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# Gauging the impact of Covid 19 on the Islamic banking System: A comparison of the financial performance of Islamic Banks in Bahrain during pre and post-Covid-19 Era

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**Abstract**
The Covid-19 pandemic served as a wake-up call to both individuals and institutions alike. This global outbreak served as an important reminder that no matter the advancement in science, technology, businesses and all other significant fields, one such contingency could cause disruptions on a mega-scale. The Islamic banking system, that enjoys widespread success across not just the Muslim world, was no exception to the implications of the pandemic. This paper is an attempt at comparing the financial performance analysis of Islamic banks in terms of their profitability, liquidity, solvency and efficiency in the pre and post-Covid times. Using purposive sampling, six retail Islamic banks operative in Bahrain and their performance for 6 years covering before and after Covid-19 were used for analysing their financial performance. Ratio analysis, statistical mean, standard deviation, variance, and t-test have been employed to analyse the data. As such, the findings are indicative of the impact of Covid 19 on the financial performance of Islamic banks as significant in the short-term. This impact, though significant, was not as extensive as it has been on other fields such as the tourism, airline and hospitality industries. This stands evidence of the robustness of Islamic banking institutions.

**Keywords:** *Islamic banks; Covid 19; Financial performance; Liquidity; Solvency; Profitability; Efficiency*

## Introduction

The Kingdom of Bahrain, an open but impactful economy in the GCC, has paved the path to diversifying the economy to optimize growth across various sectors rather than heavily depending on the oil sector. Consequently, the banking sector has been thriving and thereby a significant contributor to the country's economic advancement (Kumar & Sheela, 2023).

The emergence of Islamic banking and finance has witnessed significant growth and global recognition over the past few decades. Islamic banks, operating in accordance with Shariah principles, have gained prominence

in various countries, including Bahrain (Kumar & Sheela, 2023). This pandemic disrupted global economies, causing unprecedented challenges for financial institutions worldwide. Institutions and organisations across various sectors were forced to work proactively for dealing with the chaos brought upon by the Covid-19 pandemic (Devi & Srivastava, 2023) Islamic banks, like their conventional counterparts, have faced a multitude of issues ranging from economic contraction, market volatility, and changes in customer behavior. Given the unique nature of the Islamic banking system, it is essential to assess how Islamic banks in Bahrain have navigated through these challenges and whether their financial performance has been affected differently compared to conventional banks.

This research examines the monetary performance of Islamic banks in Bahrain, focusing on the pre and post-COVID-19 periods. By analyzing key indicators like profitability, liquidity, asset quality, and capital adequacy, the study investigates the strength and adaptability of these banks in weathering the economic disruptions caused by the pandemic. This study is important for policymakers, regulators, investors, and industry practitioners. It can help in formulating effective strategies to mitigate risks, promote stability, and foster the growth of Islamic finance in the post-pandemic period. Additionally, this research can add to the existing knowledge on Islamic finance by providing empirical comprehensions into the dynamics of the Islamic banks during times of crisis. By examining the various dimensions of financial performance, this study will help to understand the resilience and adaptability of Islamic banks (IBs), thus facilitating informed decision-making within the Islamic finance industry.

**Literature Review**

The pre-existing literature on performance of the banking industry is fundamentally centered around assessing financial strength and performance. Widely applied measures of profitability include Return on Equity (ROE) and Return on Assets (ROA). The current literature reviews important aspects of the financial performance of banks as well as the pandemic.

Babu's (2019) study evaluated the financial performance, profitability, and liquidity of Indian banks before and after mergers, using the CAMEL approach. The results highlighted that HDFC Bank, Federal Bank, and Bank of Baroda were efficient financial performers. The research also found that banks' efforts led to improved capital structure and better alignment with customer requirements. These findings suggest that the merger and consolidation activities in the Indian banking sector have had a positive impact on the overall financial health and customer-centricity of the participating institutions. The CAMEL-based evaluation provides valuable insights for policymakers, regulators, and bank management as they navigate the complex landscape of mergers and acquisitions in the banking industry.

Lemos, (2020), this paper examined the profound impact of the by Co-19P break on the banking sector, which has experienced significant challenges and disruptions due to the global crisis. The virus has resulted in extensive personal and financial hardships for individuals, communities, and businesses worldwide. While banks are expected to support their customers during these difficult times, handling a crisis of this magnitude remains a formidable task, despite having well-defined plans in place. The study also highlighted the measures implemented by the Reserve Bank of India to address the challenges posed by the pandemic.

Assous et.al., (2021), examined the impact of by Co-19P and policy responses on the Saudi banking index. The study utilized regression analysis and an artificial neural network (ANN) model to analyze the data. The regression findings showed that oil prices and the number of confirmed COVID-19 occurrences have a substantial impact on the Saudi banking index.

Dong's (2021) investigated the influence of the COVID-19 epidemic on the monetary functioning of leading banks in the U.S. and China. Using regression, moderation, and time series analyses, the findings revealed a stark contrast - the pandemic significantly and adversely affected U.S. bank profitability, while Chinese banks remained relatively unscathed, outperforming their U.S. counterparts. The research also highlighted the significant influence of capital and efficiency ratios on banks' Return on Assets in both countries. These insights offer valuable information for regulators and policymakers, underscoring the importance of examining the unique challenges and resilience of banking systems in different national contexts during major crises.

