

# A comparative study of the impact of Covid-19 on the liquidity of selected microfinance finance institutions in Zambia

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## Abstract:

The aim of this paper is to conduct a comparative analysis of the impact of the COVID-19 pandemic on the liquidity of Agora Microfinance Zambia and Microfinance Zambia within Zambia. The study was significant because it showed the impact of the COVID-19 pandemic on the liquidity of microfinance institutions in Zambia. The study used three key proxy variables – cash ratio, quick ratio and net working capital ratio – to identify the relationship between the COVID-19 pandemic and MFI liquidity. COVID-19 was a surrogate for the pandemic during the COVID-19 pandemic period (2019-2021) and the pre-pandemic period (2017-2018). Using the Wilcoxon statistical testing tool, a hypothesis was developed to guide the investigation and perform a statistical test of the parameter estimates. The study employed a longitudinal research design and utilized data from the audited financial statements of microfinance institutions. Data were analyzed using STATA and Excel. It was found that the lockdowns imposed to contain the spread of the COVID-19 virus had less impact on the liquidity of the two microfinance institutions from an economic and financial perspective. The results of this research will have implications for the policies of companies and financial institutions.

**Keywords:** COVID-19, Liquidity, Micro-Finance Institutions, comparative study

## 1. Introduction

The Covid-19 crisis has drawn attention to numerous problems, thereby triggering a double crisis and leading to an economic downturn by disrupting various economic activities (Zaazou & Abdou, 2020). According to World Bank estimates, the Covid-19 crisis has pushed 40 to 60 million people into poverty (Janssens et al., 2021). Another

impact of the Covid-19 pandemic can be seen in the research results of [Zheng and Zhang \(2021\)](#), which show a decline in the operational efficiency of financial microfinance institutions (MFIs). The devastating global impact of the Covid-19 pandemic has jeopardized the existence of small and medium-sized enterprises (SMEs) at global and national levels, as the pandemic has created a business climate that hinders the operations of SMEs, thereby exacerbating an economic crisis influenced by Government policies worldwide and leads to lower household incomes ([Rustariyuni et al, 2022](#)). In the Zambian context, financial institutions were just beginning to prepare for the consequences of a prolonged economic downturn when the Covid-19 pandemic broke out in March 2020, plunging the sector into a harsh and uncertain reality. The pandemic has exacerbated many of Zambia's pre-existing economic challenges and forced financial institutions to adapt quickly to navigate the new economic landscape.

A survey conducted by the Ministry of Trade, Commerce and Industry (MTCI) in June 2020 found that most businesses were affected or others had to close due to the pandemic ([Geda, 2021](#)). At the same time, a regular expectations survey by the Bank of Zambia in the fourth quarter of 2020 revealed that economic performance improved significantly in the final two quarters of 2020, largely due to the easing of COVID-19 containment measures that helped revive activity has contributed in a variety of sectors ([BoZ, Quarterly Survey, Q4 2020](#)). In addition, on April 14, 2020, the BOZ, through Circular No. 13 of 2020, provided regulatory relief measures to support the financial sector with key liquidity-related measures, including the restructuring of existing credit facilities and liquidity support, the aim of which was to strengthen and strengthen the resilience of the financial sector and promote private sector-led growth.

Since these institutions were supported and allowed to continue operating despite the COVID-19 pandemic and lockdown in Zambia, it is necessary to examine how the pandemic has impacted liquidity microfinance institutions there. By introducing contactless, convenient digital services, these companies also took advantage of the prudent measures and attracted customers who were in dire need of funds to take advantage of the opportunities presented by the outbreak of the pandemic. Furthermore, despite the impact of the COVID-19 outbreak, we still lack a comprehensive understanding of the empirical implications for Zambia's liquidity microfinance institutions. Therefore, the aim of this study is to examine how COVID-19 has impacted the liquidity of microfinance institutions in Zambia, with particular focus on Agora Microfinance Zambia and Microfinance Zambia Ltd.

### 1.1 Background of Study

The inception of the COVID-19 virus can be traced back to December 2019 in China; nonetheless, its rapid dissemination ensued worldwide. By May 20, 2020, there existed in excess of 5 million confirmed cases of coronavirus across more than 200 nations and territories, with over 90% of documented instances occurring beyond Chinese borders. The ongoing COVID-19 outbreak transcends being solely a global public health concern, as it has also engendered substantial and extensive economic ramifications internationally. The proliferation of the virus alongside the containment strategies implemented to curb it led to a cessation in both production and consumption (Boone et al., 2020). The elevated mortality and morbidity rates associated with COVID-19 constrain the labor force, consequently impeding productivity. Similarly, measures such as social distancing protocols and lockdown directives (e.g., closure of businesses and factories, quarantine enforcement, and movement constraints) were implemented to curtail the transmission rate and decelerate the spread.

