AFRICAN JOURNAL OF ACCOUNTING AND SOCIAL SCIENCE STUDIES (AJASSS)

Volume 4 Issue No. 1 2022



Tanzania Institute of Accountancy (TIA)
P. O. Box 9522, Dar es Salaam, Tanzania
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AFRICAN JOURNAL OF ACCOUNTING AND SOCIAL SCIENCE STUDIES (AJASSS)



Volume 4 Issue No. 1 ISSN 2591-6815

Published by the Tanzania Institute of Accountancy P.O. Box 9522, Dar Es Salaam, TANZANIA

TANZANIA INSTITUTE OF ACCOUNTANCY (TIA)



AFRICAN JOURNAL OF ACCOUNTING AND SOCIAL SCIENCE STUDIES (AJASSS)

Volume 4 Issue No. 1 June 2022

ISSN 2591-6815 eISSN2591-6823 ONLINE

Published by the Tanzania Institute of Accountancy P. O. Box 9522, Dar Es Salaam, TANZANIA

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AFRICAN JOURNAL OF ACCOUNTING AND SOCIAL SCIENCE STUDIES (AJASSS)

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AFRICAN JOURNAL OF ACCOUNTING AND SOCIAL SCIENCE STUDIES (AJASSS)

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The Impact of Covid-19 Pandemic, Liquidity and Profitability: Experience from Selected Banks in Tanzania

Anthony Magoma¹ and Haika Mbwambo²

Abstract

This study aimed to examine the effects of COVID 19 pandemic on the liquidity and profitability of the Tanzanian banks that are listed in the Dar es Salaam Stock Exchange. The study realised the objective by comparing the profitability and liquidity trend before and after the emergence of COVID-19. The differences between these values were then statistically examined to evaluate the impact of COVID 19 on the trends before and after the outbreak. The secondary data on the six selected banks were derived from the audited financial accounts for the six-year period (2016 to 2021), which included the three years prior to and three years after the COVID 19 outbreak. The results showed that liquidity positions of most banks had deteriorated. Regarding profitability, the results indicate that small sized banks experienced more declining profitability than was the case with big banks. Furthermore, the statistical difference between the means of liquidity (proxy by liquidity ratio) and profitability (ROA) before and after COVID 19 were statistically insignificant at a 5 per cent level of significance. This implies that the impact of COVID 19 on liquidity and profitability of the selected banks was minimal. The study provided an insight on the evidence that to a great extent the selected listed banks managed to mitigate the impact of COVID-19 pandemic as they were not severely affected resulting from the bailout strategy devised by the Central Bank of Tanzania (BOT).

Keywords: COVID-19 pandemic, liquidity, profitability, listed banks

Received: 25-02-2022 **Accepted:** 30-04-2022 **Published:** 30-06-2022

doi: https://dx.doi.org/10.4314/ajasss.v4i1.6

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1. Introduction

It is vital to note that the COVID-19 has spread to about 227 countries since its emergence in Wuhan, China, resulting in over 6,300,325 deaths and infecting over 527,681,824 people globally (Worldometer, 2022). This virus has been classified a "Global Pandemic" by the World Health Organization (WHO) (Hughes, 2020; Mohiuddin, 2020). The COVID-19 pandemic affected numerous business operations across nearly all industries, and the impact is still being felt today, raising concerns about what lies ahead in various markets and the economy as a whole. For example, it is reported that in the first quarter of 2020, Indonesia's economy slimmed down by 3.49 per cent compared to the previous year (Azimkulovich,& Misdiyono, 2021) while China's economy shrank by -20 percent or more in the first quarter of 2020 (Liu, 2020). In South Africa, according to Arndt, et al. (2020), the aggregate GDP at factor cost decreased by 34 per cent in the full shock.

