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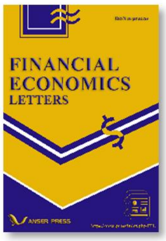

COVID-19 and SMEs deposits with commercial banks: evidence from African economies

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ABSTRACT

This paper examines the impact of COVID-19 on Small and medium-sized enterprises (SMEs) deposits across 13 African nations from 2016 to 2022, using a seven-year dataset and Ordinary Least Squares estimator. Notably, it uncovers a significant positive link between the pandemic and SMEs deposits, indicating heightened reserves amidst economic uncertainty, potentially driven by risk mitigation or government support. Associations between gross domestic product (GDP), inflation, unemployment, foreign direct investment (FDI), exchange rates, and SMEs deposits were evident, showcasing higher GDP aligning with increased deposits, while inflation and unemployment linked to reduced ones. FDI showed a positive influence, and exchange rate fluctuations notably affected SMEs deposits, especially for those in international trade. These findings emphasize policy reconsideration for crisis strategies supporting SMEs reserves during uncertainty and interventions addressing inflation, unemployment, and exchange rate risks. Future research exploring regional nuances and global comparisons could further enrich policymaking for resilient SMEs amid evolving economic landscapes.

KEYWORDS

COVID-19; SMEs; Deposits; commercial banks; African economies

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1. Introduction

Small and medium-sized enterprises (SMEs) in Africa hold paramount significance due to their pivotal role in job creation, economic growth, local development, entrepreneurship, and resilience. These enterprises serve as crucial engines for employment generation, contribute substantially to GDP, foster local economies, drive innovation, and exhibit adaptability in navigating through diverse challenges. Despite their immense potential, SMEs often face obstacles such as limited access to finance, inadequate infrastructure, regulatory complexities, and constrained market access, necessitating focused efforts to overcome these barriers and unleash the full economic potential of these enterprises across the continent (Simo Kengne, 2016; Quartey et al., 2017; Crick etal., 2018; Venkatachalam et al., 2020; Wellalage et al., 2022; Okuwhere and Tafamel, 2022; Zahoor et al. 2023; Rubio-Andrés et al., 2023; Alharbi, 2023; Thekkoote, 2023; Jalil et al., 2023; Du et al., 2023; Faeni et al., 2013; Rojas-García et al., 2024).

However, the COVID-19 pandemic posed unprecedented challenges for SMEs in Africa, amplifying existing vulnerabilities and introducing new hurdles. These enterprises, often operating with limited resources and in sectors sensitive to economic fluctuations, faced disruptions across multiple fronts. Supply chain interruptions, reduced consumer demand, restrictions on movement, and constrained access to finance converged to create a dire landscape for many SMEs. Moreover, the pandemic highlighted the digital divide, with businesses lacking the infrastructure and technological capabilities to adapt swiftly to remote operations. Despite these adversities, African SMEs exhibited resilience, innovation, and adaptability, finding ways to pivot their strategies, explore new markets, and harness technology to sustain operations. However, the long-term effects of the pandemic on these crucial economic agents underscore the need for comprehensive support, including access to financial aid, technological advancements, and policy frameworks that enable greater resilience and sustainability in the face of future uncertainties.

The COVID-19 pandemic has catalyzed extensive research exploring its profound economic ramifications, as evidenced by studies from Saif-Alyousfi (2022), Kotcharin et al. (2023), and Zhao et al. (2023) shedding light on its financial market impact, alongside meticulous analyses of energy price dynamics by Saif-Alyousfi et al. (2021). Similarly, investigations by Nitsch (2022) and Mena et al. (2022) have unveiled its implications for global trade, while Fang et al. (2021), Ho and Gan (2021), and Giofré (2021) have scrutinized its effects on foreign direct investment. However, despite this breadth of exploration, a significant gap persists in understanding its specific impact on SMEs, particularly within African economies. While recognized for their pivotal role in global economic support (Zahoor et al., 2023), there remains a glaring lack of focus on how the pandemic uniquely affects these vital financial entities. SMEs in African economies serve as linchpins, crucial not only for facilitating investments but also for maintaining economic stability by underpinning credit facilitation and ensuring market functionality. Their adaptability during crises like COVID-19 underscores their significance in upholding the financial ecosystem and stabilizing the economic landscape, rendering them indispensable pillars of regional economic health.

