

Financial Performance of Indian Public Sector Banks Before and During COVID-19 Pandemic

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Abstract

Purpose: The present study aims to examine the financial performance before and during the COVID-19 pandemic with respect to profitability ratios, liquidity ratios, solvency ratios and economic value added (EVA) of select Indian public sector banks listed in the Bombay Stock Exchange (BSE).

Design/Methodology/Approach: In total, 12 public sector banks listed on the BSE were chosen for the analysis, which spans the years 2018–2019 to 2019–2020. Financial statements and monthly closing prices of public sector banks are the data that were gathered for this study. The tools used in this study are as follows: (1) EVA, (2) financial ratios, (3) descriptive statistics, (4) Shapiro–Wilk normality test and (5) paired samples *t*-test. Findings of the study are as follows: The empirical findings of the study revealed that the COVID-19 pandemic has a negative effect on earnings per share, net profit ratio, return on capital employed, return on asset and return on equity and a positive effect on current ratio, debt to equity ratio and EVA of select public sector banks.

Research Limitations/Implications: The findings of this study provide several avenues for more research. As one of the research ramifications, future researchers would need to explain discrepancies in the statistical findings of various academics in the finance field.

Social Implications: As the expansion of the banking industry is correlated with India's economic growth, developing nations like India rely on the accuracy

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of the information. With the information provided, the COVID-19 pandemic has a negative effect on profitability variables and positive effect on liquidity, solvency and shareholder's wealth creation variables, so that it has no serious harmful consequences on the economy in respect to profitability position of select banks.

Originality/Value: The study is conducted on the financial performance before and during the COVID-19 pandemic with respect to profitability ratios, liquidity ratios, solvency ratios and EVA of select Indian public sector banks listed in BSE and also highlighted how banks adapted the pandemic situation, which is a new phenomenon.

Keywords

Economic value added, shareholders wealth, financial ratios, COVID-19 pandemic and paired samples t-test

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Introduction

Coronavirus first appeared in India in January 2020, infecting millions of people worldwide and resulting in thousands of deaths. In order to combat COVID-19, the Indian government imposed a nationwide lockdown on 24 March 2020, which was later extended till 3 May 2020. Many countries throughout the world have taken similar moves as India. However, the government of India's efforts to stop the spread of the COVID-19 epidemic had an adverse impact on the gross domestic product of the nation. 'One of the most significant segments of the Indian economy is the banking sector, which oversees all financial activities in the nation and acts as a support system for all businesses, including financing, credit, transactions, collection, and payment' (Weber & Darbellay, 2010). The performance of the Indian banking industry in terms of non-performing assets, profitability, advances, and other metrics has been significantly impacted by COVID-19. Indian banks encountered difficulties during the pandemic, which had a negative effect on their earnings. They have overcome various challenges, and the changes they have made have had an impact on their financial standing. Major reasons included an increase in non-performing assets, non-repayment of loans, profitability, and the creation of shareholder wealth. As a result, bank profitability is likely to fall beginning in 2019. The Reserve Bank of India and the Indian government analysed financial performance and the impact of COVID-19 on the banking sector through various policy actions at the national and state levels. Some economists anticipate that the financial sector would take a long time to recover from the effects of the COVID-19 outbreak, particularly in India.

The Indian government has implemented a number of steps to reduce the consequences of the coronavirus outbreak, including a statewide lockdown, a request for residents to remain indoors, the closing of public areas, transportation, social

distancing and working from home (Nicola, 2020). The resulting economic dispersion is substantial, with a temporary reduction in business activity (Perwej, 2020). Governments took mitigation measures to facilitate the development of the innovative COVID-19 (Demirgüç-Kunt et al., 2020). This type of issue has also impacted India's banking industry. Even the World Health Organization (WHO) has advised people to use contactless payment options instead of touching bank notes as much as possible. Banking notes have been used to spread the Coronavirus (Bobade & Alex, 2020).

The pandemic moved the Indian banking system from stable to negative, causing the majority of economic operations to be hampered (Bobade & Alex, 2020). Lockdowns and lowered output have already begun to have an impact on the corporate sector's finances due to corporations' inability to repay their loans. Many people lost their jobs as a result of the pandemic, and they skipped loan payments, which impacted bank efficiency and profitability and raised Non-Performing Assets. As a result, the moratorium, which was declared on 27 March 2020, is one of the RBI's initiatives. All lending institutions have been granted permission by the RBI to stop making instalment payments on all outstanding term loans as of 1 March 2020, for a three-month (later extended to six-month) period. This shows that COVID-19 has had a substantial impact on the banking industry's income statement and financial stability, which has changed a number of variables including profitability ratios, liquidity ratios, solvency and the accumulation of shareholder wealth. Therefore, it is essential to examine the financial performance before and during the COVID-19 period of 12 public sector banks listed in BSE in India.