The implementation of a lockdown encompassed a series of strategies devised to diminish the transmission of COVID-19, which are obligatory, universally applied to the general populace, and entail constraints on the customary social and economic routines (Haider et al., 2020). Lockdowns proved advantageous in impeding disease propagation due to the diminished risk of pathogen exposure (Alfano & Ercolano, 2020). Lockdowns emerged as a pivotal approach in curbing the transmission of SARS-CoV-2 by curtailing interpersonal interactions and, consequently, transmission. Research has demonstrated that lockdowns serve as an efficacious method for regulating the spread of COVID-19 within communities. This implies that lockdowns constitute an effective measure in halting both the escalation in new cases and the rise in mortality rates. Individuals exhibit marked adjustments in their conduct in response to partial or regional lockdowns, which are as efficacious as more stringent measures.

In Zambia, the enforcement of a lockdown was meticulously carried out and played a pivotal role in combatting the initial wave of the pandemic (Muzyamba, 2021). The Zambian government acknowledged the repercussions of Covid-19 and implemented measures to alleviate its effects on the economy. Having endured an economic deceleration since 2015 due to power shortages and drought, Zambia endeavored to circumvent a comprehensive lockdown in its response to the Covid-19 outbreak so as to

not detrimentally impact its economic recuperation, hence the decision to abstain from imposing a total lockdown. In 2020, Zambia's economy was projected to contract by 20%. Consequently, the government, through the Bank of Zambia, allocated a stimulus and recovery package of K10 billion to mitigate the economic downturn and the repercussions of COVID-19 on Small and Medium Enterprises as well as Microfinance institutions. Moreover, as a method of alleviating the adverse effects of Covid-19 on employers, the Government of the Republic of Zambia issued a Statutory Instrument Number 48 in 2020, which granted various exemptions pertaining to specific clauses within the Employment Code Act Number 3 of 2019 for employers who had been adversely impacted by Covid-19.

The economic situation in Zambia deteriorated significantly as a consequence of the negative repercussions of the COVID-19 pandemic. The real Gross Domestic Product (GDP) experienced a decline of approximately 4.9% in the year 2020, following a growth of 4.0% in 2018 and 1.9% in 2019. This decline in output can be attributed to an unparalleled deterioration across all major sectors of the economy. The manufacturing sector witnessed a sharp drop in output due to disruptions in supply chains, whereas the service and tourism industries suffered from reduced private consumption and investment as a result of measures implemented to control the spread of COVID-19. Initially impacted by decreased global demand for copper, the mining sector is now in a phase of recovery despite disruptions in production in South America. If there are sustained increases in commodity prices beyond the current projections, it could lead to a lesser economic downturn. Even prior to the pandemic, Zambia's economy was grappling with significant macroeconomic obstacles, including high inflation, widening fiscal gaps, unsustainable levels of debt, low reserves on the international front, and constrained liquidity conditions. Despite attempts by the government to implement monetary easing in 2019 and 2020, price levels and the banking sector have not yet achieved stability. Inflation has been on the rise due to the impact of the kwacha's depreciation, as well as elevated costs in food and transportation. Following the onset of COVID-19, inflation surged to 17.4% in 2020 and was expected to remain above the target range of 6% to 8% throughout 2021. As a result of fluctuations in copper prices and output, escalating public debt obligations, and heightened nonoil imports, the external position of the country worsened in 2020, with reserves declining (averaging 1.6 months of import cover) and remaining weak in 2021. Despite declining revenues, the government's decision to pursue

an expansionary fiscal strategy for public investments led to persistent growth in fiscal deficits, reaching 8.3% of GDP in 2019 and 11% of GDP in 2020.

Price levels and the financial sector have failed to stabilize, notwithstanding the endeavors of the authorities to implement monetary loosening in 2019 and 2020. Inflation has been on an upward trajectory, primarily propelled by the repercussions of the kwacha's devaluation and elevated prices of food and transportation. Following the onset of the COVID-19 pandemic, inflation surged to 17.4% in 2020 and is anticipated to persist above the targeted range of 6%–8% throughout 2021. The external position experienced a deterioration in 2020, marked by diminishing reserves (averaging 1.6 months of import coverage) and is expected to remain subdued in 2021 due to the fluctuating copper prices and production, escalating public debt repayments, and heightened non-oil imports. Despite diminishing revenues, the government's adherence to an expansionary fiscal policy for public investments has led to the expansion of fiscal deficits (8.3% of GDP in 2019 and 11% of GDP in 2020). The public and publicly guaranteed debt of Zambia escalated to 91.6% of GDP in 2019 and 104% in 2020, a consequence of its expansionary fiscal approach, predominantly supported by both foreign and domestic loans. In the foreseeable future, this debt is anticipated to persist at elevated levels.

