Influence of Interest Rates Determinants on the Performance of Commercial Banks in Kenya

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Abstract   This study sought to investigate the influence of interest rate determinants on the performance of commercial banks in Kenya. Interest rates are the major economic factors that influence the economic growth in an economy. They can be used to control inflation and to boost economic development. The interest rates determinants that were studied are Inflation Rates, discount rates, Exchange Rate and reserve requirement to determine the influence they have on performance of banks. The target population of the study was all 43 commercial banks operating in Kenya. The sample size was 26 commercial banks obtained from the population. The data analysis technique applied in this study was the multiple regression analysis. The results showed that discount rates, inflation rates and exchange rates had positive influence on performance of commercial banks while reserve requirement ratio had negative influence. The study concluded that higher levels of discount rates, inflation rates and exchange rates lead to higher performance in commercial banks in Kenya, higher levels of reserve requirement ratio result in lower bank performance in Kenya. The study recommends that the Central Bank of Kenya should set base reserve requirements that do not pressurize banks in their operations. This will help grow the banking industry in Kenya and hence develop the economy. Lastly, the study recommends that the commercial banks management should strategize on best way to set up discounts rates for their banks as this will go a long way dictating the borrowing and lending culture of the commercial banks in Kenya and in return enhance their performance.

Key words   Inflation rates, discount rates, exchange rate and reserve requirement

1. Introduction

Interest rate is one of the most important factors that affect the bank financial performance. Interest rate is the price a borrower pays for the use of money they borrow from a lender or a financial institutions or fee paid on borrowed assets (Crowley, 2007). They are major economic factors that influence the economic growth in an economy. Corb (2012) argued that interest rate is economic tool used by central bank of Kenya to control inflation and to boost economic development. It is widely believed that fluctuations of market interest rates exert significant influence on the performance of commercial banks. Mang'eli (2012), fluctuations of market interest rates spread exert significant influence the performance of commercial banks.

Under general conditions, bank profits increase with rising interest rates under general conditions, bank profits increase with rising interest rates. He argued that the banking system as a whole is immeasurably helped rather than hindered by an increase in interest rates. The financial performance of banks is expressed in terms of profitability. Profitability is a company's ability to earn a reasonable profit on the owner's investment (Buffett, 2005).The most popular profitability measurements are: Profit margin on sale, Return investment ratios, and return on equity. The financial performance of commercial banks is of great importance on its future operating activities hence need to understand the different interest rates determinants and the impact they create on the performance.

Interest rates spread are controlled by a number of factors. If the central bank targets quantities and keeps the monetary base constant, the effects of an increase in reserve requirements are analogous to a standard monetary contraction. Higher reserve requirements increase the level of interest rates. In order to

fulfill the reserve requirements without reducing credit extended, banks need to attract more deposits, which drive up deposit rates. A decrease in the discount rate encourages banks to borrow and in turn this increases the amount available in form of reserves thereby enhancing or increasing the amount money supply in the economy. Consequently this leads to a decrease in the interest rates thereby encouraging the public to borrow more and the level of money supply going up. However, an increase in the discount rates will work the other way. That is it will discourage the level of borrowing, interest rates go up resulting into a decline in the level of money supply. The increased marginal funding costs in turn will drive up lending rates as well and raise the general level of interest rates.

An increase in real gross domestic product (GDP) and inflation are negatively related with deposit rates. When the economy is booming, it pushes up demand for deposits and therefore banks have no incentive to increase deposit rates (Gambacorta, 2004). A study of factors explaining cross-sectional differences in bank interest rates of Italian banks by considering both micro and macroeconomic factors which include; loan and deposit demand, operating cost, credit risk and interest rate volatility, impact of monetary policy through changes in policy rates and reserve requirements and the structure of the industry, shows that the macro economic variables to a great extent influence the interest rates (Gambacorta, 2004).

According to some of the studies done in the African region, Sub-Saharan African (SSA) countries interest rate spread is influenced by the extent of the crowding out effect of government borrowing, public sector deficits, discount rate, inflation, level of money supply, reserve requirement, level of economic development and population size (Folawewo and Tennant, 2008). Some of this factors affecting are macroeconomic variables and to a great extent highly determine interest rates behaviors.

