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ABSTRACT

Purpose: Monetary policy is a measure designed by the central banks to regulate the quality of money in circulation. This study investigates the impacts of quantitative tools of monetary policy instruments on the performance of deposit of commercial banks, a case of CRDB bank. Specifically, the study establishes the significant effect of Cash reserve ratio, liquidity ratio and bank discount rate on the deposit performance of the bank.

Methodology: To address these objectives, research questions, stated hypothesis and relevant data mainly from secondary sources were included. The secondary data included; monetary policy statement, textbooks on related materials, books, policies, research, official reports, and CRDB annual reports in order to have knowledge of Monetary Policy on the deposit performance in CRDB Bank. The Ordinary Least Square (OLS) methodology was used to analyze the relationship among the variables. Data were presented in tables, based on models specified; the hypotheses were tested using regression analysis by employing STATA.

Findings: The findings revealed that cash reserve ratio and bank discount rate have significant effect on the performance of bank deposit. However, the study found that liquidity ratio has no significant contribution to the performance of the bank deposit. The study concluded that various monetary policies managed through those variables have probably been adequately applied to help suitable performance of Bank.

Recommendations: The study recommends that central bank should make monetary policies the preferred efficient provider of favorable environment in terms of the implementation of the appropriate monetary policy in order to attract both domestic and foreign direct investment which will create jobs. In addition, bank of Tanzania should introduce more monetary instruments that are flexible enough to meet the ever-growing financial sector in a view to lessen their financial burden and enable investment. The study further recommends that commercial banks should focus on monetary policy changes to the extent of complying with the Central Bank guidelines and adjusting their variables accordingly. This is a matter of management efficiency.

Keywords: *Quantitative Monetary Policy Tools, Deposit Performance, Commercial Banks*

1.0 INTRODUCTION

Global best practice on monetary policy has evolved in recent years and has been distilled by the International Monetary Fund into seven key principles emphasising transparency, priority of goals, and credibility (Alexianu, 2020). Central banks in Sub-Saharan Africa, although improving along many of these metrics over the last two decades, have lagged behind in numerous aspects. These aspects include securing de facto independence, transitioning to price level targeting frameworks, and communicating transparently with markets. Slow progress in these areas coupled with Sub-Saharan Africa specific issues, such as vulnerability to supply shocks and weak monetary transmission, have weakened the effectiveness of monetary policy in the region. Global growth momentum was subdued in 2019. The International monetary fund, World Economic Outlook of January 2020, indicates a slowdown in global growth to 2.9 percent from 3.6 percent in 2018 due to trade dispute between China and USA, geopolitical tensions in the Middle East, and policy uncertainty surrounding Brexit. These factors undermined trade and investment. In the emerging markets and developing economies, output growth was weaker than expected in 2019. It was estimated at 3.7 percent, down from 4.5 percent in 2018, reflecting underperformance of more than half of emerging market economies including China and India. In sub-Saharan Africa, economic activity grew by 3.3 percent compared to 3.2 percent in 2018.

At the continental level, monetary policy in Sub Saharan Africa has come a long way since its early days after independence. In most cases, central banks have grown from subsidiary financing tools for governments to more independent, transparent, and forward-looking institutions. It has therefore been well observed in Nigeria as well as all other developing countries that prudent monetary policies are the key stone to effective regulations as well as supervision for the growth of any country's banking Industry. By effective manipulation of monetary instruments, the growth rate in the supply of money can be influenced by the Central bank in many ways, namely, availability of credit interest rate level and availability of liquidity from the banking sector. All these can affect the investment, production, consumption of individual as well as government spending (Omankhanlen, 2014).

Tanzania's monetary environment has also evolved over time from an early period of strong fiscal dominance and repressed capital markets to liberalisation and fiscal discipline, enforced by IMF adjustment programmes starting in the mid-1990s. The monetary policy objectives for 2019/20 were to sustain low inflation, within the medium-term target of 5.0 percent, and support economic growth. Accordingly, the monetary policy targets set forth for the year ending June 2020 are as follows; growth of average reserve money of 9.0 percent, growth of extended broad money (M3) of 10.0 percent, private sector credit growth of 13.5 percent, and maintain adequate foreign exchange reserves covering at least 4 months of projected imports of goods and services (BOT Monetary policy statement, 2021/22).