To support the Financial Service Providers the BOZ provided prudential relief measures on the 14th of April 2020 via Circular Number 13 of 2020 with important measures that speak to liquidity, which included restructuring of Existing Credit Facilities and Liquidity Support whose aim was to strengthen and enhance resilience of the financial sector and to promote private sector led growth.

## *1.2 Objectives*

### **Primary Objective**

- The main to examine the impact of COVID-19 Pandemic on Liquidity of Microfinance Institutions in Zambia.

### **Secondary Objectives**

1. Determine the impact of COVID-19 Pandemic on the cash ratio of Microfinance Institutions in Zambia.
2. Examine the impact of COVID-19 Pandemic on the quick ratio of Microfinance Institutions in Zambia.

3. Ascertain the impact of the COVID-19 Pandemic on the net working capital ratio of Microfinance Institutions in Zambia.

### *1.3 Methodology*

A longitudinal research design was used because the primary goal of the study is to "assess the impact of COVID-19 on the liquidity of selected microfinance institutions in Zambia" using a quantitative approach and over a period of time (Ilukena et al., 2023). The researcher was able to collect numerical data and analyzed it using mathematically based methodologies (ratio analysis). Two (2) microfinance institutions were chosen using a convenient and purposeful selection procedure. These institutions, Agora Microfinance and Microfinance Zambia, are both fully licensed by BoZ, with one being a deposit-taking MFI and the other being a non-deposit-taking MFI. Furthermore, Agora is thought to be the largest Zambian rural MFI in terms of client numbers and loan book and MFZ was chosen because it serves a large number of civil servants. A hypothesis was formulated to guide the investigation and data was analyzed in excel and STATA.

The annual financial reports of the MFIs were used to collect primary data. The reports ranged from 2017 (prior to the pandemic) to 2021 (after the pandemic). A five-year comparison of the two MFIs was performed for each of them, and comparison of the years was performed to check for seasonality. These reports were used to gather information on the liquidity and viability of the MFIs. MFI's Liquidity some key proxy variables were used, namely Cash Ratio, Quick Ratio, and Net Working Capital Ratio. While COVID-19 Pandemic was proxy by Pre COVID-19 Pandemic Period (2017-2018) and during COVID-19 Pandemic Period (2019-2021).

### *1.4 Limitations*

- The institutions were sceptical with providing the information seeing as it was sensitive and related to financial performance.
- Some of the current financial reports were not yet uploaded onto the institutions official website making it difficult to access more information

## **2. Literature Review**

Microfinance Institutions (MFIs) are financial entities that offer financial services to individuals with low income, often facing exclusion from traditional banking systems due to inadequate collateral (Murdoch, 2000). The limited access to credit is attributed to

the absence of collateral required by conventional financial institutions from the impoverished, along with the complexities and high costs associated with managing numerous small, potentially illiterate borrowers (Weiss & Montgomery, 2005). Those in poverty mainly depend on funds from high-interest lenders or financially constrained acquaintances and relatives. MFIs aim to overcome these obstacles by introducing initiatives like group lending and regular savings schemes.

For microfinance institutions to prosper, they must effectively generate sufficient funds or their equivalents promptly and reasonably to fulfill their obligations as they arise. These responsibilities can be fulfilled by utilizing existing cash reserves, current cash inflows, borrowing funds, or converting liquid assets into cash. The capacity of an asset to be transformed into an anticipated value within an expected timeframe is known as liquidity. Among a company's asset holdings, cash and cash equivalents are the most readily convertible assets. The level of liquidity can serve as a predictor of a company's prosperity or downfall (Mainelli, 2007).

Agora Microfinance Zambia Limited (AMZ), established as a shareholding company, obtained a license as a non-bank financial institution without deposit requirements from the Bank of Zambia in 2011, with the primary objective of extending financial services to Zambia's financially marginalized, predominantly rural, populace. Initially, AMZ was founded by shareholders from Concern Worldwide and the Agora Group, initially represented by Moringa way. Between 2011 and 2013, Concern Worldwide reduced its engagement with AMZ, being largely substituted by Agora Microfinance N.V. (AMNV), currently the principal shareholder. Informally, AMZ stands as the largest rural MFI in Zambia, serving over 52,000 clients and managing a loan portfolio exceeding ZMW 70 million. AMZ collaborates with large community groups, small business clusters, individual microclients, small to medium-scale farmers, offering diverse loan and insurance products, alongside mobile money services to clients and agents across the nation. Over the years, AMZ has broadened its operational scope and by 2021, had established a network of 19 branches across 8 provinces in Zambia, employing a total of 183 staff members. In 2020, AMZ reported an Outstanding Loan Book (OLB) balance of ZMW 84M, catering to more than 60,000 clients, with women constituting 60% of the beneficiaries, and achieving a rural outreach of 90%. This underscores AMZ's dedication to delivering appropriate financial solutions to the underserved sections of society.

