International Journal of Business and Management Sciences **E ISSN**: 2708 – 4337 **P ISSN:** 2708 – 4329
Available online at http://www.ijbms.org
International Journal of Business and Management Sciences
Volume 04 (04), 2023
Received, 17 November, 2023, *Accepted, 28 December, 2023,* *Published, 31 December, 2023.*

The Effect of Covid-19 on the Financial Performance of Banking Industry in Pakistan: A comparative study of Public & Private Banks

[1]Shafat Zaman, [2] Asim Rahman, [3] Naveed Khan, [4] Nisar Khan

Keywords:
COVID-19, Financial Performance, Banking Industry, Pandemic, Epidemic,

ABSTRACT

The study aims to investigate the effect of covid-19 epidemic on the financial performance of banking industry of Pakistan, with comparative analysis regarding effect of pandemic on the financial performance of public and private sector of Pakistan banks. The research study sample includes 33 banks which are divided into four sectors. For the current study normality test, Shapiro-wilk and skuwness- kurtosis and Wilcoxon Sign Rank Test has been used on the data extracted from annual financial statements of 5 years (2018 to 2022). The study results determind that Covid-19 pandemic put miner effect on the financial performance of banking industry of Pakistan, when banking financial performance during covid-19 compared with before pandemic crises situation. Moreover, the results determined that financial performance of banking industry was adversely affected by covid-19 pandemic, when banking financial performance of during epidemic was compared with the post pandemic situation. Furthermore, the findings revealed that pandemic has significant and negative effect on the financial performance of public & private sector banks in Pakistan when during and before pandemic situation comparison was made. Furthermore, the study concluded that covid-19 outbreak has positive and insignificant effect on the financial performance of public sector banks, while financial performance of private sector banks witnessed negative and significant effect of outbreak, when financial performance of banking sector during covid-19 outbreak was compared with post epidemic banking performance crises situation. The study findings are helpful for policy makers like investors and banks managements and may help them for decision making regarding their managing and investment activities.

INTRODUCTION

Covid-19 was the epidemic that affect entire world, "in accordance with the report presented by World Health Organization in November,(2021), the confirmed covid-19 positive cases

[1] *MS Scholer, Abbottabad University of Scince and Tecnology. Email shafqatjadoon10@gmail.com*
[2] *Assitant Proffeser, Abbottabad University of Scince and Tecnology. Email rahman_yz@hotmail.com (Corresponding Author)*
[3] *Lecturer, Abbottabad University of Scince and Tecnology. Email: naveedkhan1988_2007@yahoo.com*
[4] *Director Finance, Employee Social Security Institution, Pakistan. Email: nisar_wazir@hotmail.com*

have reached to 20 billion and around five million people died throughout the world". It started on 20 Dec 2019 from Wuhan china and had quickly affected the whole world. Covid-19 has a strong infection nature, so it affected and continue to affect all parts of the world, (Akinsorotan, O. A., Olaniyi, O. E., Adeyemi, A. A., & Olasunkanmi, A. H. 2021). Covid-19 virus can be transferred from one person to another very quickly, Consequently, Covid-19 cases that are positive multiplies on daily basis and increased in number, (Ichsan, Suparmin, Yusuf, Ismal & Sitompul, 2021). Covid-19 is deadly in nature, so there was need to take some measure against this virus, for this purpose government of the countries forcedly imposed restriction and limitation that changed the lifestyle of whole world, (Hassan, S. A., Sheikh, F. N., Jamal, S., Ezeh, J. K., & Akhtar, A. (2020). To counter the spread of pandemic, governments put plans in place to lessen the effects of COVID-19. Such as traveling restrictions, closedowns, restrictions on social gatherings, shutdown of unimportant business (Kunt, Pedraza, & Ortega, 2021). According to Elnahass, Trinh & Li, (2021), "the pandemic threatened the whole world economy, as well as also activated a massive financial shock. These drastic waves affected the financial market badly. Banking industry has suffered from sudden pandemic shock". Pandemic was the main cause of economic recession and covid-19 also threatened bank profitability that reduced bank income, and these causes create borrowers' inability to repay debt (Perkins & Gnanarajah, 2021). Every country has financial institution which deals in the money and credit transaction, these financial institutions also called banks, these institution provides variety of financial services such as accept people deposits, mobilized fund to businesses for production, and also deals money transfer (Simian, 1998). According to Marcu, M. R. (2021), bank has licensed to deposit money and issuance loans, banks activities include money management, exchange of currency, etc. other kinds of bank includes (investment banks, corporate banks, retail banks, commercial banks). Banks industry endured some problems during the pandemic restrictions and bank operation. The result conducted from various geographical regions e.g. (America/China versus, United Kingdom/ European countries and other etc) bank sizes like (large vs small) etc, (Elnahass, Trinh & Li, 2021). Research revealed that outbreak has a considerable negative impact on the earnings of US and Chinese institutions. Prior research studies have revealed, covid-19 outbreak had increased banks systematic risk around the world and put harmful influence on financial stability and performance of banks (Elnahass, et, al., 2021., Berger, Moshirian, & Saunders 2021., Duan, El Ghoul, Guedhami& Li, 2021). Pandemic effects might expend to banks, taking to loss of income and a cause bad debt, which will adversely affect profits of the banks, resource and capital". Therefore, banks have threatened to confront with a huge credit risk, which caused rise in structural weakness (Duan, et, al, 2021). The findings of another study revealed that e-service equality had a noteworthy and positive impact on the e-loyalty of customers using online banking services in Pakistan. The research also demonstrated a significant relationship between e-service quality and e-loyalty among customers during COVID-19 pandemic. Moreover, it was observed that e-satisfaction played a vital role as a full mediator between e-service quality and e-loyalty of customers, (Khan, Arshad, & Munir, 2023).

Covid-19 in Pakistan.

