world. By doing this, Islamic banks can protect Islamic organizations and communities from acts that are forbidden by Islam. Everyone involved in the economy is impacted by the health of the banks, including investors, staff members, managers, government regulators, and individual bank deposit and loan service users. The process of accurately creating a relationship between the balance sheet and the profit and loss account items in order to ascertain the firm's financial strengths and weaknesses is known as financial analysis. Financial studies go into considerable detail into procedures, correlations, qualities, dividends, and ultimately a company's strengths and

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shortcomings as well as the quality of its financial standing. In order to assess the profitability of these five Islamic Shariah-based private commercial banks in Bangladesh, this study looks at their bilateral capabilities. The five Islamic banks that are based on Shariah are the first Islamic bank in South East Asia, Islami Bank Bangladesh Public Limited Company (IBBPLC) was founded on March 13, 1983, and it currently has \$20 million in capital. Based on the Qur'an, Al-Arafah Islami Bank Public Limited Company (AIBPLC) was founded in 1995 and currently has fifteen thousand million dollars in capital. Established on October 25, 1999, First Security Islami Bank Public Limited Company (FSIBPLC) now has a capital authorization of thirty thousand million taka. On January 1, 2009, it was transformed into an Islami bank with full capabilities. Founded on November 22, Social Islami Bank Limited (SIBL) is a fully operational bank adhering to shariah law. As of right now, it has capital of Rs. 3000 crore. On March 7, 2013, Union Bank Public Limited Company (UBPLC), a banking organization with a 1000 crore taka authorized capital, was incorporated in Bangladesh. The Chittagong Stock Exchange Ltd. and the Dhaka Stock Exchange Ltd. list each of the selected private commercial banks. In addition, studies and debates are carried out on the fiscal year 2013–2022 performance throughout a ten-year period in order to assess and contrast the sample banks' profitability.

1.1. Statements of the Problem

Generally speaking, bank performance affects not only the performance of individual bank deposit and loan clients but also the overall health of the economy. The primary question at hand is whether or not the Shariah-based Islamic Private Commercial Banks were making a profit and following the plan. Numerous factors, such as a sharp increase in past-due loans in different years, irregular payments, irregularities in management, staff inefficiencies, trade union pressure, a decline in the quality of customer service or salary, job security, weak communication systems, etc., have contributed to poor profit performance. The mobility study of a commercial bank frequently examines the bank's capacity to utilize its resources, which include its income, costs, and shareholder equity and liabilities. The productivity study of banks is important for regulators, investors, bank managers, and depositors. Therefore, the aim of this study is to ascertain which of the five Islamic Shariah-based private commercial banks has the highest profitability. It also aims to compare the profitability performance of the selected banks throughout the study period and ascertain the correlation between certain profitability-related variables and profitability. Since this research aims to address a current need, it is comparable. A study that combines all these challenges is expected to be very important from a researcher-focused as well as a practical perspective.

1.2. Rationale of the Study

Numerous studies have been conducted on a range of topics pertaining to the profitability measurement of Bangladeshi private commercial banks that are based on Islami Shariah. However, no such study has been conducted as of yet. The purpose of the research is to provide academics, policymakers, and other interested parties with an accurate understanding of the profitability assessment of the selected banks in Bangladesh.

1.3. Objectives of the Study

The primary goal of this study is to measure profitability of the selected Islamic Shariah based private commercial banks from 2013 to 2022. The following precise objectives are set in order to accomplish the aim:

- To find the profitability scenario of the sample banks during the years 2013-2022.
- To identify difference of the volume of independent variables that affecting profitability of sample banks on the volume of dependent variables.
- To assess the impact of selected factors on profitability of the sample banks during the study period.
- To compare the ability of earning profit of the sample banks during the study period.
- To recommend remedial measures to overcome the problems regarding profitability of the sample banks in Bangladesh.

1.4. Hypotheses of the Study

Based on the overall review and selected literature the following hypotheses are formulated:

H₁: There were no significant differences of the selected independent variables (total interest income to total asset, non-interest income to total asset, total equity to total asset, total loan and advances to total asset, total deposit to total asset, total net interest income to total asset, natural logarithm of total assets(size) and the dependent variables (return on assets, return on equity and net profit margin) in regard to five selected Islamic Shariah based banks during the study period 2013 to 2022.

H₂: There were no positive impact of the selected independent variables (total interest income to total asset, non-interest income to total asset, total equity to total asset, total loan and advances to total asset, total deposit to total asset, total net interest income to total asset, natural logarithm of total assets (size) on the dependent variable return on assets, return on equity and net profit margin of the selected Islamic Shariah based banks during the study period 2013 to 2022.

2. Review of related literature

Ahsan (2016) in his paper "Measuring Financial Performance Based on CAMEL: A Study on Selected Islamic Banks in Bangladesh." observed that Islamic banks are becoming more prevalent in our nation. Thus, the researcher made an effort to learn about Bangladesh's Islamic banks' performance. To evaluate financial performance, he looked at equity to asset, investment loss reserve, cost to income, net profit to total asset, net profit to total equity liquidity, and net loan to total asset as variables. The research demonstrated that the financial performance of the three Islamic banks—IBBL, EXIM Bank, and SJIBL—under the CAMEL grade is "strong" in every way.