The financial industry is one of the most essential engines of economic growth. The financial industry would be incomplete without the banking system. The role of the banks in performing intermediate functions and in the wealth generation process cannot be overstated. The banking sector is one of the most complicated economic sectors in the world because of its contribution to global economic development and financial stability (Assaf,et.al, 2019; Henriques,et.al, 2020). However, the banking sector has been severely affected by the ongoing COVID-19 pandemic and it has passed through difficult times.

The overall profitability and liquidity are some of the banks' primary concerns. Simply put, liquidity is the ability to transform assets or securities into cash quickly. The primary function of the bank is to create liquidity, yet it is also a significant source of risk (Moussa, & Boubaker, 2020). According to Bharti and Singh(2014), the bank's primary function of resilience necessitates deliberate policies and operations to address risks. The bank is liquid if it can meet its own obligations, repay deposits, and fulfil client requests in time (Moussa, & Boubaker, 2020; Charmler, Musah, Akomeah, 2018). Insufficient liquidity is a major cause of the bank's failure; therefore in turbulent times, the banks may decide to raise liquidity holdings to lower the risks (Al-Alawnh1 et al., 2022).

On the other hand, profitability refers to a situation in which revenues surpass expenses (Katusiime, 2021). Making a profit in the banking system, however, is the key to achieving stability. To increase earnings, every legislation enacted around the world requires the use of business facilities provided by commercial banks(Al-Alawnh1 et al., 2022).

According to Demir and Danisman (2021), most banks experienced liquidity challenges in the early phases of the pandemic, which was exacerbated by volatility in securities and foreign exchange markets. Poor liquidity management caused a liquidity crisis for the majority of the banks. The COVID-19 caused a liquidity crisis since consumers and businesses chose to save their money because of not being able to create additional cash (Azimkulovich & Misdiyono, 2021; Karim, Shetu, & Razia, 2021). Liquidity risk is an issue that not only affects the bank's performance, but also the bank's reputation, as the banks risk losing depositor confidence if the money is not delivered in time. A low liquidity position, in the worst scenario, may result in sanctions from regulatory agencies such as the Central Bank (Moussa, & Boubaker, 2020; Charmler, Musah, Akomeah, 2018). Thus, it is imperative that the banks maintain a sound liquidity arrangement. Moreover, liquidity and profitability are fundamentally incompatible. If banks hold more liquidity, their profitability suffers, and if profits increase, liquidity must be lowered.

Empirical research on COVID 19's effects in Tanzania has concentrated on sectors such as manufacturing, retail commerce, tourism, transportation which were all negatively affected (Pantaleo, & Ngasamiaku, 2021;Henseler, Maisonnave, & Maskaeva, 2022;Mwamwaja & Mlozi, 2020). As for the listed companies at DSE, it was reported that companies that chose a lockdown approach after the Covid 19 saw a decline in performance (Mtaturu,2021). Little empirical evidence exists for the banking industry. Thus, this study aims to address this gap in literature by analysing the impact of COVID-19 on the liquidity and profitability of six selected listed banks in Tanzania. This study makes empirical contribution by highlighting the measures employed by the Bank of Tanzania. The study further gives a snapshot of the profitability and liquidity positions of the selected banks and makes a statistical test to examine if the differences in the profitability and liquidity positions at pre and post the

outbreaks are significant. In doing so, the study considers a timeline of six years, three years before and three years after the outbreak of the pandemic. The banks that were mostly affected by the pandemic could emulate the measures used by the banks that were less affected to lessen the impact of future crises on their respective banks.