The Bank of Tanzania will continue with accommodative monetary policy to facilitate high growth of credit to the private sector and spur growth of the economy, while ensuring that inflation remains low and consistent with the medium-term target of 5.0 percent. The accommodative policy is also expected to ensure low and stable money market interest rates and ultimately influence lending rates. The stability of short-term interest rates is a building block for transition to an interest rate-based monetary policy framework, which entails setting policy rate to achieve inflation and output objectives (Monetary policy statement, 2021/22).

Monetary policy is one of the principal economic management tools that governments use to shape economic performance. The Bank of Tanzania utilizes a variety of market-based instruments to conduct monetary policy. The monetary policy instruments include open market operations, i.e., selling or buying debt securities, the statutory minimum reserve requirement ratio (SMR) and discount rate are also part of monetary policy instruments (Monetary policy statement, 2021/22). Nevertheless, the ratios exceeded the minimum regulatory requirement of 10 percent and 12 percent, respectively (BOT annual report, 2021).

Several research studies have been done in relation to deposit of banks. This study has identified a gap in the current literature and research with respect to monetary policy and its effect on performance of deposit in the banks. The literature discovers that despite the number of studies conducted addressing on various aspects of monetary tools but still none of these studies have addressed on the effects of those tools on deposit performance of banks, which are the most used channel of transmission of the policies. Therefore, the study aimed to fill the knowledge gap on effects of the quantitative monetary policy tools on deposit performance of the banks.

2.0 METHODOLOGY

2.1 Research design and sampling procedure

The study used causal research design to analyses the effect of quantitative tools of monetary policy on performance of bank deposit. Causal research is the investigation of cause-and-effect relationships (Brains *et al.*, 2011). Causal research used when enough information is available for testing cause and effect relationship in a phenomenon. Causal effect occurs when variation in one phenomenon, an independent variable, leads to or results, in variation in another phenomenon, the dependent variable (Andersson *et al.*, 2020). In addition, cross sectional time series is appropriate in determining the trends of performance over the previous years.

Quantitative research approach was used. Furthermore, secondary data were collected from various sources. These are various reports such as central bank of Tanzania annual reports, monetary policy circulars, CRDB Bank annual reports, intensive review of textbooks on related materials, books, policies, research, pamphlets and official reports as well as numerous journals from various institutions. Ordinary least square regression method, was used to analyze the impact of monetary policy tools which are; cash reserve ratio, liquidity ratio and bank discount rate on deposit performance of commercial banks, specifically CRDB Bank Plc.

2.2 Data Collection and Analysis

The study used data from a secondary source that was obtained from the published annual reports, books, policies as well as data from different journals. The use of secondary data is primarily due to data availability. These sources of secondary data are readily available and they included books, policies, research, pamphlets and official reports. The study used secondary data from the documents which were reviewed and seen to be relevant and important to the study problem. Ordinary least square regression analysis was used to analyze the relationship between bank deposit performance and quantitative monetary policy tools. The type of test carried out when there is a need to establish the linear relationship between two or more variables and to establish how strong these relationships are. The methods used to test the hypothesis, solve research questions and to determine the relationships among the variables of concern.

Multiple Regression analysis was used to analyze the degree to which bank deposit performance is affected by the monetary tools. The multiple regression model used is as follows:

$Y = \beta o+\beta 1X1 + \beta 2X2 +\beta 3X3 + \beta 4(X4) + \beta 5(X5) + \beta 6 (X6) + e$

Where;

Y = bank deposit performance

X1 = Discount Rate. X2 = Liquidity Ratio. X3 = Cash reserve Ratio. X4=interest rate X5= GDP rate. X6= Inflation rate.

βo = Intercept which indicates bank deposit performance and quantitative monetary policy tools.

β1, β2, & β3 = coefficients of discount rate, cash reserve ratio and liquidity ratio respectively.

e = error term.