Pakistan announced its initial instance of corona virus on Feb 26, 2020, and furthermore, number of cases till 15 March was 53, but in next 10 days cases increased to 1078 (Dawn News, 2020). Pandemic patients jumped out till 26 July 2020 was 274289, and confirm number of cases of covid-19 during 2020 & 2021 was 564077 and 927946 (The Ministry of NHSR&C, 2020). Self-isolation or forced quarantine was also having a significant financial impact; this had even been shown in the instance of china. Due to its apparent support for the populations quarter that lived below the poverty line. Pakistan's government had not yet chosen to impose a mandatory quarantine. Although exact data is still pending, it was anticipated that the bulk of population, who worked in the informal sector, were experienced severe financial hardship. Pakistan is one of the world's poorer nations. It was regarded as an emerging economy as well. There was hence cause for concern. The economic system of that tine was already broken.Things could get worse in a few months if the projected financial problems of the business world were not anticipated,(Khan, et al, 2021).

COVID-19's Financial and Economic Impact.

The World Health Organization classified COVID-19 a worldwide epidemic in Mar 2020, (Golubeva, 2021), (Jackson, Weiss, & Schwarzenberg, Nelson, & Sutter, Sutherland, 2021). This worldwide outbreak has had unimaginable effects on economy and quality of life, (Padhan, &Prabheesh, 2021, Wahyuhadi, Efendi, Al farabi, etc, 2022).In 2020, COVID-19 significantly harmed international trade, and global economy's growth trend was anticipated to remain weak compared to pre-pandemic conditions, (Arrosal, Kowalski,Tongreen, 2022). According to IMF estimates, COVID-19 cost the global economy $3.86 trillion in lost GDP by 2020, (Insaidoo, Arthur, Amoako, &Andoh, 2021). According to World Bank, It was anticipated that pandemic's arrival would cap global economic growth at 5.2%, (IMF, 2020). In statistic, (Szmigiera, 2022) predicted that major economies will have a 2.9% decline after

2020. Consequently, covid-19 outbreak affected 90 trillion USD amounts of industries around the world, (Golubeva, 2021). Despite these negatives, the globle's economic situation was improving,(World Bank, 2021).

Impact of Covid -19 on Banking Performance during pandemic worldwide.

Understanding the effects of COVID-19 on the financial sector and the macroeconomic conditions of various countries has been the subject of extensive research, (Abasimel, &Fufa, 2021). Regarding the consistency of financial institutional performance, (Elnahass, Trinh, &LI, 2021), regarding bank lending globally, (Colak, &Oztekin, 2021), based on global banks stock performance, employing market index data and firm-level data, compared the performance of conventional and Islamic stocks,(Shear, & Ashraf, 2022), based on the results of publicly traded commercial firms, (Shen, Fu, Pan, Yu, &Chen, 2020,Golubeva, 2021). The spread of outbreak was a shock to world economy and had a big impact on it. Banks and other financial industries were anticipated to profit from this shock, (Berger, et, al, 2021). According to Apergis, (2022), showed that NPLs from EU banks became a serious source of concern present time of outbreak, posing considerable risks to banking stability and profitability.

ROA (Return on assets).

ROA serves as a key measure for assessing a bank's capacity, reflecting its effectiveness and efficiency in utilizing assets to generate profits. This metric provides valuable insights into how well banks are leveraging their resources to achieve profitability, offering a crucial indicator of their financial performance and overall health. ROA has an indicator for the measurement of financial performance of banks, when return on assets increases and bank's profitability increases automatically, (Purwoko, & Sudiyatno, 2013). According to SunYunpeng, & Li Ying, (2021), defined as positive for ROA, ROE, and ATO, respectively. ROA and ROE had a substantial positive correlation. Regression results suggested that heterogeneity in the effect of COVID-19 on financial performance of Chinese listed firms. Pandemic harmed efficiency of Chinese listed firm and return on assets, ROE, ATO, revenue, slashed sharply in the very first part of 2020. The outbreak negatively impacted revenue but ROA, ROE, ATO, had minor adverse effect on these variables. Hong, (2022) study results described that average value of return on assets has decreased, and the ROA value changed because pandemic had negative impacted on financial performance of the companies. Given the aforementioned research on COVID-19 pandemic and ROA, following hypothisis is proposed,

H1: *COVID-19 pandemic cases have significant relationship with Return on Assets (Financial performance Measure) of banking industry in Pakistan.*

Return on Equity (ROE).

According to Gitman, & Zutter, (2012), ROE is a measure of profit earned on capital invested by the ordinary shareholder, Taswan, (2010) also defined that ROE gauges a bank's capacity to generate a profit from equity investment. ROE calculates rate of return for shareholder on its common stocks. Return on equity evaluates company's performance trough generation of profit from its every unit of owner's equity. This is also called total assets minus total liability. The study, Amnim, Aipma, Prince, Fabian, (2021), examined how the COVID-19 pandemic affected financial health and success of Nigerian businesses. The study examined the correlation between COVID-19 epidemics and the liquidity, profitability of businesses using LR, ROE. The following hypothesis is postulated in relation to the literature on COVID-19 outbreak and ROE,

H2: *COVID-19 pandemic cases have significant relationship with Return on Equity (Financial performance Measure) of banking industry.*

Revenue.

Revenue is the major source of business, it keeps your business alive, and when a company wants to increase their profit,the company needs to increase revenue. Kaylee Dewitt, (2022) also define 'revenue is money that keeps your business alive. Revenue is lifeline for every business."Revenue" denotes the complete economic gain (including cash, receivables, and other assets) derived from an entity's regular business activities, which encompass the sale of goods and services, interest, royalties, and dividends (IAS 18.7). Research examined the connections between bank profit, risk, and the COVID-19 outbreak and the use of noninterest earnings. Result of the study showed that performance and noninterest revenue was positively related with each other, but inverse relationship with risk (Li, Feng, Zao, Carter, 2021).Based on the existing literature concerning the COVID-19 pandemic and revenue, the following hypothesis is proposed.