The Bank of Zambia oversees and controls Micro Finance Zambia Limited, a non-bank financial organization that takes deposits. Offering credit facilities and other financial services to the formal and informal sectors is the company's main line of business. Being a fully owned subsidiary of Atlas Mara Zambia, the business benefits from the solid

reputation and equity capacity of its parent company to offer reasonably priced goods and services to small and medium-sized businesses as well as the general public. Utilizing the infrastructure already in place of its parent company, which operates in more than sixty (60) distribution outlets, is Micro Finance Zambia. The business makes use of this potential to stay present in every district and grow into new markets. Among the products offered by the MFZ are gadget financing, facilities for small and medium-sized businesses, and salary-backed loans.

### *2.1 COVID-19 and its impact on liquidity of financial institutions*

The impact of the COVID-19 pandemic on financial institutions' liquidity was examined in various studies. [Amnim et al. \(2021\)](#) explored this impact on Nigerian firms' liquidity and profitability, revealing the significant effect on both aspects. The study utilized key proxy variables such as Liquidity Ratio (LR) and Return on Equity (ROE) to establish the relationship. Hypotheses were formulated and tested using the Wilcoxon statistical test tool. Data from the NSE Factbook was collected using an Ex Post Facto research design. The results indicated a substantial impact of the pandemic on the liquidity and profitability of Nigerian firms, significant at a 5% level.

[Karim et al. \(2021\)](#) delved into the effects of COVID-19 on Bangladesh's banking sector, focusing on liquidity and financial health. Liquidity ratios and Altman's Z-Score Model were employed to assess the listed banks. A comparison of ratios before and during the pandemic periods highlighted a deterioration in liquidity and financial health. Despite pre-existing challenges, the situation worsened in the second quarter of 2020, with most banks facing liquidity issues. Notably, listed Islamic banks exhibited poorer financial health compared to commercial banks, placing all banks in the red zone across quarters.

Additionally, [De Vito and Gomez \(2020\)](#) scrutinized how COVID-19 impacted the liquidity of 14,245 publicly traded companies in 26 countries. The study centered on three ratios: cash burn rate, cash flow from operations to current liabilities, and cash flow from operations to total debt. Companies with limited operational flexibility may exhaust cash reserves within two years while facing escalating current liabilities. A concerning 10% of sampled companies are at risk of becoming illiquid in the following six months. Suggestions such as tax deferrals and bridge loans are proposed to mitigate liquidity risks, with bridge loans and loan guarantees emerging as more cost-effective measures to avert a severe financial crisis.

### *2.2 Impact of COVID-19 on Microfinance Institutions*

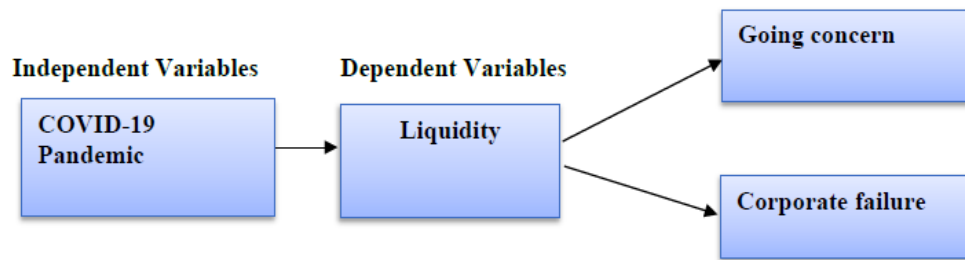
A study conducted by [Zang and Zeng \(2021\)](#) delves into the impact of the decline in economic activities induced by the COVID-19 pandemic on the financial and social efficiency of microfinance institutions (MFIs). The findings reveal a decrease in the financial efficiency of MFIs due to the pandemic's impact, while conversely, the social efficiency of MFIs experienced an increase in the context of COVID-19. In order to investigate the potential mechanisms through which the efficiency of MFIs is affected by the COVID-19 outbreak, an analysis is carried out on both the supply and demand aspects of MFIs' funding. It is discovered that the lending rate plays a mediating role in the relationship between the impact of COVID-19 and MFI efficiency, whereas the mediating effect of the funding rate is deemed insignificant.