Kozak's (2021) examined the effect of the CO-19P on the equity and profitability of banks in the CESE region, evaluating the monetary steadiness of 141 banks across 18 countries by analyzing the effect of rising non-performing loans (NPLs) on bank equity. The findings revealed that CESE banks were able to satisfy in meeting the regulatory capital requirements revealing that they were well capitalized even with a 12% increase in NPLs, with smaller and non-public banks demonstrating a greater ability to maintain adequate equity levels, although there was a risk of delaying credit risk provisioning and increasing lending to lower the NPL ratio, while larger banks tended to be more profitable during the crisis period - results that provide important information for the market analysts in CESE region, highlighting the resilience of the banking sector, particularly among smaller and non-public institutions, and underscoring the importance of proactive risk management and regulatory oversight to ensure the long-term stability and profitability of the banking industry. Marcu, (2021) found that COVID-19 has a profound effect on the global banking sector, necessitating a re-evaluation of banking strategies during times of crisis. Previous crises, such as the 2008-2009 financial crisis, differed significantly from the pandemic-induced crisis, as the current situation is fundamentally linked to health concerns. Banks transitioned from being seen as contributors to the financial crisis to key partners in promoting economic stability and growth. This shift in perception has elevated the role of banks in addressing the consequences of the pandemic and implementing strategies that influence the broader economy. The pandemic has quickened the digitalization of the banking and the financial system, though the requirement existed even before the pandemic for innovation and digital strategies development.

Sharma & Mathur (2021), examined the causal impact of the epidemic on the banking zone in India. The government's decision to implement a nationwide lockdown aimed at protecting lives has had a severe impact on various sectors, including banking, which is crucial to the Indian economy. The study highlighted the significant consequences of the lockdown on banks.

Makni, (2022), examined the impact of the by Co-19P on the banking sector in the Gulf Cooperation Council (GCC) countries. The study analyzed secondary quantitative data from 20 banks and noticed that the overall operation of banks was influenced, with lower profitability, credibility, and financial leverage ratios. The study highlighted the limited research available on this topic for GCC countries, particularly considering both Islamic and conventional banks. This result further shed light into the financial performance of the banking sector during the epidemic.

Maria et.al., (2022), examined the impact of the Co-19P on banking stability in Indonesia, considering the influence of bank ownership types and its core capital size and capacity. The research focused on the period from March 2020 to March 2021, utilizing data from 108 commercial banks. By employing fixed effects regression analysis, the findings revealed that Co-19P has significantly and detrimentally affected Indonesian banks' stability. Irrespective of the size, ownership of a banks, all banks experienced the severe implications of the pandemic. The study suggested policy measures for regulators, including stimulus packages and countercyclical roles for government-owned banks, to help understand the jolts caused by Co-19P.

Agoraki, (2023), examined the performance of the euro area banking system from 2002 to 2021, with a specific focus on banks' return on assets. The study found that despite the by Co-19P, the banking sector's performance has not been significantly negatively impacted. Furthermore, it highlighted that while previous crises introduced uncertainty, the pandemic did not replicate such uncertainty. The study emphasized the importance of employing methodological approaches that account for endogeneity and robustly handle regime changes and future shocks when assessing banking system performance.

Darwish and Bayyoud's (2023) examined the influence of the CO-19P on major UK banks namely HSBC, Royal Bank of Scotland, and Barclays. The mixed-methods research, including a survey and manager interviews, found that these banks implemented effective social distancing measures to ensure uninterrupted operations. Rather than closing branches, they embraced digital processes to enhance efficiency and maintain customer service. Notably, the banks successfully cultivated a resilient brand image amidst the pandemic. The findings provide valuable insights into the strategies used by leading UK banks to navigate the challenges of COVID-19, highlighting employee safety, and fostering a positive brand image during times of crisis.

## Methodology

To analyze the covid-19 impact on the financial performance of IBs in Bahrain, six retail Islamic banks have been taken into the study covering a three-year period before covid and another 3-year period where the by Co-19P affected the people, world and industries. The purposive sampling method is used to select the retail Islamic banks that are operating in Bahrain. There are 6 retail banks are registered as per Central Bank of Bahrain and all these banks have been included in the study period ranging from fiscal 2017 to fiscal 2022. The study period of six (6) years is divided into two segments i.e., the first three years from 2017 to 2019 are considered as a pre-covid period and the next three years from 2020 to 2022 are named as a covid or post-covid period. The financial performance of these banks is studied under 4 dimensions covering profitability, liquidity, solvency, and efficiency. (Kumar & Sheela, 2023).

The following research objectives are considered in this study:

1) To analyze the profitability of retail Islamic banks during the pre-Covid and post-covid times.
2) To analyze the liquidity of retail IBs during the pre-and post-Covid times.
3) To analyze the solvency of retail IBs during the pre-and post-Covid times.
4) To analyze the efficiency of retail IBs during the pre-and post-Covid times.
5) To study Covid-19's impact on the financial performance of retail IBs.

Ratio analysis, statistical mean, standard deviation, variance, and t-test are the tools and techniques that are used for analyzing the data of the current study. To test the statistical differences in the means of the independent variables during the pre-covid and post-covid times, nine (9) hypotheses were established and tested using t-test.

## Analysis and Discussion

### Profitability of Islamic banks in pre & post covid times

Return on equity is selected to analyze the profitability of Islamic banks along with another ratio called return on assets.