The pandemic ushered in a period of uncertainty and volatility for SMEs in African economies, compelling them to confront a myriad of obstacles. An unexpected outcome amidst this turbulent period was the substantial effect on the deposits held by these SMEs within commercial banking institutions—a divergence from traditional economic forecasts during crises. This notable impact prompts an essential inquiry into the underlying mechanisms and implications of this surge.

This study amis to address a significant gap in current research by specifically investigating the repercussions of the COVID-19 pandemic on SMEs deposits within commercial banks in African economies—an aspect that has been notably understudied. While Dai et al. (2021), Chen et al. (2022), Hossain et al. (2022), Díez et al. (2022), Ashiru et al. (2022), Zheng et al. (2022), Wang and Le (2022), Wellalage et al. (2022), Yao and Liu (2023), Doruk (2023), Gur et al. (2023), and Santolin et al. (2023), Alharbi (2023), Thekkoote (2023), Jalil et al. (2023), Du et al. (2023), Faeni et al. (2013), Rojas-García et al. (2024) have extensively explored the relationship between COVID-19 and SMEs, there remains an evident gap concerning the specific impact on SMEs deposits within African commercial banking systems. Through empirical analysis and a comprehensive examination of economic factors, it seeks to unravel the drivers behind this impact and understand the subsequent ramifications for the financial ecosystem and SMEs sustainability in the region. Understanding the dynamics shaping the pandemic's impact on SMEs deposits holds significant importance. It not only provides insights into the financial behavior and risk perceptions of SMEs during turbulent times but also offers a lens to evaluate the role of banking institutions in supporting and sustaining these crucial economic contributors.

This study contributes significantly to the existing literature in multiple ways. Firstly, it illuminates the nuanced impact of the COVID-19 pandemic on SMEs deposit behaviors within commercial banks, deepening our comprehension of how SMEs respond to economic disruptions. By delving into empirical evidence from African economies, it offers a detailed perspective on crisis management strategies adopted by these enterprises. Moreover, it sheds light on an underexplored aspect—the relationship between SMEs and commercial banks during turbulent times—providing insights into how SMEs navigate within the financial ecosystem, impacting their deposit behaviors and contributing to financial stability. Additionally, this research unveils the resilience and adaptability of African SMEs, unraveling the factors influencing their deposit behavior amid crises and fostering a comparative understanding across diverse African nations. Overall, this multifaceted study enhances the literature by offering empirical evidence and profound insights into the interplay among the COVID-19 pandemic, SMEs behavior, and the commercial banking sector within African economies, thereby contributing significantly to our understanding of economic resilience and recovery in the region.

The rest of the document follows this structure: Section 2 provides a summary of the relevant literature. Section 3 outlines the database and methodology used in this study. Section 4 presents the results of the study. Finally, Section 5 encompasses the study's conclusions and policy recommendations.

2. Related literature

In recent years, an extensive array of scholarly research has diligently examined the global impacts stemming from the COVID-19 pandemic. This body of work has rigorously assessed a wide spectrum of economic indicators, encompassing unemployment rates, agricultural production, economic growth, trade dynamics, tourism, and foreign direct investment (Saif-Alyousfi, 2022; Kotcharin et al., 2023; Zhao et al., 2023; Saif-Alyousfi et al., 2021; Nitsch, 2022; Mena et al., 2022; Ho and Gan, 2021). Furthermore, numerous studies have delved into the determinants shaping the operations of commercial banks (Saif-Alyousfi et al., 2023, 2020, 2021; Saif-Alyousfi and Saha, 2021a, 2021b; Saif-Alyousfi, 2020, 2022a, 2022b, 2023). However, the primary emphasis of this study lies in exploring the specific influence of the COVID-19 outbreak on SMEs. This research offers a succinct yet comprehensive overview dedicated to understanding the effects of COVID-19 on SMEs, particularly focusing on the impact of the outbreak on this vital sector.

The COVID-19 pandemic has significantly reshaped the financial landscape for SMEs, exposing multifaceted challenges in accessing funding. Studies by Mohsin et al. (2021, 2022) have consistently highlighted the pandemic's disproportionate impact on SMEs, especially in securing loans and external financing. Particularly, smaller SMEs faced amplified hurdles, relying more on internal resources due to constrained access to external finance during the crisis. This underscores the urgent need for policy reforms and governmental interventions aimed at bolstering SMEs' financial resilience during unforeseen crises, emphasizing the importance of tailored support mechanisms to navigate such disruptions effectively.

