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COVID - 19 period central bank rate and liquidity of commercial banks in Kenya

Herman Ngure
Jesse Gitahi
Chandaria School of Business, United States International University-Africa, Nairobi, Kenya

ABSTRACT
The purpose of the study was to establish the effect of the COVID period central bank rate on liquidity of commercial banks in Kenya. The study used the descriptive survey design. The target population was the 39 commercial banks in Kenya that have been in existence both pre- and during Covid-19 that is from the 1st January 2018 to 11th December of 2021, which was the time scope of the study. The study adopted non-probability sampling techniques whereby Tier 1 commercial banks were sampled. The study utilized secondary data which was quantitative in nature and was collected from annual integrated financial reports from the Tier I commercial banks. This research made use of both descriptive and inferential statistics in analyzing quantifiable data. Regression analysis revealed that COVID period central bank rate significantly influences the liquidity of commercial banks in the country (β = .416, Sig. = .028<.05). In light of the study's findings, policymakers are encouraged to adopt a dynamic and proactive stance in monetary policy. This entails a careful calibration of central bank rates to address the specific challenges posed by economic uncertainties, such as those experienced during the COVID-19 pandemic.

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I. Introduction

The prosperity of commercial banks is critical in both developed and developing nations since the state of the banking industry immediately affects the state of the whole economy (Noreen et al., 2020). In particular, commercial banks are responsible for offering deposit and credit options that promote economic growth through encouraging business expansion, employment generation, and GDP contributions; financing investment portfolios; and accumulating large amounts of revenue to increase the national reserve (World Bank, 2018). During recessions and downturns in the economy, commercial banks also help to mitigate risk and fund concrete investments (Takon et al., 2019). Thus, strong lending institutions indicate a strong economy.

It is well recognized that an established banking industry, which is distinguished by its performance and supervision, promotes better financial performance, as well as economic stability and commercial bank regulations (Hanh et al., 2021). The monetary policy of central banks is one of the primary regulatory tools utilized in the majority of emerging and developed economies (Keister, 2019). The four main objectives of monetary policy are to: keep inflation at a manageable level; ensure that the public debt can continue to be repaid by keeping interest rates stable; encourage revenue growth by facilitating easier access to credit within the economy; and assist in lowering the costs of running businesses (Le, 2019). As such, among other roles, monetary policies are designed to facilitate and sustain financial stability for commercial banks during crisis periods (Chen et al., 2019).

The new COVID-19 pandemic caused an exogenous economic shock to the banking sector, which led to increased liquidity risks for banks due to factors like declining spending and larger non-performing loan sizes. As a result, the Central Bank of Kenya (CBK) had to modify its policies. The extent to which the monetary policies of the COVID period impacted the liquidity of commercial banks in Kenya is yet unknown.

Monetary policy, according to Berger and Bouwman (2020), is the process by which a country's banking system, monetary institution, or government controls the quantity, cost, and availability of money in addition to interest rates in order to accomplish a number of objectives meant to support economic growth and stability. Another definition of monetary policy is the relationship that exists between the total money supply of an economic system and the interest rate (Angeloni & Faia, 2019). Mutai (2019) claims that Kenya's financial regulation system is the framework through which the CBK fulfills its regulatory function, fostering stability and economic growth. Most countries in the globe design and adjust the structure and functioning of their monetary policies in response to shifts in the economy and to avoid prevailing economic conditions (Lucchetta, 2019). Among the tools employed in monetary policy include price hikes, open market activity, the ratio of cash reserves to central bank reserves, and the availability of money (Borio et al., 2021). Among them, the central bank rate,

the cash reserve ratio, and the duration of repurchase agreements are the most often utilized mechanisms in the context of emerging economies, including Kenya (CBK, 2020).

The central bank rate is the interest rate that the monetary authority applies to loans given to financial entities (Mutai, 2019). According to Flamini et al. (2019), an increase in the central bank rate indicates a rise in the bank's lending costs, which in turn results in a decline in money lending and possibly reduced bank profits.

Depending on how well they are predicted, the monetary policy environment might change in a way that is either favorable or unfavorable for commercial banks. Depending on whether expansionary or contractionary monetary policies are implemented, this could have an impact on the liquidity of commercial banks (Keister, 2019). One such instance is the COVID-19 epidemic, which led to CBK lowering the base lending rate from 8.25 percent to 7.25 percent, increasing the maximum tenor of repos from 28 to 91 days, and lowering the cash reserve ratio from 5.25 percent to 4.25 percent (CBK, 2020). The COVID-19 pandemic's extraordinary obstacles and economic uncertainty served as the impetus for the monetary policy measures that the CBK put into place. The Central Bank realized that in order to lessen the negative effects on the financial industry and the overall economy, it was necessary to act quickly and strategically in response to disruptions to both domestic and international economic activity (CBK, 2020). The epidemic caused supply chain interruptions, lowered consumer demand for products and services, and increased volatility in the financial markets. The Central Bank sought to address these issues by ensuring the resilience and liquidity of commercial banks, promoting economic growth, and stabilizing the financial system (CBK, 2022).