### Return on equity

Return on equity (ROE) determines profitability by comparing the net income with the shareholders equity and helps to know the management's efficiency in generating net revenue by using the equity. (Kumar, Sheela 2023)

Table 1

| Year | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **ROE Avg** | 4.80 | 8.18 | 3.16 | (0.86) | 9.04 | 12.43 |

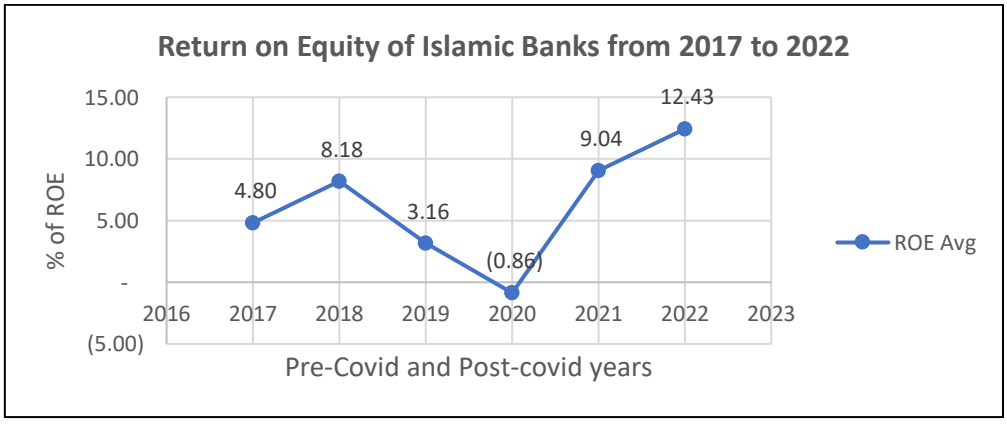


Figure 1

The return on equity of IBs decreased in the years 2019 and 2020 as shown in the table 1 and figure 1. Though it reached a minimum in the year 2020 which can be considered as a Covid-19 affected period, but later it sharply increased in the next two year showing the recovery of ROE.

**Hypothesis-1:**
$H_0$: There exists no significant difference in the ROE of IBs pre-covid and post-covid periods.
$H_1$: There exists a significant difference in the ROE of IBs pre-covid and post-covid periods.

Table 2

| *Period* | Mean | Variance | Observations | t Stat | P(T<=t) two-tail |
|---|---|---|---|---|---|
| *Pre-Covid* | 5.379 | 6.558 | 3 | -0.349 | 0.749 |
| *Post-Covid* | 6.865 | 47.684 | 3 | | |

Note: Significant at 95% confidence level

From table 2, it is evident that null hypothesis cannot be rejected as the P-value is higher than the standard value of 0.05, the null hypothesis is to be considered as accepted. It is concluded that there are no statistical differences between percentage of ROE during pre-covid and post-covid times.

**Return on Assets**
This ratio measures the return that the banks can generate from their total assets. If the percentage is higher, it shows that banks can use their total assets in an efficient way to generate more revenue and net income and thus indicating higher profitability.

Table 3

| Year | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **ROA Avg** | 0.61 | 0.73 | 0.42 | 0.32 | 0.77 | 0.95 |

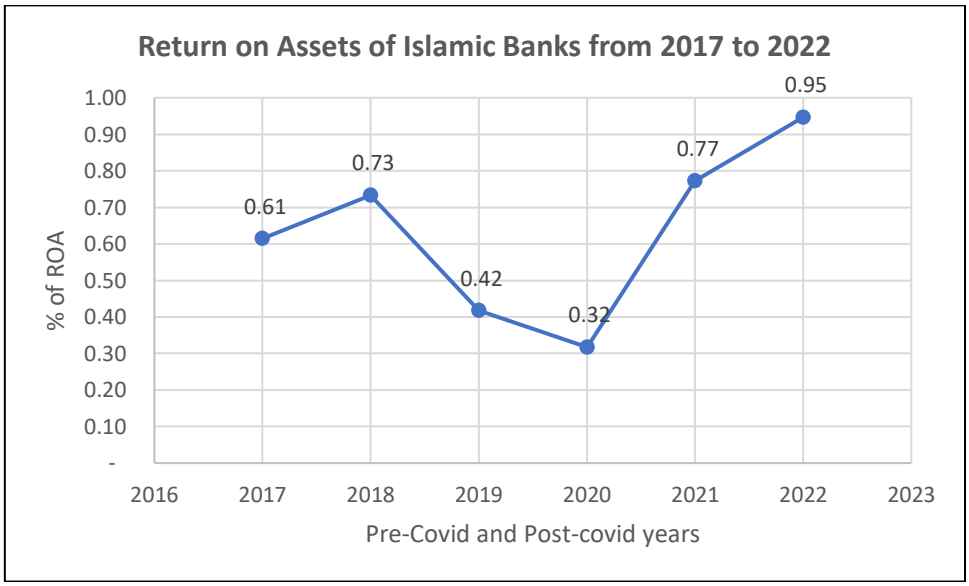


Figure:2

The return on assets of IBs decreased in the years 2019 and 2020 as shown in the table 1 and figure 1. Though it reached a minimum in the year 2020 which can be considered as a Covid-19 affected period, but later it sharply increased in the next two years showing the recovery of return on assets.

**Hypothesis-2:**
$H_0$: There exists no significant difference in the ROA of IBs pre-covid and post-covid periods.
$H_1$: There exists a significant difference in the ROA of IBs pre-covid and post-covid periods.

Table 4

| | Mean | Variance | Observations | t Stat | P(T<=t) two-tail |
|---|---|---|---|---|---|
| *Pre-Covid* | 0.588 | 0.0254 | 3 | -0.43276 | **0.694** |
| *Post-Covid* | 0.678 | 0.105 | 3 | | |

Note: Significant at 95% confidence level

From table 4, it is evident that null hypothesis cannot be rejected as the P-value is more than the standard value of 0.05, and therefore, the null hypothesis is to be considered as accepted. It is suggested that there are no statistical differences between percentage of return on assets of Islamic banks during pre-covid and post-covid times.

Based on the profitability ratios, even there is a decline in the year 2020, but it can be concluded that there are no statistically significant differences in percentage of return on equity and return on assets between pre-covid and post-covid times.

**Liquidity position of Islamic banks in pre & post covid time periods:**
To analyze the liquidity of Islamic banks, the two ratios' loans to total assets (LTA) and loans to deposit (LDR) are considered.