During the pandemic, SMEs in Istanbul, as showcased in studies by Xiuzhen et al. (2022), had to adapt their financing strategies, turning to alternative funding sources to mitigate financial challenges. Peer-to-peer lending and crowdfunding platforms emerged as crucial avenues, enabling SMEs to access capital outside traditional banking systems. Simultaneously, prudent financial management practices, such as renegotiating contracts and cost-cutting measures, became paramount for SMEs to navigate the economic turbulence effectively. Government-led initiatives played a pivotal role in cushioning the financial impact by providing tax incentives, subsidies, and loan guarantee programs, underscoring the importance of supportive policies to sustain SMEs operations during crises.

The pandemic's impact on SMEs financing was not uniform across different sectors and regions, as elucidated by various studies. Regional disparities, evident in research like that of Mohsin et al. (2020), underscored varying degrees of access to finance among SMEs across different districts of Istanbul. Moreover, sector-specific disparities were pronounced, with industries like tourism and hospitality experiencing more significant financial challenges due to lockdown measures. Understanding these sectoral and regional variations becomes crucial for policymakers in tailoring targeted assistance programs and crafting financial policies that cater to the diverse needs of SMEs across different industries and geographical locations.

Comprehending the factors influencing SMEs' financial vulnerability during crises is imperative to devise effective support systems. Studies by Zhang et al. (2021) emphasized variables like company size, debt levels, and sectoral impacts as key determinants of SMEs' financial resilience during the pandemic. These insights underscore the necessity for tailored assistance systems addressing specific vulnerabilities faced by SMEs. Furthermore, the role of digital transformation emerged as a critical enabler, facilitating improved access to funding options for SMEs through online platforms. This technological shift has redefined SMEs financing strategies, highlighting the significance of embracing digital tools for enhanced financial resilience.

Within the financial realm, Zheng et al. (2022) shed light on how managerial traits influence financial decision-making during crises, providing actionable insights for business leaders. This understanding aids in risk assessment and the development of robust financial management strategies, crucial for businesses navigating uncertain economic landscapes. Additionally, Díez et al. (2022) highlighted the efficacy of targeted equity injections in mitigating insolvency risks among SMEs. These findings resonate with policymakers, advocating for focused interventions during economic downturns, optimizing resource allocation, and supporting sustainable economic recovery.

Insights from Chen et al. (2022) regarding the impact of government interventions on SMEs during the pandemic offer crucial guidance for policymakers. The need for targeted relief measures and improved credit access becomes apparent, emphasizing the importance of policy formulations that effectively support SMEs during crises. Additionally, Santolin et al. (2023) identified Circular Economy (CE) enablers for SMEs post-pandemic, urging policymakers to support digital technologies and circular entrepreneurship for sustainable economic growth.

Sector-specific insights, such as those provided by Gur et al. (2023) on financing conditions among SMEs in Istanbul, are vital for financial institutions. Understanding the differences based on firm size guides the tailoring of financial products and services, ensuring they meet the diverse needs of SMEs. Moreover, Doruk (2023) explored Islamic banking sector lending to SMEs during COVID-19, revealing countercyclical behavior, which informs Islamic financial institutions' crisis-resilient financing strategies.

Lastly, Yao and Liu (2023) highlighted the funding challenges SMEs faced during the pandemic, providing valuable insights for governments and businesses. Governments are urged to craft support mechanisms, while businesses can adopt robust financial management practices for resilience-building. Collectively, these studies offer actionable insights for businesses, policymakers, financial institutions, and stakeholders to fortify SMEs, fostering resilience and sustainable growth in post-pandemic landscapes.

Investor behaviors and international trade challenges significantly shaped SMEs financing dynamics during the pandemic. Investor sentiment, as explored in research analyzing risk aversion during crises, impacted SMEs' ability to secure external finance, especially in severely affected industries. Similarly, studies focusing on export-oriented SMEs underscored the challenges these businesses faced in accessing export financing instruments, necessitating targeted interventions to support international trade for SMEs. Understanding these nuanced aspects of investor behaviors and export financing challenges is crucial for policymakers and financial institutions to devise strategies that facilitate SMEs' access to diverse funding sources and promote international trade resilience.