In Kenya, the banking sector plays a dominant role in the financial sector, particularly with respect to mobilization of savings and provision of credit. African countries, particularly at the bank-level, like Kenya are still grappling with the challenge of higher interest rate spreads (Ngugi, 2001). As per Bank Supervision Annual Report (2012) the banking sector consisted of the Central Bank of Kenya (CBK), as the regulatory authority, 44 banking institutions (43 commercial banks and 1 mortgage finance company). Out of the 44 banking institutions, 31 locally owned banks comprise 3 with public shareholding and 28 privately owned while 13 are foreign owned. Banking industry in Kenya is governed by the Companies Act, the Banking Act, the Central Bank of Kenya Act and the various prudential guidelines issued by the CBK. The Kenyan government adopted the CBK amendment act in 2001 and allows CBK to regulate interest rates.

An analysis of bank interest rate determinants is therefore central to the understanding of the financial intermediation process and the macroeconomic environment in which banks operate. The study focused on four variables; inflation rates, reserve requirements, discount rates and exchange rate to observe how they influence the performance of commercial banks in Kenya.

1.1. Statement of the problem

Interest rates in the Kenyan banking system keeps on varying and are influenced by various factors and can thus greatly affect the performance of banking institutions. According to Robinson (2010), banks earning are affected by unanticipated changes in interest rates. The exposure of banks profitability and net worth to unanticipated changes in interest rates is what is meant by the term interest rates risk. The potential impact of interest rates on commercial banks financial performance has long been a concern for policy makers and bankers.

According to Matu (2006) the poor performance of commercial banks puts pressure on them to retain high lending rates in an attempt to minimize the loses associated with the loans and in the process affecting the bank's clients. Proper interest rate management reduces bank exposure to risk and provides an opportunity to stabilize and improve their net income. This has been a major concern for most banks operating in Kenya.

Interest rates determine the profitability of a commercial bank among other factors (Gardner et al 2005). High interest rates have remained a macroeconomic problem that has been difficult to eliminate. Flannery (2011), found a negative relation between the bank interest rates and bank net asset position. Bosson and Jog-kun (2009), however found out that profitability of Ghanaian banks is skewed towards large banks and that there is correlation between bank size and profitability.

Locally, studies that have been carried out on interest rate include Ngari (2013) who found that there is a positive linear relationship between interest rate spread and ROA. Kipngetich (2011) who studied that if the banks are to attain high financial performance interest rates is among the key determinants. Different factors influence the behavior of interest rates thereby contributing to how they influence the banks performance. Commercial banks therefore should come up with opportunities to take advantage of interest rates in order to improve on their financial performance.

- While the above studies provide valuable insights on interest rates and financial performance they only provide partial insight on the influence of specific interest rates determinants and performance of commercial banks. It was therefore essential to study the relationship between interest rates determinants and performance of commercial banks in Kenya. The study was therefore aimed to establish the influence of interest rates determinants and performance of commercial banks in Kenya.

1.2. Research objectives

The general objective was to investigate the influence of interest rates determinants on the performance of commercial banks in Kenya. *The specific objectives of this study were as follows:*
  i. To establish how inflation rates affect the performance of commercial banks in Kenya;
  ii. To determine the effect of reserve requirement on performance of commercial banks;
  iii. To determine the effect of discount rates on performance of commercial banks;
  iv. To establish how the exchange rate affect the performance of commercial banks.

2. Literature review

This chapter examined existing literature and theories of fit and empirical data. It also looked at the summary of literature review, critiques of literature review and the research gaps of finding regarding the past findings.

Theoretical Framework

The Theory of Interest

The Theory of Interest explains the relationship between inflation and the real and nominal interest rates. This relationship is known as the Fisher Effect. The Fisher Effect states that an increase in the growth rate of the money supply will result in an increase in inflation and an increase in the nominal interest rate, which will match the increase in the inflation rate. Fisher (1930) first put forward that the relationship between interest rates and inflation is termed as the Fisher Effect. It postulates that the nominal interest rate in any period is equal to the sum of the real interest rate and the expected rate of inflation. Fisher (1930) studied that the nominal interest rate could be decomposed into two components, a real rate plus an expected inflation rate. Fisher indicated that there exist a one tone relationship between the inflation and interest rates in a perfect world, with real interest rates being unrelated to the expected rate of inflation and determined entirely by the real factors in an economy, such as the productivity of capital and investor time preference.