**Loans to total assets**
For banking organizations, this ratio is ascertained after dividing the loans amount with total amount of assets. In case of Islamic banking sector, to know the liquidity, the total amount of financing and investing activities are divided by the total assets value. As the ratio is higher, the risk is higher illustrating poor liquidity position. (Kumar, R.S.P., Sheela, 2023)

Table 5

| **Year** | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **LTA Avg** | 0.46 | 0.49 | 0.42 | 0.41 | 0.38 | 0.38 |

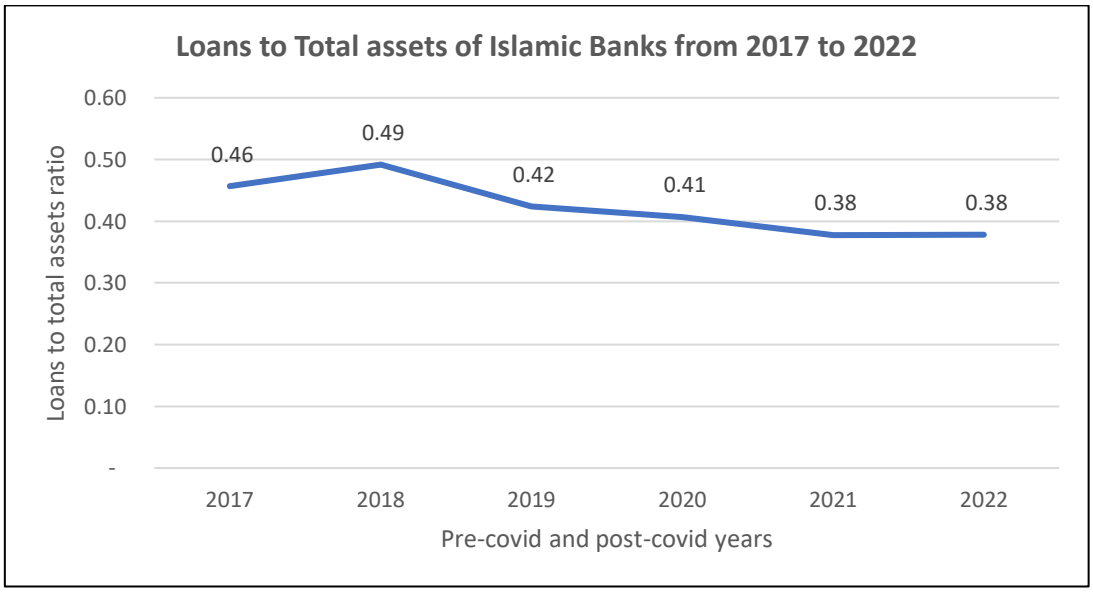


Figure 3

It is clear from the table and figure; the LTA is better in the post-covid periods indicating better liquidity by exercising required care in the management of the financing and investing activities.

**Hypothesis-3:**
$H_0$: There exists no significant difference in the LTA of IBs pre-covid and post-covid periods.

$H_1$: There exists a significant difference in the LTA of IBs pre-covid and post-covid periods.

Table 6

| | Mean | Variance | Observations | t Stat | P(T<=t) two-tail |
|---|---|---|---|---|---|
| *Pre-Covid* | 0.457 | 0.001 | 3 | 3.184 | **0.049** |
| *Post-Covid* | 0.387 | 0.0002 | 3 | | |

Note: Significant at 95% confidence level

From table 6, it is to be noted that null hypothesis cannot be accepted due to the lower P-value than the standard value of 0.05. Hence the null hypothesis is to be rejected. It is inferred that there are statistical differences between loans to total assets of Islamic banks during pre-covid and post-covid times.

**Loans to deposit (LDR) ratio**

This is another measure to know the liquidity of banks. It is ascertained by comparing the loans advanced by banks to its customers against the deposits that they accepted from its customers. The lower ratio means less risky situation and a better liquidity position whereas the higher ratio indicates poor liquidity of the banks.

Table 7

| **Year** | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **LDR Average** | 4.92 | 5.58 | 5.68 | 5.49 | 5.90 | 6.52 |

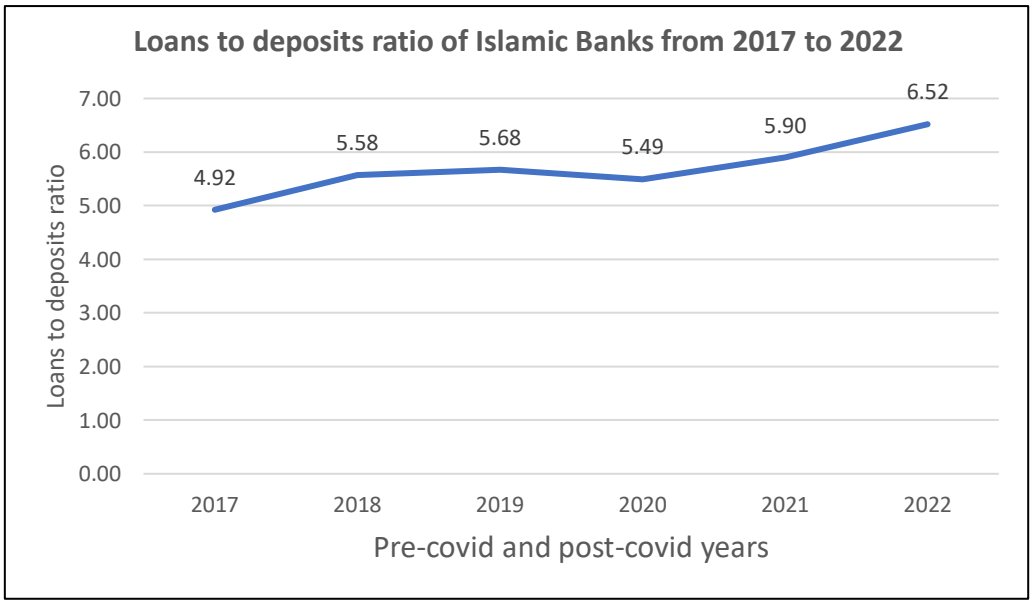


Figure 4

From the table and figure, it is understood that the liquidity based on LDR is better during the pre-covid times and the liquidity position is deteriorated during the post-covid times. The liquidity as per the calculated ratio is reached maximum in the year 2022 showing that the banks might face more riskier situation in meeting the deposits of the customers as their money is blocked in the form of investing and financing activities thus indicating poor liquidity of the banks.