3. Data and methodology

3.1. Data

To investigate the impact of COVID-19 on SMEs Deposits, this study employs a comprehensive dataset encompassing 13 diverse African countries: Botswana, Cameroon, Comoros, Congo, Guinea, Madagascar, Malawi, Malta, Mauritius, Namibia, Seychelles, Zambia, and Zimbabwe. These countries were deliberately selected to represent a broad spectrum of economic landscapes, showcasing varying developmental stages and regional dynamics within the African continent. The dataset spans from 2016 to 2022, strategically capturing the pre-pandemic, pandemic, and post-pandemic periods. This timeline enables an extensive examination of economic trends, policy responses, and their consequential effects on these nations' economies throughout critical phases. Sourced from the esteemed World Bank database, this data guarantees the robustness and reliability essential for conducting detailed analyses of economic indicators and developmental trajectories across these diverse African nations during this pivotal time frame.

3.2. Model Specification

To examine the impact of COVID-19 on SMEs deposits in African economies, the following model is estimated:

$$\begin{aligned}\boldsymbol{SMEsDeposits_{j,t}} &= \boldsymbol{\alpha_i + \beta_1 COVID-19_t + \beta_2 GDP_{j,t} + \beta_3 InflationRate_{j,t}} \\ &\quad \boldsymbol{+ \beta_4 UnemploymentRate_{j,t} + \beta_5 FDI_{j,t} + \beta_6 ExchangeRates_{j,t}} \\ &\quad \boldsymbol{+ \varepsilon_{i,j,t}} \qquad (\mathbf{1})\end{aligned}$$

where, "j" signifies the country at a specific year "t." The variable "SMEsDeposits" represents the outstanding SMEs deposits held with commercial banks (% of GDP), serving as the dependent variable. "COVID-19" denotes the pandemic itself, functioning as a key factor of interest. Furthermore, "GDP," "InflationRate," "UnemploymentRate," "FDI," and "ExchangeRates" stand for gross domestic product, inflation rate, unemployment rate, foreign direct investment inflows, and exchange rates, respectively. These variables act as control measures within the study, providing crucial contextual factors for analysis. The distinctive error term, denoted by εi,j,t, encapsulates any idiosyncratic variability inherent in the analysis, ensuring a comprehensive examination of potential unforeseen influences on the observed outcomes.

Following on prior research by Saif-Alyousfi (2020, 2022a, 2022b, 2023) and Saif-Alyousfi et al. (2021), the model (1) is estimated using the pooled ordinary least squares (OLS) method. Table 1 furnishes a comprehensive outline of the variable measurements employed in this study, enhancing the understanding of the key metrics utilized in the analysis.

The decision to employ the pooled OLS method stems from its applicability in accommodating diverse datasets across multiple countries or periods, allowing for the amalgamation of information from various sources. This methodological choice aligns with the nature of this study, which involves examining a wide-ranging dataset spanning several African countries and multiple years (2016 to 2022). OLS regression offers a flexible and widely accepted approach, suitable for modeling the relationships between variables, facilitating a comprehensive analysis of the impact of COVID-19 and other key factors on SMEs deposits across these diverse settings and timeframes. Its robustness in handling larger datasets and providing interpretable results makes it a suitable choice for this research endeavor.

Table 1. Definition of variables

Variables	Description	Source
Dependent variables:		
SMEs deposits	Outstanding SMEs deposits with commercial banks (% of GDP)	WDI
Independent variables:		
COVID-19	COVID-19 is dummy variable that takes 1 if the year 2020 and 0 otherwise	
GDP growth	Real GDP growth rate	WDI
Inflation rate	Current period inflation rate (consumer prices)	WDI
Unemployment rate	The percentage of the labour force that is unemployed is known as the unemployment rate.	WDI
FDI	Foreign direct investments net inflow (% of GDP)	WDI
Exchange rate	Natural logarithm of the twelve-month average exchange rate	WDI

