A Comparative Study between Islamic Banks and Conventional Banks to Measure the Effect of COVID – 19 in the Context of Bangladesh.

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Abstract—
Purpose – This paper aims to study the comparisons of performance between Islamic Banks and Conventional Banks before Covid-19 and during Covid-19. It tests the hypothesis if Islamic Banks are more affected during Covid-19.

Design/methodology/approach – The results were discovered via secondary data sources. 10 conventional banks and 10 Islamic banks are chosen as the sample. The stability or resilience of the banking industry was evaluated using six indicators: (1) Capital Adequacy Ratio (CAR), (2) Return on Asset (ROA), (3) CASA RATIO, (4) Non-Performing Asset (NPA), (5) Loan-to-Deposit Ratio (LDR), and (6) Cost to Income Ratio (CIR). Hypothesis testing is also done to confirm the findings from the six indicators.

Findings – All the six indicators indicated that the Islamic Banks are more affected than the Conventional Banks during Covid-19. The null hypothesis “Islamic Banks are more affected by Covid 19 than Conventional Banks” is accepted.

Research limitations—We were able to work with two years of data to measure Covid-19 effect.

Originality/value – Our paper is the first study that compared the performance of Islamic and Conventional Banks during Covid-19.

Paper type Research paper

Keywords— CAR, pandemic, liquidity, economic shock, CIR, non-performing loans, resilience

I. INTRODUCTION

Bangladesh's banking sector began to develop after the country gained independence in 1971. At the start of the journey, there were hardly any nationalized, state-owned, or foreign banks. The entry of private banks, however, led to a considerable development of the banking sector in the 1980s. There are currently 10,942 branches, of which ten fully operational Islamic banks have 1,679 branches. Also offering Islamic financial services in Bangladesh are the 434 Islamic banking windows of 13 conventional commercial banks and the 41 Islamic banking branches of 9 conventional commercial banks (Bangladesh Bank, 2022). Despite belonging to the same category as conventional and Islamic banks, their approaches to providing financial services are distinct. Money is treated as a commodity by conventional banks, which compensate themselves by lending it out at a profit. Islamic banks, in contrast, carry out banking operations in accordance with Islamic law and adhere to the profit-loss-sharing (PLS) model (“About IBBL: Concept & Ideology”, 2022). They employ various crisis management techniques because of the various banking arrangements. The study also seeks to compare sustainability to determine which bank has a more effective crisis management plan. As a crisis that has affected everyone’s lives, the Covid 19 pandemic period was chosen for the study. Additionally, six analysis tools were utilized to assess each bank's performance: the Capital Adequacy Ratio (CAR), Return on Asset (ROA), CASA RATIO, Non-Performing Asset (NPA), Loan-to-Deposit Ratio (LDR), and Cost to Income Ratio (CIR). A T-test was also utilized to assess the analysis and support the hypothesis in addition to these financial instruments. This comparison examines the profitability, effectiveness, cost of income, sustainability, and durability of banks. Through a combination of theoretical and empirical study, this paper seeks to understand how COVID 19 will affect the various banking systems. This has enabled further research on the impact of the crisis on Bangladesh's Islamic and Conventional Banking system by providing the theoretical foundation for the practice.
II. BACKGROUND OF THE STUDY

The globe had experienced a catastrophe by the end of 2019 that had never occurred. The World Health Organization (WHO) initially received reports of the most common virus, Covid 19, in Wuhan, China. On January 30, 2020, the WHO proclaimed the outbreak to be a public health emergency of international concern, and on March 11, 2020, it was classified as a pandemic. According to the World Health Organization, there were 5.90 billion cases and 6.43 million confirmed fatalities as of August 15, 2022, making it one of the deadliest in recorded history. Bangladesh is the second-most affected nation in South Asia, with the virus having been verified to have spread there in March 2020 (World Health Organization, "Coronavirus disease (COVID-19)", 2022). From 23 March to 30 May, the government announced a "lockdown" nationwide to safeguard the populace and planned the required measures to raise awareness of this syndrome. The lockdown causes significant financial losses for the Bangladeshi banking industry, as well as an increase in non-performing loans, individual investment, and declining operating profits. Because they had to carry out their regular duties during the crisis, bank workers were severely affected by their anxiety of COVID 19. Statistics from Bangladesh Bank show that 143 bankers passed away from covid-19 between June 2021 and 27,237 commercial bank employees were infected by the coronavirus (Paul, 2022). Additionally, from January to March 2021, the amount of NPLs increased by more than 7% to BDT 950.85 billion from Tk. 887.34 billion (Express, 2022). Further, Bangladesh Bank has anticipated that the performance of the banking sector in the upcoming quarters might get worse due to the worsening asset quality brought on by greater levels of non-performing loans and weak profitability circumstances.