H3: *COVID-19 pandemic cases have significant relationship with Revenue (Financial performance Measure) of banking industry.*

Based on the above discussion it is possible to identify two-fold problem that serve as a point of depart for the current investigation. Firstly, existing literature has highlighted the effect of Covid-19 epidemic on banking industry in various countries around the globe. So that recent research starts with the examination of covid-19 outbreak effect on financial performance of banking industry in Pakistan. Secondly, study seeks to examine the specific effects of Covid-19 epidemic on financial performance of both public and private sector banks in Pakistan. By focusing on these two problem areas, research endeavors to shed light on the challenges and implications faced by banking sector during pandemic, providing valuable insights into how different types of banks were affected in the country.

METHODOLOGY

To answer the research issues and evaluate the hypotheses, a quantitative research approach was used. In addition, quantitative research involves gathering data to statistically analyze and measure facts, thereby providing evidence to either support or challenge different knowledge claims, (Williams, 2011). This research study intends to evaluate the financial performance of banking industries of Pakistan in pandemic. In this regard researchers considered 33 banks, and divide these banks into two groups such as (public and private), five banks in government and twenty seven banks in private sector and the study adopted the sample determined by (Rahman, 2022) mentioned below.

Table: 1 Sector Wise Samples and Population.

Sector	Population N	Sample (n)
Public Sector Commercial Banks	5	5
Specialized Banks	4	4
Privates Banks	20	20
Foreign Banks	4	4

Source: Adapted *from* Rahman, A. (2022).

In this quantitative study, researchers have employed secondary data from banks' annual financial reports, which were publicly disclosed. The data covers a five-year period from 2018 to 2022 and is used to analyze the financial performance of the banking industry. To conduct the analysis, descriptive statistics, the Shapiro-Wilk test, Skewness and Kurtosis Normality test analysis, and the Wilcoxon Rank test were applied. The research analysis was performed using STATA software. The primary focus of the study is to examine the effect of the outbreak on the financial performance of the banking industry.

ANALYSIS

Descriptive Analysis.

Based on the findings presented in Table1, the descriptive analysis indicates a notable rise in the average return on assets ratio (ROA) within the Pakistan banking industry during the period of the Covid-19 epidemic when compared to the pre-epidemic period. Before the epidemic, the average value of the return on assets ratio (ROA) was 0.345, whereas during the COVID-19 epidemic, the ROA average value increased positively to 1.299, representing a rise of 0.9536. However, after the COVID-19 period, the ROA average value dropped to -.006, indicating a considerable decline compared to both the pre-epidemic and epidemic periods.The decrease in the financial performance indicator, with a decrease of 1.305 in the mean value of ROA from the pandemic period to the post-pandemic period, suggests that the COVID-19 epidemic negatively impacted the financial performance of the banking industry during the pandemic, compared to the period after the pandemic.When examining the changes in the mean values of the ROE (Return on Equity) ratio, it becomes evident that the average mean value of the ROE ratio experienced an increase during the COVID-19 pandemic, as compared to the periods before and after the epidemic. Prior to the Covid-19 outbreak, the ROE ratio had an average mean value of -63.652. However, during the epidemic, the mean ROE ratio rose to -28.433, and after the epidemic, it further increased to 0.17. This rise in mean value of the ROE ratio clearly indicates that outbreak had a positive effect on the financial performance indicator, ROE ratio, suggesting that the banking industry's financial performance was positively affected during the COVID-19 pandemic compared to both pre-epidemic and post-epidemic periods.Upon further examination of financial success aspects, specifically variations in the average mean value of Revenue, it was discovered that the performance indicator for Revenue experienced an increase during and after the COVID-19 pandemic. This indicates that the COVID-19 pandemic had a positive effect on the performance indicator of Pakistan banks.Before the epidemic crisis, the mean value of Revenue stood at 45.515. However, both before and after the COVID-19 epidemic, the mean value of the Revenue performance indicator saw a notable rise, reaching 56.922 and 95.877, respectively. These findings suggest that the COVID-19 pandemic positively impacted the financial performance of Pakistan banks, leading to increased Revenue during and post the pandemic period, compared to the pre-pandemic period.

Table1: Descriptive Statistic.

Variables	Obsv	Mean	Std.Dev.	Min	Max
PC19ROA1819	33	.345	2.125	-8.28	5.12
PC19ROE1819	33	-63.652	426.463	-2437.46	72.35
PC19Revene1819	33	45.515	52.636	0	202
DC19ROA2021	33	1.299	6.658	-10.39	35.47
DC19ROE2021	33	-28.434	212.031	-1195.25	42.02
DC19Revenue2021	33	56.922	65.555	.1	251.51
PostcvId19ROA22	33	-.006	.062	-.321	.055
PostcvId19ROE22	33	.017	.314	-1.643	.234
Postcvid19revenue22	33	95.877	107.891	.143	503.576

Note: *ROA (Return on Assets), ROE (Return on Equity), REVE(Revenue), PC (Pre Covid-19), DC (During Covid-19), Postcvid (Post Covid-19)*

Data Normality Tests.

The normality test was employed to assess the normal distribution of the data. If the results of the normality test are found to be significant, it indicates that the data does not follow a normal distribution. Consequently, using a statistical parametric test on such data would not be appropriate. In this scenario, an analysis utilizing a non-parametric statistical test becomes feasible and suitable for the data that doesn't meet the assumptions of normality.

Shapiro-Wilk Test.

Table (2) displays the results of the Shapiro-Wilk normality test. The findings indicate that the research data was not normally distributed, as evidenced by the significance levels of 0.05 > 0.00 for every observation. Due to the non-normal distribution of the data, it was inappropriate to use parametric tests for analysis. Instead, a non-parametric Wilcoxon Sign Rank test was employed to compare the financial performance of the banking industry in Pakistan.

Table2: Shapiro-Wilk Test of Normality.

Variables	Obsv	W	V	Z	Prob>0
PC19ROA1819	33	0.789	7.187	4.102	0.000
PC19ROE1819	33	0.196	27.435	6.888	0.000
PC19Rev~1819	33	0.791	7.122	4.083	0.000
DC19ROA2021	33	0.459	18.463	6.065	0.000
DC19ROE2021	33	0.243	25.831	6.763	0.000
DC19Rev~2021	33	0.797	6.916	4.022	0.000
PostcvId~A22	33	0.468	18.149	6.029	0.000
PostcvId~E22	33	0.428	19.537	6.182	0.000
Postcvid1~22	33	0.794	7.020	4.053	0.000

Skuness –Kurtosis test.

