MACRO-ECONOMIC FACTORS AND FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA

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Abstract: The current study sought to assess the effect of macro-economic factors on financial performance of commercial banks in Kenya. The investigation explicitly assessed the implications of CBK rate, money supply, exchange rate and inflation on financial performance of commercial banks in Kenya. This research was based on Interest Rate Parity Theory, Quantity Theory of Money and Agency Theory. The examination adopted causal design of research. Research target population was Kenyan banks for the period of study (2012 to 2016) which are 40 in total. The research results showed that CBK Rate had an inverse considerable consequence on banks' - performance in Kenya. Secondly, it was found that money supply had a positive momentous consequence on banks' performance in the context of Kenya. Thirdly, the outcomes from the regression analysis point to the fact that inflation had an inverse and immaterial influence on bank performance. Finally, the results of the investigation showed that exchange rate has a positive non-significant influence on banks' performance. The recommendation from the examination was that Kenya's Central Bank ought to be cautious in setting the base rate, it should be go lower rather than higher as this impacts negatively on bank performance. Also, the study recommended that the government of Kenya through the apex regulatory body should ensure adequate money supply in the country's economy as higher supply results in better performance of banks.

Keywords: Central Bank Rate, Money Supply, Inflation, Exchange rate Financial Performance, Commercial Banks.

1. INTRODUCTION

1.1 Background of the Study

The role of economic resource allocation and risk distribution of expected capital in a country is majorly performed by the banking sector. Therefore, improved growth and wellbeing, and even business phases in an economy is ensured with an efficient and successful banking business (Macharia, 2013). There are several functions that are performed by banks thus making them more appropriate channels of monetary policy implementation. For instance commercial banks make available the services of payment processing and currency exchange; transforming assets on the basis of maturity, denomination, superiority and recently management and control of risks (Koki, 2013).

Central Banks in developing countries encounter challenges in operating an effective monetary policy system. These challenges lie primarily on the fact that the financial markets in these countries are characterized by high government debts. A situation which is accompanied by complexities in estimating money-demand and fiscal-pressure to charge the tax inflation through raoid expansion of monetary base (MacCarthy, 2016). Generally, the monetary authorities in developing economies have poor records of administering monetary policy initiatives. This is largely as a result Central banks not being independent (that is separated from) of government. Over the years, there have been measures put in place to liberalize and reform the financial markets so as to provide a framework for monetary policy operation.

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The operating environment of banks is unpredictable due to stiff competition in the sector and the global market at large. In order to ensure survival, the players in the banking sector offer attractive lending rates to their customers (Salloum & Hayek, 2012). Commercial banks enhance the mobilization of savings, risks spreading and allotment of scare economic resources. Banks and other intermediaries however, incur certain cost given that the receipt intended for deposits and loans aren't synchronized (Mulwa, 2015). Obviously, a fee is charged by commercial banks for the intermediation services which they offer. This is to compensate for the risk involved in the intermediation process.

Macroeconomic factors are country wide variables that are further than the control of bank administration which affect the whole economy rather than a single unit (Ajayi & Atanda, 2012). These regulations serve as guidelines in operation and are developed by a country's monetary authority. According to the CBK (2015), monetary policy comprises of decisions made by the pecuniary authority in ensuring that a money supply is in accordance with its growth and price objectives. Another purpose of monetary policy is to regulate price in a country's economy. Price stability entails ensuring of low and stable level of inflation (Buigut, 2010).

Banks situated in Kenya are guided through provisions of the Banking Act (Cap 488), regulations and CBK prudential guidelines (CBK, 2013). Kenya's banks are 43 in entirety. The CBK is vested with the task of initiating and implementing monetary policy tools in Kenya. The CBK recommends the CRR, CBR and Treasury bill rates. Those tools are implemented by banks where the aim is stabilizing the levels Of prices in the economy.

1.2 Problem statement

Financial performance of a firm is importantly the core mandate in venturing into business (Ajayi & Atanda, 2012). Kenya commercial banks are witnessing poor performance. This has become a source of apprehension because the banks' performance provides directions for investors as it guides them on whether to invest or not to invest in a particular firm (Mulwa, 2015). It also ensures that they carry out the intermediation role effectively and efficiently.