2. Literature Review

2.1 The role of Central Bank of Tanzania in mitigating the impact of COVID 19 pandemic

The Central Bank utilized a variety of strategies to lessen the effects of COVID 19, including regulating the currency rate to reduce the impact of high prices. With effect from June 8, 2020, the statutory minimum reserves requirement were lowered from 7 to 6 percent. With effect from May 12, 2020, the discount rate were reduced from 7 to 5 percent. This allowed the banks to borrow money at a lesser cost, resulting in lower lending rates from the banks. The daily transaction cap for clients using mobile money rose from three to five million Tanzanian shillings (Boru,2020). The banks were urged to evaluate the difficulties that borrowers were facing paying back loans as a result of COVID-19 and examine the potential of modifying the debts. These actions could in one way or the other affect the profitability and liquidity of banks

2.2 The trend of liquidity and profitability positions of banks at pre and post COVID 19

Abdullah M, (2015) assessed the trend of liquidity and profitability Prior to the COVID-19 pandemic in Bangladesh and found that, on average, all the banks were doing better than before in terms of liquidity and profitability due to the deployment of technology. Another study conducted in India (Bharti & Singh, 2014) found that foreign and private banks had higher liquidity and profitability trends than public banks. In Ghana, a study by Lartey, Antwi, and Boadi (2013) revealed that the liquidity and profitability trends was stable and the bank's profitability and liquidity had a positive relationship. Similar results are also reported by other researchers (i.e., Al Nimer et al., 2015; Charmler, Musah & Akomeah, 2018)).

Empirical evidence reveals that liquidity and profitability trend at Post COVID-19 pandemic was unstable. In Nepal, Pokharel (2020) the examination is made to investigate the impact of various gatherings of banks. In particular, Government owned bank and private area banks on the financial business in such manner. Five out of twenty four individual private division banks and one out of three, government claimed banks have been considered with the end goal of the investigation for as sample. The investigation depends on optional information gathered from the Nepal Rastra Bank's site just as yearly report of concern banks. To beat the examination objective clear measurements are utilized to portray the essential highlights of the information in the investigation, and inferential insights have been utilized to get to the effect of non-performing assets on profitability of the banks. Besides, credit deposit ratio, employee expenses over all out operating expenses and gross nonperforming assets have been taken in to thought as free factor and Return on assets and earnings per share are a piece of ward variable. The appraisal of private part banks uncovers that the development pace of NPAs is low when contrasted with the administration claimed Agriculture Development Bank. The administration claimed bank has neglected to deal with the issue of unsecured loan adequately because of which the development in such loans has been marvelously high.

Besides, the effect of NPA on profitability has been done as positive in relationship. (Pokharel, 2020 reported that the trend of average profitability of commercial banks was largely zigzag, moreover, the trend of liquidity ratios of the bank was reported to be unstable and was below the prescribed standard. In Bangladesh, Karim, Shetu, and Razia (2021) revealed that the banks reported lower liquidity ratios. In Indonesia, the Covid-19 pandemic had minor detrimental influence on profitability as profitability of most the banks was steady in 2020, though profit growth was lower than the previous year (Rahmi, & Sumirat, 2021). In Kenya, Mathias (2021) demonstrates that bank profits fell during the COVID 19 outbreak in comparison to the previous year. The initial period of the crisis was reported to be predominantly characterised by liquidity concerns, taking into account a variety of banks and countries (Demir, & Danisman, 2021; Demirguc-kunt & Ruiz-ortega, 2020). As a result,

it is necessary to assess how COVID 19 may have impacted the liquidity and profitability of Tanzanian banks.

2.3 COVID-19 pandemic and Liquidity position in Banks

According to Demirguc-kunt and Ruiz-ortega (2020), in the early stages, most banks had liquidity constraints, which were worsened by volatility in the securities and foreign exchange markets due to COVID 19. In Bangladesh, (Karim, Shetu, and Razia 2021) reveal that the banking system before the advent of COVID-19 already had lower liquidity ratio and poor financial health, the situation which was worsened after the outbreak of COVID-19 due to an increase in NPLs, capital flight, and aggressive lending practices. According to Pokharel (2020)the examination is made to investigate the impact of various gatherings of banks. In particular, Government owned bank and private area banks on the financial business in such manner. Five out of twenty four individual private division banks and one out of three, government claimed banks have been considered with the end goal of the investigation for as sample. The investigation depends on optional information gathered from the Nepal Rastra Bank's site just as yearly report of concern banks. To beat the examination objective clear measurements are utilized to portray the essential highlights of the information in the investigation, and inferential insights have been utilized to get to the effect of non-performing assets on profitability of the banks. Besides, credit deposit ratio, employee expenses over all out operating expenses and gross non-performing assets have been taken in to thought as free factor and Return on assets and earnings per share are a piece of ward variable. The appraisal of private part banks uncovers that the development pace of NPAs is low when contrasted with the administration claimed Agriculture Development Bank.

