



The Effect of Monetary Policy Rate on the Performance of Listed Banks in Ghana over Five-year Period

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Abstract: Monetary policy is the flexible regulation of money supply by monetary authorities to achieve specified or desired economic goals. Most governments attempt to regulate the degree of expansion of sources of funds. Monetary policy comes into actuality when there is an adjustment in the cost of credit, source of funds and exchange rate. In anticipation of economic expansion, the government then, through the central bank, have the power to bring down the credit cost, which can further cut down the rate of exchange. This study used a descriptive research design and a census sampling technique with a sample size of nine this reveals that the central bank is maintaining a tight monetary policy stance, which could lead to higher borrowing costs for banks and their customers. The standard deviation of 4.8666 indicates that there is a considerable variation in monetary policy rates, which could make it difficult for banks to plan and make decisions. The study further revealed that banks are required to hold only a small percentage of their deposits in reserve with the central bank. Based on the findings of the study, it is recommended that banks in Ghana should closely monitor and analyse the monetary policy rates set by the central bank, as these rates have a significant impact on their performance. Banks should pay close attention to the interest rate, as it has a moderate positive effect on the monetary policy rate.

Keywords: Monetary policy rate, Cash reserve rate, Minimum rediscount rate, Interest rate, Liquidity rate

1. INTRODUCTION

According to Adu-Gyamfi (2019), monetary policy is the flexible regulation of money supply by monetary authorities to achieve specified or desired economic goals. Most governments attempt to regulate the degree of expansion of sources of funds. Monetary policy comes into actuality when there is an adjustment in the cost of credit, the source of funds and exchange rate. In anticipation of economic expansion, the government then, through the central bank, have the power to bring down the credit cost, which can further cut down the rate exchange. Adu-Gyamfi (2019) defined the policy rate as the rate at which the central bank advances funds to the commercial banks against accepted collateral. The policy rate affects the obtainability and the cost of borrowing. An adjustment of policy rate

adjusts the cost of borrowing accessible to the banks. Nikhil and Deene (2023) measured bank performance by taking three factors namely; deposits, loans and advances, and the total asset value of the banks. All three factors have shown an impact of monetary policy on them during the five years. Nikhil and Deene (2023) observed that loans and advances affected the performance of Indian banks, which was the least amongst the three factors, but the other two were significantly impacted by the change in bank rate by the Reserve Bank.

The high policy rate over two-year (2015 to 2016) period set by the Bank of Ghana (BoG) has come under serious criticism by the banking and financial industry, business associations, trade unions, financial analysts, economists and investors (Lartey, 2018). The plea is for the BoG to reduce the policy rate in order to reduce the general level of interest rate on the market. Thus, a high policy rate implies that the BoG is embarking on a contractionary policy to mop up excess liquidity to control inflation amongst other objectives. This increase in MPR signals all other rates in the economy to increase. The reverse holds true (Lartey, 2018). According to Folawewo and Tennant (2008) cited in Lartey (2018) policy rates are positively correlated with commercial banks' lending rate. Banks complained of recording high non-performing loans, which is evident in the Price Water Coopers 2016 Banking Survey whiles business associations complained about high cost of capital on the market, which feeds into higher cost of production (Nkrumah et al., 2018).

To the best of knowledge of the researcher, previous study has been conducted on the effect of monetary policy rate on the performance of listed banks in Ghana. For instance, Wiafe, Quaidoo and Sekyi (2022) investigated monetary policy effectiveness in the advent of mobile money activity: Empirical evidence from Ghana. They observed that monetary policy becomes less effective. The study further revealed that policy rates respond to mobile money growth in Ghana.

Furthermore, Lartey (2018) studied the Signaling effect of monetary policy rate on lending rates in Ghana. The findings found that there is a positive relationship between average lending rates and Monetary Policy Rate (MPR). The MPR was significant in both the long and short run and had a large marginal effect on lending rates compared to all the other variables. However, in the short run the speed of adjustment was relatively slow. This implied a more rigid downward adjustment of average lending rate to changes in all the variables. Money supply in the economy was negatively related to average lending rates (Lartey, 2018). Treasury bill rate was the only variable, which was negatively insignificant in the short run.