As indicated by World Bank (2017) Kenya Commercial banks are characterized by poor banking performance which is exhibited in their return on equity. Commercial banks ROE was 21.99% for the year 2012 which shows a decline in comparison with 23.10% of the year 2011. Similarly, the downward trend extended to the years 2013 with 20.94%, 2014 with 20.88% and 2015 at 17.39%. In addition, 2016 saw the profits of prominent commercial banks decline by 10% (CBK, 2016). The decline in banking performance over the years has been a cause of apprehension to government and 0ther stakeholders. Furthermore, commercial banks embarked on retrenchment activities so as to minimize their operating cost (Mbua, 2017). Ajayi and Atanda (2012) have linked the performance of banks to financial policy background. Similarly, Cheruiyot (2012) attributed the performance of banks to monetary policies set by Central Banks.

Majority of investigations on Macro-economic aspects and performance of banks were centered on other countries other than Kenya. Investigations carried out based on Kenyan banks gave most attention to ROA as a measure of performance. These studies include Otuori (2013), Kimani (2013), Machari (2013), Kiganda (2014) and Mulwa (2015). In addressing the research gaps, the existing investigation turned its attention on the consequence of macro economic factors on financial performance of commercial banks in Kenya. Financial performance was examined using ROE. Furthermore, considering the study utilized panel data, whereas scrutiny of the present investigation was based on a panel regression analysis.

1.3 Objectives of the study

This study was guided by the following objectives;

- i. To establish the consequence of central bank rate on performance of commercial banks in Kenya
- ii. To analyze the influence of money supply on performance of commercial banks in Kenya
- iii. To assess the consequence of inflation on performance of commercial banks in Kenya
- iv. To determine the consequence of exchange rate on performance of commercial banks in Kenya

2. LITERATURE REVIEW

2.1 Theoretical Review

Interest Rate Parity Theory was propounded by Keynes in 1933. This perspective postulates that the differential interest rate for 2 countries is same as the differential between the forward rate of exchange and the current rate of exchange. The theory is key in the international currency market where interest rates and foreign exchange rates are linked together (Radha, 2011).

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The theory is based on two categories which are covered interest rate parity (CIRP) and uncovered rate parity (UCIRP). CIRP gives the association existing by comparing forward and spot rate of exchange with rates on bonds in an economy and another economy (Ngugi, 2001). On the other hand, UCIRP presents the current and anticipated rate of exchange by comparing nominal rates of bonds' interest in an economy and another economy (two economies) (Radha, 2011). The CIRP has the notion that the interest rate in local economy must be higher than that of the non-domestic economy by an amount equivalent to forward discount on local currency. The CIRP, asserts in the situation whereby rate of exchange of 2 countries are fixed say Ksh and USD, then their interests should be the same. Therefore, pecuniary policy operations can't be undertaken autonomously in little state having an exchange rate regime that is pegged (Mirzaei, Liu & Moore, 2011).

Quantity Theory of Money (QTM) was propounded in 1929 by Fisher & Friedman. The perspective asserts that there is a link between aggregate prices in an economy and total volume of money supply. Key to QTM is the preposition that a single variation in the rate of money increase leads to an equivalent change in rate of inflation in equal measures (Nasserinia, Ariff & Fan-tah, 2014). Quantity Theory of Money is important n this research as it provides prepositions on how the circulation of money in a country in determined by the fiscal authority of that country. Money supply is a tool used by the CBK to control amount of money in an economy (Mulwa, 2015). Therefore, the increase in money supply has a consequence of enhancing the capacity of banks to rant loans to customers and vice versa and hence, impacting on bank performance.

Agency Theory was was propounded in 1976 by Jensen & Meckling. The concept has been in the fore front of performance of firms. The theory rests on the notion that there exist a relationship between owners of businesses and the management (Mulwa, 2015). The theory posits agency conflict emanates from such a connection. The managers of firms are treated as agents given the responsibility of running the affairs of the firms by the stockbrokers in the form of a contract where they are expected to bring about high financial performance while enhancing the wealth of owners (Waweru, 2013).

As regarding this research, agency theory is a vital theory that's provides insights on how banking performance in terms of ROE is predicted by the effectiveness and efficiency of bank management. The way and manner by which banking activities are handled by bank managers impacts on the financial performance of banks.

2.2 Empirical Review

Kamau (2009) did an examination which set to establish how central bank rate affects banks' profitability. The analysis was premised on multiple regression model. Results of the research indicate that CBR negatively but significantly influences performance as checked through ROA. The in hand study adopted R0E as a stand-in for banking performance. Furthermore, the current study utilized panel regression known as more superior approach as it is able to cover larger sample.