The fisher effect theory has the same conclusions with the International Fischer Effect (IFE). IFE theory suggests that foreign currencies with relatively high interest rates will tend to depreciate because the high nominal interest rates reflect expected rate of inflation, Madura (2000). This theory also proposed that changes in the spot exchange rate between two countries will also tend to equate the differences in their nominal interest rates (Craigwell, 2000). Fisher's rate of interest is important because it provides a basis for the idea that monetary policy should be concerned mainly with managing inflation expectations in order to keep real interest rates at a stable level that promotes saving and investment. Fisher (1930) examined the relationship between nominal interest rates and the rate of inflation for the U.S and the U.K. Using annual data over the 1890 to 1927 period for the US, and 1820 to 1924 period for the U.K.

Fisher found that inflationary expectations were not instantaneously reflected in interest rates. For the US, the highest correlation, 0.86, between long-term interest rates and price changes was obtained when the latter was lagged over 20 years, while for the UK, a correlation coefficient of 0.98 was obtained when price changes were spread over 28 years. High interest rates affect demand for credit, hinder economic growth and consequently hurt the economy (Solnik, 2000). Linking of exchange rates with changes in

interest rates and inflation rates, the IFE theory states that the future spot rate of exchange can be determined from nominal interest differential.

Modern monetary theory (MMT)

Modern monetary theory explains exclusively how the government, central bank and the commercial banking sector interacts, with some economists arguing that understanding of reserve accounting is critical to understanding monetary policy options. This theory was developed by a group of economist including Randal Wray (2009) and Bill Mitchell. All of the commercial banks will also have an account with the central bank. This permits the banks to manage their reserves that is, the amount of available short-term money that a particular bank holds. So when the government spends, treasury will debit its cash operating account at the central bank, and deposit this money into private bank accounts (and hence into the commercial banking system). This money adds to the total reserves of the commercial bank sector. MMT argues that taxes and bond offerings are not best conceptualized as funding sources for the Treasury, but rather as reserve draining devices to maintain price and interest-rate stability (Tymoigne, 2013).

In most countries, commercial banks' reserve accounts with the central bank must have a positive balance at the end of every day; in some countries, the amount is specifically set as a proportion of the liabilities a bank have that is on its customers. This is known as a reserve requirement. At the end of every day, a commercial bank will have to examine the status of their reserve accounts. Those that are in deficit have the option of borrowing the required funds from the central bank, where they may be charged a lending rate which is also referred to as the discount rates on the amount they borrow. In a balanced system, where there are just enough total reserves for all the banks to meet requirements, the short-term interbank lending rate will be in between the support rate and the discount rate. Both the Treasury and the central bank are involved in these reserve management operations to maintain interest rate stability (Palley, 2012).

Interest Rate Parity Theory

Interest Rate Parity theory (IPRT) is based on the assumption that differences in interest rates between a country and its trading partners account for the rate of change in the nominal exchange rate. The theory of interest rate parity, relates to the difference between foreign and domestic interest rates with the difference in spot and future exchange rates. This parity condition states that the domestic interest rate should equal the foreign interest rate plus the expected change of the exchange rates. The interest rate differential between domestic country and world is equal to the expected change in the domestic exchange rate (Bhole and Dash, 2002). The IPR theory states interest rate differentials between two different currencies will be reflected in the premium or discount for the forward exchange rate on the foreign currency if there is no activity of buying shares or currency in one financial market and selling it at a profit in another.

The theory further states that the size of the forward premium or discount on a foreign currency should be equal to the interest rate differentials between the countries in comparison (Fielding, 2005). According to Sargent and Wallace (2001) a high interest rate policy may lead to a reduction in demand for money and increase in price level. This is because an increase in interest rate implies an increase in government debt. If investors are risk-neutral and have rational expectations, the future exchange rate should perfectly adjust given the present interest rate differential.

Empirical Review of Variables

Inflation rate

Alper and Anbar (2011) investigated bank specific and macroeconomic determinants of commercial bank profitability in Turkey over the period of 2002-2010. The study uses both return on asset (ROA) and return on equity (ROE) as proxy for bank profitability. By employing balanced set of panel data and fixed effect model, the result shows that only real interest rate is positively related with profitability in regards to macroeconomic variables. In other words, an increase in real interest rate which is influenced by increase in inflation rates would lead to an increase in commercial banks' profitability in Turkey. Bergen (2010) studied that countries with higher inflation observes that there is depreciation in their currency in relation to the

currencies of their trading partners. This is also usually accompanied by higher interest rates resulting into a positive relationship between inflation and performance of banks.