Literature Review

Dynamically, we find that volatility connection increased during crises, peaking at the time of Covid-19. The study emphasises the importance of large banks in volatility transmission, emphasising the banking system's "too-big-to-fail" trait. Small-medium banks, on the other hand, are key contagion actors, reinforcing the theory that the Eurozone banking system is too interconnected to fail. Finally, we show how the COVID-19 epidemic has created heterogeneity among Eurozone banking institutions. This heterogeneity impact could be a future source of financial instability within the Eurozone. (Foglia et al., 2022)

'The banking system remains a critical component of economic stability, and research on the financial system's impact on the economy during extreme occurrences such as a pandemic is an unavoidable requirement of the moment' writes Trivedi (2021). Kumar and Kumar (2021) carried out,

a research study titled Impact of Covid-19 on Indian Economy with Special Reference to Banking Sector: An Indian Perspective, demonstrates overview of the impact of Covid-19 situation on Indian economy and its banking sector and also analyses the various policy measures taken by Reserve Bank of India and Indian Government at centre level and state level to improve the current economic situation of the country.

Singh and Bodla (2020) carried out,

a research study titled COVID-19 Pandemic and Lockdown Impact on India's Banking Sector: A Systemic Review of the Literature, illustrates the impact of the pandemic on banks and Non-Banking Financial Companies as an outcome of the lockdown, which has resulted in the closure of all commercial organisations, educational institutions, public and private offices, suspension of means of transportation, and so on, by taking into account the perspectives of economists, financial institutions such as the IMF and the World Bank, as well as consulting firms.

Fraser et al. (2016) offer,

four types of ratios used to assess a company's financial performance. They are the liquidity ratio, which describes the company's ability to meet short-term liabilities (debt), the solvency ratio (leverage), which measures the degree to which the company's assets are financed by debt, the activity ratio, which assesses the company's ability to generate income, and the profitability ratio, which assesses the company's ability to generate income.

'ROA analysis, which is commonly interpreted as economic profitability, measures the ability to make profits in the past' (Rhamadana & Triyonowati, 2016). 'The leverage ratio assesses a company's ability to repay all of its debts. The debt-to-equity ratio can be used to calculate this ratio (DER). This figure depicts the issuer's capital structure, which includes both debt and equity' writes Handayani and Zulyanti (2018).

'Earnings per share (EPS), return on equity (ROE), and return on investment (ROI) are all erroneous indicators of a company's profitability' writes Stewart (1991). Stern Stewart developed 'the notion of economic value added, and economic profit or economic value added is founded on the concept of residual income'. Stewart (1994) defined,

Economic Valued Added as the difference between NOPAT (Net Operating Profit After Tax) and Cost of Capital (Equity and Debt). If a company's cost of capital is less than its return or the firm's return surpasses its cost of capital, it is considered to be in a situation where it is creating value for its shareholders.

For years,

'EVA has been used to assess corporate growth, but scholars throughout the world disagree on whether it is the best financial success statistic for organisations and whether it has an impact on stock returns. The findings of this study revealed that in the fishing subsector, there is no significant association between financial ratio, EVA, and exchange rate and stock return' writes Daryanto and Sasongko (2019).

'Economic value added and financial performance, as measured by the current ratio, debt equity ratio, net profit margin, and earnings per share, have a negligible and tiny impact on stock returns' (Tikasari & Surjandari, 2020).

Research Gap

Various ratios and variables, such as ‘business per employee, net profit margin, profit per employee, return on equity, yield on advances, and yield on investments, are taken into account to do the financial performance analysis’. These variables were chosen by a number of researchers in the past, including (Al-Hroot, 2016; Atayah et al., 2022; Bobade & Alex, 2020; Daniya et al., 2016; Das, 2015; Gazi et al., 2022; Mishra & Mishra, 2023; Patel, 2015, 2018; Perwej, 2020; Rakshit & Basistha, 2020; Sahoo & Thakur, 2023; Vulcanovic, 2017). The available literature was insufficient to provide information on aspects of the banking industry’s expansion and shareholders’ wealth during the recent pandemic, such as profitability ratios, liquidity ratios, solvency ratios and economic value added (EVA). As a result, the present study takes into account these variables in order to evaluate the financial performance in relation to the creation of shareholder wealth. In this study, the variables that can lead to higher results are considered.

Here,

a *paired samples t-test* is used to check the before and during the Covid-19 comparative position of short-term profitability, liquidity, solvency and shareholders wealth. When researchers want to compare two variables for the same topic, they employ a paired *t-test*. The two variables are frequently separated by time. The paired *t-test* is regarded vital for determining comparative positive and has been employed by many studies in the past.

For example, Alarifi & Husain (2023), Alsamhi et al. (2022), Benaraba et al., (2022), Das (2015), Duggal (2015), Gurbaxani and Gupte (2021), Harrison et al. (1991), Hasan et al. (2023), Jayaraman et al. (2014), Khan et al. (2021), Normasyhuri et al. (2023), Patel (2015), Rakshit and Basistha (2020), and Vulcanovic (2017). The variables and statistical test are chosen for this study based on the literature review.

Objectives

- To evaluate the financial performance before and during the COVID-19 pandemic of Indian public sector banks using profitability ratio, liquidity ratio, solvency ratio and EVA.