Buyinza (2010) carried out an analysis of commercial banks profitability countries in Sub Sahara Africa. The research was based on twenty three banks, and time period of the research was 1999 - 2006. Panel regression was relied on where the results disclosed that inflation absolutely and considerably affects banks' profitability. Notably, this was centered on banks in Sub-Sahara Africa which is a cross nation research. Contrasting the present study which Kenya, thereby provide state specific results.

In Nigeria, Ajayi and Atanda(2012) researched on fiscal procedure effects on performance of banks in the Nigerian context. The years 1980 - 2008 were the time period. The Engle-granger two-step co integration approach was used. Research findings show that there exist a positive and noteworthy link between inflation and bank performance. The present study was centered Kenyan context.

Macharia (2013) researched on the effect of inflation on banks' performance. The analysis was centered on Kenyan banks that provide mortgage. Results show inflation to have an inverse consequence on banks' performance. The research focused on banks that offer mortgage finance. This research concentrated on all banks in Kenya. Thus adopting a census sampling thus enhancing validity of research data.

Otuori (2013) carried out an analysis on effect of exchange rate on bank performance in Kenya, data analysis used multiple regression. The results reveal inflation rate and exchange rate to negatively impact on bank performance in Kenya. Nonetheless, it was focused on Kenyan non listed banks. The present study's focal point was the banks situated in Kenya. Thus, census was utilized in enhancing reliability of research findings.

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Kimani (2013) looked at monetary policy impact on Kenyan banks performance. The main focus was CBR, CRR, OMO and money supply and ROA. Using multiple regression analysis, outcome depicted that CBR and money supply significantly affect performance, yet the findings relied on multiple regression. The research based its reliance on a panel regression technique and diagnostic tests were done to determine if the study information was suitable for inferential scrutiny.

Kwakwa (2014) researched on performance determinants Ghanaian commercial banks. Exchange rate and its effect on performance was the focus of the research where performance was looked at in respect of ROA. The study findings disclosed that the rate of exchange has an inconsequential and inverse consequence on banks performance via Return on Assets (ROA). Nonetheless, the study's focal point was bank in Ghana. The research was carried out for banks in Kenya.

Kiganda (2014) studied external, factors and implications on profitability Kenyan Banks where with the research focus was Equity Bank Limited. The time extent of the research was the period 5 years ranging from 2008 to 2012. Specifically, on exchange rate and inflation, the results from the multiple regression showed that exchange rate has a negative but insignificant effect and inflation had a positive insignificant effect on commercial banks' performance. Nonetheless, IT was centered on one bank (Equity Bank). The present study was based on 40 Kenyan banks.

A study was undertaken by Mulwa (2015) focusing on how policy on monetary issues influence performance of banks operating in Kenya. Time scope was based on years 2010 to 2014. Independent variables included CBR, OMO, and Reserve Ratio obligation while the dependent variable was banking performance where Net Interest Margin was used. Results of the research reveal that CBR negatively and immaterially affect bank performance in Kenya. Also, money had a positive and insignificant effect banks performance in Kenya. However, the research looked at performance in terms of NIM, the current study measured performance in terms of ROE. The choice of ROE is in consideration of the fact that some 0f the banks are listed at NSE. In addition, among the profitability ratio of banks in Kenya as indicated by World Bank (2017), ROE is characterized by a declining trend.

Ndugbu and Okere (2015) examined policies on pecuniary matters and its consequence on banks performance in Nigeria. Data collected was from period 1993 to 2013. The predictor variables of were CBR, CRR, liquidity and money supply and the dependent variable was performance. Findings from the multiple regression analysis show CBR to negatively and insignificantly impact performance. Money supply had a positive and insignificant effect on performance The focal point of the investigation was banks in Nigeria. Kenyan banks were the center of the current study.

Borio *et al.* (2015) in their study focused on monetary policy and their implications on banks' profitability. It was done using a non linear method where for the years 1995 to 2012 for 109 intercontinental banks cutting across fourteen developed countries were used. The outcome of the shows that Money supply has a momentous positive association with bank profitability. Nonetheless, it was centered on ROA to point on performance. This study is different as it looked at financial performance in terms of ROE. Also, the study was on developed countries unlike Kenya which is a developing country.

3. RESEARCH METHODOLOGY

3.1 Research Design

Mugenda and Mugenda (2013) contend that design of research provides the guide and route to be followed in a study. Causal design of research was used. Causal design is used at examining cause and effect relationships between variables in a research. Therefore, causal design provides a framework for studying such relationships in a study.

3.2 Target Population

Target population is regarded as whole units of interest to a researcher in a study. Therefore, the research target population comprised 43 banks regulated and registered by the CBK. The study however focused on 40 commercial banks which operated within the period 2012 to 2016.