The administration claimed bank has neglected to deal with the issue of unsecured loan adequately because of which the development in such loans has been marvelously high. Besides, the effect of NPA on profitability has been done as positive in relationship. (Pokharel, 2020, the trend of liquidity ratios of the bank was unstable and below the prescribed standard after the outbreak of the pandemic. Likewise, Mathias (2021) shows that there was a slight decrease of liquidity in the Kenyan banks. Moreover, Gazi et.al. (2022)

also indicate a deterioration of liquidity position of the listed banks after the emergence of the pandemic especially for the banks that were not doing so well prior to the pandemic.

On the other hand, there were contradictory results for some other banks, for example Kocha, Iwedi, and Barisua (2020) show that COVID 19 had a positive impact on liquidity. Similar findings are portrayed by Demir and Danisman (2021) who demonstrated that the banks with higher capitalization and deposits, that were more diversification, that had lower non-performing loans, and larger size were more resilient to the pandemic. Thus, the study is guided by the following hypothesis;

H1: COVID-19 pandemic has a significant impact on the liquidity position of the selected listed banks at DSE in Tanzania

2.4 COVID-19 pandemic and banks performance/profitability

During the outbreak, the financial performance of several banks was severely harmed. As Gazi, et.al. 2022) show, the banks that performed better during the pre-pandemic period also performed better during the COVID-19 pandemic period. However, high non-performing loan rates, holding more liquid assets, having a large amount of hedging capital, and having an inappropriate bank size reduced the banks' profitability during the pandemic. This was also reported by Karim, Shetu, and Razia (2021) who revealed that the banks with poor financial health prior to the outbreak of the pandemic had a lower performance and profitability in the second quarter of 2020 than their counterparts. Moreover, Katusiime (2021) also revealed that COVID 19 pandemic had a significant negative effect on the bank profitability specifically in the long run. Likewise Ichsan et al. 2021) found that COVID-19 had a negative impact on the financial performance of the banks. Mathias (2021) also showed that the bank profits, which had an influence on bank performance, decreased during the COVID-19 outbreak compared to the previous year. Similarly, Elnahass, Trinh, and Li (2021) show compelling empirical evidence that the Covid-19 outbreak has had detrimental impacts on the financial performance in the global banking industry across a variety of financial performance and financial stability indices.

Tesfaye (2020) examined the impact of the COVID-19 pandemic on the Ethiopia's private banking sector and concluded that the pandemic had an influence on both the statement of financial position and the income statements of a number of Ethiopian private banks. Kongsamut, Monaghan and Riedweg (2021) contend, that the impact of COVID-19 is not visible in the bank balance sheets because most governments have relaxed regulatory standards for loan categorization and provisioning. However, the intensity of the government policy reactions in some countries minimized the pandemic's consequences (Demir & Danisman, 2021; Demirguc-kunt & Ruiz-ortega, 2020). Thus the study is guided by the following hypothesis

H1: COVID-19 pandemic has a significant impact on the profitability of the selected listed banks at DSE in Tanzania