Hypothesis Development

H_{01} : The COVID-19 pandemic has an insignificant impact on profitability, measured using earnings per share (EPS), net profit ratio (NPR), return on capital employed (ROCE), return on asset (ROA) and return on equity (ROE).

H_{02} : The COVID-19 pandemic has an insignificant impact on the liquidity, measured using the current ratio (CR).

H_{03} : The COVID-19 pandemic has an insignificant impact on the solvency, measured using debt to equity ratio (DER).

H_{04} : The COVID-19 pandemic has an insignificant impact on the shareholder's wealth, measured using EVA.

Research Methodology

Purpose: This study is carried out with the objective to know the financial performance before and during the COVID-19 pandemic using profitability ratios, liquidity ratios, solvency ratios and EVA of public sector banks listed on the Bombay Stock Exchange (BSE).

Research Design: The current study is empirical in nature. According to the source, the data used in this study include secondary sources, such as financial statements and monthly closing prices, which are collected from the official website of select public sector banks and BSE covering the study period from 2018–2019 (before COVID-19) to 2019–2020 (during COVID-19).

Population and Sample: This study's population consists of BSE-listed banks. In total, 12 public sector banks listed in BSE are selected as a sample based on availability of data and covering the study period from 2018–2019 to 2019–2020.

Research Variables

Var 1: Profitability ratios especially EPS, NPR, ROCE, ROA and ROE. Profitability ratios show how well banks generate profit and value for their shareholders. Higher ratio outcomes are typically preferred.

Var 2: Liquidity ratios, in particular, the CR is a measure of a bank's short-term solvency status. A CR larger than one indicates that the company is in good financial condition and is less likely to face financial issues.

Var 3: Solvency ratios, particularly the DER, represent the proportion of the business owned by the owners. A high DER (one or higher) indicates that a bank is largely dependent on debt and may not have trouble paying its debts.

Var 4: EVA is used to calculate shareholder wealth. A bank is considered to be heavily dependent on debt if its DER is high (one or greater), meaning it may not have any trouble making debt payments.

Tools to be used for analysis: The following tools were utilised in this study: (1) EVA, (2) financial ratios, (3) descriptive statistics, (4) Shapiro–Wilk normality test and (5) paired samples *t*-test.

The Paired Samples *t*-Test Is Performed as Follows

An observation from one sample can be paired with an observation from the other sample in a paired samples *t*-test (just as before and after are paired observations). The two variables are frequently separated by time. In this study, this test can be

utilised to compare the financial performance of public sector banks before and after the impact of COVID-19. The values of a single pair of numbers that are subtracted from one another are used as the basis for the paired t -test, say X and Y with $x_i \in X, y_i \in Y$, where $i = 1, 2, \dots, n$. Let's assume we have two sets of data that are related to each other, X and Y , with $x_i \in X$ and $y_i \in Y$, respectively. To find the paired t -test, follow the instructions below.

- a. Assume that the null hypothesis's actual mean difference is zero.
- b. Calculate the difference between the observations $d_i = y_i - x_i$.
- c. Determine the average difference.
- d. Calculate the standard error of the mean difference, which is equal to S_d/\sqrt{n} , where n is the total number and S_d is the difference's standard deviation.
- e. Calculate the value of the t -statistic.
- f. Make a comparison to the t_{n-1} distribution. The p -value is displayed.
- g. This difference is denoted by the letter d in the paired t -test formula. The total of the differences of each pair divided by the square root of n times the sum of the differences squared minus the sum of the squared differences, overall $n-1$, is the formula for the paired t -test. The paired t -test formula is as follows:

$$t = \frac{\sum d}{\sqrt{\frac{n(\sum d^2) - (\sum d)^2}{n-1}}}$$

The sum of the differences is denoted by d .

- h. The information comes from people who have been measured twice.
- i. The difference between the two sets of connected observations yields a 95% confidence interval.
- j. The null hypothesis in a paired samples t -test is always:
 $H_0: \mu_1 = \mu_2$ (the two population means are equal)
- k. A two-tailed, left-tailed or right-tailed alternative hypothesis can be used:
(two-tailed): $H_1: \mu_1 \neq \mu_2$ (the two population means are not equal)
(left-tailed): $H_1: \mu_1 < \mu_2$ (population 1 mean is less than population 2 mean)
(right-tailed): $H_1: \mu_1 > \mu_2$ (population 1 mean is greater than population 2 mean)

Data Analysis and Interpretation

The present study has data analysis which includes descriptive statistics, financial ratios, normality tests and paired samples t -test to evaluate the performance of public sector banks in India before and during the COVID-19 pandemic. To choose which statistical tests will be employed for a study, a data normality test is first carried out. The Shapiro–Wilk normality test is used to find out whether the select variables normally distributed or not. Here, the select variables are normally distributed, hence parametric tests can be performed using paired samples t -test.