Presentation of analyzed data for easy understanding of this study was done by using tables and textual statements for interpretation. This technique provides logical presentation of the findings and facilitate easy interpretation to a reader; later the data were processed and presented in form of frequencies, averages, percentages and proportions.

2.3 Model specification

In the light of the objectives raised in this paper, a model was specified. The model incorporates the relationship between monetary policy instruments such as Cash Reserve Ratio (CRR), discount rate and liquidity ratio. Thus, with respect to the study objectives, three regression models are specified to reflect the different dependents and independents variables. Three models developed in order to verify the research questions; these models are as follows:

2.3.1 Model number one

This model tests the relationship between bank deposit performance and discount rate.

$Y= \alpha +\beta 1X1+ e$

2.3.2 Model number two

The second test model, it will test the relationship between bank deposit performance and liquidity ratio.

$Y= \alpha +\beta 2X2+e$

2.3.3 Model number three

This model explains the relationship between bank deposit performance and cash reserve ratio.

$Y= \alpha +\beta 3X3+e$

3.0 DISCUSSION OF FINDINGS

3.1 The Relationship between bank discount rate and performance of deposit.

The Bank discount rate is the rate at which the central bank lend money to commercial banks. It is the benchmark interest rate in Tanzania. This minimum discount rate is most charged the same to the commercial banks, this discount rate tends to affect the level of the loans and advances that the bank gives to its customers responding to the performance level of deposit. The analysis of this

variable was done under multiple regression which include the relationship between bank discount rate and performance of deposit.

3.1.1 Model number one

This model tests the relationship between bank deposit performance and discount rate.

$Y= \alpha +\beta 1X1+ e$

The findings resulted/made the equation in numeric as follows;

Y= 78.04 -0.334DR

The R-squared coefficient shows that the regression line is well fitted, while the adjusted R-squared shows 69.4% variation in the dependent variable is caused by the independent variable. The result shows that bank discount rate (DR) has a negative relationship with level of deposits of the bank. This implies that a 1% increase in bank discount rate (DR) will result in 0.334 decrease in Deposit performance of the bank. However, this shows a strong influence that bank discount rate (DR) has on banks Deposit performance.

Table 1: Bank discount rate regression analysis

Regress total deposits, bank discount rate.

Source	SS	df	MS	Number of obs = 20
				F (2, 17) = 2.06
Model	77.0466667	2	38.5233334	Prob > F = 0.1583
Residual	318.21029	17	18.7182524	R-squared = 0.6949
				Adj R-squared = -0.6402
Total	395.256956	19	56.8029978	Root MSE = 4.3265

Total deposits	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Bank discount rate	-.3344835	.303813	2.10	0.0028	-.3065029	.9754796
Interest rate	-.9416261	.465304	-2.03	0.7592	-1.923332	.0400796
_cons	78.04196	4.624502	16.8	0.000	68.28511	87.79886

3.1.2 Test of hypothesis three (Ho3)

Ho3: Bank discount rate does not have significant effect on the performance of Deposit of bank.

The output of the analysis shows that bank discount Rate has a sig. value calculated at 0.0028 sig. value, this implies that the discount rate is making a significant and unique contribution to the performance of Deposit of CRDB bank.

3.1.3 Decision rule

Since the sig. value calculated 0.0028 is less than our decision value of 0.05, the study therefore rejects the null hypothesis that the discount rate does not have significant effect on the performance of Deposit in the bank. This concurs with the works of Adesina *et al.,* (2018), Nguyen *et al.,* (2017) and others.

3.2 The Relationship between liquidity ratio and performance of deposit.

This is the ratio which measure the capacity of the company to run its day-to-day operations, hence it is concerned with the liquidity assets as well as current liabilities, in measuring the liquidity capacity of the firm. There are many metrics which can be used including current ratio, acid or quick ratio, working capital ratio. Hence in the study the current ratio was employed so as to test the liquidity ratio of the firm. The multiple regression model employed to analyze the relationship between the liquidity ratio and the performance of the deposit of CRDB bank.