II. Literature Review

Central Bank Rate and Liquidity of Commercial Banks

The Central Bank Rate (CBR), a key lever in a central bank's monetary policy arsenal (CBO, 2020), shapes overall borrowing costs and steers the course of the economy. When the central bank raises this rate, the cost of borrowing money increases for commercial financial institutions, leading to higher interest rates for consumers and businesses (Macharia, 2019). Conversely, a reduction in the central bank rate makes borrowing cheaper, encouraging increased spending and investment. The mechanism works through a ripple effect: as the central bank rate changes, commercial banks adjust their lending rates, impacting the cost of credit throughout the economy. This, in turn, influences consumer spending, business investment, and overall economic activity (Ajayi & Atanda, 2022). Thus, the Central Bank rate is a powerful tool for central banks to manage inflation, stimulate economic growth, or respond to economic downturns by controlling the cost and availability of credit.

Numerous studies have been done on the relationship between bank financial performance and monetary policy. A research investigation on the relationship between monetary policies and the profitability of banks was carried out by Borio et al. in 2019. The study employed a non-linear methodology and 109 sizable worldwide financial institutions with headquarters spread across 14 significant advanced economies were the subject of data collected between 2000 and 2017. The investigation examined how changes in interest rates, specifically the level and slope of the short-term rate, affected every significant component of the earnings and losses account, including the amount of net interest earned, non-interest income, and the financial institution reduction provisions. Return on Assets (ROA), an indication of overall earnings, was also examined in the investigation. The outcomes of the research demonstrated a strong positive correlation between interest rates and profits for banks. The study's findings also demonstrate that higher interest rates increase banks' profitability. This is explained by the idea that a bank's profit on a given loan is determined by the interest rate it charges. Nevertheless, because the investigation's focus was on large industrialized countries, Kenya, a developing nation, cannot use the results of the investigation.

Ajayi and Atanda (2022) investigated the impact of monetary policy tools, including the bank rate, on Nigerian banks' earnings from 1980 to 2008 using the Engle-Granger two-step co-integration method. Despite their focus on Nigeria, their study holds relevance for Kenya as both countries share similar monetary policy frameworks and experienced periods of economic volatility. Although their findings indicated no significant relationship between bank rate and performance, acknowledging the data limitations mentioned in their work encourages further research in this area. Similarly, Ndugbu and Okere (2021) analyzed the effect of bank deposits and monetary policy on Nigerian banks between 1999 and 2019 using OLS regression. While their results also showed no significant correlation between bank lending rate and performance, their focus on deposit mobilization offers valuable insights for examining alternative aspects of bank performance in Kenya. Ndugbu and Okere (2021), nevertheless did not take into account the size of banking institutions and how it might moderate the association between interest rates and bank performance. Instead, they concentrated on Nigeria.

A study on the effects of the global economic downturn on the financial health of Kenyan commercial banks was carried out by Macharia (2019). The investigation concentrated on Kenyan commercial banks that provide mortgage financing. Variables including interest rates, inflation rates, and exchange rates were included in the study. The results of this research show that interest has a detrimental impact on the financial health of

Kenyan commercial banks that provide mortgage financing services. Particularly, the investigation was limited to Kenyan commercial financial institutions that provide mortgage financing products and services.

A research investigation on the impact of monetary policy decisions on Kenyan commercial banks' financial performance was carried out by Waweru (2020). Financial performance and the central bank base rate were the investigation's main topics. The results of this investigation show that the mean basic rate of the CBK, or CBBR, significantly boosts the financial viability of Kenyan commercial banks. identical to this, Otalu et al. (2018) studied the relationship between Nigerian commercial bank profitability and monetary policy: an evaluation of the role of credit manufacturing. Interest rates, liquidity ratios, cash reserve ratios, and money supply served as monetary policy indications, while overall bank credit served as a performance metric. The results of the investigation show that interest rates have a negligible negative impact on Nigeria's commercial banks' accomplishments.