In the present study, EVA and financial ratios of the select public sector banks are assessed in order to determine the level of growth/decline before and during the COVID-19 pandemic. The findings are presented below:

Figure 1 depicts the performance of EPS, which explained that EPS of eight select banks have grown during the COVID-19 pandemic. EPS of four select banks has declined during the COVID-19 pandemic, which is related to the select bank’s conservative/modern method of dealing with business. However, the above positive result indicates that most of the public sector banks were able to quickly adapt the COVID-19 pandemic situation and manage in utilising their available sources in order to increase the value of shares of the respective banks.

Figure 2 depicts the performance of NPR, which explained NPR of eight select public banks has grown during the COVID-19 pandemic. NPR of four banks have declined during the COVID-19 pandemic, which indicates that the select banks were exercising good cost control. However, the above result showed that most of the select public sector banks were able to quickly adapt the COVID-19 pandemic situation and efficiently convert the invested money into net income.

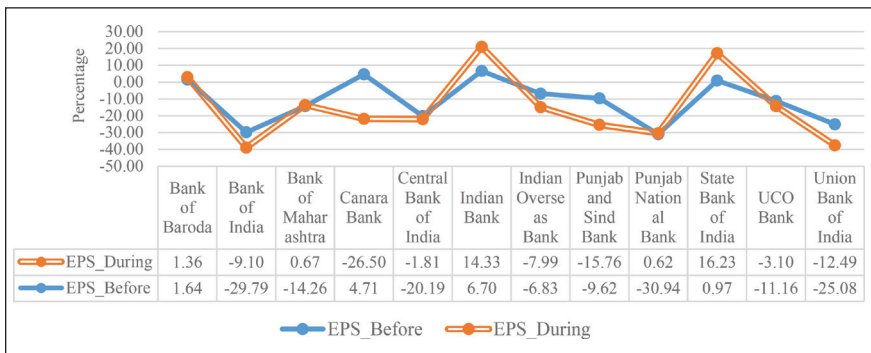


Figure 1. Earning Per Share.

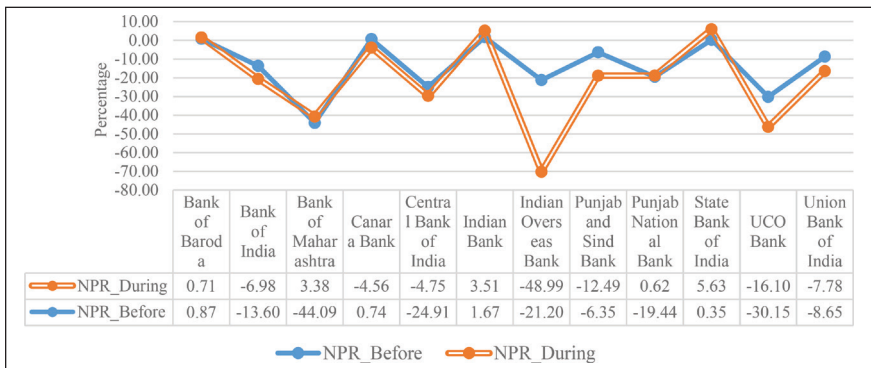


Figure 2. Net Profit Ratio.

Figure 3 depicts the performance of ROCE, which explained ROCE of seven select banks has grown during the COVID-19 pandemic. ROCE of five banks has declined during the COVID-19 pandemic, which indicates that the select banks were efficient in their operations. However, the above result showed that most of the public sector banks were able to quickly adapt the COVID-19 pandemic situation and good at turning sales into profits.

Figure 4 depicts the performance of ROA, which explained ROA of eight select banks have grown during the COVID-19 pandemic. ROA of four select banks have declined during the COVID-19 pandemic. However, the above result showed that most of the select public sector banks were able to quickly adapt the COVID-19 pandemic situation and effectively use the assets in generating income of the respective banks.

Figure 5 depicts the performance of ROE, which explained ROE of eight select banks has grown during the COVID-19 pandemic. ROE of four banks has declined during the COVID-19 pandemic, which indicates that the select banks were effectively use its equity. However, the above result showed that most of the select

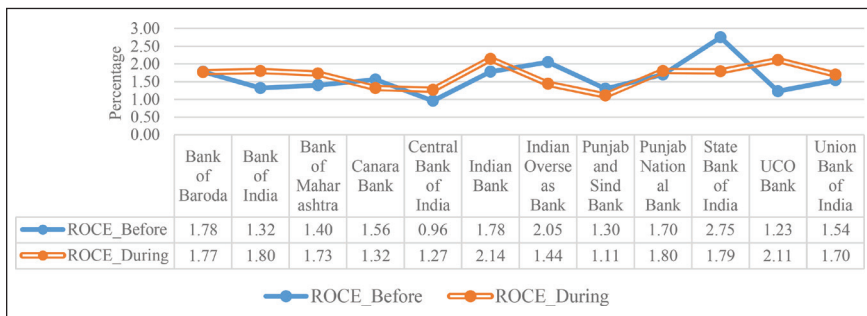


Figure 3. Return on Capital Employed.