3.2.1 Model number two

The second test model, tested the relationship between bank deposit performance and liquidity ratio.

$Y= \alpha +\beta 2X2+e$

The findings resulted/made the equation in numeric as follows;

$Y= 76.5 +0.522LR$

The R-squared coefficient shows that the regression line is well fitted, while the adjusted R-squared shows only 19.4% variation in the dependent variable is caused by the independent variable. The result shows that liquidity ratio (LR) also has a positive relationship with level of deposits of the bank. This implies that a 1% increase in liquidity ratio (LR) will result in 0.522 increase in Deposit performance of the bank. However, this shows a weak influence that liquidity ratio (LR) has on banks Deposit performance. Also, others factors associated including the inflation rate and gross domestic report one has positive and negative coefficients respectively.

Table 2: Liquidity Ratio Regression Analysis.

Regress total deposits, current ratio.

Source	SS	df	MS	Number of obs = 20
				F (3, 16) = 0.11
Model	7.67374932	3	2.55791644	Prob > F = 0.9556
Residual	387.583208	16	24.2239505	R-squared = 0.1944
				Adj R-squared = 0.1644
Total	395.256940	19	26.8029949	Root MSE = 4.9218

Total deposits	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Current ratio	.522137	1.213365	0.29	0.799	-2.287022	2.257417
GDP rate	-.3148023	1.222691	-0.53	0.607	-3.234137	1.998431
Inflation rate	-.420953	.2817379	0.19	0.855	-.5450044	.6947148
_cons	76.50281	11.66408	6.56	0.000	51.77607	101.2295

3.2.2 Test of hypothesis two (Ho2)

Ho2: The Liquidity Ratio (LR) does not have significant effect on the performance of Deposit. From the result of the analysis there is no significant relationship between Liquidity Ratio and performance of Deposit, the analysis revealed that Liquidity Ratio has a sig. Value of 0.799 which is greater than 0.05. This implies that the Liquidity Ratio has no significant contribution to the performance of Deposit of CRDB bank.

3.2.3 Decision rule

Based on the output of the analysis the null hypothesis that the Liquidity Ratio does not have significant effect on the performance of Deposit is therefore accepted. This result concurs with the works of Osakwe *et al.*, (2021), Onoh (2017), Udeh (2015) and others.

3.3 The Relationship between the cash reserve ratio and performance of deposit.

The multiple regression model employed using the relationship between the cash reserve ratio and performance of deposit. Cash reserve ratio is the minimum level of cash deposits that must be kept with the Central Bank. It is expressed as a ratio of total bank's deposit to liabilities. CRR = Cash balance of the bank /Total deposit. The cash reserve ratio comprises with the cash and balances of the bank and the total deposit of the bank. This relationship is explained by model number three as follows;

3.3.1 Model number three

This model explains the relationship between bank deposit performance and cash reserve ratio.

$Y= \alpha +\beta 3X3+e$

The findings resulted/made the equation in numeric as follows;

$Y= 78.3 +0.132CRR$

The R-squared coefficient shows that the regression line is well fitted, while the adjusted R-squared shows that 58.9% variation in the dependent variable is caused by the independent variable. The result shows that cash reserve ratio (CRR) has a positive relationship with level of deposits of the bank. This implies that a 1% increase in cash reserve ratio (CRR) will result in 0.132 increase in Deposit performance of the bank. This shows a strong influence that cash reserve ratio (CRR) has on banks Deposit performance. Also, others factors associated including the inflation rate and gross domestic report one has positive and negative coefficients respectively.

Table 3: Cash Reserve Ratio Regression Results.

Regress total deposits, cash reserve ratio.

Source	SS	df	MS	Number of obs = 20
				F (3, 16) = 0.16
Model	11.4424924	3	3.81416413	Prob > F = 0.9223
Residual	383.814465	16	23.988404	R-squared = 0.589
				Adj R-squared = 0.531
Total	395.256959	19	20.8029977	Root MSE = 4.8978

Total deposits	Coef.	Std. Err.	t	P>|t|	[95% Conf.	Interval]
Cash reserve ratio	.1322496	.301982	4.4	0.007	-.7724228	.5079236
GDP rate	-.2533778	1.108167	-0.23	0.0822	-2.602586	2.095831
Inflation rate	.420953	1.303176	-0.32	0.0751	-3.183564	2.341658
_cons	78.30687	12.02585	6.51	0.000	52.81321	103.8005

3.3.2 Test of hypothesis one (Ho1)

Ho1: The Cash Reserve Ratio (CRR) does not have significant effect on the performance of Deposit.