[Shrestha \(2020\)](#) conducted a study on the Influence of the Covid-19 Pandemic on Microfinance Institutions in Nepal. This research aimed to evaluate the effects of the Covid-19 crisis on microfinance institutions in Nepal, utilizing data provided by the institutions in accordance with regulatory obligations. The evaluation involved an examination of the changes in key financial indicators such as savings, loans, non-performing loans, profitability, variations in the number of staff and borrowers, following the enforcement of lockdown measures by the Government to mitigate the transmission of the coronavirus. Analysis of data spanning from mid-March 2020 to mid-July 2020 indicates a significant impact of the lockdown measures on microfinance institutions. Despite this, with the support of policy measures from the NRB and a certain level of resilience, these institutions were able to endure the period under review. As the Covid-19 outbreak continues, potential risks persist, as evidenced by the escalating number of delinquent borrowers. Effective, collaborative, and inventive strategies are imperative to navigate through these challenging circumstances. [Kenga et al. \(2020\)](#) found that the exchange rate is strongly influenced by COVID-19 and the inflation rate, which requires careful observation, thoughtful policy making and mitigating measures.

In Zambia, studies on the impact of COVID-19 on institutional operations and enterprises have been conducted. Research was also conducted on the operational strategies of medium-sized businesses. There is little emphasis in the existing literature on the impact of such a pandemic on the liquidity of Microfinance Institutions and how much the liquidity of the MFIs was affected by the pandemic despite the relaxation in the lockdown measures and the provisions by the bank of Zambia thus this study aims to fill that gap.

### *2.3 Conceptual framework*

The figure below illustrates the conceptual framework;



Adapted from Amnim, O. E. L., Aipma, O. P. C., & C., O. F. (2021)

Figure 1: Conceptual framework

The table highlights the variables used to conceptualize the paper;

Table 1: Operationalization and Measurement of Variables

S/N	Variables	Formula	Expectations
	Dependent		
1.	Liquidity	Quick Ratio: $(\text{Cash} + \text{Marketable securities} + \text{Accounts receivable}) / \text{Current liabilities}$ Cash Ratio: $\text{Cash and equivalent} / \text{Current liabilities}$ Net Working Capital Ratio: $\text{Current Assets} / \text{Current Liabilities}$	Wuave, Yua and Yua (2020).
	Independent		
2.	COVID-19 Pandemic	Measured by comparing the above listed variables prior to and during COVID-19 Pandemic Period	Karim, M., Shetu, S. and Razia, S., (2021)

Effective liquidity risk management ensures that a company can meet its cash flow obligations, which are uncertain due to external events like the COVID-19 global pandemic and other agents' actions. Liquidity is a firm's capacity to fund asset increases and meet obligations as they come due without incurring unacceptable losses. The MFI's liquidity is explained in this study using the following ratios.

### Quick Ratio or Acid Test Ratio

The quick ratio, sometimes referred to as the acid test ratio, is used to assess a company's ability to meet short-term obligations by evaluating how many liquid assets it has on hand that can be quickly converted into cash. It is computed by taking the current liabilities and dividing the liquid current assets. It is depicted as.

$Quick\ Ratio = (Cash + Marketable\ securities + Accounts\ receivable) / Current\ liabilities$   
*The ideal quick ratio should be one (1) for a financially stable company.*

### Cash Ratio or Absolute Liquidity Ratio

A cash ratio is a metric used to assess a company's liquidity, indicating its capacity to pay off debt with only liquid assets, such as cash and cash equivalents like marketable securities. Creditors utilize it to gauge how easily a company can pay off short-term debt. Cash and cash equivalents are divided by current liabilities to arrive at the calculation.

$$Cash\ ratio = Cash\ and\ equivalent / Current\ liabilities$$

### Net Working Capital Ratio

To find out whether a company has enough cash or financial resources to sustain operations, one can look at the net working capital ratio. The calculation results in subtracting current liabilities from current assets.

$$Net\ Working\ Capital\ Ratio = Current\ Assets - Current\ Liabilities$$

### Going concern or corporate failure

According to the concept, analyzing Microfinance liquidity ratios prior to and during the COVID pandemic can indicate whether the MFI was able to continue operations or went bankrupt.

## 2.4 Hypothesis

The following hypothesis were formulated in line with objectives;

H<sub>0</sub>: COVID-19 Pandemic has no significant impact on the liquidity of MFIs in Zambia.

H<sub>1</sub>: COVID-19 Pandemic has a significant impact on the liquidity of MFIs in Zambia

## 3. Data analysis and results

### 3.1 Numerical Results

Company profile

Table 2: Length of years in operation

	Name of MFI	Number of years in operation
1	Agora Microfinance	11
2	Microfinance Zambia limited	15

Both MFI's have existed for more than 10 years, and this is evident that the Microfinance has been in existence for a while now is constantly improving in Zambia.

### 3.2 Registration Status

Table 3: Registration status

	<b>Name of MFI</b>	<b>Registration Status</b>	<b>Date of registration</b>
<b>1</b>	Agora	Fully registered	2011
<b>2</b>	Microfinance Zambia	Fully registered	2007

The table highlights that both Microfinance institutions are fully licensed by the BOZ. AMZ was licensed in 2011 whereas MFZ was licensed in 2007.