Mulwa (2020) analyzed the impact of various monetary policy tools, including the Central Bank Base Rate (CBR), on Kenyan commercial banks' performance from 2015 to 2019. Using regression analysis, the study revealed a significant negative relationship between CBR and banks' Net Interest Margin (NIM), a common measure of profitability. While Mulwa's research provides valuable insights, the current study adopts a different perspective by utilizing Return on Equity (ROE) as a measure of financial growth for Kenyan banks. This shift from profitability to growth reflects a specific interest in understanding how monetary policy influences the long-term expansion of Kenya's financial institutions. The return on equity (ROE) measures how well the bank's leadership uses the money invested by its investors and represents the amount of money back that the investors realize on their investment in the bank. Remarkably, Khrawish (2021); Macharia (2019); Otuori (2019); and Udeh (2020) contend that ROE, rather than NIM, is a more accurate indicator of earnings and, consequently, economic performance.

An investigation on the economic health and monetary policy of commercial banking institutions listed on Kenya's Nairobi Securities Exchange was carried out by Meshak and Nyamute in 2022. The investigation took into account three variables: OMO, CBR, and CRR. The results of the investigation demonstrated that the base interest rate charged by the central bank had a negative impact on the financial results of commercial banks that traded on the Nairobi Securities Exchange (NSE) Kenya 20-share index. Waweru (2020) and Meshak and Nyamute (2022), nevertheless, produced contradictory findings regarding the relationship between the commercial financial results of banks and the central bank rate of return. In contrast to the former, which demonstrated a significant negative impact of the central bank's rate of interest on the financial health of Kenyan commercial banks, the more recent result indicates a substantial beneficial impact of the fundamental rate.

III. Research and Methodology

In this research, the study used descriptive survey design. In this regard, the study sought to give an accurate description of the linkage between monetary policies and liquidity of commercial banks in Kenya.

The 39 banking institutions that have operated in Kenya pre- and during Covid-19 were the target the population. This was from the 1st January 2018 to 11th March of 2022. Tier 1 commercial banks were purposely selected owing to their nationwide reach and therefore a notably greater exposure to the economic impacts of COVID-19 in comparison to other banks. A total of eight (8) Tier 1 commercial banks were studied.

The quantitative information from yearly incorporated financial statements, of January 2018 to December 2021, were used in the investigation from the Tier I commercial banks. The data was analyzed using descriptive statistics of frequency and percentage distribution, mean, and standard deviation. Additionally, inferential data analysis methods were used. These include: Pearson's correlation, and multiple linear regression that were used to test the hypotheses.

IV. Result and Discussions

Result

Descriptive Statistics

The research looked at the descriptive analytics of the studied variables, that is central bank rate and liquidity. The study utilized time-series data observations over a four-year period, covering the pre-COVID period (January 1st 2018 to December 31st 2019) and the COVID period (January 1st 2020 to December 31st 2021). Data to this end was obtained from individual commercial banks annual integrated financial reports. The maximum, minimum, standard deviation and mean values were established as indicated in Table 1.

Table 1 Descriptive Statistics for CBR and Liquidity Ratio

	N	Minimum	Maximum	Mean	Std. Deviation
CBR	32	9.88	14.50	13.19	1.02
Liquidity Ratio	32	31.20	71.50	50.62	11.21

Source: Computed by researcher, from data obtained from various commercial banks

As Table 1 depicts, a mean lending rate of 13.2% was established in the pre-covid period, with a minimum of 9.88% and maximum of 14.5%. The standard deviation was 1.01, which is indicative of minimal deviation from the established mean, across a majority of the banks.
A mean liquidity ratio of 50.62% was further established, with a minimum of 31.2% and a maximum of 71.5%. The standard deviation was 11.21%, which is notably high and is also reflected in the notably wide variation from the minimum and maximum values, which may be indicative of the liquidity ratio differences between Pre-Covid and Covid periods.

Pearson Correlation Analysis
To assess the potency of the causal relation, a correlation analysis was carried out between the determinant variable (central bank rate) and the recipient variable (liquidity).

Table 2 Pearson Correlation Matrix

		Liquidity Ratio	CBR
Liquidity Ratio	r	1	.236
	Sig. (2-tailed)		.193
	N	32	32
CBR	r	.236	1
	Sig. (2-tailed)	.193	
	N	32	32

**. Correlation is significant at the 0.01 level (2-tailed)

The study recorded a moderate, positive and non-significant correlation between liquidity and predictor variable, central bank rate (r =.236; Sig. = .193>.05).

Regression Analysis
An analysis of multiple regression was performed, modelling the central bank rate. The predictive fit brief, the ANOVA, and the equation estimation table had been the three results that were generated. Table 3 displays the summary of the fit of the model.