To assess the normality of the data, the Skewness-Kurtosis test was conducted, and the results are presented in Table (3). The findings revealed that the research data did not follow a normal distribution, with significance levels of 0.05 > 0.00 for every single event, as indicated in Table (3).Due to the non-normal distribution of the data, using a parametric statistical method to test the data was not appropriate. Therefore, a non-parametric Wilcoxon sign-rank test was employed to compare the financial performance of the banking industry in Pakistan before, during, and after the pandemic. This non-parametric test provided a suitable approach to measure the financial performance of the banking industry, considering the data's distributional characteristics.

Table: 3 Skewness/Kurtosis tests.

Variables	Obsv	Pr(Skewness)	Pr(Kurtosis)	Adj-chi2(2)	Prob>chi2
PC19ROA1819	33	0.000	0.000	21.670	0.000
PC19ROE1819	33	0.000	0.000	51.150	0.000
PC19Rev~1819	33	0.000	0.020	13.730	0.001
DC19ROA2021	33	0.000	0.000	41.920	0.000
DC19ROE2021	33	0.000	0.000	49.980	0.000
DC19Rev~2021	33	0.001	0.022	13.380	0.001
PostcvId~A22	33	0.000	0.000	41.790	0.000
PostcvId~E22	33	0.000	0.000	45.920	0.000
Postcvid1~22	33	0.000	0.002	18.270	0.000

Wilcoxon Signed-Rank.

The W-Sign Rank test results indicated significant differences in the financial performance of banking industry in Pakistan before, during, and after the COVID-19 crisis. As shown in Table (4), the figures of ties for ROA and ROE ratios were 3, suggesting that three banks had identical ROE and ROA values during the COVID-19 period compared to pre-COVID-19 outbreak. However, for Revenue, there was a ties value of 0, signifying that no banks had the same Revenue value during the COVID-19 outbreak compared to pre-COVID-19 epidemic situation. This information highlights the distinct patterns in financial performance indicators during different phases of the pandemic for banking industry in Pakistan.According to the data presented in Table (4), there were 8 banks that witnessed a decline in their ROA (Return on Assets) value, while 22 banks experienced an increase in their ROA during the COVID-19 outbreak compared to the pre-epidemic period. This trend is evident from the (-)ve ranks at N figure of 8 and the (+)ve ranks at N figure of 22 for ROA.Regarding the ROE (Return on Equity) value, 8 banks observed a decrease, and 22 banks observed an increase during the pandemic compared to the period before the pandemic. This is evident from the (-)ve ranks at N figure of 8 and(+)ve ranks at N figure of 22 for ROE.Similarly, concerning Revenue, 5 banks experienced a decrease in their revenue, while 28 banks saw an increase during the pandemic compared to the period before the pandemic. This trend is shown by (-)veranks at the N figure of 5 and(+)ve ranks at the N figure of 28 for Revenue. The data illustrates varying performance trends in these financial indicators for different banks during COVID-19 epidemic compared to pre-epidemic situation.

According to the data in Table (4), there were 5 banks that witnessed a decrease in their ROA (Return on Assets) value, while 28 banks experienced an increase in their ROA during COVID-19 outbreak compared to the period after pandemic. This pattern is evident from the (–ve) ranks at N figure of 5 and(+ve) ranks at the N figure of 28 for ROA.Similarly, with regard to the ROE (Return on Equity) value, 5 banks observed a decrease, and 28 banks observed an increase during pandemic compared to the period after pandemic. This is demonstrated by (-ve) ranks at N figure of 5 and the (+ve) ranks at N figure of 28 for ROE.

The results presented in Table (4) indicated that there was statistically an insignificant difference in the value of Return on Assets (ROA) and Return on Equity (ROE) during the COVID-19 pandemic compared to the period prior pandemic. This is evident from Sig (two-tailed) values of 0.0524 and 0.0696, both of which are greater than the significance level of 0.05. However, for Revenue, there was a significant difference between the values during the COVID-19 outbreak compared to the period prior outbreak, as indicated by the Sig (Two-Tailed) value of 0.0000, which is less than the significance level of 0.05.Additionally, the data in Table (4) revealed that the levels of ROA, ROE, and revenue during COVID-19 pandemic compared to the time after epidemic differed statistically. The Sig (Two-Tailed) values of 0.0093, 0.0004, and 0.0000, respectively, suggest that the differences observed were statistically significant for these variables. Based on these findings, it can be concluded that H1 and H2 are refused, indicating that there was no significant effect on ROA and ROE of the banking industry in Pakistan during epidemic crisis compared to prior the COVID-19 outbreak. However, H3 is approved, as Revenue demonstrated a significant effect during the pandemic. In contrast, the latter case study concluded that H1, H2, and H3 are approved, signifying that there was a significant effect on ROA, ROE, and Revenue of the banking industry in Pakistan during and after COVID-19 outbreak. These differing conclusions may arise due to variations in the methodologies or specific data used in each case study.

Table 4: Wilcoxon Signed-Rank Test.

		N	**Sum of Rankings**	**Z-Statistic**	**Sig**
	(-)ve Ranking	8	169	1.940	0.0524
During COVID19ROA	(+)Ranking	22	386		
Before COVID-19ROA	Ties	3			
	Total	33			

	(-)ve Ranking	8	176	1.815	0.0696
During COVID-19ROE	(+)Ranking	22	379		
Before COVID-19ROE	Ties	3			
	Total	33			
	(-)ve Ranking	5	24	4.583	0.0000
During COVID-19REV	(+)veRanking	28	537		
Before COVID-19REV	Ties	0			
	Total	33			
	(-)ve Ranking	5	135	2.600	0.0093
During COVID-19ROA	(+)veRanking	28	426		
Post COVID-19ROA	Ties	0			
	Total	33			
	(-)ve Ranking	5	84	3.511	0.0004
During COVID-19ROE	(+)veRanking	28	477		
Post COVID-19ROE	Ties	0			
	Total	33			
During COVID-19REV	(-)veRanking	30	522	-4.135	0.0000
Post COVID-19REV	(+)veRanking	3	39		
	Ties	0			
	Total	33			

Wilcoxon Sign-Rank Test for Public Banks.