### 3.3 Products and services offered

Table 4: Products and services offered

	<b>Product Type</b>	<b>Agora Microfinance</b>	<b>Microfinance Zambia</b>
<b>1.</b>	Agricultural loan	√	
<b>2.</b>	Small business group loans	√	
<b>3.</b>	MSME loans	√	√
<b>4.</b>	Hospital insurance	√	
<b>5.</b>	Salary backed loans		√
<b>6.</b>	Gadget Financing		√

Table 4 details the products and services covered by Agora and microfinance Zambia. It clearly indicates that Agora has a larger product offering and Microfinance Zambia is limited to providing micro loans to qualifying employees of government departments and other large and medium sized organizations.

### 3.4 Graphical Results

#### Trend analysis of liquidity ratios of MFZ and AMZ

##### Cash Ratio

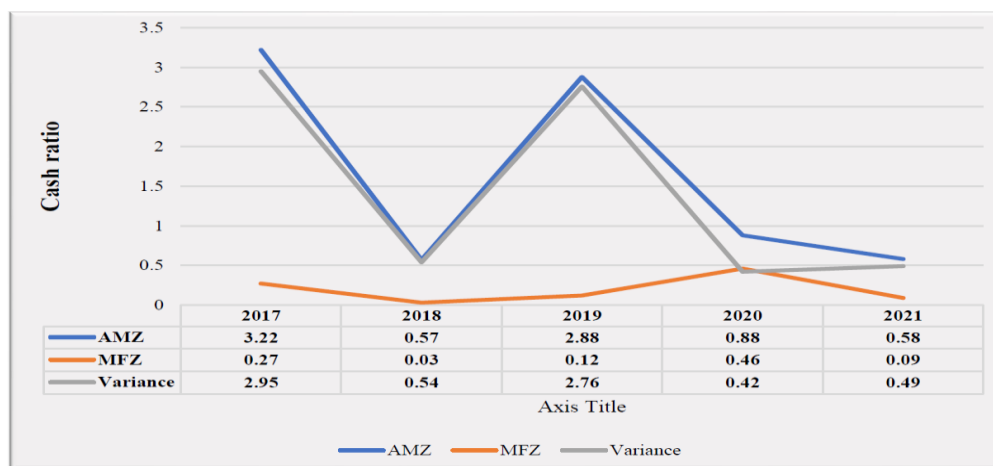


Figure 2: Comparison of AMZ and MFZ Cash Ratio for the period 2017 to 2021

The presentation above show cash ratio analysis for the two microfinance institutions between 2017 and 2021 that is Agora Microfinance and Microfinance Zambia's. The statistics showed that, AMZ highest cash ratio in 2017 was 3.22 while MFZ had 0.27, in the year 2018, there was a reduction in cash ratio for both microfinance institutions with MFZ at 0.03 and AMZ at 0.57. In the year 2019 there was an increase in value of cash ratio for AMZ to 2.88 and MFZ at 0.12. However, both microfinance institution during COVID 19 had seen a significant reduction in cash ratio between 2020 and 2021 as seen from above. It can also be observed that the variance in 2020 and 2021 for the two institution was not significant as compared to prior years. This means that both institutions had been affected by the spread of the Pandemic.