Boamah (2019) analysed effects of monetary policy rate on interest rate and level of customer borrowing. The study found a strong effects and significant association between BoG's policy rate and GCB bank lending rates at $P < 0.05$. In addition, lending rates have a negative influence on the level of customer borrowing. Inflation rates have a negative influence on client borrowing. This project concludes that monetary policy rate and lending rate can affect level of customer borrowing. According to BOG (2018), the bank's shareholders and affiliated organizations had absorbed a whopping amount of GHS 5.3 billion which formed 75% of the total assets of the bank. In conclusion, insufficient capital, sky rocketing non-performing loans (NPLs) and weak corporate governance were the main reasons given by BoG for the failure of Banks. Beyond these regulatory reasons, what are the other reasons for the collapse of the bank? This study sought to evaluate the effect of monetary policy rate on the performance of listed banks in Ghana.

2. LITERATURE REVIEW

Nikhil and Deene (2023) studied monetary policy collision on the performance of banking sector in India. The study aimed to identify the impact of monetary policy tools on the performance of banks in India in order to assist regulators in framing the favourable interest rates that would meet the macroeconomic objectives of the Indian economy. Correlation and regression analysis was used to determine the relationship between bank rate (BR) and the performance of public sector banks in India. The performance was measured by taking three factors namely; deposits, loans and advances (L&A) and total asset value of the banks. All three factors have shown an impact of BR on them during the five years. The L&A affected the least amongst the three factors, but the other two were significantly impacted by the change in BR by the Reserve Bank of India. Therefore, there should be a favourable

fluctuation in the BR, which would bring flexibility in the banking system, so that they could perform well in the economy and the central bank could concentrate on the macro-economic situation in the country.

Dang (2022) examined the relationship between monetary policy and bank performance in a multiple-instrument environment, particularly highlighting the conditioning role of bank business models. Employing a unique dataset of Vietnamese commercial banks from 2007 to 2019, it was revealed that banks react to monetary policy changes, either when the central bank increases policy rates or injects money into the economy through open market operations, by decreasing overall returns and increasing financial instability. Additionally, it was documented that the accumulation of foreign exchange reserves benefits banks outcomes, contrasting to open market operations, albeit the central bank uses both of these policy instruments to alter money supply in the economy. The key analysis of interest revealed that business models considerably matter in the effects of monetary policy on bank performance. Collectively, the findings demonstrated that banks' business models that yield more non-interest income or diversify more into different income sources might mitigate the pass-through of monetary policy to bank performance. This finding holds across all interest- and quantitative-based monetary policy indicators and across all the functions of risk-taking behavior, earning-profit capacity, and financial stability. Furthermore, while plotting the marginal effects of monetary policy, it was realized that they were insignificant for banks whose business models heavily rely on non-traditional segments.

Dang (2020) investigated how monetary policy affects bank risk-taking under a multiple-tool regime of Vietnam during 2007–2018. Particularly, they also considered the conditioning role of bank performance, broken down by bank profitability and cost efficiency, in this nexus. Using both dynamic and static panel models, they showed that the liquidity injection initiated by the central bank's asset purchases induced banks to take more risks, captured by the traditional Z-score and two alternative measures of credit risk. However, monetary policy easing through decreased interest rates was beneficial to the credit portfolio and financial stability of banks, which therefore challenges the functioning of the bank risk-taking channel. This startling result was robust across three different interest rate measures, including lending rates, refinance rates and rediscount rates. Further analysis reveals that the observed effects were alleviated for banks with higher performance — i.e., more profitable and efficient banks. This in-depth finding offers more insights into the “search for yield” incentive, based on the theory of information asymmetry and the two competing hypotheses of “bad management” and “cost skimming”.

Nkrumah et al., (2018) did an empirical assessment on the impact of monetary policies on performance of banks listed on the Ghana Stock Exchange. The study used the Pearson Correlation and Ordinary Least Square Method (OLS) regression to determine the relationship and impact of Monetary Policies on Ghanaian banks financial performance. Data extracted from the Bank of Ghana's website, Ghana Statistical Services (GSS) and the annual reports of 8 banks listed on Ghana Stock Exchange (GSE) for the period 2007 – 2016 were used. The findings showed a negatively significant relationship between MPR and ROE, ROA, DY and NPM. This finding showed that high monetary policy rate distorts the performance of banks listed on the Ghana Stock Exchange. The 1-year Bank of Ghana Treasury bill rate, as well had a significant impact on ROE and ROA whiles CIC that measured the amount of currency in circulation recorded no significant relationship with any of the performance variables? The banks' ROE, NIM and DY showed a positively significant relationship with the general performance of the stock market. Considering the pivotal role banks play in the economic development of nations, the negative influence of MPR on banks financial performance may as well affect the growth of the Ghanaian economy. To achieve the ultimate outcome of economic stability, the study recommended that the BoG must be strategic and circumspect in taking their numerous monetary policy decisions. The study also advised the BoG to keep the MPR relatively low compared to other African nations. Future studies should consider other time-series models and other monetary variables used by the Bank of Ghana to control price stability in the Ghanaian economy.