According to the findings presented in Table (5), the financial performance of public banks in Pakistan exhibited variations during the periods before, during, and after the COVID-19 crisis. The table showed that the values of ties for the ROA and ROE ratio were 1, indicating that one bank had the same ROE and ROA values during the epidemic compared to the situation before the COVID-19 outbreak. This suggests a limited similarity in ROE and ROA values for that particular bank between these two periods. On the other hand, the ties value for Revenue was 0, meaning that there were no identical values for Revenue during the COVID-19 period compared to the time before the pandemic.As indicated by the rankings in Table (5), the impact of COVID-19 outbreak on financial performance of public banks in Pakistan was evident across different metrics. Specifically, concerning the Return on Assets (ROA) ratio, there was 1 bank that experienced a decline, while 3 banks saw an increase in their ROA values during pandemic compared to the period before outbreak. The (-)ve ranks at N=1 and (+)ve ranks at N=3 demonstrate these changes. Regarding the Return on Equity (ROE) value, 2 banks witnessed a decrease in their ROE values, while 2 other banks experienced an increase during COVID-19 pandemic compared to the time prior pandemic.

This is illustrated by (-)ve ranks at N= 2 and the (+)ve ranks at N= 2. Furthermore, data in Table (5) revealed that the Revenue values for public banks showed distinct trends during COVID-19 epidemic. Notably, 0 banks suffered a decrease in Revenue, while 5 banks saw a gain during pandemic compared to the period prior outbreak. This information is highlighted by (-)ve ranks at N= 0 and the (+)ve ranks at N=5. In summary, the rankings in Table (5) clearly demonstrate that COVID-19 pandemic had varied effects on financial performance of public banks in Pakistan. Different banks experienced changes in their ROA, ROE, and Revenue values, indicating the heterogeneous impact of the pandemic on banking sector during outbreak.

According to the information presented in Table (5), financial performance of public banks in Pakistan exhibited varying patterns during and after COVID-19 outbreak. Specifically, in terms of Return on Assets (ROA) ratio, there was 1 bank that experienced a decrease, while 4 banks saw an increase in their ROA values during pandemic compared to the period after outbreak. This trend is evident from (+)ve ranking at N figure of 4 and (-)ve ranking at N figure of 1.Regarding the Return on Equity (ROE) value, 2 banks witnessed a decrease, while 3 other banks experienced an increase during COVID-19 pandemic compared to the period after pandemic. This is demonstrated by the (-)ve ranking at N figure of 2 and (+)ve ranking at N=3. Furthermore, data in Table (5) also revealed the effect on Revenue values for public banks. During the COVID-19 epidemic, 4 banks suffered a decrease in Revenue value, while 1 bank experienced an increase compared to the period after outbreak. This information highlights the (-)ve ranking at N figure 4 and (+)ve ranking at N figure of 1.

In conclusion, Table (5) clearly indicates that the COVID-19 pandemic had diverse effects on financial performance of public banks in Pakistan. Different banks experienced fluctuations in their ROA, ROE, and Revenue values, indicating the varied impact of the pandemic on banking sector during and after outbreak. The results from Table (5) of Wilcoxon sign-rank test indicate significant findings for financial performance indicators during COVID-19 pandemic compared to prior pandemic. Specifically, for ROE and Revenue values, the Sig Two-tailed values were 0.0000 and 0.0431, respectively, both of which are less than the significance level of 0.05. This suggests that there was a statistically significant difference in the ROE and Revenue values during COVID-19 epidemic compared to the period before epidemic. However, in the case of ROA, Sig Two-Tailed value was 0.1736, which is greater than the significance level of 0.05. This indicates that there was no statistically significant difference in the ROA values during COVID-19 outbreak compared to the time prior pandemic.To summarize, the Wilcoxon sign-rank test results demonstrate that COVID-19 epidemic had a significant effect on ROE and Revenue values, but it did not lead to a statistically significant difference in ROA values when comparing the period during outbreak to the period prior pandemic.

The findings from Table (5) of the study reveal important insights regarding the effect of the COVID-19 pandemic on the financial performance indicators of public sector banks in Pakistan. Firstly, the Sig (Two-Tailed) values of 0.5002, 0.6858, and 0.0796 demonstrate that there was no statistically significant change between the ROA, ROE, and revenue values during and after crisis comparison of COVID-19 pandemic. As a result, the study concludes that H1 is rejected, indicating that COVID-19 epidemic did not have a statistically significant effect on the ROA of public sector banks in Pakistan. On the other hand, H2 and H3 are accepted, indicating that there were statistically significant effects on the ROE and revenue of these banks during and prior crisis comparison of COVID-19 outbreak. This aligns with the results presented earlier, which showed significant changes in ROE and revenue values during the pandemic compared to before epidemic.However, it's essential to note that conclusion drawn from the study is different from what was originally anticipated. The study refused H1, suggesting that pandemic did not have a significant effect on ROA, while H2 and H3 are approved, indicating significant effects on ROE and revenue. In later case, the study findings indicate that COVID-19 pandemic had an insignificant effect on ROA, ROE and revenue values for public sector banks in Pakistan. These results contradict the initial expectations, leading to rejection of H1 and acceptance of H2 and H3 in study.

Table 5: Wilcoxon Sign- Rank Test of Public Sector Banks.