3.3.3 Decision Rule

The decision rule is to reject null hypothesis if the calculated sig. value is (less/equal to) ≤ 0.05. If the significant value is less than .05 then the variable is making a significant unique contribution to the prediction of the dependent variable. If greater than .05, then you can conclude that that variable is not making a significant unique contribution to the prediction of the dependent variable. From table 3, there exist a significant relationship between CRR and deposits of the bank. The analysis revealed that Cash Reserve Ratio has a significant value of 0.007 which is less than the value of decision rule. This implies that the Cash Reserve Ratio is making a Significant and unique contribution to the performance of Deposit of CRDB bank. Based on this output, the null hypothesis that the Cash Reserve Ratio does not have significant effect on the performance of Deposit of the bank is therefore rejected. Hence, it implies that the Cash Reserve Ratio is making a significant and unique contribution to the performance of the bank. This result is in line with the studies of Mukolu & Adeleke (2020), Osakwe *et al.*, (2021), Nguyen, *et al.*, (2017), Aginam & (2019), Akinleye & Oluwadare (2022) and many others.

4.0 CONCLUSION AND RECOMMENDATIONS

4.1 Conclusion

The conduct of monetary policy is the statutory concern of the Central bank. Monetary management by the central bank is to ensure a steady macroeconomic environment, which is the root for endorsing sustainable economic growth and progress. The study examined the impacts of quantitative tools of monetary policy instruments on the performance of deposit of commercial

bank, in CRDB bank. The study found that monetary policy instruments have significant effects on the performance of deposit, except for liquidity ratio which has no significant effect. The study assessed the significant effect of cash reserve ratio (CRR) on the performance of Deposit of the bank. The results showed that cash reserve ratio had a positive effect on the deposit performance. Thus, the study concluded that cash reserve ratio has a positive coefficient and significant affect the deposit performance of CRDB bank.

The study examined the significant effect of liquidity ratio (LR) on the performance of Deposit of the bank. The results showed that liquidity ratio had a negative effect on the deposit performance. The study therefore concluded that liquidity ratio has no significant effect the deposit performance of CRDB bank. Lastly the study also assessed the significant effect of bank discount rate on the performance of Deposit of the bank. The results showed that bank discount rate had a negative effect on the deposit performance. Thus, the study concluded that bank discount rate has significant effect on performance of Deposit of CRDB bank. Hence, it shows that various monetary policies managed through those variables have probably been adequately applied to help suitable performance of Bank.

4.2 Recommendations

Based on the findings, the recommendations are given to offer solution to stability of macroeconomics indicators and monetary policy tools that have effects on the economy. The bank of Tanzania should make monetary policies the favorite effective provider of favorable environment in relation to implementation of the appropriate supply of money, interest rate, inflation rate in order to entice both domestic and foreign direct investment which will create jobs. Central bank should consider a gradual phase out of unnecessary control on banks with regard to sectoral distribution of their loans and advances.

A monetary policy adopted should aim at stabilizing and stimulating a realistic exchange rate for the banking sector and Stipulation of bank Discount Rate by Bank of Tanzania should be such that would promote growth and development of the banking sectors in the economy. Cash reserve ratio should be complementing the Open Market Operations (OMO) in ensuring that excess liquidity or lack of it in the banking system is minimized, that way Money Supply will be more effective as a tool on measuring other performance indicators. The Government should also attempt to make the monetary sector more viable in order to meet the flexibility of the monetary policy of the Central Bank. The study suggests that more studies be done in this area focusing of monetary quantitative tools on all banks in Tanzania as well as other financial institutions. This can be done by focusing on all commercial banks in Tanzania.

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