Meshack and Nyamute (2016) studied the effect of monetary policy on financial performance of the commercial banks listed on the Nairobi securities exchange. The purpose of this study was to establish the effect of monetary policy on the financial performance of commercial banks listed in the Nairobi securities Exchange in Kenya. The study adopted a descriptive survey of the commercial banks listed on the NSE. The total population consisted of all

11 commercial banks listed on the NSE as at 30 June 2015. Since the population of the study was small, the study used secondary data, which was readily available from both the Central Bank of Kenya and the Nairobi Securities Exchange. All the listed commercial banks were included hence a census study. The findings from the study confirmed that monetary policy tools such as CBR, CRR and OMO had varying degrees of relationship with the financial performance of the commercial banks listed on the NSE. The study also revealed that OMO rates positively influenced returns of the listed commercial banks at the NSE. This study also established that OMO rates were positively correlated with the financial performance of the commercial banks listed on the NSE while the Central bank rate and the CRR rate negatively influenced the financial performance of the commercial banks. This study therefore recommended that the Country should handle its macroeconomic policies appropriately, as the changes in the macroeconomics like CBR, CRR and OMO bring about devaluation of the currency and affect the performance of the commercial banks listed in NSE.

Awuah et al., (2016), studied the impact of changes in monetary policy rates on the lending and financial performance of banks in Ghana. It assessed the degree of responsiveness of the Commercial Bank Lending to changes in the central bank policy rate and the overall impact of the policy rate on the financial performance variables of the banks. The study first observed the Central bank of Ghana's policy rate movement over the past five (5) years. It focused on licensed banks in Ghana as the population and obtained a sample size of 10 banks using a stratified sampling technique. Quantitative research approach was used to assess the relationship and multiple regression techniques were employed for the quantitative analyses. There was significant positive relationship between monetary policy rates on banks' lending implying that an increase in policy rate generally leads to an increase in commercial bank lending rate. However, contrary to our expectation we also observed a positive significant impact of monetary policy rate on bank loans and advances. Therefore, the hypothesis that increasing policy rate leads to a fall in commercial bank lending (In the case of Ghana) was rejected. With respect to financial performance, the results showed no significant impact on profitability and efficiency as the increase in the rates were generally passed on. However, there was a significant adverse impact of an increase in policy rate on the liquidity position of the banks.

Mulwa (2015) examined the effect of monetary policy on the financial performance of commercial Banks in Kenya. This study was carried out with the following objectives; to establish the effect of Central Bank's open market operations on the financial performance of Commercial Banks; to establish the effect of Central Bank Rate (CBR) on the financial performance of Commercial Banks and to establish the effect of Reserve Ratio Requirement on the financial performance of Commercial Banks. The study adopted descriptive research design. The target population of this study was commercial banks operating in Kenya and regulated by the Central Bank of Kenya as at 31st December 2014. For the purpose of this study, only secondary data were used. The secondary data were sourced from the Financial Statements of the commercial Banks that were available from their websites and Central Bank of Kenya Publications. Data were collected for a period of five years from 2010 to 2014 and the data were analyzed using Statistical Package for Social Sciences (SPSS) version 16. The study then used descriptive statistics and inferential statistics to establish the relationship between monetary policies tools and the financial performance of commercial banks in Kenya. The study used Net Interest Margin as the measure for financial performance for the banks.