		N	Sum of Ranks	Z-Statistic	Sig
During COVID19ROA Before COVID-19ROA	(-)veRanking	1	2	1.361	0.1736
	(+)veRanking	3	12		
	Ties	1	1		
	Total	5			
During COVID-19ROE Before COVID-19ROE	(-)ve Ranking	2	7	1.0000	0.000
	(+)veRanking	2	7		
	Ties	1	1		
	Total	5			
During COVID-19REV Before COVID-19REV	(-)ve Ranking	0	0	2.023	0.0431
	(+)veRanking	5	15		
	Ties	0	0		

	Total	5			
During COVID-19ROA	(-)ve Ranking	1	5	0.674	0.5002
	(+)veRanking	4	10		
Post COVID-19ROA	Ties	0	0		
	Total	5			
During COVID-19ROE	(-)ve Ranking	2	6	0.405	0.6858
	(+)veRanking	3	9		
Post COVID-19ROE	Ties	0	0		
	Total	5			
During COVID-19REV	(-)ve Ranking	4	14	-1.753	0.0796
	(+)veRanking	1	1		
Post COVID-19REV	Ties	0	0		
	Total	5			

The Wilcoxon Sign-Rank Test of Private Banks.

Table (6) indicates that there were no tied values for Return on Assets (ROA), Return on Equity (ROE), and Revenue during COVID-19 pandemic compared to the period before pandemic. This means that there were no identical values observed for ROA, ROE, and Revenue during the crisis, implying that financial performance indicators were distinct and exhibited significant variations betweentwo-time frames.The results from Table (6) provide valuable insights into the financial performance of private sector banks during COVID-19 outbreak compared to the period prior epidemic.Regarding Return on Assets (ROA), data shows that 5 banks experienced a decline, while 15 banks saw an increase in their ROA values during COVID-19 outbreak compared to prior the epidemic. This is evident from the (-)ve ranking at N = 5 and (+)ve ranking at N = 15. These findings indicate that the COVID-19 outbreak had diverse effects on the ROA of different banks, with some experiencing a decrease and others witnessing an improvement in their financial performance.In terms of Return on Equity (ROE), 3 banks saw a decrease in their ROE values, while 17 banks experienced an increase during the pandemic compared to before the pandemic. This is illustrated by the (-)ve ranking at N = 3 and (+)ve ranking at N = 17. The results suggest that COVID-19 epidemic had varied effect on ROE of private sector banks, leading to both positive and negative changes in financial performance.

Furthermore, with regards to Revenue, 1 bank experienced a decline, while 19 banks saw an increase in their Revenue values during the COVID-19 epidemic compared to before epidemic. This can be observed from the (-)ve ranking at N = 1 and (+)ve ranks at N = 19. These findings highlighted varying effects of the pandemic on Revenue of different banks, with some facing a decrease and others enjoying growth in their financial performance. Table

(6) clearly demonstrates that COVID-19 outbreak had diverse effects on the financial performance of private sector banks in Pakistan. The changes in ROA, ROE, and Revenue values varied among different banks, with some experiencing improvements while others faced declines during pandemic compared to the period prior pandemic. Regarding Return on Assets (ROA), the data shows that 2 banks experienced a decrease, while 18 banks saw an increase in their ROA values during COVID-19 outbreak compared to after pandemic. This is evident from the (-)ve ranking at N = 2 and (+)ve ranks at N = 18. These findings indicate that COVID-19 outbreak had varying effects on the ROA of different banks, with some facing a decline and others witnessing an improvement in their financial performance during epidemic compared to after the outbreak.In terms of Return on Equity (ROE), 1 bank saw a decrease in its ROE value, while 19 banks experienced an increase during the outbreak compared to post pandemic. This is illustrated the (-)ve ranking at N = 1 and (+)ve ranking at N = 19. The results suggest that COVID-19 outbreak had diverse impacts on the ROE of private sector banks, leading to both positive and negative changes in financial performance during and after the outbreak.

Furthermore, with regards to Revenue, 19 banks experienced a decline, while 1 bank registred growth in its Revenue value during epidemic compared to prior the epidemic. This can be observed from (-)ve ranking at N = 19 and the (+)ve ranking at N = 1. These findings highlights the varying effects of the pandemic on Revenue of different banks, with majority facing a decrease in their financial performance during the epidemic compared to prior pandemic.In conclusion, Table (6) provides clear evidence that the COVID-19 outbreak had diverse impacts on financial performance of private sector banks in Pakistan. The changes in ROA, ROE, and Revenue values varied among different banks, with some experiencing improvements while others faced declines during and after the pandemic.

The current study revealed that there was a significant difference in the values of Return on Equity (ROE) and Revenue during COVID-19 outbreak compared to prior epidemic. The Sig (Two-Tailed) values of 0.0045 and 0.0001 (both less than 0.05) indicate that changes in ROE and Revenue were statistically significant. This suggests that pandemic had a significant effect on ROE and Revenue values of private sector banks during the outbreak. On the other hand, present study found no significant difference in Return on Assets (ROA) during the COVID-19 outbreak compared to before pandemic. The Sig (Two-Tailed) value of 0.0859 (greater than 0.05) indicates that the changes in ROA were not statistically significant, implying that COVID-19 pandemic had an insignificant effect on ROA values of private sector banks.Additionally, the study results demonstrate a statistically significant change in the values of ROA, ROE, and Revenue period during the epidemic and after COVID-19 epidemic. The Sig (Two-Tailed) values of 0.0137, 0.0015, and 0.0015 indicate that changes in these financial performance indicators were statistically significant present time of outbreak compared to after the pandemic. This suggests the COVID-19 pandemic had a significant effect on ROA, ROE, and Revenue values of private sector banks.

In conclusion, the research study concludes that H1 is not supported, indicating that COVID-19 pandemic had an insignificant effect on ROA. However, H2 and H3 are supported, suggesting that the pandemic had significant effects on ROE and Revenue of private sector banks during outbreak compared to prior covid-19. The study also indicates that during and post COVID-19 pandemic comparison all three hypotheses were supported, this indicated that there were significant changes in ROA, ROE, and Revenue.

Table: 6 Wilcoxon Sign-Rank Test of Private Banks.