Table 3 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.565[a]	.320	.247	9.73151

a. Predictors: (Constant), Central Bank Rate
The output in Table 3 revealed a .565[a] correlation value (R), modeling a strong, linear connection between liquidity and central bank rate, and the interaction. An R^2 value of .320 was also observed, implying that central bank rate, and the interaction jointly account for 32.0% of variations in liquidity among commercial banks in the country and the remaining 68.0% is attributed to additional characteristics that the predictive model used in this study did not take into account. An ANOVA test was also generated from the regression analysis, as elaborated in Table 4.

Table 4 ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1246.447	3	415.482	4.387	.012[b]
	Residual	2651.662	28	94.702		
	Total	3898.109	31			

a. Dependent Variable: Liquidity ratio
b. Predictors: (Constant), Central Bank Rate
Results of the ANOVA analysis, as shown in Table 4 demonstrate the significance of the regression framework used in the investigation (F = 4.387, Sig. < 0.05). The results show that predicated on the total squared sum (3898.109), the sum of the regression squares was 1246.447. This indicates that the regression model explains about 32.0% of the variation in the dataset, while the total of the remaining squares is 2651.662 implying that

68.0% of the variance in the database is unexplained for. A table of the coefficient of regression was also generated by the analysis of regression and is shown in Table 5.

Table 5 Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	123.192	28.976		4.252	.000
	Central bank rate	4.556	1.965	.416	2.318	.028
a. Dependent Variable: Liquidity ratio						

The estimated impact of the central bank rate that predicts on liquidity is displayed in Table 5 of the outcome data. Regression coefficient of .416 (Sig.= .028<.05) in central bank rate means that for every 1% change in central bank rate, there was a correlated .416% change in liquidity, keeping other factors constant. This was also significant, implying that COVID period central bank rate significantly influenced the liquidity of commercial banks in the country. As such, the study rejects the first null hypothesis of the study that states that COVID period central bank rate does not significantly influence liquidity of commercial banks in Kenya (H_{01}).

V. Discussion

Central Bank Rate and Liquidity of Commercial Banks

The goal of the study was to demonstrate a favorable correlation between Kenyan commercial banks' liquidity and the central bank rate during the COVID era. The null hypothesis was thus rejected. The aforementioned discovery highlights the potency of monetary policy instruments in shaping the financial industry, especially during periods of economic instability. The global COVID-19 epidemic has had a profound impact on economic and financial systems across the globe, posing hitherto unheard-of difficulties for financial institutions and central banks. In order to lessen the pandemic's negative economic effects, central banks adopted a number of strategies, such as changing interest rates and giving the banking industry liquidity support. The investigation of a possible positive association in Kenya would require an understanding of the unique dynamics between the commercial bank liquidity and the central bank rate during the COVID-19 era. This link may have an impact on Kenya's banking system's stability and ability to operate during a time of extreme economic hardship. By facilitating easier access to credit, a lower central bank rate may incentivize commercial banks to increase lending, hence boosting economic activity. On the other hand, a higher central bank rate would encourage banks to adopt a more cautious stance, which might limit lending and guarantee financial stability. Policymakers should carefully consider these dynamics in crafting and adjusting monetary policies to address both short-term challenges and long-term stability, fostering an environment where commercial banks can effectively manage their liquidity in response to the evolving economic landscape.

The results corroborate those of Borio et al. (2019), who looked into the connection between monetary policy and bank profitability. Moessner and Nelson (2008) studied how New Zealand interest rate futures were affected by the Reserve Bank of New Zealand's projections of future policy rates. They discovered that the RBNZ's ninety-day bank bill rate projections, which were available from July 1997 to July 2007, had a major impact on the New Zealand interest rate futures market. Bank interest rates were found to respond in tandem with policy rates in erratic market conditions; that is, an increase in bank interest rates was followed by an increase in market interest rates. The study refutes claims that such guidance could harm the performance of the financial markets by arguing that central bank policy rates provide guidance on bank interest rates, both now and in the future. It highlights how crucial it is for central banks to communicate interest rate projections to the market in countries where players have incomplete knowledge of monetary policy, since this might influence the goals and financial expectations of commercial banks.

VI. Conclusion

The research findings suggest that the central bank rate during the COVID-19 period has a substantial impact on the liquidity of commercial banks. This highlights the crucial role of monetary policy in managing economic uncertainties, particularly those brought about by the pandemic. The results indicate that adjustments to the central bank rate can effectively influence the lending behavior of commercial banks and impact liquidity dynamics within the financial system. Therefore, policymakers are urged to utilize this insight to develop adaptable and targeted monetary policies, taking into account the potential effects on credit accessibility and overall financial stability. As economic conditions continue to change, a nuanced approach to central bank rate adjustments can play a significant role in fortifying the banking sector and guiding the broader economy towards recovery and stability.

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