3.3 Sampling Design

The process of picking a population subset in a research study is referred to as sampling. The focus of this investigation was 40 banks operating within Kenya within the time period of the study. Three banks were eliminated in the study i.e, Chase bank, Imperial bank and Dubai Bank. This is due to the fact that these banks had been placed under receivership.

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Therefore, the current study adopted a census approach. Census research is used in a case where the total population of interest is small and therefore considered.

3.4 Empirical Model

Panel regression analysis was utilized which had the following function:

$$Y_{it} = \beta_0 + \beta_1 X_{1it} + \beta_2 X_{2it} + \beta_3 X_{3it} + \beta_4 X_{4it} + \varepsilon_{it}$$

Where:

Y_{it} - Financial Performance

 β_0 - Constant

X_{1it} – Central Bank Rate

X_{2it} – Money Supply

 $X_{3it}-Inflation \\$

X_{4it} – Exchange Rate

 $\beta 1 - \beta 4$ = Regression coefficients

 \mathcal{E}_{it} = Error term

4. FINDINGS AND DISCUSSIONS

4.1 Diagnostic Test

Various diagnostic tests for stationarity, multicollinearity, normality were carried out to ensure that research that was fit for inferences before employing the panel regression analysis.

The test for fixed and random effect is done to select the finest model to be used in the regression analysis. The hausman test indicates a p-value of 0.9945 as shown in Table 4.5, therefore more than 0.05. In line with the threshold of the hausman test the null-hypothesis was not rejected as such the random effect model was utilized.

4.2 Regression Analysis

Table 4.1: Panel regression

Random-effects GLS regression				Number of obs			200
Group variable: bank				Number of groups			40
R-sq: within = 0.4527				Obs	per group: min	=	5
between = 0.5614					avg	=	5.0
overall = 0.5143					max	=	5
$Corr(u_i, x) = 0$ (assumed)				Walc	Wald chi2 (4)		30.21
				Prok	Prob > chi2		0.0000
ROE	Coef.	Std. Err.	Ζ	P> z	[95% Conf.	Int	erval]
CBBR	0062217	.0029438	-2.11	0.035*	0119915	0	004520
Money supply	.8558939	.1411391	6.06	0.000*	.5792663	1.1	325210
Inflation	0002463	.0015545	-0.16	0.874	0032930	.0	028005
Exchange rate	.0001379	.0005048	0.27	0.785	.0562235	.2	361158
_cons	1924465	.0401182	-4.80	0.000*	2710768	1	138162
Sigma_u Sigma_e rho	.03795630 .03454017 .54701695	(fraction o	f varian	ce due to	o u_i)		

*Significant at 0.05

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Table 4.6 presents the panel regression which is based on a direct effect of CBBR, money supply, inflation and exchange rate on ROE. The regression model has an overall R squared of 0.5143 which implies that the independent variables are important in explaining ROE. Specifically, a unit increase in CBBR leads to a decrease in ROE by 0.006 which is considerable with a p-value of 0.035 at 0.05 significance. Secondly, a component increases in money supply increases ROE by 0.855 which is also noteworthy with a p-value of 0.000 at 0.05 significant level. Furthermore, the regression results showed that an increase in inflation by 1 unit decreases ROE by 0.002 which is however non-significant as it had a p-value of 0.874 which is bigger than 0.05. Lastly, the research findings as presented in Table 4.6 showed that a unit raise in exchange rate brings about a 0.001 increase in ROE of commercial banks in Kenya. with a p-value of 0.785 this is insignificant level.

4.3 Hypotheses Testing

H₀₁: Central Bank Rate has no significant effect on performance of commercial banks in Kenya.

The hypothesis was tested using panel regression analysis with the use of p-value method based on 0.05 significant level. A p-value of less than 0.05 implies that the null hypothesis is rejected and conversely, a p-value greater than 0.05 means fail to reject the null hypothesis. The outcome of the study showed that CBK Base Rate has an inverse and significant consequence on banking performance in the Kenyan context which is indicated by a p-value of 0.035 at 0.05 significant level.

Results regarding CBR and financial performance are in agreement with that of Kamau (2009) who found that CBR negatively and significantly influences performance as measured by ROA. Also, Mulwa (2015) found that CBR negatively and inconsequentially impacts on bank performance in Kenya. However, the research looked at performance in terms of NIM. Similarly, Ndugbu and Okere (2015) carried out an examination on fiscal policy and its influence and the banks performance in Nigeria. Findings from the multiple regression analysis show CBR to negatively and insignificantly impact on performance. The difference in the outcomes can be qualified to the fact that the research's concentration was on banks in Nigeria, whereas the current study was based on Kenya banks.