### Quick Ratio

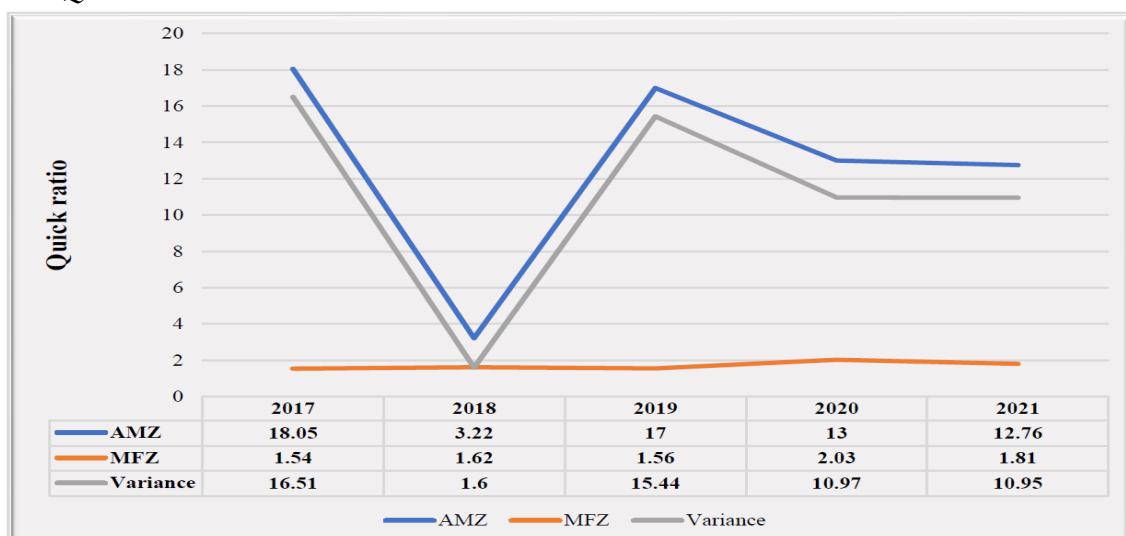


Figure 3: Comparison of AMZ and MFZ Quick Ratio for the period 2017 to 2021

The quick ratios of Agora Microfinance and Microfinance Zambia between 2017 and 2021 are shown in the figure above. The statistics showed that Microfinance Zambia recorded its highest Quick ratio of 2.03 in 2020 and lowest in 2017, while AMZ recorded its highest quick ratio of 18.05 in 2017 and lowest of 3.22 in 2018. The standard quick ratio ranges from 0 to 1 with regards the ratios that were recorded during COVID times that is the years 2019 and 2020 both MFIs had quick ratios above the standard which is 17 and 13 for AMZ and 1.56 and 2.03 for MFZ.

*Networking capital ratio*

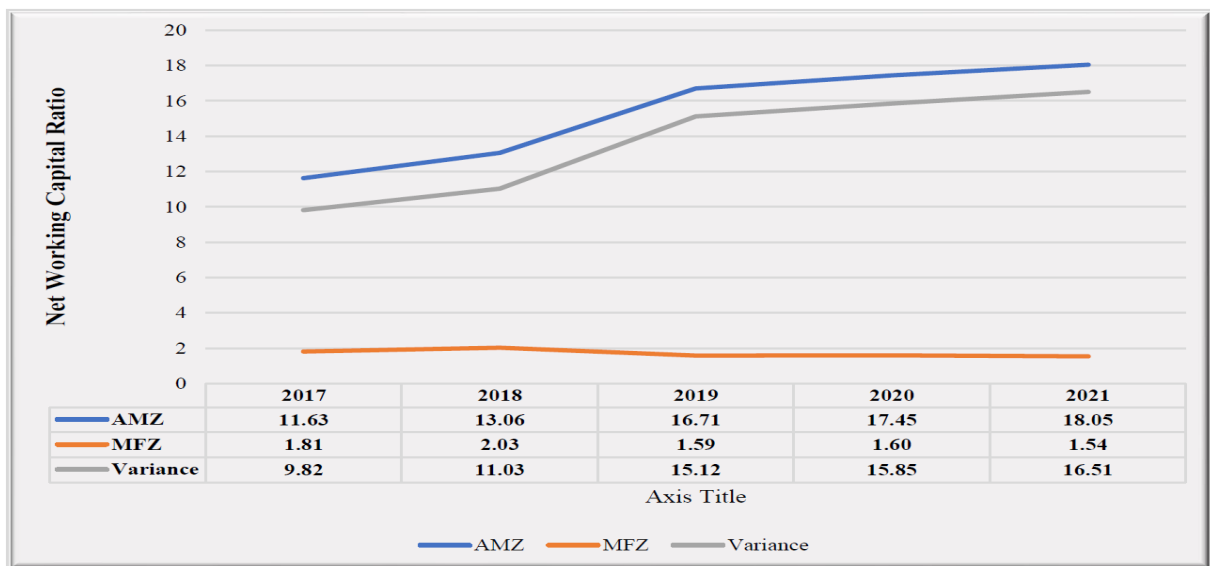


Figure 4: Comparison of AMZ and MFZ operating cashflow ratio for the period 2017 to 2021

The figure compares the net working capital ratios of Agora Microfinance and Microfinance Zambia from 2017 to 2021. According to the data, AMZ had the highest ratio in 2021 of 18.05 and the lowest in 2017 of 11.63, whereas MFZ had the highest net working capital ratio of 2.03 in 2018 and the lowest in 2021 of 1.54. It can be seen that the spread of the pandemic resulted in much higher AMZ ratio values.

**3.5 Test of Hypothesis**

Wilcoxon Statistical Test Tool was developed to test the linear relationship between the dependent and independent variables (MorgunT.N., et. al, 2021). It was operated using SPSS version 20 as shown in the tables below:

Table 5: Result of impact of COVID-19 on the liquidity of Agora Microfinance Zambia

**Nonparametric Tests**

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Opinion before and Opinion after equals 0.	Related-Samples Wilcoxon Signed Rank Test	1.000	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

**Related-Samples Wilcoxon Signed Rank Test**

**Opinion before, Opinion after**

**Related-Samples Wilcoxon Signed Rank Test Summary**

Total N	3
Test Statistic	.000
Standard Error	.000
Standardized Test Statistic	-1.000
Asymptotic Sig. (2-sided test)	1.000

Table 6: Result of impact of COVID-19 on the liquidity of Microfinance Zambia Limited

**Nonparametric Tests**

Hypothesis Test Summary				
	Null Hypothesis	Test	Sig.	Decision
1	The median of differences between Opinion before and Opinion after equals 0.	Related-Samples Wilcoxon Signed Rank Test	1.000	Retain the null hypothesis.