4. Empirical results

4.1. Descriptive analysis

Table 2 provides descriptive statistics for several key variables across 91 observations, offering insights into their central tendencies, variability, and ranges. Notably, SMEs deposits exhibit a mean of 5.588% of GDP with a considerable standard deviation of 5.314, portraying significant diversity in deposit percentages among the observed countries or periods. The COVID-19 variable showcases a mean of 0.143, suggesting a relatively limited impact across the dataset. GDP growth presents an average of 2.457% with moderate variability, spanning from negative to positive growth rates. Inflation rates display a mean of 17.775%, accompanied by a notably high standard deviation of 67.189, indicating substantial variability and extreme values in inflation across the observed periods or countries. The unemployment rate averages at 9.347% with moderate variability, while FDI shows a mean of 5.124% and exchange rates exhibit a mean of 1045.864 units, both indicating considerable variability and wide-ranging values among the observations. These statistics offer a comprehensive glimpse into the distributional characteristics of the dataset, laying the foundation for deeper analyses of the relationships and impacts of these variables on SMEs and economies within the studied context.

Table 2. Descriptive statistics

Variable	Observation	Mean	SD	Min	Max
SMEs deposits	91	5.588	5.314	0.242	20.782
COVID-19	91	0.143	0.352	0.000	1.000
GDP growth	91	2.457	4.997	-14.597	11.870
Inflation rate	91	17.775	67.189	-1.544	557.202
Unemployment rate	91	9.347	6.959	1.800	23.350
FDI	91	5.124	9.400	-18.918	39.811
Exchange rate	91	1045.864	2284.656	0.845	9565.082

4.2. Correlation analysis

Table 3 displays the correlation matrix among various key variables investigated in the study, providing insights into the relationships and associations between these factors. Notably, examining the correlations between SMEs deposits and other variables reveals several interesting trends. There is a positive correlation (0.159) between SMEs deposits and COVID-19, suggesting a relationship between SMEs deposits and the presence of the pandemic.

GDP growth displays a moderate negative correlation (-0.164) with SMEs deposits, implying that as GDP growth decreases, SMEs deposits might slightly increase. In contrast, inflation rates (-0.198) exhibit a moderate negative correlation with SMEs deposits, indicating a tendency for SMEs deposits to decrease as inflation rates rise. Similarly, the unemployment rate demonstrates a weak positive correlation (0.189) with SMEs deposits, hinting at a slight tendency for SMEs deposits to increase with higher unemployment rates. However, these correlations are relatively weak, suggesting that other factors beyond these variables might have more substantial impacts on SMEs deposits. Moreover, FDI and exchange rates display weak correlations with SMEs deposits (-0.043 and -0.262, respectively), indicating a limited linear relationship between these variables and SMEs deposits within this dataset. Overall, the correlation matrix provides initial insights into potential associations, emphasizing the complexity and multifaceted nature of factors influencing SMEs deposits in this context.

The correlation coefficients among the independent variables notably fall below the threshold of 0.50, indicating a lack of substantial multicollinearity concerns. This signifies that the examined independent variables showcase weak interdependencies or limited correlation amongst themselves. This absence of significant multicollinearity supports the suitability of these variables for inclusion in subsequent analyses or models without raising substantial issues related to inter-variable relationships.

Table 3. Correlation analysis

Variables	SMEs deposits	COVID-19	GDP growth	Inflation rate	Unemployment rate	FDI	Exchange rate
SMEs deposits	1						
COVID-19	0.159	1					
GDP growth	-0.164	-0.415	1				
Inflation rate	-0.198	0.313	-0.256	1			
Unemployment rate	0.189	-0.015	-0.078	-0.093	1		
FDI	-0.043	-0.309	0.146	-0.144	-0.226	1	
Exchange rate	-0.262	-0.019	0.049	-0.095	-0.283	0.281	1

4.3. Results

Table 4 presents the regression results depicting the impact of COVID-19 and various economic indicators on SMEs deposits within African economies, employing the pooled Ordinary Least Squares (OLS) method. The model's overall fit is indicated by the R-squared value of 0.642, signifying that approximately 64.2% of the variability in SMEs deposits can be explained by the included variables. The F-statistic of 18.53 is highly significant ($p < 0.001$), indicating that the model as a whole is statistically significant in explaining SMEs deposit variations .