We are unsure which banking system is more susceptible to collapse in a crisis, though. In order to assess the sustainability and profitability of various banking systems before and after COVID 19, we can better comprehend their relative strengths. Therefore, we are carrying out this analysis to compare growth and identify the financial system that outperformed even during a crisis. Statistics from Bangladesh Bank show that 143 bankers passed away from covid-19 between June 2021 and 27,237 commercial bank employees were infected by the coronavirus (Paul, 2022). Additionally, from January to March 2021, the amount of NPLs increased by more than 7% to BDT 950.85 billion from Tk. 887.34 billion (Express, 2022). Further, Bangladesh Bank has anticipated that the performance of the banking sector in the upcoming quarters might get worse due to the worsening asset quality brought on by greater levels of non-performing loans and weak profitability circumstances.

Which banking system is more prone to collapsing in a crisis is unclear, though. We can better understand their relative strengths by evaluating the viability and profitability of various banking systems prior to and during COVID 19. In order to evaluate growth and determine the financial system that fared best even during a crisis, we are doing this investigation. We are unsure which banking system is more susceptible to collapse in a crisis, though. In order to assess the sustainability and profitability of various banking systems before and after COVID 19, we can better comprehend their relative strengths. Therefore, we are carrying out this analysis to compare growth and identify the financial system that outperformed even during a crisis.

III. LITERATURE REVIEW

Since the blooming of the Islamic banking system, researchers have conducted several studies to compare the stability or resilience between Islamic banks and conventional banks. The purpose of the study was to find a better banking system. A study by Rahim & Zakaria (2013) concluded that Islamic banking has higher liquidity than conventional banking due to the limited sharia-based investment channels.

According to Hasan & Dridi (2010), Islamic banks focus on investment and profit-sharing financing so that there is shared risk. Also, the study elaborated that Islamic banking is less influential than conventional banking because it does not engage in speculative practices and excessive leverage.

Although numerous empirical studies have demonstrated that Islamic banking is superior to traditional banking, some academics have found otherwise. According to a study by Ahmmed, Mahbubur Rahman, Billah, and Hossain (2015), conventional commercial banks are superior in terms of performance regarding commitment to economy and community development, productivity, and efficiency. In contrast, Islamic banks' performance in business development, profitability, liquidity, and solvency is superior to that of conventional banks. However, this study mainly focuses on each banking system's weaknesses and strengths, which gives us little insight into how they will perform in a critical economic condition.

Actual durability can only be evaluated in times of crisis, as Hasan and Dridi (2011) discovered that Islamic banks were more resilient than conventional banks during the global financial crisis in 2008. However, when the crisis migrated to the real sector in 2009, their profitability plummeted compared to standard banks.

In addition, Sole (2017) noted in an IMF report that Islamic banks are better funded, have superior asset quality, and are less prone to disintermediate during times of crisis. In addition, the better stock performance of listed Islamic banks during the crisis is due to their higher capitalization and better asset quality.
Further, Kassim and Majid (2010) demonstrate the ambiguity of Islamic banking's sustainability. Combining the two big financial crises, the Asian financial crisis of 1997 and the global financial crisis of 2007, they discovered that Islamic and conventional banking systems were equally susceptible to shocks.

Moreover, Akkas, E. and Al Samman, H. (2022) found that Islamic financial institutions are less exposed to the repercussions of the COVID-19 outbreak than the conventional and Islamic window financial institutions in Bahrain, Oman, Qatar, Saudi Arabia, and UAE. Moreover, the Islamic financial institutions in Saudi Arabia and Oman have not been affected by the COVID-19 outbreak. However, this study included only GCC countries where most people follow Islamic culture and are not fond of conventional Banks.

In contrast, Bourkhis & Nabi (2013) found no significant difference between Islamic and conventional banks' soundness, which shows that Islamic banks deviate from their theoretical business model, thus enabling their health to be the same as conventional banks. Further, it shows that Islamic banks are not superior to their conventional counterparts because both were shaken. It is just that conventional banks experienced a bigger shock than their Islamic counterparts.

However, in our study, we are not focusing if Islamic banks were affected or not by the covid 19. Instead, we are focusing on which banking system is more affected by covid 19 to compare their resilience and strength in Bangladesh.