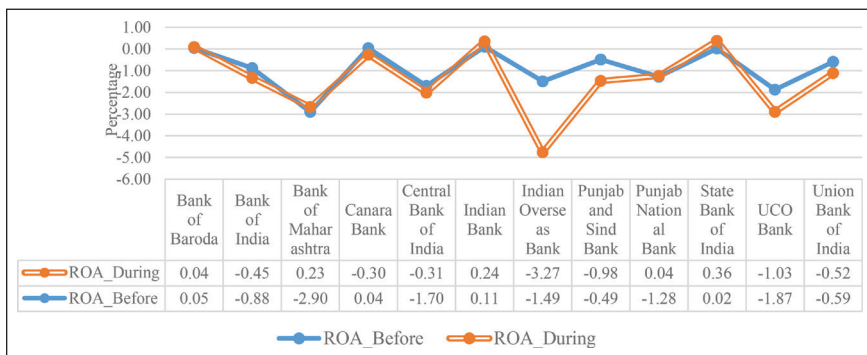


Figure 4. Return on Assets.

public sector banks were able to quickly adapt the COVID-19 pandemic situation and efficiently use their equity capital in generating revenue for the select banks.

Figure 6 depicts the performance of CR, which explained CR of ten select banks has grown during the COVID-19 pandemic. CR of two select banks has declined during the COVID-19 pandemic, which indicates that the select banks have good financial health. However, the above result showed that most of the select public sector banks quickly adapted the COVID-19 pandemic situation and efficiently managed their short-term solvency position.

Figure 7 depicts the performance of DER, which explained DER of two select banks have grown during the COVID-19 pandemic. DER of ten select banks have declined during the COVID-19 pandemic, which indicates that the select banks were not significantly funded by debt. However, the above result showed that most of the select public sector banks were not enough funded by debt and not able to quickly adapt the COVID-19 pandemic situation in relation to financial leverage.

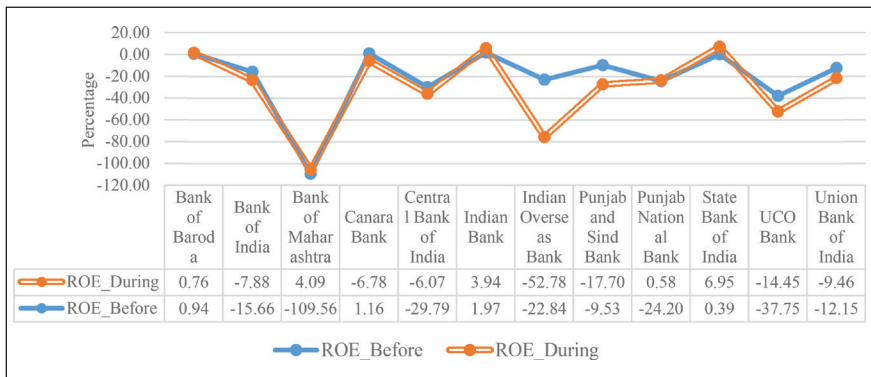


Figure 5. Return on Equity.

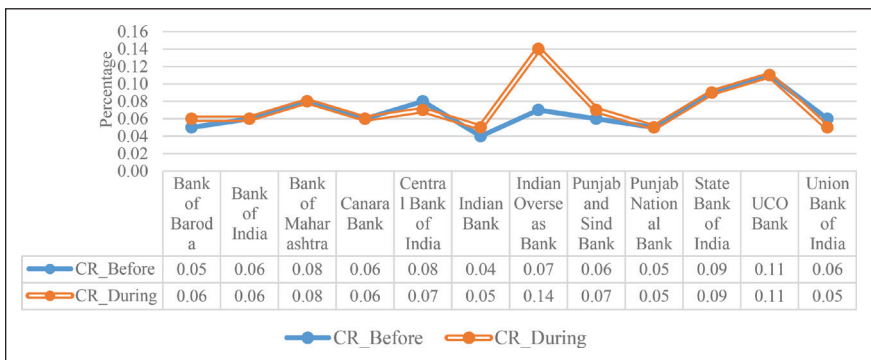


Figure 6. Current Ratio.

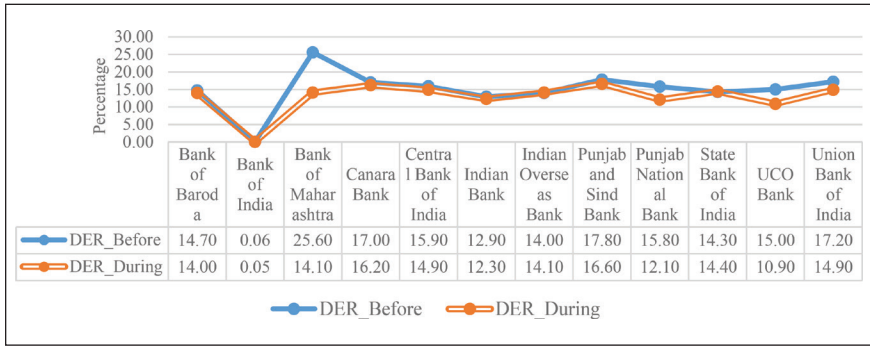


Figure 7. Debt to Equity Ratio.