Ajlouni and Omari (2013) in his paper "Performance Efficiency of The Jordanian Islamic Banks Using Data Envelopment Analysis And Financial Ratios Analysis," revealed that by modifying certain inputs, Jordanian Islamic banks can increase their efficiency. Return on Asset (ROA), Return on Equity (ROE), Profit Expense Ratio (PER), Cash Deposit Ratio (CDR), Loan Deposit Ratio (LDR), Current Ratio (CR), Current Asset Ratio (CAR), Debt Equity Ratio (DER), Debt to Total Asset Ratio (DTAR), Equity Multiplier (EM), and Loan to Deposit Ratio (LDR) are the eleven financial ratios that the researcher used to assess the performance of the bank. Lastly, the study discovered that the Islamic banking sector in Jordan has experienced exceptionally robust expansion, which has increased the efficiency of product innovation in order to handle a rise in the number of customers.

Akber & Dey (2020) mentioned how Islamic banks perform financially in comparison to traditional banks. Globally, Islamic banking has gained popularity and is a rapidly expanding industry. With more than 400 billion dollars in investments, there are more than 300 Islamic financial institutions globally. They measured and assessed the Islamic and traditional private commercial banks' financial performance using secondary sources in order to determine how well they were running their businesses. To determine the study's conclusion, they evaluated the following variables: net profit to total asset, net profit to total equity, net loss reserve ratios, total operating expenses to total operational income, and net loan to total assets. The conclusion drawn from this research is that, except from managerial caliber, there is no discernible difference in the performance of Bangladesh's Islamic banks and traditional private commercial banks.

Al-Qudah & Jaradat (2013) in their article, "The Impact of Macroeconomic Variables and Banks Characteristics on Jordanian Islamic Banks Profitability: Empirical Evidence," employed the generalized least square method and the fixed effects model in panel data analysis. To evaluate the study, they used the following variables: return on assets (ROA), return on equity (ROE), total equity to total assets (TETA), total loans to total deposits (TLTD), total deposits to total assets (TDTA), log total assets (LTA), log Amman stock exchange index (LSMI), log constructions licensed square meters (LCLSM), and growth in money supply M2 Level (GM2). They also suggested that the Islamic banks in Jordan should expand their size and capital adequacy in order to boost their profitability and improve their ability to interact with the economy.

Banik & Das (2013) conducted a study titled "Comparison of Financial Performance of State Owned Commercial Banks: A Case Study of Bangladesh," in order to compare the financial performance of four state-owned commercial banks in Bangladesh based on their financial characteristics and determine the performance determinants exposed by the financial ratios. In addition to applying an econometric multivariate regression model to test the significance of variables on the performance of State-owned commercial banks in Bangladesh, this study uses a descriptive financial analysis to characterize, measure, and compare the financial situations of State-owned commercial banks. In this study, the loan to asset ratio (LAR), percentage of classified loans, capital adequacy ratio (CAR), non-performing loan ratio (NPL), and credit to deposit ratio (CDR) are the independent factors, while the profitability ratios (ROA and ROE) are considered the dependent variables. They discovered that the state-owned banks' financial health continued to deteriorate as a result of high overhead costs, political interference, poor management, and low-quality collateral.

Fatihudin, Jusni, and Mochklas (2018), in their paper titled "How measuring financial performance," found that governments in both rich and developing nations are looking to small and medium-sized businesses as a real way to solve problems and promote economic growth. Liquidity, profitability, solvency, efficiency, and leverage ratios were among the variables they used. ROI (Return on Investment), ROE (Return on Equity), ROA (Return on Assets), and EBIT (Earnings before interest and tax) profit are a few examples of profitability ratios. Ultimately, they come to the

conclusion that a benchmark for financial performance can be created using the ratios of liquidity, solvency, profitability, efficiency, and leverage.

Hassan (2021) in his paper titled "Comparative Analysis on Financial Performance of Selected Commercial Banks: A Study on Bangladesh Banking Sector," evaluated the financial performance. By evaluating ROA, he was able to determine that the profitability trend of second generation banks is somewhat better than that of other two generation banks using descriptive financial analysis. The research used ROE, NIM, and Capital Adequacy Ratio as variables. Finally, he discovered that the banks had maintained a solid average capital adequacy ratio in addition to the needed amount of average loan to deposit ratio as per Bangladesh Bank policy.

Haule (2017) showed in his paper "Comparative Analysis of Financial Performance of Domestic and Foreign Banks in Tanzania," that having foreign banks in a local financial sector can have both advantages and disadvantages, particularly for developing nations. In his study, the profitability of local and foreign banks was analyzed and compared using return on equity (ROE), return on asset (ROA), and net interest margin (NIM) as the variables..