**Hypothesis-4:**

$H_0$: There exists no significant difference in the LDR of IBs during pre-covid and post-covid periods.
$H_1$: There exists a significant difference in the LDR of IBs during pre-covid and post-covid periods.

Table 8

| | Mean | Variance | Observations | t Stat | P(T<=t) two-tail |
|---|---|---|---|---|---|
| *Pre-Covid* | 5.392 | 0.166 | 3 | -1.521 | **0.202** |
| *Post-Covid* | 5.97 | 0.267 | 3 | | |

Note: Significant at 95% confidence level

From table 8, it is to be noted that null hypothesis cannot be rejected due to the higher P-value than the standard value of 0.05. Hence, the null hypothesis is to be accepted. It can be inferred that there are no statistical differences between loans to deposits ratio of Islamic banks during pre-covid and post-covid times.

**Solvency position of Islamic banks in pre & post covid time periods:**
To analyze the solvency position of IBs, three ratios that include Debt to Total assets (DTA), Debt to Equity ratio (DER) and equity multiplier (EM) are considered. These are also called leverage ratios and highlight the risky solvency position of the firms.

**Debt to Total assets ratio (DTA)**
This is ascertained when the total debt or total amount of liabilities is divided by the amount of total assets. If this ratio is low, it indicates that the banks solvency position is better as the banks have more assets than its liabilities and the higher ratio shows that banks are in risky condition due to high value liabilities than its total assets.

Table 9

| **Year** | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **DTA Average** | 0.46 | 0.49 | 0.50 | 0.41 | 0.38 | 0.38 |

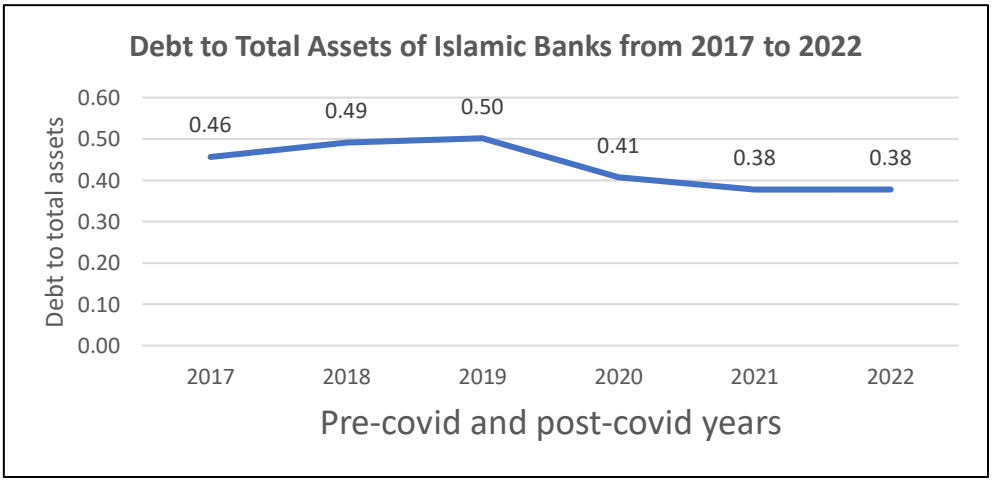


Figure 5

From the table and figure, it is known that the solvency position based on debt to total assets ratio is better during the post-covid times as compared to the ratio during the pre-covid times. The DTA ratio of the Islamic banks as per the calculated ratio reached maximum in the year 2019 showing that the banks might face more riskier situation in terms of their solvency position. From the year 2020 onwards, the DTA started decreasing showing a better solvency position of these banks.

**Hypothesis-5:**
$H_0$: There exists no significant difference in the DTA of IBs during pre-covid and post-covid periods.
$H_1$: There exists a significant difference in the DTA of IBs during pre-covid and post-covid periods.

Table 10

| | Mean | Variance | Observations | t Stat | P(T<=t) two-tail |
|---|---|---|---|---|---|
| *Pre-Covid* | 0.4833 | 0.0006 | 3 | 5.727 | **0.0046** |
| *Post-Covid* | 0.3874 | 0.0003 | 3 | | |

Note: Significant at 95% confidence level

From table 10, it is to be noted that null hypothesis cannot be accepted as the P-value is less than the standard value. Hence, the null hypothesis is to be rejected. It is deduced that there are statistical differences between debt to total assets ratio of Islamic banks during pre-covid and post-covid times.

**Debt to equity ratio (DER)**

This ratio is another essential leverage ratio that will help to know the solvency of business organizations. This is ascertained by dividing the liabilities or debts payable to outsiders with the owner's equity. The lower the ratio, the better for banks. If the DER is lower, it shows that banks are in a less risky situation and better solvent.