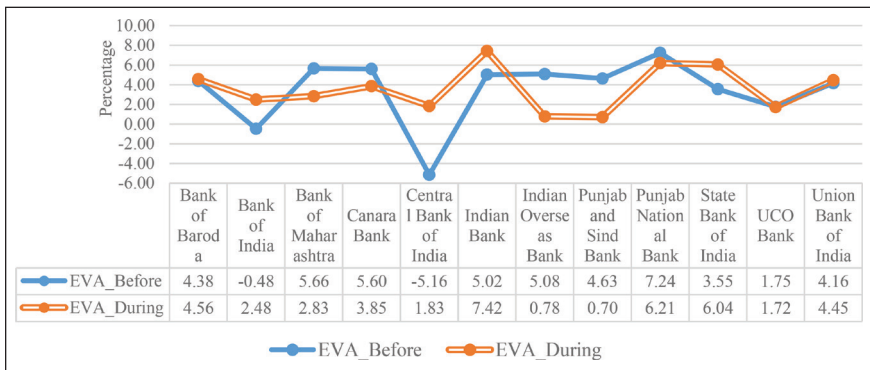


Figure 8. Economic Value Added.

Figure 8 depicts the performance of EVA, which explained EVA of six select banks have improved during the COVID-19 pandemic. EVA of six select banks have declined during the COVID-19 pandemic, which indicates that the chosen banks have created more value for their shareholders than they have destroyed. However, the foregoing result demonstrated that the majority of the chosen public sector banks were able to generate returns sufficient to cover their cost of capital and have been able to increase value for their shareholders throughout the COVID-19 pandemic crisis.

Table 1 shows the findings of the descriptive analysis. From the aspect of profitability ratio, the average value of the EPS before the COVID-19 pandemic and during the COVID-19 pandemic were -11.15 and -3.63, respectively. The increase in average EPS indicated that the COVID-19 pandemic has not harmed the shareholder's income and public sector banks were utilising their available sources to increase the value of their shares. The average value of the NPR before the COVID-19 pandemic and during the COVID-19 pandemic were -13.73 and -7.32, respectively. The positive growth of the average NPR indicated that the

Table 1. Result of Descriptive Statistics of the Select Variables.

| Variables | Minimum | Maximum | Mean | Std. Deviation |
|-------------|---------|---------|--------|----------------|
| EPS_Before | -30.94 | 6.70 | -11.15 | 13.23 |
| EPS_During | -26.50 | 16.23 | -3.63 | 11.98 |
| NPR_Before | -44.09 | 1.67 | -13.73 | 14.59 |
| NPR_During | -48.99 | 5.63 | -7.32 | 14.71 |
| ROCE_Before | 0.96 | 2.75 | 1.61 | 0.46 |
| ROCE_During | 1.11 | 2.14 | 1.67 | 0.32 |
| ROA_Before | -2.90 | 0.11 | -0.92 | 0.95 |
| ROA_During | -3.27 | 0.36 | -0.50 | 0.98 |
| ROE_Before | -109.56 | 1.97 | -21.42 | 30.76 |
| ROE_During | -52.78 | 6.95 | -8.23 | 15.98 |
| CR_Before | 0.04 | 0.11 | 0.07 | 0.02 |
| CR_During | 0.05 | 0.14 | 0.07 | 0.03 |
| DER_Before | 0.06 | 25.60 | 15.02 | 5.72 |
| DER_During | 0.05 | 16.60 | 12.88 | 4.36 |
| EVA_Before | -5.16 | 7.24 | 3.45 | 3.36 |
| EVA_During | 0.70 | 7.42 | 3.57 | 2.21 |

Valid N (listwise): 12

Source: Secondary data.

Note: Earnings per share (EPS), net profit ratio (NPR), return on capital employed (ROCE), return on asset (ROA), return on equity (ROE), current ratio (CR), debt to equity ratio (DER), economic value added (EVA).

public sector banks generated enough profit during the COVID-19 pandemic. The average value of the ROCE before the COVID-19 pandemic and during the COVID-19 pandemic were 1.61 and 1.67, respectively. The positive value of average ROCE indicated that the public sector banks had enough capacity to generate revenue, which is earned from the operations during the COVID-19 pandemic. The average value of ROA of public sector banks before the COVID-19 pandemic and during the COVID-19 pandemic were -0.92 and -0.5, respectively, which indicated that the COVID-19 pandemic situation has not harmed the public sector bank's assets in the way of generating income. The average value of ROE of public sector banks were -21.42 and -8.23, respectively, which indicated that public sector banks were using their equity capital effectively during the COVID-19 pandemic.

Regarding liquidity ratios, the average CR values before and during the COVID-19 epidemic were 0.07 and 0.07, respectively. This showed that public sector banks are in the same position with regard to their ability to employ resources to satisfy their short-term obligations.

In terms of solvency ratio, the average value of the DER before and during the COVID-19 epidemic was 15.02 and 12.88, respectively, which indicated that the public sector banks were not significantly funded by debt during the COVID-19 pandemic.