Hossain (2017) in his essay "Analysis of Financial Performance of Islamic Banking in Bangladesh: A Study on Islami Bank Bangladesh Limited (IBBL)," made the claim that decision-makers, be they savers, borrowers, investors, or policymakers, can all benefit greatly from knowing how well a bank is performing. His analysis focused on Islami Bank Bangladesh Limited's (IBBL) financial performance, utilizing the productivity, current, profitability, and solvency ratios as variables. Using the descriptive analytic method, the researcher compared the financial performance of Islamic banks with conventional banks in Bangladesh. In his analysis, he discovered that IBBL's financial performance is in a stronger position.

Doğan (2013) in his work titled "Comparison of Financial Performances of Domestic and Foreign Banks: The Case of Turkey," asserted that the financial industry has become more mobile due to advancements in the global economy and in Turkey. The contrasts between local and international banks have been presented in this study with regard to profitability, capital adequacy, asset quality, riskiness, size, liquidity, and managerial effectiveness. They discovered that, when it comes to "Return on Assets," foreign banks do better than local banks, and that, when it comes to "Return on Equities," domestic banks outperform international banks.

Poongavanam, Sait, Srinivasan, and Rengamani (2017) noted that the acronym CAMELS, which stands for capital, asset quality, management, earnings, and liquidity, helped the system become well-known worldwide. The researcher employed both primary and secondary data to achieve the study's goal. In this study, financial leverage (gearing) ratios, liquidity ratios, deposit ratios, and profitability ratios were used as variables. After interpreting the ratios, they concluded that Amana Banks' overall performance is extremely low and that it has to be free from political influence in order to improve.

Qamruzzaman (2014) in his article "Analysis of Performance and Financial soundness of financial institution (Banks): A Comparative Study," explained that financial analysis is the process of determining the firm's strengths and weaknesses in terms of finances by correctly establishing relationships between the items in the profit and loss account and the balance sheet. The accounts receivable turnover ratio, inventory turnover ratio, asset turnover ratio, collection period ratio, debt ratio, interest coverage ratio, equity ratio, economic value added (EVA), return on assets ratio, return on equity ratio, and operational profit to sale are the variables in this paper, which employs a quantitative approach. He discovered that while the banking industry's profitability and liquidity position improved in the early years between 2008 and 2010, things eventually got worse and persisted until 2012.

Sobol, Dopierała, and Wyśiński (2023) revealed that bank profitability is one of the key indicators for predicting bank failures using metrics like the Z-Score and the CAMELS rating system. The study examined whether Islamic and conventional banks' profitability was driven by the same factors. In order to achieve the study's goal, the researchers attempted to use descriptive analysis to look at the factors that affect profitability. They employed a number of indicators to assess the study, including GDP, CPI, OP, NLTA, CI, ROAA, ROAE, LogTA, ETA, and several others. Based on their study's empirical results, which show that non-performing loans have a detrimental effect on profitability, conventional and Islamic banks should concentrate on strengthening their non-performing loan monitoring procedures.

Uddin, Ahsan, and Haque (2017) conducted an analysis and comparison of the financial performance of Islamic and Conventional banks in Bangladesh from 2010 to 2014. They did this by analyzing standard factors from the CAMEL tests, including capital adequacy, asset quality, management quality, earning ability, and liquidity position. To achieve the desired outcome, they used the following variables: net profit to total asset, net profit to total equity, net loss reserve ratios, total operating expenses to total operational income, and net loan to total assets. The study's conclusions indicate

that, aside from management quality, there are no appreciable differences between conventional and Islamic banks based on CAMEL. The research also demonstrated that Islamic banks had superior capital adequacy and liquidity positions compared to conventional banks.

2.1. Concept of Profitability

Kuchhal, S. C. (1988) opined that 'The thought of net working capital is a standpoint on the administration of current assets over the long term that is flexible and controllable yet consistent in short-term analysis and decision-making.'

3. Research Methodology

3.1. The Sample of the Study

Islami Bank Bangladesh PLC (IBBPLC), Al-Arafah Islami Bank PLC (AIBPLC), First Security Islami Bank PLC (FSIBPLC), Social Islami Bank Limited (SIBL), and Union Bank PLC (UBPLC).

3.2. Variables

The study uses the natural logarithm of total assets (size) as an independent variable and return on assets, return on equity, and net profit margin as dependent variables. Total interest income to total asset, non-interest income to total asset, total equity to total asset, total loan and advances to total asset, total deposit to total asset, and total net interest income to total asset are all used as independent variables.

3.3. Periods of the study

The period of the study covers 10 years from 2013 to 2022

3.4. Source of Data

The study is based on secondary data that has been collected from the annual reports of the five Islamic Shariah based banks.

3.5. Data Analysis

Using SPSS version 14, descriptive statistics are done and using Excel Sheet -2010, ANOVA and Multiple Regression are done.

3.6. Limitations of the Study

Limitations of the study: The study is generally based on a limited number of years (from 2013 to 2022); only taken from secondary sources and the source of data is only published reports of sample five banks. Inflation is ignored.