H₀₂: Money Supply has no significant effect on financial performance of banks in Kenya.

The hypothesis was tested using panel regression with the use of p-value method based on 0.05 significant level. A p-value of less than 0.05 implies that the null hypothesis is rejected and conversely, a p-value greater than 0.05 means fail to reject the null hypothesis. The results showed that money supply has a positive and significant effect on banking performance in Kenya which is indicated by a p-value of 0.000 at 0.05 significant level.

The findings of the study are in line with that of Borio *et al.* (2015) investigated on policies on monetary issues and profitability of 109 international banks cutting across 14 developed countries. The outcome of the research demonstrates that supply of money has a considerable positive relationship with bank profitability. Conversely, Ndugbu and Okere (2015) found that money supply has a positive and insignificant influence on performance. Notably, the research's focal point was banks in Nigeria, thus the reason for the varying result. Similarly, Mulwa (2015) found that money supply had a positive and insignificant impact on banks performance. Notably, the research's focus was on a multiple regression and NIM was used to evaluate performance.

H₀₃: Inflation has no significant effect on financial performance of commercial banks in Kenya.

The hypothesis was tested using panel regression with the use of p-value method based on 0.05 significant level. A p-value of less than 0.05 implies that the null hypothesis is rejected and conversely, a p-value greater than 0.05 means fail to rebuff the null hypothesis. The findings from regression examination indicate that inflation has an inverse and immaterial consequence on banking performance in Kenya which is indicated by a p-value of 0.874 at 0.05 significant level.

The findings of the study are at variance with that of Buyinza (2010) who carried out an analysis of banks profitability countries in Sub-Sahara Africa. The results indicated that inflation positively and significantly affects banks' profitability. Notably, this was centered on banks in Sub Sahara Africa which is a cross country research. The findings of thebstudy concur with that of Macharia (2013) who found inflation to have an inverse effect on banks' performance. Similarly, Otuori (2013) analyzed on the impact of exchange rate on bank performance of in Kenya, the results reveal inflation rate to negatively impact on bank performance in Kenya. Conversely, Kiganda (2014) who focused on on one bank Equity Bank. The independent variables of were inflation, exchange rate and GDP found that inflation has a positive insignificant impact on performance. The difference in the results can be accredited to the fact that the study analyzed a single bank (Equity Bank).

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H₀₄: Exchange Rate has no significant effect on financial performance of commercial banks in Kenya.

The hypothesis was tested with panel regression with the use of p-value method based on 0.05 significant level. A p-value of less than 0.05 implies that the null hypothesis is rejected and conversely, a p-value greater than 0.05 means fail to reject the null hypothesis. The results showed that exchange rate has a positive and insignificant effect on performance of banks in Kenya which is indicated by a p-value of 0.785 at 0.05 significant level.

The results on the influence of exchange rate on performance of banks varies with that of Ajayi and Atanda (2012) for Nigeria whose findings reveal that there exist a direct and strong relationship between inflation and bank performance. Remarkably, it was based on Nigerian banks, thus the reason for the varying results. Similarly, Otuori (2013) reveal that exchange rate had a negative effect on financial performance of banks in Kenya. Importantly, the research was centered on ROA as a measure of banking performance whereas this study was based on ROE.

5. CONCLUSION AND RECOMMENDATIONS

The study concluded that that Central Bank Base Rate has an inverse and material effect on performance of commercial banks. This implies that the higher the CBBR, the higher the financial performance of Kenyan Banks. Therefore, the Central Bank is advised to be precautious in setting the base rate, it should be go lower rather than higher as this impacts negatively on bank performance.

Secondly, the study concluded that money supply directly and strongly affects banking performance in the context of in Kenya. This therefore, means that higher money supply into the economy improves the financial performance of Kenya banks. Therefore, the government of Kenya through the Central Bank of Kenya should ensure adequate supply of money in the economy as higher supply results in better performance of commercial banks.

Thirdly, in relation to the consequence of inflation on the performance of banks, the study concluded that inflation is not material in significant in predicting the financial performance of banks in Kenya. Lastly, based on the effect of exchange rate on performance of banks in Kenya, the research study concluded that exchange rate has a positive but insignificant effect on financial performance of banks in Kenya. This result can be attributed to the notion that though banks carry out international banking activities, when the fluctuations of exchange rates are effectively and efficient managed, it can lead to minimal effects on the performance of banks.

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