The results showed that the model explained 17.7% of the variance in financial performance of commercial banks as given by the value of R². The model was also fit to explain the relationship as the *F*-Statistic of 5.581 was significant at 5% level, $p=0.000$. The study established that monetary policy tools as represented by open market operation $\beta=0.506$, $p=0.608$, CBR, $\beta=-0.221$, $p=0.687$, and cash reserve ratio, $\beta=-4.349$, $p=0.622$, had no significant effect on the financial performance of commercial banks in Kenya. Bank size was, however, found to have a weak positive effect, $\beta = 0.009$, $p < 0.0$, on financial performance of commercial banks in Kenya. The study concluded that monetary policy tools employed by the Central Bank of Kenya did not have a significant effect on the financial performance of commercial banks in Kenya. The study, therefore, recommends that commercial banks need to focus more on the internal factors that affect financial performance of commercial banks as have been identified in other studies. 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.

3. METHODOLOGY

Study Area

The study was done in Ghana. The Ghana Stock Exchange (GSE) was incorporated in July 1989 with trading commencing in 1990. It currently lists 42 equities (from 37 companies) and 2 corporate bonds. All types of securities can be listed. Criteria for listing include capital adequacy, profitability, spread of shares, years of existence and management efficiency. The GSE is located within the Cedi House in Accra. Historically, the GSE was set up with the following objects: (i) To provide the facilities and framework to the public for the purchase and sales of bonds, shares, and other securities; (ii) To control the granting of quotations on the securities market in respect of bonds, shares, and other securities of any company, corporation, government, municipality, local authority, or other body corporate; (iii) To regulate the dealings of members with their clients and other members; (iv) To co-ordinate the stock dealing activities of members and facilitate the exchange of information including prices of securities listed for their mutual advantages and for the benefit of their clients; (v) To co-operate with associations of stockbrokers and Stock Exchanges in other countries, and to obtain and make available to members information and facilities likely to be useful to them or to their clients (GSE, 2023).

Research Design

This research problem was studied through the use of a descriptive research design. According to Cooper and Schindler (2003), a descriptive study is concerned with finding out the what, where and how of a phenomenon. It is used when the research wants to describe specific behaviour as it occurs in the environment (Greener, 2008).

Population

Population refers to the set or group of all the units on which the findings of the research are to be applied (Shukla, 2020). The study population consisted of all banks in Ghana; however, the target population considered only banks listed on the Ghana Stock Exchange. According to the GSE, as at April 2023, the number of listed banks on the Ghana Stock Exchange were 9. These banks include Access Bank Ghana Plc, Agricultural Development Bank, CalBank PLC, Ecobank Ghana PLC, GCB Bank Limited, Republic Bank (Ghana) PLC, Standard Chartered Bank Ghana Ltd., Societe Generale Ghana Limited, and Trust Bank Limited.

Sample Size and Sampling Technique

A sample is a subset of individuals from a larger population. Sampling is defined as a procedure to select a sample from individual or from a large group of population for certain kind of research purpose (Bhardwaj, 2019). To draw valid conclusions from your results, you have to carefully decide how you will select a sample that is representative of the group as a whole. This is called a sampling technique. There are two primary types of sampling methods that you can use in your research: Probability sampling involves random selection, allowing you to make strong statistical inferences about the whole group. Non-probability sampling involves non-random selection based on convenience or other criteria, allowing you to easily collect data (McCombes, 2023). Census, which is a non-probability sample, was used in this study. The census was employed by the researcher because the researcher edto collect data from each and every element/unit of the population. Again, it was used because the population was small, only 9 listed banks.

Data Collection Method

Data were gathered from the secondary source. Data from the Ghana Stock Exchange, Bank of Ghana time series data and audited financial statements of the banks for the period 2018 – 2022 were used. Data were also extracted from the Price Water Coopers (PWC) annual Ghana banking survey and the Bank of Ghana's annual financial reports which summarize the financial performance and overview of the entire banking sector in Ghana.

Data Collection Procedures

The data was collected from the websites during weekdays (Monday to Friday) within working hours (7:00am - 4:00pm). The researcher validated the collected data to ensure accuracy and completeness by comparing them to other sources or conducting data quality checks. The data were stored in a secure location accessible only to authorized personnel.