From the aspect of shareholder's value creation, the average value of the EVA before the COVID-19 pandemic and during the COVID-19 pandemic were

Table 2. Result of Shapiro–Wilk Normality Test of the Select Variables.

| Shapiro–Wilk Test | | | |
|-------------------|-----------|----|-------|
| Variables | Statistic | df | Sig. |
| EPS_Before | 0.836 | 12 | 0.205 |
| EPS_During | 0.844 | 12 | 0.225 |
| NPR_Before | 0.985 | 12 | 0.767 |
| NPR_During | 0.910 | 12 | 0.419 |
| ROCE_Before | 0.750 | 12 | 0.060 |
| ROCE_During | 0.790 | 12 | 0.092 |
| ROA_Before | 0.964 | 12 | 0.637 |
| ROA_During | 0.883 | 12 | 0.333 |
| ROE_Before | 0.998 | 12 | 0.905 |
| ROE_During | 0.927 | 12 | 0.476 |
| CR_Before | 0.893 | 12 | 0.363 |
| CR_During | 0.954 | 12 | 0.588 |
| DER_Before | 0.937 | 12 | 0.515 |
| DER_During | 0.879 | 12 | 0.322 |
| EVA_Before | 0.985 | 12 | 0.768 |
| EVA_During | 1.000 | 12 | 0.960 |

Source: Secondary data.

Note: Earnings per share (EPS), net profit ratio (NPR), return on capital employed (ROCE), return on asset (ROA), return on equity (ROE), current ratio (CR), debt to equity ratio (DER), economic value added (EVA).

3.45 and 3.57, respectively, which indicated that public sector banks has created the value for their shareholders during the COVID-19 pandemic.

Table 2 shows the Shapiro–Wilk normality test findings, and they show that the selected variables were normally distributed with the required statistical criteria at the 5% level of significance (that is, the corresponding significant value of each variable was greater than 0.05). The aforementioned results show that the selected study variables were normally distributed; hence, the parametric statistical test was performed using the paired samples *t*-test.

Pair 1: From Table 3, it can be observed that EPS is statistically insignificant at a 5% level of significance (Sig. > 0.05). Therefore, the null hypothesis H_{01} is accepted. A high significance value of more than 0.05 indicates that there is no significant difference between EPS before and during the COVID-19 pandemic. Based on the result of profitability position, it can be concluded that the COVID-19 pandemic has had a weak impact on EPS.

Pair 2: From Table 3, it can be observed that NPR is statistically insignificant at a 5% level of significance (Sig. > 0.05). Therefore, the null hypothesis H_{01} is accepted. A high significance value of more than 0.05 indicates that there is no significant difference between NPR before and during the COVID-19 pandemic. Based on the result of profitability position, it can be concluded that the COVID-19 pandemic has had a weak impact on NPR.

Pair 3: From Table 3, it can be observed that ROCE is statistically insignificant at a 5% level of significance (Sig. > 0.05). Therefore, the null hypothesis H_{01} is accepted. A high significance value of more than 0.05 indicates that there is no significant difference between ROCE before and during the COVID-19 pandemic. Based on the result of profitability position, it can be concluded that the COVID-19 pandemic has had a weak impact on ROCE.

Pair 4: From Table 3, it can be observed that ROAs are statistically insignificant at a 5% level of significance (Sig. > 0.05). Therefore, the null hypothesis H_{01} is accepted. A high significance value of more than 0.05 indicates that there is no significant difference between ROAs before and during the COVID-19 pandemic. Based on the result of profitability position, it can be concluded that the COVID-19 pandemic has had a weak impact on ROAs.

Pair 5: From Table 3, it can be observed that ROE is statistically insignificant at a 5% level of significance (Sig. > 0.05). Therefore, the null hypothesis H_{01} is accepted. A high significance value of more than 0.05 indicates that there is no significant difference between ROE before and during the COVID-19 pandemic. Based on the result of profitability position, it can be concluded that the COVID-19 pandemic has had a weak impact on ROE.

Pair 6: From Table 3, it can be observed that CR is statistically significant at a 5% level of significance (Sig. < 0.05). Therefore, the null hypothesis H_{02} is rejected. A low significance value of less than 0.05 indicates that there is a significant difference between CR before and during the COVID-19 pandemic. Based on the result of liquidity position, it can be concluded that the COVID-19 pandemic has had a strong impact on CR.

Pair 7: From Table 3, it can be observed that DER is statistically significant at a 5% level of significance (Sig. < 0.05). Therefore, the null hypothesis H_{03} is rejected. A low significance value of less than 0.05 indicates that there is a significant difference between DER before and during the COVID-19 pandemic. Based on the result of solvency position, it can be concluded that the COVID-19 pandemic has had a strong impact on DER.

Pair 8: From Table 3, it can be observed that EVA is statistically significant at a 5% level of significance (Sig. < 0.05). Therefore, the null hypothesis H_{04} is rejected. A low significance value of less than 0.05 indicates that there is a significant difference between EVA before and during the COVID-19 pandemic. Based on the result of shareholders' value creation, it can be concluded that the COVID-19 pandemic has had a strong impact on EVA.