3. Methodology

The study used a quantitative method and a descriptive research design to characterize the profitability and liquidity positions of the selected banks. Secondary data on the listed banks were obtained through the Dar es Salaam Stock Exchange (DSE). Data from the audited financial statements of the banks listed on the DSE were used in this analysis for a six-year period, between 2016 and 2021, or three years prior to and three years after the outbreak. At the DSE, seven banks are listed. Six banks were chosen for the study using a purposive sampling technique. Due to the lack of data for 2021 and the inability of that data to serve the study's objectives, Mkombozi Bank was excluded in the analysis. As a result, the analysis used six banks from 2016 to 2021, with 36 data points. According to Bushra and Mirzsa (2015), a quantitative study should have more than 30 observations or data points to be viable. The criteria for selecting these banks are based on the availability of data, the size of the banks, their performance, and their significance in defining Tanzania's economic conditions.

In order to accomplish the study's goal, data were analysed using the SPSS software, and the profitability and liquidity trends of the banks were examined before and after the COVID-19 outbreak. In order to determine whether there was a statistically significant difference between the profitability and

liquidity position prior to and following the pandemic, a paired t-test was then performed. The list of the listed banks for a six-year period three years prior to the pandemic and three years following the pandemic is shown Table 1.

Table 1: Listed banks at the DSE in Tanzania

S/NO	Name of the Bank	Abbreviation	Audited Financial Statements
1	Dar es Salaam Commercial Bank Plc	DCB	2016-2021
2	National Microfinance Bank Plc	NMB	2016-2021
3	CRDB Plc	CRDB	2016-2021
4	Maendeleo Bank Plc	MBP	2016-2021
5	Mwalimu Commercial Bank PLC	МСВ	2016-2021
6	Kenya Commercial Bank Plc	КСВ	2016-2021
7	Mkombozi Commercial Bank Plc	МКСВ	2016-2020 Dropped-2021 data were missing

Source: Dar es Salaam Stock of exchange website.

3.1 Variables and measurement of the study

Based on the literature review, the variables in this study were measured as shown in Table 2.

Table 2: Trend of Liquidity position of the selected banks

Variables	Definition/ Measurement	Authors
COVID-19 pandemic Impact (COVID-19)	It is measured by comparing liquidity ratio and ROA variable 3 years before COVID-19 (2016 to 2018) and 3 years post-COVID-19 (2019 to 2021)	
Profitability (ROA)	(Net profit or loss/Total Asset)*100	(Alipour, et.al, 2013)
Liquidity (LQ)	(Liquid Assets/Total Assets) *100	(Salem Al Zaidanin, 2020)Return on Equity and Net Interest Margin. The study uses bank-specificand microeconomic factors as independentvariables. The bank-specific factors include bank size, capital adequacy, assets quality, liquidity, deposits, diversification, business mix, and efficiency, while the macroeconomic factors include real Gross Domestic Product growth, Inflation Rate, and Real Interest Rate.Regression models were used to relate bank profitability ratios to the independent variables built on panel data for the period 2013-2019 of sixteen commercial banks operating in the United Arab Emirates. The results of the study show thatassetsize, liquidity, off-balance sheet activities, and diversification have significant impact on profitability as measured by theNet Interest Margin.
		follow-up to total loans, and managerial efficiency are found to behighlysignificantvariables of profitability in the context of the United Arab Emirates commercial banks as measured by Return on Assets and Return on Equity. Furthermore, diversification has a significant impact on profitability as measured by Return on Assets. The remaining bank-specific factors (capital adequacy, loans to total assets, liquidity, deposits to assets ratio, and operating expenses to total assets ratio

4. Results and Discussion

4.1 Descriptive Statistics

The data reveal that the pandemic had a favourable influence on the liquidity positions of the selected banks on average. This could be due to reason that clients were provided with more loans and advances to help them run their daily operations. After COVID-19, the bank interest rates were lowered, which was a result of the reduction of the discount rate from 7 to 5 per cent with effect from May, 2020. This enabled the banks to borrow at lower costs indicating lower lending rates by the banks which could explain the rise. However, the pandemic had a detrimental influence on the profitability of the selected institutions, resulting in a slight fall in profitability. The minimum values, maximum values and standard deviations are indicated in Table 3.