IV. METHODOLOGY

Despite numerous studies on the impact of the Corona Virus on banks and financial institutions, the majority of these studies concentrated on a single institution or the entire industry. Few research has compared how COVID 19 affected various banking systems. The study allows us to gauge the development of various financial systems both before and after COVID 19. We will be better able to comprehend how COVID 19 affects the various banking systems, which will enable us to start developing various crisis-prevention plans. We have chosen 10 Islamic Banks and 10 Conventional Banks in Bangladesh (Table 1) as our sample for the study in order to demonstrate the development of various banking systems. The sample was picked at random and will serve as a representative of each group. We mainly concentrated on the secondary source, which comprises the annual financial report of the relevant institutions, data from the Dhaka Stock Exchange, and surveys, to collect data for the study. Additionally, as supplementary materials for our study, we employed secondary data sources from publications, journals, and newspaper articles.

We used annual records for both samples from 2017 to 2021 for the comparative analysis, which allowed us to gauge the impact of COVID 19 by demonstrating growth rate and sustainability. The data was split into two time periods: the first covers the years from 2017 to 2019 (before the Covid 19 epidemic), and the second covers the years from 2020 to 2021 as the Covid-19 period. Six indicators—Capital Adequacy Ratio (CAR), Return on Asset (ROA), CASA RATIO, Non-Performing Asset (NPA), Loan-to-Deposit Ratio (LDR), and Cost to Income Ratio (CIR)—were used to assess the stability or resilience of the banking sector. We gained knowledge on each bank's profitability, effectiveness, sustainability, risk, and cost-effectiveness both during and prior to COVID 19. After obtaining the statical value, we used a T-test to compare the data. We first assessed the data using this financial ratio, which helped us to get a more accurate result and avoid any errors, and then we assessed the data using the result from the T-test statistic.

<table>
<thead>
<tr>
<th>SL</th>
<th>Islamic Banks</th>
<th>Conventional Banks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Islami Bank Bangladesh Limited</td>
<td>AB Bank Limited</td>
</tr>
<tr>
<td>2</td>
<td>ICB Islamic Bank Limited</td>
<td>Bank Asia Limited</td>
</tr>
<tr>
<td>3</td>
<td>Social Islami Bank Limited</td>
<td>BRAC Bank Limited</td>
</tr>
<tr>
<td>4</td>
<td>Al-Arafah Islami Bank Limited</td>
<td>City Bank Limited</td>
</tr>
<tr>
<td>5</td>
<td>EXIM Bank Limited</td>
<td>Trust Bank Limited</td>
</tr>
<tr>
<td>6</td>
<td>Shahjalal Islami Bank Limited</td>
<td>Eastern Bank Limited</td>
</tr>
<tr>
<td>7</td>
<td>First Security Islami Bank</td>
<td>IFIC Bank Limited</td>
</tr>
<tr>
<td>8</td>
<td>Union Bank Limited</td>
<td>Jamuna Bank Limited</td>
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<tr>
<td>9</td>
<td>Standard Bank Limited</td>
<td>Mutual Trust Bank Limited</td>
</tr>
<tr>
<td>10</td>
<td>Global Islami Bank Limited</td>
<td>Bangladesh Commerce Bank Ltd</td>
</tr>
</tbody>
</table>

Table 1: The sample for our study

Finding and comparing COVID 19's effects on conventional and Islamic banks is the study's main goal. to assess the reliability of various financial systems.
to advise banks to start implementing various measures to lessen the impact of COVID 19.
The hypothesis of the study

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Null Hypothesis: Islamic Banks are more affected by Covid 19 than Conventional Banks.
Alternative Hypothesis: Islamic Banks are less affected by Covid 19 than Conventional Banks.

H0: μ1 ≥ μ2
Ha: μ1 < μ2

**Significant 0.05

V. RESULTS & DISCUSSION

After gathering data from the Annual Report and Basel III Pillar of all the 10 Islamic Banks and Conventional Banks, we calculated the data using financial ratio, which helped us to get our required percentage and Graph for visual interpretation. We have divided our analysis into two parts, and the first part analysis the data using various financial tools. Further, in our second part, we showed the statistical overview of data in part 1 to prove our hypothesis. Our analysis included six tools that are Capital Adequacy Ratio (CAR), Return on Asset (ROA), CASA Ratio, Non-Performing Asset (NPA), Loan-to-Deposit Ratio (LDR), and Cost to Income Ratio (CIR).

Table 2 presents statistical data of Islamic Banks and Conventional Banks during and before the Coronavirus pandemic. After analyzing twenty banks’ data ratios, we calculated the Mean and STDEV.