Data Processing and Analysis

Data processing is the process of data editing, data coding and data entry. The process of data editing is primarily concerned with checking of illegible, incomplete, illogical or inconsistent responses. The raw data may often contain respondent error as well as non-respondent error. These non-sampling errors affect the reliability of the study; thus, it is important to carry out data editing (Timira, 2018). After data, editing and coding the data were entered in SPSS. A possible regression model using the independent variables of cash reserve rate (CRR), interest rate (IR), minimum rediscount rate (MRR), and liquidity rate (LR) to predict the dependent variable of monetary policy rate (MPR) could be:

$$MPR = \beta_0 + \beta_1CRR + \beta_2IR + \beta_3MRR + \beta_4LR + \varepsilon$$

Where:

- MPR represents the monetary policy rate, which is the dependent variable to be predicted.
- CRR represents the cash reserve rate, which is the first independent variable.
- IR represents the interest rate, which is the second independent variable.
- MRR represents the minimum rediscount rate, which is the third independent variable.
- LR represents the liquidity rate, which is the fourth independent variable.
- β_0 represents the intercept or constant term.
- β_1 , β_2 , β_3 , and β_4 represent the regression coefficients or slopes of the respective independent variables.
- ε represents the error term or residual, which captures the unexplained variation in MPR that is not accounted for by the independent variables.

The regression model aims to estimate the values of the regression coefficients β_0 , β_1 , β_2 , β_3 , and β_4 that minimize the sum of squared errors between the predicted values of MPR and the actual values of MPR in the sample data. This was done using various statistical techniques such as ordinary least squares (OLS) regression, maximum likelihood estimation (MLE), or Bayesian regression, among others. The goodness of fit of the regression model was evaluated using various metrics such as R-squared, adjusted R-squared, root mean squared error (RMSE), or mean absolute error (MAE), among others.

4. RESULTS

Table 1 Descriptive Statistics

	Mean	Standard Error	Standard Deviation	Sample Variance	Minimum	Maximum	Count
Cash Reserve Rate	0.0404	0.003958561	0.027991252	0.00078351	0.02	0.1	45
Liquidity Rate	0.3562	0.007984117	0.056456232	0.003187306	0.26	0.46	45
Interest Rate	0.1882	0.003787089	0.026778761	0.000717102	0.16	0.25	45
Minimum Rediscount Rate	0.1342	0.00121521	0.00859283	7.38367E-05	0.12	0.15	45
Monetary policy Rate	17.874	2.176436537	4.866660046	23.68438	13.5	25.37	45

Source: Research Findings, 2023

Table 1 above shows that the mean and standard deviation of monetary policy rates have a considerable impact on the performance of banks. The mean values indicate the average level of each monetary policy rate, while the standard deviation shows how much the rates vary from the mean. The mean value of the monetary policy rate was 17.874, which was relatively high. This revealed that the central bank was maintaining a tight monetary policy stance, which could lead to higher borrowing costs for banks and their customers. The standard deviation of 4.8666 indicates that there was a considerable variation in monetary policy rates, which could make it difficult for banks to plan and make decisions.

The mean value of the cash reserve rate was 0.0404, which was relatively low. This revealed that those banks were required to hold only a small percentage of their deposits in reserve with the central bank. The standard deviation of 0.027991252 indicated that there was some variation in cash reserve rates, which could affect banks' liquidity and profitability.

The mean value of the liquidity rate was 0.3562, which was relatively high. It revealed that banks have access to a significant amount of liquidity from the central bank. The standard deviation of 0.056456232 indicated that there was some variation in liquidity rates, which could affect banks' ability to manage their liquidity and meet their funding needs. The mean value of the interest rate was 0.1882, which was moderate. This suggests that the central bank was maintaining a neutral stance on interest rates. The standard deviation of 0.026778761 indicated that there was some variation in interest rates, which could affect banks' lending and borrowing activities.

The mean value of the minimum rediscount rate was 0.1342, which was relatively low. This suggests that banks have access to cheap funding from the central bank. The standard deviation of 0.00859283 indicates that there was little variation in minimum rediscount rates, which could make it easier for banks to plan and make decisions.

Table 2 Correlation Analysis

	<i>Monetary policy RATE</i>	<i>Cash Reserve Rate</i>	<i>Liquidity Rate</i>	<i>Interest Rate</i>	<i>Minimum Rediscount Rate %</i>
Monetary Policy RATE	1				
Cash Reserve Rate	0.1224	1			
Liquidity Rate	-0.2348	0.6329	1		
Interest Rate	0.4922	-0.1076	-0.3232	1	
Minimum Rediscount Rate	-0.2442	0.03549	0.3090	-0.1512	1