Waseem *et al.* (2014) studied on the impacts of inflationary trends on banks' performance in Pakistan. The study concluded that as inflation increases ROA, ROE and net interest margin of Muslim Commercial Bank Limited, Allied Bank Limited, United Bank Limited and Bank Al-Falah Limited also increases. That is there is a Positive association among inflation and bank performance of this large banking segment of the Pakistan banking industry.

Aburime (2008) used a sample of 154 banks with 1255 individual observation on unbalanced panel data over the period 1980-2006 to investigate the macroeconomic determinants of bank profitability in Nigeria. The result revealed that real interest rate, inflation, monetary policy and foreign exchange regime are positively associated with banks' return on assets.

Otuori (2013) studied the Influence of exchange rate determinants on the performance of commercial banks in Kenya. As per the study inflation rate had a negative and significant effect on bank profitability. Lardic & Mignon (2003) studied the relationship between interest rate and inflation rate in G-7 countries using Engel-Granger co integration method. According to their study, there is a long run relationship between interest rate and inflation rate.

Reserve requirement

Gelos (2006) highlighted reserve requirements, together with overhead costs and the extent of banking competition measured by the degree of market concentration, as the key factors driving spreads in Latin America. Gelos (2006) found that Latin American banks had high spreads because of higher lending rates, less efficient banks and larger reserve requirements than banks in other regions.

Ngugi and Kabubo (1998) examined the interest rate levels, spreads and determining factors, as an indicator of financial sector response to the reform process. They took a sample of 20 banks in Kenya. Data was collected from relevant sources such as central bank and reports from various institutions. The study found that although much had been accomplished, the financial system was characterized by repression factors including negative real interest rates, inefficiency in financial intermediation and underdeveloped financial markets. Interest rates were more responsive to the policy activities during the period.

Discount rate

Brock (2010) studied on the relation between commercial bank profit rates and banking concentration in Canada, Western Europe, and Japan. The study found out that when central banks raise their discount, rates, commercial banks may raise their lending rates sooner by more percentage points than their deposit rates. When this occurs that is when discount rates are high, commercial banks' profit rates are also high because the banks interpret the high discount rates as a signal to raise their lending rates without as great an increase in their borrowing rates. This could be more valid where banks possess some market power so that their interest rates are not market determined.

According to Obiero (2012), when the government increases the discount rate, it does not have an immediate impact on the stock market. Instead, the increased discount rate has a single direct effect. It becomes more expensive for banks to borrow money from the CBK. However, increasing the discount rate can also cause a ripple effect, and factors that influence both individuals and businesses are affected. Ndungu, (2003) studied that with an increased discount rate banks increase the rates that they charge their customers to borrow money thus lead to an increase in performance. This will though affect Individuals negatively through increase in credit card and mortgage interest rates, especially if they carry a variable interest rate.

Chirwa *et al.* (2004) used panel data techniques to investigate the causes of interest rate spreads in the commercial banking system of Malawi over the liberalized period of the 1990s. Their results show that high interest rate spreads were attributable to monopoly power, high reserve requirements, high central bank discount rate and high inflation. Demirguc-Kunt *et al.* (1999) using bank level data for 80 industrial and developing countries over the period 1988-1995 show that differences in interest margins reflect a variety of determinants such as bank characteristics, macroeconomic conditions, explicit and implicit bank taxes and the overall financial structure.

Exchange rate

Mwanza (2007) investigated whether the level of derivative activities is associated with the market perception of banks interest rates and exchange rate risk. The study found a positive relationship between bank stock return and long term and short-term interest rates and exchange rates. The level of derivative activities was positively associated with long term interest rates exposure but negatively associated with short term interest rate and exchange rate exposure

According to Moore and Craigwell (2000), using panel data techniques, empirically assessed some of the major determinants of commercial banks' spreads over the financially liberalized period of the 1990s and found that market power, provision for loan losses and real gross domestic product to be significant factors influencing bank spreads.

3. Methodology of research

The descriptive study was deemed appropriate because the main interest was to establish the relationship between interest rates determinants and performance of commercial banks in Kenya. According to (Mugenda and Mugenda, 2003) the purpose of descriptive research is to determine and report the way things are. It also helps in determining the prevailing status of the population under study.