The findings from Table 4 underscore the noteworthy association between COVID-19 and SMEs deposits, alongside other key economic indicators. The statistically significant positive impact of COVID-19 (5.172) on SMEs deposits, as observed in Table 4, underscores the pandemic's profound influence on the financial landscape of these African economies. This significant relationship suggests that the onset and persistence of the COVID-19 crisis have distinctly shaped SMEs' deposit behaviors. During times of economic uncertainty and disruptions induced by the pandemic, SMEs might have been inclined towards bolstering their financial reserves or liquidity positions, opting to deposit funds as a risk mitigation strategy. Moreover, governmental interventions, such as stimulus packages or relief measures designed to support businesses during the crisis, could have incentivized SMEs to deposit funds, aiming to navigate the uncertain economic environment. The substantial positive coefficient also implies that amidst the pandemic's challenges, SMEs might have perceived depositing funds as a means of securing financial stability or preparing for potential recovery post-crisis. This increased deposit activity could potentially represent a cautious approach adopted by SMEs to safeguard against market volatility, reduced consumer demand, or disruptions in cash flows caused by lockdowns and supply chain interruptions.

It's interesting to note the divergence in findings. The positive impact of COVID-19 on SMEs deposits, as observed in this study, seemingly contradicts the predominant narrative in existing literature. The works of Dai et al. (2021), Chen et al. (2022), Hossain et al. (2022), Díez et al. (2022), Ashiru et al. (2022), Zheng et al. (2022), Wang and Le (2022), Wellalage et al. (2022), Yao and Liu (2023), Doruk (2023), Gur et al. (2023), and Santolin et al. (2023) collectively present a consensus suggesting that the overall effect of COVID-19 on SMEs' performance tends to be negative. The discrepancy in findings could stem from various factors such as contextual differences in the studied economies, the specific indicators of SMEs performance analyzed, diverse methodologies employed, or even the different time frames considered in each study. Variations in the economic structures, policy responses, industry compositions, and the severity of the pandemic's impact across regions or countries might have contributed to these differing outcomes. The positive relationship between COVID-19 and SMEs deposits found in this study could possibly be contextualized by examining the specific nuances within the selected African economies during the pandemic period. It might reflect a localized response wherein SMEs in these regions, under unique circumstances or influenced by specific policy interventions, exhibited a distinctive deposit behavior in response to the challenges posed by the pandemic. Further research and detailed analysis may be warranted to reconcile these contrasting findings. Comparative studies or deeper investigations into the specific mechanisms or contextual factors within these African economies could offer insights into the underlying reasons for the observed positive impact of COVID-19 on SMEs deposits, contributing to a more comprehensive understanding of the pandemic's diverse effects on SMEs' financial behaviors and performance.

Understanding the heightened deposit behaviors among SMEs due to the pandemic holds significant implications for policymakers and financial institutions. Policymakers can tailor support mechanisms, offering incentives or programs that encourage SMEs to maintain healthy financial reserves. Financial institutions, equipped with insights into SMEs deposit behaviors during crises, can devise tailored financial products, ensuring liquidity support and fostering financial resilience among SMEs in times of uncertainty. Additionally, these findings highlight the importance of comprehensive risk management strategies for SMEs, emphasizing the need to maintain robust financial positions to weather unforeseen disruptions in the future.

The examination of control variables reveals compelling insights. Notably, the analysis unveils a statistically significant relationship between GDP and SMEs deposits, marked by a substantial coefficient of 0.273 at a 10% significance level. This finding strongly suggests a positive correlation, indicating that higher GDP levels coincide with increased SMEs deposits. Such a discovery hints at an intertwined relationship where the macroeconomic health, represented by GDP, appears to influence the financial actions of SMEs. It implies that during periods of heightened economic prosperity, SMEs tend to deposit more funds, potentially reflecting increased confidence or financial activity within this sector. These findings underscore the significance of economic conditions in shaping SMEs financial behaviors and may hold implications for economic policies or strategies aimed at fostering SMEs growth and stability.

Conversely, the analysis reveals a significant negative association between the inflation rate and SMEs deposits, denoted by a coefficient of -0.013 at a 1% significance level. This suggests that elevated inflation rates might prompt a decline in SMEs deposits. This trend may be attributed to several factors. Firstly, higher inflation erodes the purchasing power of money over time, potentially incentivizing SMEs to allocate funds elsewhere, such as investing in assets that offer protection against inflationary erosion. Additionally, during periods of increased inflation, SMEs might adopt cautious financial strategies, opting for more immediate expenditure or investment avenues rather than depositing funds, aiming to counteract the impacts of inflation on their capital. Moreover, heightened inflation could lead to a decrease in consumer spending, affecting SMEs revenues, thereby reducing their capacity to deposit surplus funds. These multifaceted influences underline the complexity of SMEs financial decisions amidst inflationary pressures.