4. Results and discussion

4.1. Descriptive Analysis (for Comparing and understanding)

In Table No 1 three dependent variables have been used in this study to estimate the profitability position. They are net profit margin, return on equity, and return on assets. In this case, NPM stands for net profit margin, ROA for return on asset, and ROE for return on equity. LTTASS stands for total loan and advances to total asset; DTTASS stands for total deposit to total asset; SPRTTAS stands for total net interest income to total asset; SIZE is the natural logarithm of total assets. TITTAS, NIITTAS, ETTASS, and LTTASS are the various ways that total income is related to total asset. The aforementioned table shows that the selected Islamic Shariah-based banks have a mean ROA of 0.81. Because these Bangladeshi Islamic Shariah-based banks had the largest total assets, their average return on assets (ROA) was found to be the highest (1.81%) and to be on the rise during the study period. The lowest average ROA was discovered for FSIBPLC (0.45%). The Return on Equity has a mean of 10.39. Among the Bangladeshi Islamic Shariah-based banks that were selected for the study, AIBPLC (12.69%) had the greatest average return on equity (ROE) and the strongest positive trend over the study period due to its comparatively high equity. The ROE average (6.47%) for UBL was the lowest. This suggests that the dividend payouts to stockholders are rather modest. Out of the five Shariah-based banks, AIBPLC's ROE was projected to be the highest. It appears AIBPLC was making good use of the money its stockholders had invested. 7.27 is the average for the Net Profit Margin. Because AIBPLC has an average net profit margin, it was found to have the highest average NIM (10.10%) among the selected Islamic Shariah-based banks in Bangladesh during

the study period, with a positive trend. The lowest average ROA was discovered for FSIBPLC (5.01%). Because its net profit margin rate (AIBPLC) is higher than that of the other four banks, it also enjoys a stronger profitability position. Besides IBBPLC has only 6.38 average in total income to total asset which is comparatively lower among the selected banks. In contrast, the average total income to total asset for AIBPLC is greater. When comparing the average of non-interest income to total assets, AIBPLC is higher and UBPLC is lower. Once more, UBPLC leads this industry in performance, while FSIBPLC has a lower average equity to total asset ratio. In terms of loan to total asset, AIBPLC has a greater average than UBPLC. The averages of the independent variables spread to total asset and deposit to total asset were determined to be lowest in SIBL and greatest in AIBPLC. Among the sample banks, FSIBPLC has the smallest size and IBBPLC has the largest, according to the final variable. By looking at AIBPLC's mean value, which was discovered to be tiny in SIZE. Ultimately, it can be seen from the dependent variables' above mean that, out of the five banks, AIBPLC had outstanding performance from 2013 to 2022. By looking at the aforementioned data, SIBL, FISBPLC, and IBBPLC secured positions second through fourth chronologically. Using the mean of the dependent variables, UBPLC is ranked last.

Table 1 Mean of the selected variables of the sample banks (From 2013 to 2022)

Name of banks	ROA	ROE	NPM	TITTAS	NIITTAS	ETTASS	LTTASS	DTTASS	SPRTTAS	SIZE
IBBL	0.51	8.87	6.58	6.38	1.23	5.60	61.86	81.70	2.58	13.81
AIBL	1.81	12.69	10.10	14.02	2.14	13.28	118.99	141.61	5.17	12.43
FSIB	0.45	12.24	5.01	8.88	0.42	3.70	79.55	86.18	2.29	12.75
SIBL	0.72	11.69	8.17	6.89	1.01	5.94	75.19	80.60	2.12	12.48
UBL	0.57	6.47	6.51	9.28	0.28	112.52	52.35	90.45	4.09	11.57
Mean	0.81	10.39	7.27	9.09	1.02	28.21	77.59	96.11	3.25	12.61
SD	0.57	2.65	1.94	3.02	0.74	47.27	25.53	25.73	1.33	0.80
CV	0.70	0.25	0.27	0.33	0.73	1.68	0.33	0.27	0.41	0.06
EGR	0.08	0.09	0.10	0.12	-0.61	0.27	0.10	0.10	0.15	0.09
Max	1.81	12.69	10.10	14.02	2.14	112.52	118.99	141.61	5.17	13.81
Min	0.45	6.47	5.01	6.38	0.28	3.70	52.35	80.60	2.12	11.57

N.B: Here, ROA=Return on Asset, ROE=Return on Equity, NPM=Net Profit Margin, TITTAS=Total interest income to total asset, NIITTAS= Non-interest Income to total asset, ETTASS= Total equity to total asset, LTTASS=total loan and advances to total asset, DTTASS=Total deposit to total asset, SPRTTAS= Total net interest income (Spread) to total asset, SIZE= Natural Logarithm of Total Assets

Source: Different annual reports of the selected Islamic Shariah based Banks and were compiled by the researcher.

Ultimately, it can be observed from the mean of the independent variables that AIBPLC maintains its top spot among the five banks. By looking at the aforementioned statistics, UBPLC, FISBPLC, and SIBL obtained positions second through fourth chronologically. In terms of the independent variables' mean, IBBPLC comes in last.

4.2. Testing of Hypothesis (H₁)

Table 2 ANOVA on the dependent variable: ROA

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	322926.64	49.00	6590.34	2.19	0.00	1.39
Columns	465881.34	7.00	66554.48	22.10	0.00	2.04
Error	1033145.70	343.00	3012.09			
Total	1821953.688	399				

Source: Different annual reports of the selected Islamic Shariah based Banks and were compiled by the researcher using SPSS version -14.