<table>
<thead>
<tr>
<th>Ratios</th>
<th>Islamic</th>
<th>Conventional</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>Sdev</td>
</tr>
<tr>
<td>Before</td>
<td>CRAR</td>
<td>-1.43%</td>
</tr>
<tr>
<td></td>
<td>ROA</td>
<td>0.21%</td>
</tr>
<tr>
<td></td>
<td>CASA</td>
<td>24.70%</td>
</tr>
<tr>
<td></td>
<td>NPL</td>
<td>12.11%</td>
</tr>
<tr>
<td></td>
<td>LDR</td>
<td>86.60%</td>
</tr>
<tr>
<td></td>
<td>CIR</td>
<td>69.66%</td>
</tr>
<tr>
<td>During</td>
<td>CRAR</td>
<td>-1.82%</td>
</tr>
<tr>
<td></td>
<td>ROA</td>
<td>0.25%</td>
</tr>
<tr>
<td></td>
<td>CASA</td>
<td>27.12%</td>
</tr>
<tr>
<td></td>
<td>NPL</td>
<td>11.70%</td>
</tr>
<tr>
<td></td>
<td>LDR</td>
<td>82.95%</td>
</tr>
<tr>
<td></td>
<td>CIR</td>
<td>15.04%</td>
</tr>
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Table 2: Statistical Analysis

We will take the mean of the ratios and analyze the banks by the six indicators as mentioned earlier.

A. Capital Adequacy Ratio (CAR)

An assessment of a bank’s available capital expressed as a proportion of its risk-weighted credit exposures is called the capital adequacy ratio (CAR). The capital adequacy ratio, also referred to as the capital-to-risk weighted assets ratio (CRAR), is used to safeguard depositors, and support the global financial systems’ stability and effectiveness. Assets of depositors are protected to a greater extent the higher the capital adequacy ratio of the bank.
After evaluating the asset and liability using the capital adequacy ratio, we see that in 2017 Conventional Banks had approximately 12.00% CAR, whereas Islamic Banks had negative CAR(-0.71%). Before the pandemic hit, CAR of Islamic Banks further decreased and for the conventional banks the ratio also declined. Before the pandemic hit the country, Islamic banks already were performing way worse than conventional banks. Finally, after some fluctuations the Islamic banks’ Capital Adequacy Ratio significantly decreased to -2.02% whereas conventional banks’ CAR reached to 10.81%. This indicates that Islamic banks’ ability to protect their depositors’ assets were severely affected during COVID-19. Even though conventional banks were not as efficient as before COVID-19, it still had good enough cushion to meet up any financial obligations.

B. Return On Asset (ROA)

ROA or Return on Assets is a metric used to evaluate efficient profit generation with the available asset of a company. Generally, it is expressed as a percentage using a company's net income and average assets. A higher ROA indicates that the company is more efficient and productive at managing its balance sheet to generate profits, while a lower ROA indicates room for improvement.

Islamic banks started with 0.38% ROA in 2017 and ended the pre covid period (Year-2019) with 0.11% ROA. This means the Islamic Banks had higher profitability in 2017 in relation to its assets than 2019. On the other hand, Conventional banks has 0.9% ROA indicating better profitability than Islamic banks. But interestingly, the ROA for Conventional Banks dropped to 0.19% from 0.9% in 2018. It is close to Islamic Banks’ ROA. That means in 2018, both types of the banks were similar in managing their total assets into
generating profits. In 2019, ROA increased for Conventional Banks where it fell for Islamic Banks. From the graph it is quite evident that, during Covid-19 period, ROA of Conventional Banks got significantly affected (2020-0.18%). But in 2021, it increased meaning the bank could find solutions in managing their total assets better. But the scenario isn’t same for Islamic Banks. The ratio dropped indicating as similar picture as before for Islamic Banks.

C. CASA RATIO

The CASA Ratio is calculated by dividing the sum of current and savings accounts by the total amount of bank deposits. It contrasts the total deposit made by a bank with the current and savings accounts. A higher CASA ratio indicates that current and savings accounts make up a larger share of a bank’s deposits than term deposit accounts, which is advantageous because it allows banks to obtain capital at a reduced cost. A bank’s profitability or chance of making a profit is consequently reflected in the CASA ratio, which is a measure of the cost to raise funds.

![Figure 3: CASA Ratio](image)

We can notice that the CASA ratio increased gradually from pre covid to covid time period. It means depositors increased keeping money into current and savings accounts in the Covid-19 period in Islamic Banks. For the Conventional Banks, the depositors also chose to put money into current and savings accounts than fixed term accounts compared to the time of pre Covid. It is very clear that no matter it is pre covid or during covid, depositors preferred to put their money into current and savings account in Conventional Banks rather than in Islamic Banks.