In addition, the analysis uncovers a noteworthy negative impact of the unemployment rate on SMEs deposits, reflected by a significant coefficient of -0.250 at a 5% significance level.

This finding indicates that increased unemployment rates might coincide with decreased SMEs deposits. Several factors could contribute to this relationship. Primarily, higher unemployment rates often signal economic uncertainty, impacting consumer confidence and reducing overall spending. In such scenarios, SMEs might experience a decline in sales or demand for their goods and services, subsequently reducing their surplus funds available for deposit. Furthermore, during periods of elevated unemployment, SMEs might prioritize liquidity and cash flow management, opting to retain funds for operational purposes rather than allocating them to deposits. Moreover, individuals affected by unemployment, especially entrepreneurs or small business owners, may have fewer resources to invest in their ventures or contribute to savings and deposits, thereby impacting SMEs deposit inflows. This multifaceted interplay between unemployment rates and SMEs deposit behavior underscores the intricate relationship between economic indicators and SMEs financial decisions during uncertain economic periods.

Moreover, the analysis highlights a significant positive correlation between FDI and SMEs deposits, denoted by a substantial coefficient of 0.224 at a 1% significance level. This observation suggests that heightened FDI inflows might play a role in augmenting SMEs deposits. Several plausible reasons could explain this relationship. Firstly, increased FDI often signifies economic stability and confidence in a country's business environment. As FDI flows into the economy, it can stimulate economic growth, create job opportunities, and foster a conducive business climate. This, in turn, may positively impact SMEs, leading to enhanced revenues or expanded business opportunities, ultimately resulting in higher surplus funds available for deposit. Furthermore, FDI could directly benefit SMEs through partnerships, collaborations, or access to new markets, enabling these enterprises to generate more revenue and thus, contribute more to their deposit accounts. Additionally, FDI may enhance the overall financial landscape, providing SMEs with access to better financial services or investment opportunities, encouraging them to deposit funds for future growth or stability. This symbiotic relationship between FDI and SMEs deposits underscores the potential positive effects of foreign investment on the financial health of small and medium-sized enterprises.

Remarkably, the analysis underscores a robust and highly significant negative association between the exchange rate and SMEs deposits, evidenced by a substantial coefficient of -0.738 at a 1% significance level. This profound finding suggests that variations in exchange rates can exert a pronounced influence on SMEs deposit levels. The complexity of this relationship stems from several factors intricately intertwined with currency movements. Primarily, SMEs engaged in international trade or exposed to foreign markets often grapple with the ramifications of currency fluctuations. Sharp depreciations in the domestic currency may erode profits for export-oriented SMEs, as their overseas earnings lose value when converted back to the local currency. Conversely, for SMEs reliant on imported goods or materials, currency devaluations could inflate costs, squeezing profit margins and limiting surplus funds available for deposit. Moreover, the uncertainty bred by volatile exchange rates might prompt SMEs to adopt conservative financial strategies, temporarily withholding surplus funds from deposits to navigate potential currency risks or to take advantage of more favorable exchange rates in the future. This cautious approach could hinder immediate deposit behavior. Furthermore, SMEs engaged in cross-border business might delay converting foreign currencies into domestic ones, preferring to retain funds in foreign currency holdings until exchange rates become more favorable for conversion. These intricate connections between exchange rate movements and SMEs deposit behaviors underscore the significant impact of currency fluctuations on the financial decisions and liquidity management of small and medium-sized enterprises, particularly those operating within globalized or import-export-oriented environments.

Table 4. The effect of COVID-19 on SMEs deposits

Variables	
COVID-19	5.172**
	(2.176)
GDP	0.273*
	(0.158)
Inflation rate	-0.013***
	(0.004)
Unemployment rate	-0.250**
	(0.0953)
FDI	0.224***
	(0.082)
Exchange rate	-0.738***
	(0.021)
Constant	5.879***
	(1.148)
Observations	91
F-statistics	18.53***
R-squared	0.642
This table shows the impact of COVID-19 on SMEs deposits in Africa economies using the pooled OLS. The values in parentheses are robust standard errors. *, ** and *** denote significance at 10%, 5% and 1% levels, respectively	

5. Conclusion, policy implications, and future research

The aim of this study is to evaluate the influence of COVID-19 on SMEs deposits within African economies from 2016 to 2022. Utilizing a comprehensive panel dataset encompassing seven years and spanning 13 African nations, this research employs the pooled OLS estimator to investigate this relationship. By exploring the correlation between COVID-19 and SMEs deposits within commercial banks across the African region, this study significantly advances the understanding in this field. It represents the first study to examine the impact of COVID-19 on the SMEs deposits. As such, this study pioneers a significant milestone within this realm of research, paving the way for further exploration and understanding of this vital nexus.