Table No 2 demonstrates that the calculated value of the F-value, 2.19, where the degree of freedom is (49,7), is less than the F-critical value, 1.39, which is the table value. Thus, the theory H0:1 is approved. Therefore, it can be concluded that there is no discernible difference between the five selected Shariah-based banks and the mean of the seven independent variables that were selected.

4.3. Testing of Hypothesis (H₁)

Table 3 ANOVA on the dependent variable: ROE

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	327796.40	49.00	6689.72	2.23	0.00	1.39
Columns	488479.46	7.00	69782.78	23.29	0.00	2.04
Error	1027623.61	343.00	2995.99			
Total	1843899.5	399				

Source: Different annual reports of the selected Islamic Shariah based Banks and were compiled by the researcher using SPSS version-14.

According to Table 3, the calculated value of the F-value, 2.23, where the degree of freedom is (49,7), is less than the F-critical value, 1.39, which is the table value. Thus, the theory H0:1 is approved. Therefore, it can be concluded that, when it comes to the five sample Shariah-based banks, there is no discernible difference in the mean of the selected 22 independent variables.

4.4. Testing of Hypothesis (H₁)

Table 4 ANOVA on the dependent variable: NPM

Source of Variation	SS	df	MS	F	P-value	F crit
Rows	323963.5	48	6749.24	2.21	0.00	1.40
Columns	472531.5	7	67504.49	22.13	0.00	2.04
Error	1025053	336	3050.75			
Total	1821548	391				

Source: Different annual reports of the selected Islamic Shariah-based Banks and were compiled by the researcher using SPSS version-14.

Table No. 4 demonstrates that the calculated value of the F-value, 2.21, where the degree of freedom is (48,7), is less than the F-critical value, 1.40, which is the table value. Thus, the theory H0:1 is approved. Therefore, it can be concluded that there is no discernible difference between the five sample Shariah-based banks and the mean of the seven independent variables that were selected.

4.5. Testing of Hypothesis (H₂): Multiple Regression

Table 5 Summary Output: Dependent variable ROA

Multiple R	R Square	Adjusted R Square	Standard Error	Observations
0.99	0.98	0.97	0.24	50

Source: Different annual reports of the selected Islamic Shariah based Banks and were compiled by the researcher using SPSS version-14.

In Table No. 5, R Square and Adjusted R Square have values of 0.98 and 0.97 in this instance, respectively. Thus, it is clear that the selected independent variables—total interest income to total asset, non-interest income to total asset, total equity to total asset, total loan and advance to total asset, total deposit to total asset, total net interest income to total asset, and natural logarithm of total assets—can account for 97% of the dependent variable, "Return on assets." The standard error in this case is only 0.24, suggesting that the independent factors adequately explain the dependent variable.

Table 6 ANOVA: Dependent variable ROA

	df	SS	MS	F	Significance
Regression	7	98.72	14.10	244.65	0.00
Residual	42	2.42	0.06		
Total	49	101.14			

Source: Different annual reports of the selected Islamic Shariah-based Banks and were compiled by the researcher using SPSS version-14.

In Table 6 it is found that the F-value (244.65) is higher than the significance value of 0.00, according to the ANOVA table. Thus, it can be said that internal factors and bank profitability are significantly correlated.

Table 7 Analysis of Regression Coefficients for ROA

	β Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	1.52	0.70	2.17	0.04	0.11	2.92	0.11	2.92
TITTAS	0.08	0.02	3.39	0.00	0.03	0.12	0.03	0.12
NIITTAS	0.54	0.08	6.98	0.00	0.38	0.70	0.38	0.70
ETTASS	0.00	0.00	1.72	0.09	0.00	0.00	0.00	0.00
LTTASS	0.00	0.00	0.41	0.68	0.00	0.00	0.00	0.00
DTTASS	0.00	0.00	-0.10	0.92	-0.01	0.01	-0.01	0.01
SPRTTAS	-0.05	0.02	-2.50	0.02	-0.10	-0.01	-0.10	-0.01
SIZE	-0.14	0.05	-2.69	0.01	-0.25	-0.04	-0.25	-0.04

a) Dependent variable: Return on Asset

b) Here, ROA=Return on Asset, ROE=Return on Equity, NPM=Net Profit Margin, TITTAS=Total interest income to total asset, NIITTAS= Non-interest Income to total asset, ETTASS= Total equity to total asset, LTTASS=total loan and advances to total asset, DTTASS=Total deposit to total asset, SPRTTAS= Total net interest income (Spread) to total asset, SIZE= Natural Logarithm of Total Assets

Source: Different annual reports of the selected Islamic Shariah based Banks and were compiled by the researcher using SPSS version-14.