		N	Sum of Ranking	Z-Statistic	Sig
During COVID19ROA Before COVID-19ROA	(-)ve Ranking	5	59	1.717	0.0859
	(+)veRanking	15	151		
	Ties	0	0		
	Total	20			
During COVID-19ROE Before COVID-19ROE	(-)ve Ranking	3	29	2.837	0.0045
	(+)veRanking	17	181		
	Ties	0	0		
	Total	20			
During COVID-19REV Before COVID-19REV	(-)ve Ranking	1	1	3.883	0.0001
	(+)veRanking	19	209		
	Ties	0	0		
	Total	20			
During COVID-19ROA Post COVID-19ROA	(-)ve Ranking	2	39	2.464	0.0137
	(+)veRanking	18	171		
	Ties	0	0		
	Total	20			
During COVID-19ROE Post COVID-19ROE	(-)ve Ranking	1	20	3.173	0.0015
	(+)veRanking	19	190		
	Ties	0	0		
	Total	5			
During COVID-19REV Post COVID-19REV	(-)ve Ranking	19	190	-3.173	0.0015
	(+)veRanking	1	20		
	Ties	0	0		
	Total	5			

Conclusion

This research paper aims to conduct a comprehensive and systematic analysis to understand how epidemic has affected financial performance of the banking sector in Pakistan. By examining this crucial aspect, study aims to shed light on the sector's vital contribution to the nation's overall economic well-being.The primary objective of this research study was to examine the financial performance of banking industry in Pakistan over last five years, encompassing the periods before, during, and after COVID-19 outbreak. Additionally, study aimed to compare financial performance of public and private sector banks in the country during the same period to understand specific effects of COVID-19 epidemic on these sectors. The findings from the research study indicated that COVID-19 pandemic had a positive effect on the profitability ratios of banking industry, such as Return on Assets (ROA) and Return on Equity (ROE). However, it had an adverse effect on the revenue of the banking industry when comparing the financial performance during pandemic to the period prior outbreak.

Moreover, research study revealed that the COVID-19 pandemic significantly affected various aspects of the banking industry's financial performance, including ROA, ROE, and Revenue. The current study showed that COVID-19 pandemic had differing effects on the financial performance of banking industry in Pakistan. Overall, the pandemic's effect on the banking industry's financial performance was significant, affecting multiple key indicators. Based on the findings of current research study, it can be concluded that COVID-19 pandemic had a relatively minor effect on financial performance of banking industry in Pakistan when comparing performance during pandemic to the period prior outbreak. However, when comparing financial performance of banking industry during epidemic to the period after pandemic, it is evident that COVID-19 outbreak had an adverse impact.

Based on the findings of present research study, it is evident that COVID-19 outbreak had a significant effect on financial performance of public banks in Pakistan when comparing performance before and during the pandemic crisis. During this period, the financial indicators of Return on Assets (ROA), Return on Equity (ROE), and Revenue showed statistically significant results, indicating a notable impact of the pandemic on public banks' financial performance. However, when comparing financial performance of public banks during epidemic to period after the crisis, all three indicators, ROA, ROE, and Revenue, did not produce significant results. This suggests that COVID-19 epidemic had a positive effect on the financial performance of public banks during this phase.

The finding of the current research study result suggests that private bank financial performance has severely effect by covid-19 outbreak compare during pandemic crises with prior and after epidemic situation. The findings of the current research study provide robust evidence that the financial performance of public sector banks is superior to that of private sector banks before, during, and after the COVID-19 outbreak crisis. In addition, the corona virus significantly harms financial performance of private bank instead of public sector banks. The current research study's findings carry substantial implications for examining the banking industry's financial performance during the pandemic crisis, as well as for comparing epidemic situations before and after the outbreak.

The study findings can be utilized to advise the government on the banking industry's significance for the economy, prompting them to implement appropriate measures to support the industry during such challenging times in the future. Consequently, the financial sector measures implemented by the government during the pandemic are likely to have been advantageous in preparing the banking sector for future emergencies. Moreover, by assessing the financial performance of the banking sector from 2018- 2022, experts can make informed predictions about the industry's growth and the country's economic recovery over the next 10 to 20 years.

Future Recomendation

- For future researcher, we suggest that future research can focus on quarterly data of banking industry for improve the accuracy of analytical estimates.
- Furthermore, experts may also consider various other financial performance factors, such as the earnings per share ratio, current ratio, quick ratio, liquidity, and leverage ratio, among others. These additional metrics can provide a comprehensive assessment of the banking industry's overall financial health and stability.
- Future researcher can also expected to add more industries like, hospitality, hotel etc to check the covid-19 pandemic cries effect on financial performance of these industries.
- The inspection has been carried out for five year future researcher may also expend the periods of the study.

REFERENCES

AbabulguAbasimel, N., & Wana Fufa, H. (2021).The horrors of COVID-19 and the recent macroeconomy in Ethiopia. *Journal of the Knowledge Economy*, 1-16.

Akinsorotan, O. A., Olaniyi, O. E., Adeyemi, A. A., & Olasunkanmi, A. H. (2021). Corona virus pandemic: Implication on biodiversity conservation. *Frontiers in Water*, *3*, 635529.

Aliaga, M., & Gunderson, B. (2002). Interactive statistics. Virginia. *America: Pearson Education*.

Amnim, O. E. L., Aipma, O. P. C., & Obiora, C. F. (2021). Impact of covid-19 pandemic on liquidity and profitability of firms in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, *11*(3), 1331-1344.

Apergis, N. (2022). Convergence in non-performing loans across EU banks: The role of COVID19. *Cogent Economics & Finance*, *10*(1), 2024952.

Arkhipova, A. N., Turkova, V. N., & Kuznetsova, O. N. (2021, April). World economy development forecast during the COVID-19 pandemic. In *IOP Conference Series: Earth and Environmental Science* (Vol. 751, No. 1, p. 012132). IOP Publishing.

Bank's Financial Performance during the Covid-19 Pandemic. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, 298-309.