Table 11:

| **Year** | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **DE Average** | 4.74 | 6.87 | 7.16 | 8.78 | 9.61 | 5.49 |

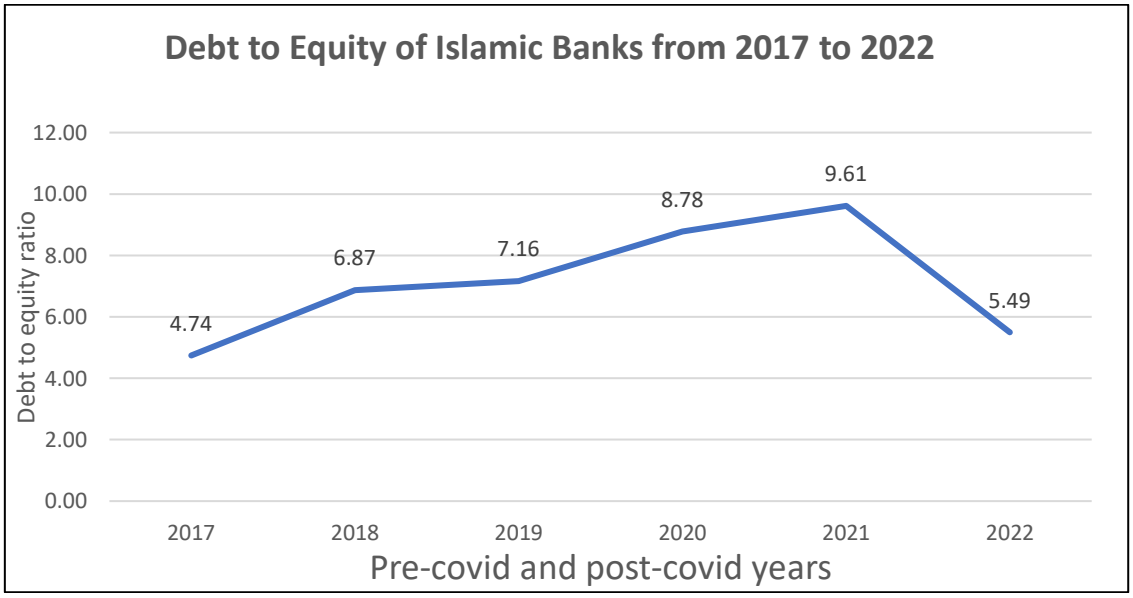


Figure 6

From the table and figure, it is known that the solvency position based on debt-to-equity ratio is better during the pre-covid times as compared to the ratio during the post-covid times. The DER ratio of the Islamic banks as per the calculated ratio reached maximum in the year 2021 showing that the banks might face more riskier situation in terms of their solvency position. In the year 2017, the DER is minimum as compared to the other years and the values started increasing thus indicating the solvency position is deteriorating. After the year 2021, the DER again started decreasing and it means that the solvency position of the Islamic banks has become better during the post-covid times.

**Hypothesis-6:**

$H_0$: There exists no significant difference in the DER of IBs during pre-covid and post-covid periods.
$H_1$: There exists a significant difference in the DER of IBs during pre-covid and post-covid periods.

Table 12

| | Mean | Variance | Observations | t Stat | P(T<=t) two-tail |
|---|---|---|---|---|---|
| *Pre-Covid* | 6.256 | 1.74 | 3 | -1.159 | **0.33** |
| *Post-Covid* | 7.962 | 4.755 | 3 | | |

Note: Significant at 95% confidence level

From table 12, it is to be noted that null hypothesis cannot be rejected due to the higher P-value than the standard value of 0.05. hence, the null hypothesis is to be accepted. It is understood that there exist no statistical differences between debt-to-equity ratio of Islamic banks during pre-covid and post-covid times.

**Equity multiplier (EM)**

This is another essential financial leverage ratio that explains about the solvency of the businesses by comparing the total assets with total owners' equity. Equity multiplier analyses the risks that are associated with banks with regard to the payment of liabilities. The banks that have lower EM values are prone to lower risks as compared to the banks that have higher EM values.

Table 13

| **Year** | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **EM Average** | 8.29 | 7.91 | 9.44 | 10.69 | 12.15 | 13.53 |

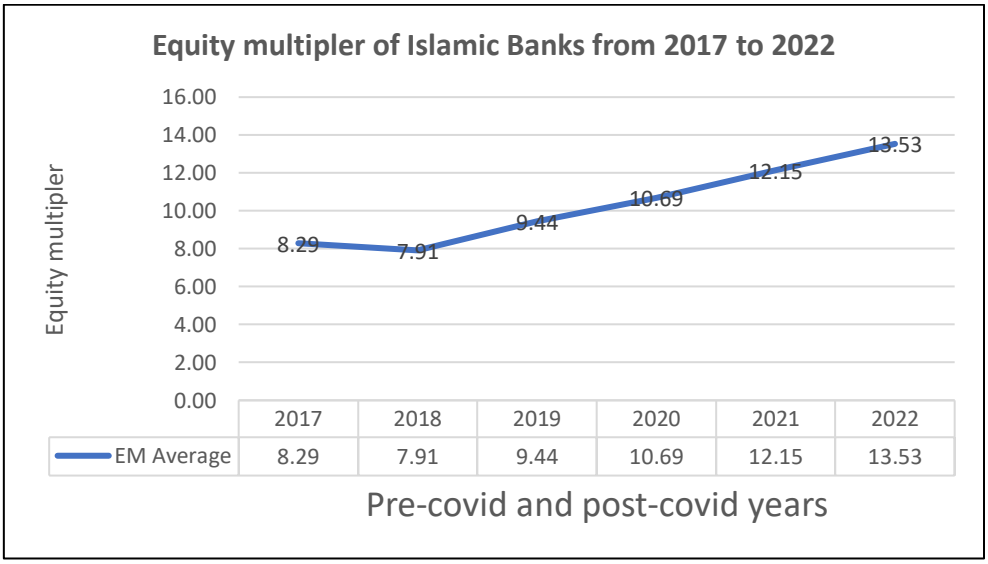


Figure 7

From the table and figure, it is known that the solvency position based on equity-multiplier ratio is better during the pre-covid times as compared to the ratio during the post-covid times. The Equity multiplier ratio of the Islamic banks as per the calculated ratio reached maximum in the year 2022 showing that the banks might face more riskier situation in terms of their solvency position. In the year 2018, the DER is the minimum as compared to the other years and the values started increasing thus indicating the solvency position is deteriorating. The solvency position of the Islamic banks has become worse during the post-covid times whereas the solvency position based on EM ratio is better during the pre-covid times.