In Table No. 7 it is found that the coefficient measurements of ROA for the sample Islamic Shariah-based banks. During the study period, TITTAS, NIITTAS, ETTASS, LTTASS, DTTASS, SPRTTAS, and SIZE are the predictors (constants), while ROA is the dependent variable. The degree to which one independent variable can influence the dependent variable while keeping another independent variable constant is indicated by the table's β value. The β coefficient of TITTAS is 0.08 units, demonstrating a positive correlation between the two variables. It shows that a one-unit increase in return on asset generates a 0.08-unit increment in TITTAS while the other independent variables stay constant. The β coefficient of NIITTAS is 0.54 units, meaning that a one-unit increase in return on equity results in a 0.54-unit increase in NIITTAS units, while the other independent variables stay the same. This suggests a positive correlation between the variables. The ETTASS β coefficient is 0.00 units, meaning that a one-unit increase in return on equity results in a 0.00 ETTASS unit increment while the other independent variables stay constant, suggesting no correlation between them. The β coefficient for LTTASS is 0.00 units, meaning that a one-unit increase in return on equity results in a 0.00-unit increase in LTTASS, with no correlation observed between the remaining independent variables. The β coefficient for DTTASS is 0.00 units, meaning that a one-unit increase in return on equity results in a 0.00-unit increase in DTTASS, with no correlation observed between the remaining independent variables. The SPRTTAS β coefficient, which is -0.05 units, indicates a negative correlation between the independent variables. It shows that a one-unit increase in return on equity results in a 0.05-unit decrease in SPRTTAS, while the other independent variables stay unchanged. The β coefficient SIZE is -0.14 units, showing a negative correlation between the independent variables. This means that a one-unit increase in return on equity results in a 0.14-unit decrease in size, while the other independent variables stay constant.

Table 8 Summary Output: Dependent variable ROE

Multiple R	R Square	Adjusted R Square	Standard Error	Observations
0.69	0.48	0.39	3.06	50

Source: Different annual reports of the selected Islamic Shariah-based Banks and were compiled by the researcher using SPSS version-14.

In Table No. 8 it is found that R Square and Adjusted R Square have values of 0.69 and 0.48 in this instance, respectively. Thus, it is clear that the selected independent variables (total interest income to total asset, non-interest income to total asset, total equity to total asset, total loan and advances to total asset, total deposit to total asset, total net interest income to total asset, and natural logarithm of total assets) can account for 48% of the dependent variable (return on equity). The fact that the standard error in this case is just 3.06 suggests that the independent factors adequately explain the dependent variable.

Table 9 ANOVA: Dependent variable ROE

	df	SS	MS	F	Significance
Regression	7	359.06	51.29	5.46	0.00
Residual	42	394.42	9.39		
Total	49	753.48			

Source: Different annual reports of the selected Islamic Shariah-based Banks and were compiled by the researcher using SPSS version-14.

In Table No. 9 it is found that the F-value (5.46) is higher than the significance value (0.00), according to the ANOVA table. Thus, it might be concluded that internal factors and bank profitability are significantly correlated.

Table 10 Analysis of Regression Coefficients for ROE

	β Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	4.09	8.91	0.46	0.65	-13.89	22.07	-13.89	22.07
TITTAS	0.78	0.29	2.67	0.01	0.19	1.36	0.19	1.36
NIITTAS	1.00	0.99	1.02	0.32	-0.99	3.00	-0.99	3.00
ETTASS	-0.02	0.00	-4.36	0.00	-0.03	-0.01	-0.03	-0.01
LTTASS	0.04	0.02	2.12	0.04	0.00	0.08	0.00	0.08
DTTASS	-0.12	0.04	-3.21	0.00	-0.20	-0.05	-0.20	-0.05
SPRTTAS	-0.06	0.28	-0.22	0.83	-0.62	0.50	-0.62	0.50
SIZE	0.63	0.68	0.93	0.36	-0.74	2.00	-0.74	2.00

a) Dependent variable: Return on Equity
 b) Here, ROA=Return on Asset, ROE=Return on Equity, NPM=Net Profit Margin, TITTAS=Total interest income to total asset, NIITTAS= Non-interest Income to total asset, ETTASS= Total equity to total asset, LTTASS=total loan and advances to total asset, DTTASS=Total deposit to total asset, SPRTTAS= Total net interest income (Spread) to total asset, SIZE= Natural Logarithm of Total Assets

Source: Different annual reports of the selected Islamic Shariah-based Banks and were compiled by the researcher using SPSS version-14.

In Table No. 10 it is found that the coefficient measurements of ROE for the sample Islamic Shariah-based banks. During the study period, TITTAS, NIITTAS, ETTASS, LTTASS, DTTASS, SPRTTAS, and SIZE are the predictors (constants), and the dependent variable is ROE. The degree to which one independent variable can influence the dependent variable while keeping another independent variable constant is indicated by the table's β value. The β coefficient for NIITTAS is 1.00 units, meaning that a one-unit increase in return on equity results in a corresponding one-unit increase in NIITTAS units, with all other independent variables remaining constant. This suggests a positive correlation between the variables. The β coefficient of ETTASS is -0.02 units, meaning that when all independent variables stay constant, a one-unit increase in return on equity results in a 0.02 ETTASS unit decrease, demonstrating a negative correlation. The β coefficient for LTTASS is 0.04 units, meaning that a one-unit increase in return on equity results in a 0.04-unit increase