Berger, A. N., Demirgüç-Kunt, A., Moshirian, F., & Saunders, A. (2021). The way forward for banks during the COVID-19 crisis and beyond: Government and central bank responses, threats to the global banking industry. *Journal of Banking & Finance*, 133, 106303.

Çolak, G., & Öztekin, Ö. (2021).The impact of COVID-19 pandemic on bank lending around the world. *Journal of Banking & Finance*, 133, 106207.

DAWN. (2020). *A month on, Pakistan's Covid-19 trajectory from patient zero to 1,000 and beyond*. DAWN

Demirgüç-Kunt, A., Pedraza, A., & Ruiz-Ortega, C. (2021).Banking sector performance during the COVID-crisis. *Journal of Banking & Finance*, 133, 106305.

Duan, Y., El Ghoul, S., Guedhami, O., Li, H., & Li, X. (2021). Bank systemic risk around COVID-19: A cross-country analysis. *Journal of Banking & Finance*, *133*, 106299.

Elnahass, M., Trinh, V. Q., & Li, T. (2021). Global banking stability in the shadow of Covid-19 outbreak. *Journal of International Financial Markets, Institutions and Money*, *72*, 101322.

George A Selgin 2023, https://www.britannica.com/topic/bank.

Gitman, L. J., & Zutter, C. J. (2012). *Principles of Managerial Finance (13th ed.).* Boston, MA.

Golubeva, O. (2021). Firms' performance during the COVID-19 outbreak: International evidence from 13 countries. Corporate Governance: *The International Journal of Business in Society*, *21*(6), 1011-1027.

Hassan, S. A., Sheikh, F. N., Jamal, S., Ezeh, J. K., & Akhtar, A. (2020). Coronavirus (COVID-19): a review of clinical features, diagnosis, and treatment. *Cureus*, *12*(3).

Hu, S., & Zhang, Y. (2021). COVID-19 pandemic and firm performance: Cross-country evidence. *International review of economics & finance*, *74*, 365-372.

Insaidoo, M., Arthur, L., Amoako, S., & Andoh, F. K. (2021). Stock market performance and COVID-19 pandemic: evidence from a developing economy. *Journal of Chinese Economic and Foreign Trade Studies*, *14*(1), 60-73.

International Monetary Fund. (2020). World Economic Outlook, A Long and Difficult Ascent. *Journal of International Financial Markets, Institutions and Money*, *72*, 101322.

Kaylee Dewitt, (2022), https://www.patriotsoftware.com/blog/accounting/revenue-basics-small-business/

Khan, F. N., Arshad, M. U., &Munir, M. (2023). Impact of e-service quality on e-loyalty of

Li, X., Feng, H., Zhao, S., & Carter, D. A. (2021).The effect of revenue diversification on bank profitability and risk during the COVID-19 pandemic. *Finance Research Letters*, *43*, 101957.

Marcu, M. R. (2021). The impact of the COVID-19 pandemic on the banking sector. *Management Dynamics in the Knowledge Economy*, *9*(2), 205-223.

NGUYEN, T. X. H., PHAM, T. H., DAO, T. N., NGUYEN, T. N., & TRAN, T. K. N. (2020). The impact of foreign ownership and management on firm performance in Vietnam. *The Journal of Asian Finance, Economics and Business (JAFEB)*, *7*(9), 409-418.

Padhan, R., & Prabheesh, K. P. (2021). The economics of COVID-19 pandemic: A survey. *Economic analysis and policy*, *70*, 220-237.

Perkins, D. W., Gnanarajah, R., Labonte, M., & Scott, A. P. (2020). COVID-19 and the Banking Industry: Risks and Policy Responses. *Congressional Research Service (CRS) Reports and Issue Briefs*, NA-NA.

Purwoko, D., & Sudiyatno, B. (2013). Faktor-faktor yang mempengaruhi kinerja bank (Studi empirik pada industri perbankan di Bursa Efek Indonesia). *Jurnal Bisnis dan Ekonomi*, *20*(1).

Rababah, A., Al-Haddad, L., Sial, M. S., Chunmei, Z., & Cherian, J. (2020). Analyzing the effects of COVID-19 pandemic on the financial performance of Chinese listed companies. *Journal of Public Affairs*, *20*(4), e2440.

Rhamadana, R. B., & Triyonowati, T. (2016). Analisis rasio keuangan untuk menilain kinerja keuangan pada pt. hm sampoerna Tbk. *Jurnal Ilmu dan Riset Manajemen (JIRM)*, *5*(7).

Shear, F.; Ashraf, B.N. The performance of Islamic versus conventional stocks during the COVID-19 shock: Evidence from firm-level data. Res. *Int. Bus. Financ*. 2022, 60, 101622.

Shen, H., Fu, M., Pan, H., Yu, Z., & Chen, Y. (2020). The impact of the COVID-19 pandemic on firm performance. *Emerging Markets Finance and Trade*, *56*(10), 2213-2230.

SRO, S. N. (2022). Ministry of National Health Services Regulations & Coordination.

Sun Y and Li Y (2021) COVID-19 Outbreak and Financial Performance of Chinese Listed Firms: Evidence From Corporate Culture and Corporate Social Responsibility. *Front. Public Health* 9:710743. doi: 10.3389/fpubh.2021.710743.

Szmigiera, M. (2021). *Impact of the coronavirus pandemic on the global economy-Statistics & Facts*. Accessed Sep, 17.

Taswan, C., & Si, M. (2010).ManajemenPerbankan. Yogyakarta: UPP STIM YKPN YogyakartaPurwoko, D., &Sudiyatno, B. (maret, 2013).Faktor-Faktor Yang MempengaruhiKinerja Bank (StudiEmpirikPadaIndustriPerbankan di Bursa Efek Indonesia). *Journal Bisnisdan Ekonomi (JBE)*, *20*(1), 25-39.

Williams, C. (2007). Research Methods. *Journal of Business & Economics Research (JBER)*, *5*(3). https://doi.org/10.19030/jber.v5i3.2532

World Bank. (2021). The global economy: On track for strong but uneven growth as COVID-19 still weighs. *Feature Story*.