The population of the study was all the 43 commercial banks operating in Kenya and that are licensed to carry out banking business in Kenya under the banking Act Cap 488. As per the CBK 2012, there are currently 43 licensed commercial banks in Kenya. The sampling frame consisted of the 43 commercial banks whose headquarters are based in Nairobi. All the 43 commercial banks headquarters are based in Nairobi and hence this made the sampling frame.

A sample is part of the target population that has been procedurally selected to represent it (Oso and Onen, 2009).The study targeted a sample size of 26 commercial banks taken from the population. This represented 60% of the entire population. Probability random sampling technique was adopted in this study. Both the top management and middle management personnel working in the commercial banks formed part of the respondents of the study. The target population is not homogeneous in that the information was different amongst the different respondents. Questionnaires were used to collect the primary data. The study relied on both the secondary and the primary data. Primary data used a questionnaire as the primary tool to collect the required data from the target population and structured based on the objectives of the study. Secondary data that is data on interest rates and performance was obtained from publications from the World Bank, CBK and National Bureau of Statistics

A pilot study was conducted using questionnaires which were administered to the respondents prior to the main study. Data collected during the pilot study was not used in final data analysis .The purpose of the pilot testing was to ensure validity and reliability of the questionnaires. The study seeked to ensure accuracy and meaningfulness of inferences based on the research results. Also, the study intended to gather expert opinion in the field of study to facilitate formation, modification and revision of the research instruments for enhancement of validity. Reliability on the other hand refers to a measure of degree to which research instruments yield consistent results (Mugenda and Mugenda, 2003). To ensure reliability of the study, the questionnaires were drawn in a manner to avoid ambiguousness, brevity and avoid similarity of questions. Pilot testing served to identify areas that require correction to ensure reliability of the results.

Descriptive and inferential statistics was used to analyze the data. Data that was collected from the field in questionnaires was coded to enable the responses to be grouped into various categories and entries made into statistical package for social sciences (SPSS). Descriptive statistics such as mean, standard deviation, frequency distribution and percentages was used to analyze the data. Multiple regression analysis was conducted to determine the relationships between dependent and independent variables. Regression analysis is used in finding out whether an independent variable predicts a given dependent variable (Zinkmund, 2003).

The multiple regression model equation was as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + e \tag{1}$$

Where; Y= Performance of commercial banks (ROA), α = Constant term/intercept, β = Beta coefficient, X_1= inflation rate, X_2 = reserve requirement, X_3 = discount rate, X_4 = exchange rate, e = Error term.

4. Results of the study

4.1. Descriptive Analysis

Influence of Inflation rates on the performance of commercial banks in Kenya

Table 1. Extent to which aspects of Inflation rates influence performance of banks

	N	Minimum	Maximum	Mean	Std. Deviation
Interest rates	26	3	5	4.19	.801
Money supply and demand	26	1	5	3.08	1.383
Movement of interest rates	26	1	5	2.85	1.488
Unemployment	26	4	5	4.50	.510
Exchange rate variations	26	3	5	4.23	.765
Price of goods and services	26	3	5	4.42	.578
Aggregate Score				3.878333	0.920833

From the table 1 above, the answers ranged between 1 and 5 for the questions on movement of interest rates, unemployment, exchange rates variations, price of goods and services and on inflation and performance. The aggregate mean score was 3.878333, indicating that the respondents were to a very great extent agreeing with the questions on inflation rates. The aggregate standard deviation was 0.920833, indicating that there was minimal variation on the responses by the respondents.

Influence of Reserve requirement on the performance of commercial banks in Kenya

Table 2. Extent to which aspects of Reserve requirement influence performance

	N	Minimum	Maximum	Mean	Std. Deviation
Interest rates	26	1	5	2.65	1.441
Current domestic credit conditions	26	1	5	2.58	1.362
control measures to control the influence of reserve requirement	26	1	5	2.92	1.468
performance of commercial banks	26	1	5	2.96	1.483
Fiscal policy	26	2	5	4.19	.849
Aggregate Score				3.06	1.3206

From the table 2, the answers ranged between 1 and 5 for the questions on relationship between reserve requirement ratio and interest rates, Current domestic credit conditions, control measures to control the influence of reserve requirement on the performance of the bank and Fiscal policy. The aggregate mean score was 3.06, indicating that the respondents to a moderate extent agreed with the questions on reserve requirement. The aggregate standard deviation was 1.3206 indicating that there was wide variation on the responses made by the respondents.