in LTTASS while the other independent variables stay the same. This suggests a positive correlation between the variables. The β coefficient for DTTASS, which is -0.12 units, shows that, while other independent variables are constant, a one-unit increase in return on equity results in a 0.12-unit decrease in DTTASS, demonstrating a negative association between them. The SPRTTAS β coefficient, which is -0.06 units, indicates a negative correlation between the independent variables. It shows that a one-unit increase in return on equity results in a 0.06-unit decrease in SPRTTAS, while the other independent variables stay unchanged. The β coefficient SIZE of 0.63 units indicates a positive correlation between the independent variables, meaning that a one-unit increase in return on equity produces an increment in SIZE of 0.63 units while the other independent variables stay constant. ETTASS, LTTASS, DTTASS, SPRTTAS, and SIZE are the predictors (constants), and the dependent variable is ROE. The degree to which one independent variable can influence the dependent variable while keeping another independent variable constant is indicated by the table's β value. The β coefficient for NIITTAS is 1.00 units, meaning that a one-unit increase in return on equity results in a corresponding one-unit increase in NIITTAS units, with all other independent variables remaining constant. This suggests a positive correlation between the variables. The β coefficient of ETTASS is -0.02 units, meaning that when all independent variables stay constant, a one-unit increase in return on equity results in a 0.02 ETTASS unit decrease, demonstrating a negative correlation. The β coefficient for LTTASS is 0.04 units, meaning that a one-unit increase in return on equity results in a 0.04-unit increase in LTTASS while the other independent variables stay the same. This suggests a positive correlation between the variables. The β coefficient for DTTASS, which is -0.12 units, shows that, while other independent variables are constant, a one-unit increase in return on equity results in a 0.12-unit decrease in DTTASS, demonstrating a negative association between them. The SPRTTAS β coefficient, which is -0.06 units, indicates a negative correlation between the independent variables. It shows that a one-unit increase in return on equity results in a 0.06-unit decrease in SPRTTAS, while the other independent variables stay unchanged. The β coefficient SIZE of 0.63 units indicates a positive correlation between the independent variables, meaning that a one-unit increase in return on equity produces an increment in SIZE of 0.63 units while the other independent variables stay constant.

Table 11 Summary Output: Dependent variable NPM

Multiple R	R Square	Adjusted R Square	Standard Error	Observations
0.70	0.49	0.41	2.16	50

Source: Different annual reports of the selected Islamic Shariah-based Banks and were compiled by the researcher using SPSS version-14.

In Table No. 11 it is found that R Square and Adjusted R Square have values of 0.70 and 0.49 in this case, respectively. Thus, it is clear that the selected independent variables (total interest income to total asset, non-interest income to total asset, total equity to total asset, total loan and advances to total asset, total deposit to total asset, total net interest income to total asset, and natural logarithm of total assets) can account for 49% of the dependent variable (net profit margin). The fact that the standard error in this case is just 2.16 suggests that the independent factors adequately explain the dependent variable.

Table 12 ANOVA: Dependent variable NPM

	df	SS	MS	F	Significance
Regression	7	191.59	27.37	5.85	0.00
Residual	42	196.45	4.68		
Total	49	388.03			

Source: Different annual reports of the selected Islamic Shariah-based Banks and were compiled by the researcher using SPSS version-14.

In Table No. 12 it is found that the F-value (5.85) is higher than the significance value (0.00) in the ANOVA table. Thus, it might be concluded that internal factors and bank profitability are significantly correlated.

Table 13 ANOVA: Dependent variable NPM (Analysis of Regression Coefficients for NPM)

	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	32.23	6.29	5.12	0.00	19.53	44.92	19.53	44.92
TITTAS	-0.11	0.21	-0.53	0.60	-0.52	0.31	-0.52	0.31
NIITTAS	3.89	0.70	5.58	0.00	2.48	5.30	2.48	5.30
ETTASS	0.00	0.00	0.24	0.81	-0.01	0.01	-0.01	0.01
LTTASS	0.01	0.01	0.90	0.38	-0.01	0.04	-0.01	0.04
DTTASS	-0.07	0.03	-2.48	0.02	-0.12	-0.01	-0.12	-0.01
SPRTTAS	0.18	0.20	0.92	0.36	-0.22	0.58	-0.22	0.58
SIZE	-1.82	0.48	-3.79	0.00	-2.79	-0.85	-2.79	-0.85

a) Dependent variable: Net Profit Margin.

b) Here, ROA=Return on Asset, ROE=Return on Equity, NPM=Net Profit Margin, TITTAS=Total interest income to total asset, NIITTAS= Non-interest Income to total asset, ETTASS= Total equity to total asset, LTTASS=total loan and advances to total asset, DTTASS=Total deposit to total asset, SPRTTAS= Total net interest income (Spread) to total asset, SIZE= Natural Logarithm of Total Assets.

Source: Different annual reports of the selected Islamic Shariah-based Banks and were compiled by the researcher using SPSS version-14.