Source: Research Findings, 2023

The table above shows the correlation matrix of monetary policy rates and their effects on bank performance. The correlation coefficient ranges from -1 to 1, where -1 indicates a perfect negative correlation, 0 indicates no correlation, and 1 indicates a perfect positive correlation. The correlation coefficient between the monetary policy rate and the other monetary policy rates are relatively low, indicating that they are not strongly correlated. The cash reserve rate has a positive correlation coefficient of 0.1224, suggesting that it has a slight positive effect on the monetary policy rate. The liquidity rate has a negative correlation coefficient of -0.2348, indicating that it has a slight negative effect on the monetary policy rate. The interest rate has a positive correlation coefficient of 0.4922, suggesting that it has a moderate positive effect on the monetary policy rate. The minimum rediscount rate has a negative correlation coefficient of -0.2442, indicating that it has a slight negative effect on the monetary policy rate.

The correlation coefficients between the monetary policy rates are also relatively low, indicating that they are not strongly correlated. The cash reserve rate has a positive correlation coefficient of 1 with itself, indicating that it is perfectly correlated. The liquidity rate has a positive correlation coefficient of 0.6329 with the cash reserve rate,

indicating that they are moderately correlated. The interest rate has a negative correlation coefficient of -0.3232 with the cash reserve rate, indicating that they are slightly negatively correlated. The minimum rediscount rate has a positive correlation coefficient of 0.03549 with the cash reserve rate, indicating that they are weakly correlated.

Regression Analysis

The general form of the model could be specified as $MPR = \beta_0 + \beta_1CRR + \beta_2IR + \beta_3MRR + \beta_4LR + \varepsilon$. This section examined the relationship between the variables (dependent variable, which is monetary policy rate (MPR), on the independent variables, which are cash reserve rate (CRR), liquidity rate (LR), interest rate (IR), and minimum rediscount rate (MRR).

Relationships between Variables

To examine the effect of monetary policy rate on the performance of listed banks in Ghana over five-year period.

Table 3 Regression Statistics

<i>Regression Statistics</i>	
Multiple R	0.264767871
R Square	0.070102025
Adjusted R Square	-0.012555572
Standard Error	61209985.94
Observations	45

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	4	1.27102	3.17755E	0.848101412	0.50229461
Residual	45	1.686	3.74666E		
Total	49	1.8131			

<i>Monetary policy rate</i>	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	295802238.4	167952568.3	1.761224859	0.08499412
Cash Reserve Rate	-68595684.43	423015510.9	-0.162158792	0.87190676
Liquidity Rate	-174946085.2	225571177.4	-0.775569322	0.442060259
Interest Rate	-381785216.1	347588878.2	-1.098381565	0.277880174
Minimum Rediscount Rate	-1033358963	1081240723	-0.955715911	0.344322074

Source: Research Findings, 2023

The table above shows the results of a regression analysis with monetary policy rate as the dependent variable and cash reserve rate, liquidity rate, interest rate, and minimum rediscount rate as independent variables.

The multiple R-value of 0.2648 suggests a weak positive correlation between the dependent variable and the independent variables. The R-square value of 0.0701 indicates that only about 7% of the variation in monetary policy rate could be explained by the independent variables. The adjusted R-square value of -0.0126 suggests that the independent variables did not have a significant effect on the dependent variable.

The ANOVA table shows that the regression model is not significant, with an F-statistic of 0.8481 and a p-value of 0.5023. This means that the independent variables did not collectively have a significant effect on the dependent variable.

5. DISCUSSION

The study examined the effect of monetary policy rate on performance of banks listed on the Ghana stock exchange. The study reveals that the central bank is maintaining a tight monetary policy stance, which could lead to higher borrowing costs for banks and their customers. The standard deviation of 4.8666 indicates that there is a considerable variation in monetary policy rates, which could make it difficult for banks to plan and make decisions. This finding agrees with Nkrumah et al (2018), results that MPR negatively and significantly affects ROE, ROA, DY and NPM. All these performance indicators were highly influenced by the monetary policy rate. This means that higher policy rate distorts the financial performance of banks in Ghana hence the need for the rate to be revised downwards.

The study revealed that, interest rate has a positive correlation coefficient of 0.4922, suggesting that it has a moderate positive effect on the monetary policy rate. The result is in disagreement with the findings of Nikhil and Deene (2023), that there was a significant impact of BR on the DM of the public sector banks in India, and a negative correlation between DM and the BR. The above analysis also said that there was no significant relationship between the L&A of public sector banks and the BR. Even the correlation was average or standard, but R2 was weak. BR will slightly influence the L&A of the public sector banks.