Asymptotic significances are displayed. The significance level is .050.

**Related-Samples Wilcoxon Signed Rank Test**

**Opinion before, Opinion after**

**Related-Samples Wilcoxon Signed Rank Test Summary**

Total N	3
Test Statistic	.000
Standard Error	.000
Standardized Test Statistic	-1.000
Asymptotic Sig. (2-sided test)	1.000

### 3.6 Discussion of findings

The findings indicated that Agora Microfinance and Microfinance Zambia's cash ratio between 2017 and 2021. According to statistics, the AMZ cash ratio previously reached a high of 3.22 in 2017 and a low of 0.27 for MFZ. During COVID 19, the two microfinance institutions saw a significant reduction in cash ratio for 2020 and 2021 to the lowest values of 0.58n for AMZ and 0.09 for MFZ. This means that both microfinance institutions did not have enough cash to cover their short-term liabilities during the COVID period; however, Agora had a higher cash ratio than Micro Finance Zambia Limited.

Agora Microfinance and Microfinance Zambia's quick ratios for the period between 2017 and 2021 were also acquired for the analysis. The results showed that Microfinance Zambia's Quick ratio peaked at 2.03 in 2020 and peaked at its lowest in 2017, whereas AMZ's Quick ratio peaked at 18.05 in 2017 and peaked at 3.22 in 2018. When compared to the ratios recorded during COVID times, which are the years 2019 and 2020, both MFIs had rapid ratios over the standard, which are 17 and 13 for AMZ and 1.56 and 2.03 for MFZ, respectively.

The net working capital ratios of Agora Microfinance and Microfinance Zambia were compared from 2017 to 2021, and the results revealed that AMZ had the highest ratio in 2021 of 18.05 and the lowest in 2017 of 11.63, whereas MFZ had the highest in 2018 of 2.03 and the lowest in 2021 of 1.54. As can be seen, the spread of the pandemic resulted in significantly higher AMZ ratio values.

The result of the Wilcoxon test shows that there was no significant difference in the Liquidity Ratios of Microfinance Institutions before COVID-19 Pandemic Period and the Liquidity Ratio during COVID-19 Pandemic Period which goes further to confirm that COVID-19 outbreak did not adversely affect the liquidity of MFIs. As such the null hypothesis was retained as suggested by the decision rule shown on the tables above.

## 4. Conclusion and recommendations

The main objective was to compare the impact of covid-19 on the liquidity of selected microfinance finance institutions in Zambia. In the findings, the social distancing restrictions and demand shifts from COVID-19 are likely to have an impact on the two microfinance institutions owing to the economic downturn caused by the pandemic corona virus known as covid-19. In addition it was found that the three main liquidity ratios were higher for Agora than Microfinance Zambia limited. The paper also postulated that the economic and financial impacts flowing from lockdowns to control the spread of COVID-19 have been less severe for the two-microfinance institution as can be seen from the

statistical analysis per Wilcoxon test that concluded that COVID-19 Pandemic had no significant impact on liquidity of the selected MFIs in Zambia. Though both MFIs had above standard liquidity ratios, Agora was in a better position not to go into bankruptcy than its counterpart.

Finally, despite the serious consequences of lockdown measures implemented to contain Covid-19, MFIs demonstrated some resilience in the year 2020. It would be assumed that the MFIs would have gone bankrupt as a result of the crises, but the study shows that the MFIs always found a way to stay afloat more so with the support from the Bank of Zambia prudential measures and the exploitation of the opportunities presented by the pandemic and the introduction of COVID-19 innovative products. The findings demonstrate that the microfinance industry has potential and can remain productive with government support and generous funding, bearing in mind that this sector funds the economic drivers, which are small and medium-sized businesses.

### **Recommendations**

With the above conclusion, the researcher recommends that, in order to mitigate the negative effects of future pandemics,

- MFIs must work with mobile financial service providers to ensure the smooth operation of loan disbursement and loan repayment.
- MFIs should search for alternative business areas and approaches required to survive through the crisis of a pandemic.
- Collectively, MFIs should develop digital platform and new model for conducting microfinance business by lowering operational costs.
- For small MFIs, the best option is to merge with other MFIs to sustain this type of big shock in their business.

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