Table 3. Result of Paired Samples t-Test of Select Variables.

| Pair Nos | Variables | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | t-Statistic | df | Sig. (2-Tailed) |
|----------|--------------------------|---------|----------------|-----------------|---|--------|-------------|----|-----------------|
| | | | | | Lower | Upper | | | |
| Pair 1 | EPS_Before - EPS_During | -7.526 | 16.048 | 4.633 | -17.722 | 2.671 | -1.625 | 11 | 0.133 |
| Pair 2 | NPR_Before - NPR_During | -13.422 | 19.948 | 8.921 | -38.191 | 11.347 | -1.504 | 11 | 0.207 |
| Pair 3 | ROCEBefore - ROCE_During | -0.051 | 0.498 | 0.144 | -0.367 | 0.266 | -0.353 | 11 | 0.730 |
| Pair 4 | ROA_Before - ROA_During | -0.900 | 1.407 | 0.629 | -2.648 | 0.847 | -1.431 | 11 | 0.226 |
| Pair 5 | ROE_Before - ROE_During | -0.487 | 0.691 | 0.399 | -2.202 | 1.229 | -1.220 | 11 | 0.347 |
| Pair 6 | CR_Before - CR_During | 0.220 | 0.129 | 0.037 | 0.139 | 0.302 | 5.935 | 11 | 0.000 |
| Pair 7 | DER_Before - DER_During | -2.127 | 0.708 | 0.204 | -2.577 | -1.677 | -10.404 | 11 | 0.000 |
| Pair 8 | EVA_Before - EVA_During | -2.207 | 2.291 | 0.725 | -3.846 | -0.568 | -3.046 | 11 | 0.014 |

Source: Secondary data.

Note: Earnings per share (EPS), net profit ratio (NPR), return on capital employed (ROCE), return on asset (ROA), return on equity (ROE), current ratio (CR), debt to equity ratio (DER), economic value added (EVA).

Conclusion, Suggestion and Limitations

This research leads to the following conclusions: (a) Profitability ratios showed positive improvement during the COVID-19 pandemic situation, this might have indicated that the public sector banks can generate enough income to cover the bank's expenses and also indirectly increase the shareholder's wealth; (b) liquidity ratio of public sector banks are showed positive improvement during the COVID-19 pandemic situation, which indicated that banks seem to be reduced to giving their loan out in order to maintain more liquid cash and assets to prevent unpredictable situation occurred during COVID-19 pandemic; (c) according to the financial leverage of public sector banks, the decline in financial leverage is due to a decrease in debt capacity. Although there are some evidence that some banks' increased financial leverage is due to previously unutilised loan capacity; (d) from the wealth creation point of view, some of the public sector banks have experienced that decline in EVA and some of them have experienced that increment in EVA. So, the reason might cause by the conflict of interest between the shareholders and some bank's management level especially during the COVID-19 pandemic situation. In most cases banks would prefer capital funds from investors and be able to create wealth for their shareholders; (e) there are no significant differences in the profitability ratio of public sector banks between before and during the COVID-19 pandemic; (f) there are significant differences in the liquidity ratio, solvency ratio and EVA of public sector banks between before and during the COVID-19 pandemic; (g) all of these findings are consistent with paired sample *t*-test, which demonstrated that most of the select banks had no positive influence on profitability during the COVID-19 epidemic, while others few has had changed; and (h) the public sector banks have experienced the growth in EPS, NPR, ROCE, ROAs, ROE, CR and EVA during the COVID-19 pandemic, while the public sector banks have experienced a decline in DER during the COVID-19 pandemic.

The results of this study can be used as a source of useful information for investors, and prospective investors can use the data to make financial decisions in the event of a COVID-19 pandemic breakout. The government can utilise the study's findings to decide how important it is to provide the impacted public sector banks with the proper tax incentives. In order to lessen the negative impact on the financial performance of the banking sectors during pandemic conditions and clear the way for a long-term recovery, policymakers must be prepared to scale up their response as circumstances change. To prevent long-term economic harm to the banking industry and other financial institutions, they must simultaneously make sure that decisions are founded on legislation and that discretion is restrained.

This study's limitations are as follows: Only hypotheses can be proven by researchers 02, 03 and 04, where these hypotheses proved that CR, DER and EVA have a significant difference between before and during the COVID-19 pandemic. Meanwhile, EPS, NPR, ROCE, ROA and ROE have not changed significantly between before and throughout the COVID-19 pandemic. Hypothesis 01 is not proven, so it is important to re-examine variables with variations of another indicator to measure bank's profitability. The study did not look at changes in the

financial performance of other key financial sectors, therefore the findings are still limited to public sector banks. It is anticipated that more research will be done on the private sector banks, small finance banks, non-banking financial companies, and other related financial sectors with the highest potential for improved financial performance with respect to EVA and financial ratios in order to concentrate investor attention more precisely.

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