D. Non-Performing Asset (NPA)

Non-performing Assets, often known as NPA or NPL, are loans or investments that banks have made to borrowers whose principal payments are far past due. When a borrower is not making payments on a loan, it is categorized as a non-performing asset. As a result of the borrower not paying interest, the asset no longer provides money for the lender or bank. Non-Performing Assets (NPAs) are an undesirable phenomenon in the banking system since they indicate that the loan is “in arrears” in this situation.
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Figure 4: Non – Performing Asset Ratio

We can deduce from the graph that for conventional banks, it faced quite a fluctuation throughout the two periods. The non-performing assets or loans of Conventional Banks has sharply increased in 2018 from 2017. In 2020 the ratio fell to 8.81% and then slightly raised to 9.71%. For Islamic Banks, the ratio remained a bit stable around 11%. Even though Conventional Banks faced quite a bit fluctuation it still remained lower than Islamic Banks. So, Islamic Banks had difficulty to collect payments from borrowers for both the time periods. In case of Conventional Banks, it is difficult to infer if there was any particular effect of Covid-19 as the ratio jumped sharply in 2018 which is pre covid and remained around it till 2021.

E. Loan-to-Deposit Ratio (LDR)

A bank's liquidity is assessed using the loan-to-deposit ratio (LDR), which compares the total amount of loans to the total amount of deposits for the same time period. Financial guidelines state that if the ratio is too high, the bank could not have enough liquidity to deal with unforeseen cash needs. On the other side, if the ratio is too low, the bank could not be making as much money as it could. The LDR percent, however, does not accurately represent the caliber of a bank's loans. The number of loans that are in default or whose payments might be late is also not considered.

The appropriate loan-to-deposit ratio is often between 80% and 90%. A bank with a 100 percent loan-to-deposit ratio lent customers $1 for every dollar it received in deposits. Islamic banks have LDR in this range. In both time periods, Islamic Banks have higher value of the ratio than Conventional Banks. This means Conventional Banks have more liquidity to meet any unforeseen cash needs compared to Islamic Banks in both time periods. Conventional Banks are providing less loan compared to deposits. During Covid-19, they lowered their loans even more. On another note, LDR of Islamic Banks, declined during COVID-19 indicating they could improve liquidity.
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The cost-to-income ratio (CIR), a financial measure, shows how well a corporation uses its operational resources to generate income by comparing operating expenses with operating income. The most important measure of a bank's profitability is its cost-to-income ratio. The lower the cost-to-income ratio, the more effectively the bank is run, and the better the performance of the organization.

First, the Conventional Banks ended 2021 (during covid period), with the highest cost to income ratio. This means the banks had to spend more for their income in Covid-19 time compared to before Covid-19. Islamic Banks on the other hand, had negative CIR in 2017, 2019 and 2021. During these years the banks’ operating income was less than operating expenses. Hence the ratios came negative. Finally, it can be confirmed that Conventional Banks performed better in terms of CIR.

From the ratio analysis we can come to the conclusion that Islamic Banks are more affected by Covid-19 than Conventional Banks.
The high-risk conventional banking system was replaced conceptually by the innovative Islamic banking system. The Islamic banking system is created to lower banking system risk. The Islamic banking system and its use must therefore be reviewed by Bangladesh’s banking regulators. In this instance, whether the Islamic banking system adheres to the concept and whether the system in place is sound needs to be addressed. Through the analysis of our study, it can be deduced that Islamic banks are more affected by Covid-19 than Conventional Banks. The reasons can be found in another paper by (Miah et al., 2021). According to the study by (Miah et al., 2021), working capital and trade finance account for more than two-thirds of Islamic banks' investments and earnings. Islamic banks in Bangladesh are expected to be impacted through this channel since these industries are particularly susceptible to the economic shock brought on by COVID-19.

VI. CONCLUSION

We analyzed our findings with statistical measurement tools to support our analysis and show a statistical viewpoint. Table 8 represents the statistical data showing the P value, where the significance value is 0.05. It shows the Mean of the ten Islamic Banks and Conventional Banks during and before Covid 19 to evaluate the Hypothesis. We have observed all 12 data to analyze the change. Here the P value for two tails is 0.51852062, which is greater than the significance value of 0.05. As a result, we cannot reject the null Hypothesis. So, we can conclude that Islamic Banks are more affected by Covid-19 compared to Conventional Banks.

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