The findings highlight the significant link between COVID-19 and SMEs deposits in African economies. The substantial positive impact of COVID-19 on SMEs deposits underscores its notable influence on these economies' financial landscapes. The pandemic might have prompted SMEs to bolster reserves amidst economic uncertainty, possibly due to risk mitigation strategies or government stimulus measures. Additionally, the analysis reveals crucial correlations between GDP, inflation rates, unemployment, FDI, exchange rates, and SMEs deposits. Higher GDP levels align with increased SMEs deposits, while elevated inflation and unemployment coincide with decreased deposits. FDI demonstrates a positive connection, potentially boosting SMEs deposits through economic growth and improved financial services. Intriguingly, exchange rate fluctuations significantly impact SMEs deposits, reflecting complexities for SMEs engaged in international trade.

The findings of this study carry significant policy implications, particularly in navigating the complex dynamics impacting SMEs within African economies. The unexpected positive impact of COVID-19 on SMEs deposits challenges conventional wisdom and necessitates a reevaluation of crisis response strategies. Policymakers need to consider the pandemic not just as a disruptor but also as a potential catalyst for SMEs to fortify their financial positions. Understanding this unanticipated behavior underscores the importance of tailored interventions that encourage SMEs to sustain healthy reserves during uncertain times. Governments can devise targeted support mechanisms, offering incentives or relief measures specifically designed to bolster SME liquidity, aiding in their resilience against future crises. Moreover, the study reveals vital connections between various economic indicators and SME deposit behaviors. The positive correlation between GDP and SMEs deposits implies that fostering economic growth may concurrently stimulate SMEs deposit activity. Policymakers can utilize this insight to implement strategies aimed at boosting economic development, indirectly encouraging SMEs to engage in more deposit activities. Conversely, the negative associations between inflation rates, unemployment, and SMEs deposits highlight the challenges faced by SMEs during economic downturns. Policymakers must craft interventions that address these challenges, such as policies aimed at curbing inflation or initiatives promoting job creation within SMEs-centric sectors.

Furthermore, the study unveils the significant impacts of FDI and exchange rate fluctuations on SMEs deposit behaviors. Policymakers can leverage this understanding by creating an environment conducive to FDI, fostering economic stability and providing SMEs with opportunities for growth. Managing exchange rate fluctuations and mitigating their adverse effects on SMEs engaged in international trade becomes imperative. Policymakers can consider mechanisms to minimize currency risks for SMEs, ensuring stability in their deposit behaviors amidst global economic fluctuations. Overall, these findings underscore the necessity for agile, context-specific policies that address the multifaceted challenges faced by SMEs, fostering an environment conducive to their resilience, growth, and long-term sustainability within the African economic landscape.

Future research stemming from these findings presents exciting avenues for deeper exploration. Firstly, investigating the unexpected positive impact of COVID-19 on SMEs deposits calls for comparative studies across diverse African regions to unveil contextual nuances driving this relationship. Exploring post-pandemic dynamics and recovery phases could illuminate how economic stabilization and policy shifts influence SMEs' financial decisions. Additionally, delving into the broader impacts of FDI on SMEs, beyond deposit behaviors, offers a compelling area for exploration, shedding light on how foreign investment shapes SMEs growth and market access. Understanding the influence of digitalization and technological advancements on SMEs' financial preferences and access to banking services represents a crucial yet unexplored territory. Lastly, comparative studies across global regions can offer insights into how varying economic landscapes influence SMEs financial behaviors, providing valuable lessons and best practices for fostering SMEs resilience across diverse contexts and continents. These future research directions hold immense potential for enriching the understanding of SMEs dynamics within evolving economic environments.

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Conflict of interest

All the authors claim that the manuscript is completely original. The authors also declare no conflict of interest.

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