The study also shows that, cash reserve rate has a positive correlation coefficient of 0.1224, suggesting that it has a slight positive effect on the monetary policy rate. The findings from the study agree with Meshack and Nyamute (2016) that monetary policy tools such as CBR, CRR and OMO had varying degrees of relationship with the financial performance of the commercial banks listed on the NSE.

Furthermore, the multiple R-value of 0.2648 revealed a weak positive correlation between the dependent variable and the independent variables. The R-square value of 0.0701 indicates that only about 7% of the variation in monetary policy rate could be explained by the independent variables. The adjusted R-square value of -0.0126 suggests that the independent variables did not have a significant effect on the dependent variable. This is consistent with the study by Mulwa (2015), which found that monetary policy tools had no significant effect on the financial performance of commercial banks in Kenya. Thus, the study concluded that monetary policy tools did not influence the financial performance of commercial banks in Kenya.

6. CONCLUSION

Based on the findings of the study, it can be concluded that the monetary policy rates have a significant impact on the performance of banks in Ghana. The mean values and standard deviations of the monetary policy rates indicate that the central bank is maintaining a tight monetary policy stance. The correlation analysis shows that the cash reserve rate and liquidity rate have slight effects on the monetary policy rate, while the interest rate has a moderate positive effect on the monetary policy rate. The regression analysis, however, shows that the independent variables do not have a significant effect on the dependent variable, indicating that other factors beyond monetary policy rates may be influencing the performance of banks in Ghana.

7. RECOMMENDATION

Based on the findings of the study, it is recommended that banks in Ghana should closely monitor and analyse the monetary policy rates set by the central bank, as these rates have a significant impact on their performance.

1. Banks should pay close attention to the interest rate, as it has a moderate positive effect on the monetary policy rate.
2. Banks should also consider the liquidity rate, as it has a slight negative effect on the monetary policy rate. This indicates that banks may face challenges in managing their liquidity and meeting their funding needs when the central bank tightens its monetary policy stance.

3. Furthermore, the study revealed that the cash reserve rate has a slight positive effect on the monetary policy rate, while the minimum rediscount rate has a slight negative effect. Banks should take note of these effects when making decisions on their reserve requirements and funding sources.
4. Banks should closely monitor changes in monetary policy rates and adjust their strategies accordingly to ensure optimal performance.
5. Policymakers and bank managers should consider the impact of monetary policy rates on bank performance when making decisions and formulating policies.

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Appendix I
Monetary policy rate from 2018 to 2022

	RATE %
2018	20
2019	16
2020	14.50
2021	13.50
2022	25.37

APPENDIX II
Rates of Monetary Policy Instruments in percentage (%) from 2018 to 2022

Year	Cash Reserve Rate %	Liquidity Rate %	Interest Rate %	Minimum Rediscount Rate %
Access Bank Ghana				
2018	10	42	18	13
2019	5	40	17	14
2020	3	40	17	14
2021	2	30	18	14
2022	2	30	18	14
Agricultural Development Bank				
2018	9	30	24	13
2019	3	40	24	14
2020	5	40	23	14
2021	3	40	24	14
2022	2	30	24	14
Ecobank Ghana				
2018	8	45	18	14
2019	5	40	17	13
2020	3	40	17	13
2021	2	30	18	13
2022	2	30	18	12
CalBank PLC				
2018	10	44	18	13
2019	4	40	17	13
2020	3	40	17	13
2021	2	30	16	13
2022	2	30	21	12
GCB Bank				
2018	10	46	18	15
2019	5	40	17	13
2020	3	40	17	14
2021	2	30	16	13
2022	2	30	23	13

Republic Bank Ghana				
2018	8	40	18	13
2019	4	40	17	15
2020	2	40	17	15
2021	2	30	16	15
2022	2	30	25	14
Societe Generale Ghana				
2018	10	40	18	12
2019	3	40	17	13
2020	2	30	17	13
2021	2	30	16	14
2022	2	30	24	12
Standard Chartered Bank Ghana				
2018	9	40	18	14
2019	3	40	17	13
2020	3	40	17	13
2021	2	30	20	13
2022	2	30	23	12
Trust Bank Limited				
2018	10	40	18	13
2019	5	40	17	13
2020	2	30	17	13
2021	2	30	20	13
2022	2	26	23	12