**Hypothesis-7:**

$H_0$: There exists no significant difference in the EM ratio of IBs during pre-covid and post-covid periods.
$H_1$: There exists a significant difference in the EM ratio of IBs during pre-covid and post-covid periods.

Table 14

| | Mean | Variance | Observations | t Stat | P(T<=t) two-tail |
|---|---|---|---|---|---|
| *Pre-Covid* | 8.549 | 0.634 | 3 | -3.799 | **0.03** |
| *Post-Covid* | 12.125 | 2.024 | 3 | | |

Note: Significant at 95% confidence level

From table 14, it is to be noted that null hypothesis cannot be accepted due to the lower P-value than the standard value 0.05. Hence, the null hypothesis is to be rejected. It means that there exist statistical differences among equity multiplier ratio of Islamic banks during pre-covid and post-covid times.

**Efficiency of Islamic banks in pre & post covid times:**

**Asset utilization ratio (AU)**

This ratio highlights how the banks are efficient in terms of generating more revenue by utilizing the fixed assets employed in the business. The higher AU ratios show that banks are more efficient to create the revenue and the lower ratios throw a light for additional efforts to be made in increasing the revenue for the organizations. As the revenue increases, the profits will also raise leading the business to be more efficient. Alternatively, the lower AU ratio indicates the inefficiency of the banks in creating revenue as the assets are not fully utilized in an effective manner.

Table 15

| **Year** | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **AUR Average** | 0.033 | 0.031 | 0.030 | 0.028 | 0.029 | 0.032 |

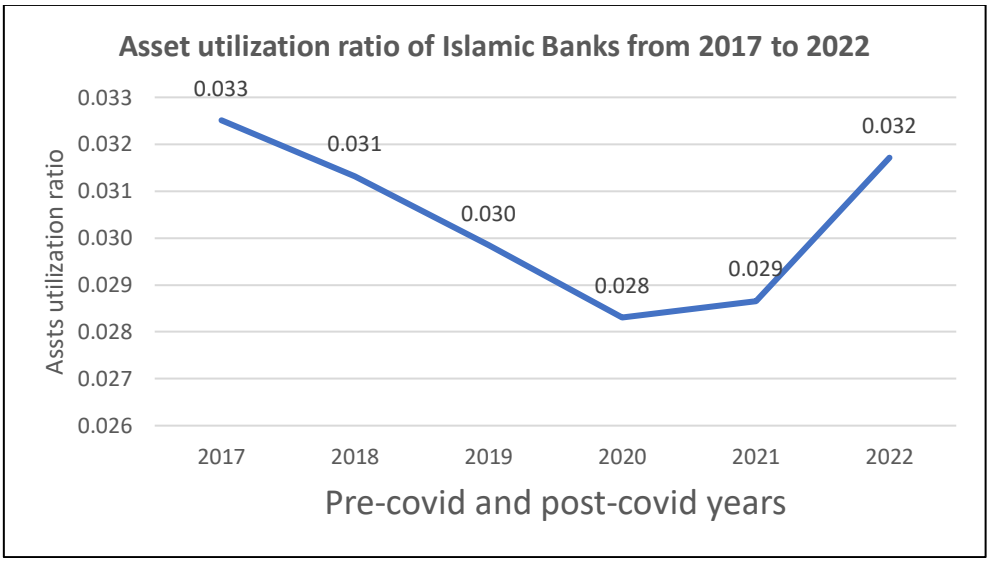


Figure 8

From the table and figure, it is clearly evident that the efficiency of the IBs, based on the asset utilization ratio. is better during the pre-covid times as compared to the ratios during the covid-19 affected years 2020 and 2021. The efficiency of these banks is highest in the year 2017 in terms of generating more revenue by using the resources employed in the firm and it started deteriorating and reached the minimum in the year 2020 where the world was affected by covid-19. Later, there is a gradual increase in AU ratios thus indicating an improvement in the efficiency of these banks regarding the creation of more revenue.

**Hypothesis-8:**

$H_0$: There exists no significant difference in the AU ratio of IBs during pre-covid and post-covid periods.

$H_1$: There exists a significant difference in the AU ratio of IBs during pre-covid and post-covid periods.

Table 16

| | Mean | Variance | Observations | t Stat | P(T<=t) two-tail |
|---|---|---|---|---|---|
| *Pre-Covid* | 0.0312 | 1.784 | 3 | 1.253 | **0.279** |
| *Post-Covid* | 0.0296 | 3.52 | 3 | | |

Note: Significant at 95% confidence level

From table 16, it is to be noted that null hypothesis cannot be rejected due to the greater P-value than 0.05. Hence, the null hypothesis is considered as accepted. It is concluded that there exist no statistical differences between asset utilization ratios of Islamic banks during pre-covid and post-covid times.

**Income to expenses ratio (IER)**

This ratio will help to know the bank's efficiency in generating revenue as compared to its expenses. The higher ratio will indicate the bank's ability in managing the business by creating more revenue and on the other hand, a lower ratio shows that bank's inability to manage expenses in relation to its revenue.