Table 3: Descriptive Statistics of the Selected Listed banks at the DSE

Descriptive Statistics									
	N	Minimum	Maximum	Mean	Std. Deviation				
Liquidity Pre-Covid	18	22.30	81.95	69.5539	13.45679				
Liquidity Post- Covid	18	63.94	90.32	72.6311	6.49080				
ROA Pre-Covid	18	.12284453	17.928001	3.1626620	4.4317886				
ROA Post-Covid	18	.03000000	16.171937	2.9235970	4.0813004				

4.2 Trend of liquidity ratio of selected banks

The study employed the percentage ratio of liquid assets to the total assets to examine the liquidity trend of the selected banks before and during the pandemic. The liquidity position of most of the banks appears to have been slightly impacted following the outbreak. With the exception of MWALIMU Bank, all of the selected banks saw a drop in liquidity following the onset of COVID 19. CRDB, NMB, and DCB have all seen a steady growth in their liquidity positions. Despite the measures taken by the banks to improve the situation, the liquidity positions of KCB and MAENDELEO continued to deteriorate. The fall in loans and advances issued to clients is primarily responsible for the changes in the liquidity conditions. This implies that COVID 19 pandemic

influenced the liquidity of the selected banks. These findings align with the findings in other studies (i.e., Gazi, 2022; Mathias, 2021). Similar results are also reported by the MWALIMU Bank that has experienced incremental profit (Kocha, Iwedi, & Barisua, 2020). The findings however are in contrast with the findings in a study by Pokharel (2020) the examination is made to investigate the impact of various gatherings of banks. In particular, Government owned bank and private area banks on the financial business in such manner. Five out of twenty four individual private division banks and one out of three, government claimed banks have been considered with the end goal of the investigation for as sample.

The investigation depends on optional information gathered from the Nepal Rastra Bank's site just as yearly report of concern banks. To beat the examination objective clear measurements are utilized to portray the essential highlights of the information in the investigation, and inferential insights have been utilized to get to the effect of non-performing assets on profitability of the banks. Besides, credit deposit ratio, employee expenses over all out operating expenses and gross non-performing assets have been taken in to thought as free factor and Return on assets and earnings per share are a piece of ward variable. The appraisal of private part banks uncovers that the development pace of NPAs is low when contrasted with the administration claimed Agriculture Development Bank. The administration claimed bank has neglected to deal with the issue of unsecured loan adequately because of which the development in such loans has been marvelously high. Besides, the effect of NPA on profitability has been done as positive in relationship. (Pokharel, 2020 who indicated that the trend of liquidity ratios of the bank was reported to be unstable and was below the prescribed standard.

Table 4: Trend of Liquidity position of the selected banks

LIQUIDITY POSITION OF BANKS							
	PRE-	COVID	POST COVID 19				
SELECTED BANKS	2016	2017	2019	2020	2021		
CRDB Plc	81.95	72.96	69.14	67.79	68.95	67.24	
NMB Plc	75.44	71.45	76.19	76.94	73.21	74.59	
KCB Plc	75.4	76.5	75.3	72.1	69.2	63.94	
DCB Plc	74.45	70	72.1	72.1	66.3	72.19	
MAENDELEO Bank Plc	69.43	71.18	76.58	75.68	71.71	66.80	
MWALIMU Commercial Bank Plc	22.3	49.7	71.9	73.8	84.5	90.32	

4.3 Trend of profitability ratio of selected banks

To assess the profitability pattern of the selected banks before and after the pandemic, the study used the percentage ratio of the net profit or loss to the total assets. The profitability of the larger banks, such as CRDB, NMB, and KCB, increased, while the profitability of the smaller banks, such as DCB, MAENDELO, and MWALIMU decreased. As a result, big banks became more resilient to the pandemic than did the smaller banks. This findings is consistent with the findings in other studies (i.e., Gazi et.al, 2022; Karim, Shetu, & Razia, 2021), which revealed that larger banks that were performing better prior to the pandemic also performed better after the outbreak than was the case with their counterparts smaller banks.