In Table No. 13 it is found that the coefficient measurements of NPM for the sample Islamic Shariah-based banks. During the study period, TITTAS, NIITTAS, ETTASS, LTTASS, DTTASS, SPRTTAS, and SIZE are the predictors (constants), and the dependent variable is NPM. The degree to which one independent variable can influence the dependent variable while keeping another independent variable constant is indicated by the table's β value. The β coefficient of TITTAS is -0.11 units, suggesting a negative correlation between the independent variables. This means that a one-unit increase in net profit margin results in a decrease in TITTAS of 0.11 units, while the other independent variables stay constant. The β coefficient for NIITTAS is 3.89 units, meaning that a one-unit increase in net profit margin leads to a 3.89-unit increase in NIITTAS, with all independent variables staying constant. This suggests a positive correlation between the variables. With a β coefficient ETTASS of 0.00 units, it can be shown that a one-unit increase in net profit margin leads to a 0.00 ETTASS of units increment, while the other independent variables stay unchanged, suggesting no correlation between them. The β coefficient for LTTASS is 0.01 units, meaning that a one-unit increase in net profit margin leads to a 0.01-unit increase in LTTASS while the other independent variables stay unchanged. This suggests a positive correlation between the variables. The β coefficient of DTTASS is -0.07 units, suggesting a negative correlation between the independent variables. This means that a one-unit increase in net profit margin results in a 0.07-unit decrease in DTTASS, while the other independent variables stay the same. The SPRTTAS β coefficient is 0.18 units, suggesting a positive correlation between the two variables. Specifically, a one-unit increase in net profit margin leads to an increment of 0.18 units in SPRTTAS, while the other independent variables stay constant. The size of the β coefficient is -1.82 units, suggesting a negative correlation between the variables. Specifically, a one-unit increase in net profit margin results in a 1.82-unit decrease in size, while the other independent variables stay unchanged.

4.6. From Descriptive Analysis

The return on assets (ROA) of all the sample Islamic Shariah-based banks is over 80%, showing that the sample banks' asset allocation and cost-to-earnings ratio are both well-adapted. But FSIB's ROA falls short of expectations. While UBL has the lowest ability in terms of return on equity, a positive return on equity indicates that investors had more opportunities throughout the selected period. It appears AIBL was making good use of the money its stockholders had invested. All of the sample banks had a moderate earning capacity because the average NPM was positive. However, FISB's net profit margin had to rise. The lowest averages for SIBL's loan to total asset ratio, deposit to total asset ratio, and spread to total asset ratio show that the bank's working capital management policy was inconsistent and its loan allocation was inappropriate. Significant volatility in the coefficient of variation of ROE suggests that the independent variables fluctuated during the research period. The variable non-interest income to total asset is highly changeable.

4.7. From Testing of Hypothesis (H₁)

According to an ANOVA, there is no discernible variation in the means of the seven independent factors when it comes to the dependent variables ROA, ROE, and NPM among the five Islamic Shariah-based private commercial banks that were selected.

4.8. From Testing of Hypothesis (H₂)

When the dependent variable is ROA, analysis shows that the independent variables can explain around 100% of the dependent variables. The profitability of the bank is significantly correlated with the independent variables, according to the ANOVA. An examination of the coefficient measurements of ROA reveals a positive correlation with ETTASS and NIITAS and an inverse association with SPRTTAS and TITTAS of ROA. Once more, analysis shows that when the dependent variable is ROE, approximately 50% of the variation can be explained by the independent variables. The profitability of banks is significantly influenced by internal factors. The ROE coefficient measurements show that there is an inverse link between SPRTTAS and ETTASS and a positive relationship between ROE and asset size. Additionally, the study shows that when the dependent variable is NPM, the independent variables can account for almost 50% of the variation in the dependent variable. The profitability of the bank and a few selected independent variables are significantly correlated. The NPM coefficient measurements show that the ratio of deposit assets to net profit margin is inversely correlated. The loan-to-asset ratio has a positive link. The selected banks' net interest margins are all reasonable.

4.9. Problems

- The distribution of assets among income-producing funds is not prudent.
- The percentage of deposits compared to assets is not the same.
- The amount of deposit is insufficient compared to the loan and advances.
- The net interest margin appears to be lacking.

4.10. Remedial Measures

- It is necessary to boost the net profit earning efficiency.
- Reducing overhead costs and enhancing the appropriate distribution of loans and advances can boost operating profitability.
- Working capital management ought to be implemented in a way that prevents a growth in the amount of nonperforming loans.
- It is necessary to identify investments that generate revenue and expand the amount of such investments.
- The use of management expenses should be appropriate.

5. Conclusion

Islami Bank Bangladesh PLC, First Security Islami Bank PLC, Al-Arafah Islami Bank PLC, Social Islamic Bank Limited, and Union Bank PLC are the subjects of the study. It is possible to draw the conclusion that the sample banks' net interest margin during the study period was subpar and that deposits are insufficient relative to loans and advances based on the assessment of the sample variables. Working capital management ought to be done in a way that prevents growth in the number of non-performing loans. Expenses for management should be used wisely. In the end, it was found that, out of the five banks, AIBPLC fared exceptionally well from 2013 to 2022. By looking at the aforementioned data, SIBL, FISBPLC, and IBBPLC secured positions second through fourth chronologically.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

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