Table 17

| **Year** | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---|---|---|---|---|---|
| **IE Average** | 1.617 | 1.580 | 1.578 | 1.671 | 1.814 | 1.808 |

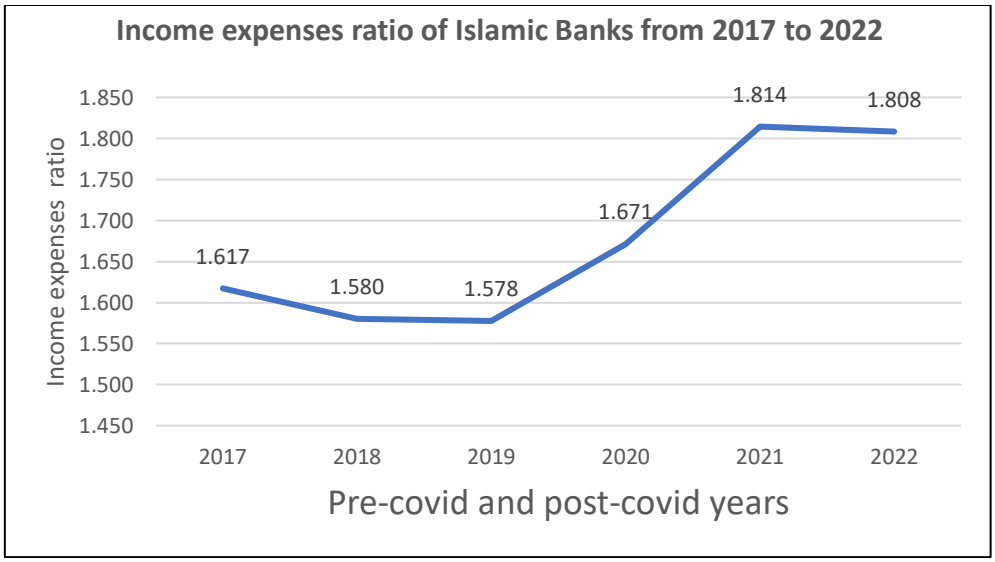


Figure 9

From the table and figure, it is understood that the IER is lower during the pre-covid times as compared to the post-covid times; it indicates that the banks are efficient in managing the expenses in relation to their income after the covid period. It is a minimum in the year 2019 and reached maximum in the year 2021.

**Hypothesis-9:**

$H_0$: There exists no significant difference in the IE ratio of IBs during pre-covid and post-covid periods.
$H_1$: There exists a significant difference in the IE ratio of IBs during pre-covid and post-covid periods.

Table 18

| | Mean | Variance | Observations | t Stat | P(T<=t) two-tail |
|---|---|---|---|---|---|
| *Pre-Covid* | 1.592 | 0.0004 | 3 | -3.575 | **0.07** |
| *Post-Covid* | 1.765 | 0.006 | 3 | | |

Note: Significant at 95% confidence level

From table 18, it is to be noted that null hypothesis cannot be rejected due to the greater P-value than 0.05. Hence, the null hypothesis is to be accepted. It means that there exist no statistical differences between income expenses ratios of Islamic banks during pre-covid and post-covid times.

**Findings and conclusion:**
The current study is fundamentally centered on gauging the financial performance of Islamic banks in the Kingdom of Bahrain through comparing their performance in the pre and post pandemic era.

Certainly, there are limitations for any research, and they provide a direction for future researchers to overcome in their future studies. The limitations of this study mostly pertain to the study period being limited to 6 years from 2017 to 2022. Only retail Islamic banks operating in Bahrain have been included in the current study.

Future research could focus on the exploration of the impact of the COVID-19 pandemic on other critical properties of the banking sector, such as, capital adequacy and/or funding cost. Furthermore, conducting a cross-national comparative study analysis could lead to providing valuable insights on the topic.

From the data analysis, the key findings below are concluded.

**Profitability:**
Return on Equity (ROE) and Return on Assets (ROA) decreased in 2019 and 2020 (Covid period) but recovered in 2021 and 2022.
Statistical tests suggest no significant difference in ROE and ROA between pre-covid and post-covid periods.

**Liquidity:**
Loan-to-Assets Ratio (LTA) indicates improved liquidity post-covid, meaning banks hold less in loans compared to total assets.

Loan-to-Deposits Ratio (LDR) suggests potentially worse liquidity post-covid, indicating a higher proportion of deposits tied up in loans/investments.
Statistical tests suggest no significant difference in pre-COVID vs. post-COVID LDR.

**Solvency:**
Debt-to-Total-Assets Ratio (DTA) shows a potentially better solvency position post-covid, with lower debt relative to total assets.

Debt-to-Equity Ratio (DER) suggests mixed results, with potentially worse solvency post-covid based on 2021 data.

Equity Multiplier Ratio (EM) suggests potentially worse solvency post-covid, with a higher equity multiplier indicating more debt financing.

Debt-to-Total-Assets (DTA) ratio is better post-COVID, while Debt-to-Equity (DER) and Equity Multiplier ratios are better pre-COVID.

Statistical tests show a significant difference in DTA but not in DER.

**Efficiency:**
Asset Utilization Ratio (AU) suggests in the pre-covid time, banks were more efficient at generating revenue from assets and it is lower post-COVID, indicating decreased efficiency in generating revenue from assets.
Income-Expense Ratio (IER) suggests in the post-covid era, banks might be more efficient in managing expenses relative to income.

Statistical tests show no significant difference in AU or IER between pre-COVID and post-COVID periods.

**Overall:**
Covid-19 impacted Islamic bank profitability in the short-term extending to the year 2020 from its emergence. Liquidity and solvency results are mixed, with some ratios suggesting improvement and others suggesting potential deterioration post-covid. In the pre-covid era, banks seem to have been more efficient in asset utilization, while post-covid banks' performance is indicatively more efficient in managing expenses.

Owing to the significance of the banking sector in Bahrain and its significant contribution to its economic growth, policy makers could draw critical inferences from research findings as this could help in strategizing and taking the required action in the present that could empower banks in creating sustainable pathways for dealing with potential unforeseen contingencies.

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