Furthermore, the central bank permitted the licensed banks to examine the financial difficulties faced by borrowers as a result of COVID-19 in terms of loan repayment and to consider the prospects of restructuring the loans, thus reducing the impact of COVID 19's on these institutions. Elsewhere, studies (i.e., Demir,& Danisman, 2021; Demirguc-kunt & Ruiz-ortega, 2020) revealed that the intensity of government policy reactions in some countries minimized the consequences of the pandemic to most commercial banks worldwide.

Table 5: Trend of Profitability/performance of the selected banks.

	PRI	-COVID	POST COVID 19			
SELECTED BANKS	2016	2016 2017 2018			2020	2021
CRDB Plc	1.4	0.6	1.06	1.8	2.3	3.04
NMB Plc	3.16	1.74	1.78	2.26	2.96	3.37
KCB Plc	3.31	3.05	3.36	2.18	2.55	3
DCB Plc	1.85	2.02	0.75	1.48	0.26	0.03
MAENDELEO Bank Plc	0.74	0.59	0.12	0.09	0.33	0.2
MWALIMU Commercial	2.17	11.3	17.93	16.17	10.48	0.13
Bank Plc						

4.3 Paired sample t-test

A paired t-test was performed to assess the observed trend of liquidity and profitability before and after COVID-19. In practice, the comparison was performed on the collected data (mean scores) in the selected banks to determine whether the difference was statistically significant.

As for the liquidity, the findings revealed that the difference of the liquidity position of the selected banks at pre and post pandemic were statistically insignificant. These findings align with the findings in a study by (Mathias, 2021) who also revealed negative and insignificant impact of COVID 19 on the liquidity ratios. However, the findings are in contrast with the findings in a study by Kocha, Iwedi, and Barisua, (2020) who demonstrated that COVID 19 had a positive impact on liquidity and a study by Gazi, et.al. (2022) who revealed a significant impact of COVID 19.

As for profitability, the findings revealed that the difference of probability position of the selected banks at pre and post the pandemic was also statistically insignificant. These findings contradict the findings in a study by Tesfaye (2020) who revealed that COVID 19 significantly drains the profit and a study by Katusiime (2021) found that COVID 19 had a significant negative impact on profitability especially in the long run. Elsewhere, also Elnahass, Trinh, and Li (2021) also found that the Covid-19 outbreak had detrimental impacts on financial performance.

Table 6. Paired sample t-test of liquidity and profitability ratios of the selected banks.

	Mean	Std. Error Mean	df	t-statistic	P-Value	Hypothesis
Liquidity	-3.07722	16.46330	17	793	0.439	Rejected
Profitability	.239065	5.584798	17	.182	0.858	Rejected

Source: SPSS estimations

5. Conclusion and Recommendations

The study aimed to determine how COVID 19 affected the selected banks in Tanzania, in terms of profitability and liquidity. After the pandemic, the majority of the banks experienced a modest reduction in liquidity. Moreover, big banks that were profitable before the epidemic were unaffected, but small banks saw a decline in profitability as a result of the pandemic. Bigger banks were resilient to the pandemic than were the smaller banks. Additionally, COVID 19 had no statistically significant impact on the Tanzanian banks that were chosen in terms of liquidity and profitability. The selected listed banks to a great extent managed to mitigate the impact of the COVID-19 pandemic due to the bailout strategy devised by the Central Bank of Tanzania.

Thus, the banks should diversify their fund investments, securities holdings, and fund holdings in order to increase their sources of profitability and, eventually, their liquidity. These factors affect the capacity of banks to endure and grow in the future.

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