Influence of Discount rates on the performance of commercial banks in Kenya

Table 3. Extent to which aspects of Discount rates influence performance

	N	Minimum	Maximum	Mean	Std. Deviation
Interest rates	26	1	5	3.96	1.076
borrowing and lending	26	2	5	4.00	.894
overall volume of lending	26	1	5	3.85	1.120

announcement effect	26	3	5	4.04	.824
bank size	26	1	5	3.73	1.151
competition	26	3	5	3.96	.824
Aggregate Score				3.923333	0.9815

From the table 3, the answers ranged between 1 and 5 for the questions on relationship between discount rates and interest rates, borrowing and lending, announcement effect, bank size, and competition as a great determinant in performance of commercial banks the aggregate mean score was 3.923333, indicating that the respondents to a great extent agreed with the questions on discount rates. The aggregate standard deviation was 0.9815, indicating a minimal variation on the responses to the questions.

Influence of Exchange rates on the performance of commercial banks in Kenya

Table 4. Extent to which aspects of Exchange Rates influence Performance

	N	Minimum	Maximum	Mean	Std. Deviation
Interest rates	26	4	5	4.50	.510
external debt	26	3	5	4.00	.800
performance of commercial banks	26	2	5	3.92	1.017
monitoring of risks	26	4	5	4.46	.508
Inflation rates	26	3	5	4.27	.724
Exchange rate expectations and speculations	26	2	5	3.85	1.120
Aggregate Score				4.166667	0.779833

From the table 4, the answers ranged between 2 and 5 for the questions on exchange rates and the effect on movement of interest rates, external debt, monitoring of risks that may be caused by variations in interest rates, exchange rate expectations and speculations causes interest rate determinants to influence performance of commercial banks in Kenya. The aggregate mean score was 4.166667, indicating that the respondents to a great extent agreed with the questions on exchange rates. The aggregate standard deviation was 0.779833, indicating a small variation on the responses to the questions.

4.2. Inferential Analysis
This section includes the findings of multi-regression analysis done on the variables used in the study.

Strength of the relationship between interest rates determinants and performance of commercial banks

Table 5. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.765[a]	.585	.506	.20605	2.475

From the finding in the above summary table, R square (co-efficient of determination) =0.585, indicating that 58.5% of the total variation in performance of commercial banks is accounted for by corresponding change in inflation rates, reserve requirement, discount rates and the inflation rates.

Table 6. Anova[b]

Model	Sum of Square	df	Mean Square	F	Sig.
Regression	1.257	4	.314	7.405	.001[a]

Residual	.892	21	.042
Total	2.149	25	

a. Predictors: (Constant), Exchange rate, Discount rate, Inflation rates, Reserve requirement

b. Dependent Variable: Performance of commercial banks

The above ANOVA indicate that the data is ideal for making a conclusion on the population's parameter as the value is significant at P<0.001.it indicates that the regression relationship was significant in predicting how inflation rates, reserve requirements, discount rates and the exchange rates influence the performance of commercial bank.

Interest Rates Determinants

Table 7. Interest Rates Determinants

Model	Unstandardized	coefficients	Standardized coefficients		
	B	Std. Error	Beta	t	Sig.
Constant	1.932	.964		2.003	.058
Inflation rates	-.061	.131	- .071	-.463	.016
Reserve requirement	-.098	.062	-.257	-1.586	.002
Discount rate	.415	.103	.611	4.023	.001
Exchange rate	-.135	.108	-.190	-1.244	.002

a. Dependent Variable: Performance of commercial banks

From the above coefficients, the established regression equation was: $Y = 1.932 - 0.071X_1 - 0.257X_2 + 0.611X_3 - 0.190 X_4 + 0.964$. The equation reveals that holding discount rates at a constant, performance of commercial banks in Kenya would be at 1.932. The study shows a negative relationship between inflation rates, reserve requirement ratio and exchange rates and performance of commercial banks in Kenya. The study found that the discount rates held a positive relationship with the performance of commercial banks in Kenya. That is an increase in discount rates will result into an increase in performance of commercial banks.

The study indicates that inflation rates had a negative but significant effect on performance of commercial banks in Kenya. This is consistent with Otuori (2013) who studied the Influence of exchange rate determinants on the performance of commercial banks in Kenya. As per the study inflation rate had a negative and significant effect on bank profitability. It's also consistent with Bergen (2010) who studied that countries with higher inflation observes that there is depreciation in their currency which means the performance of a country in relation to its trading partners is usually low. This is also usually accompanied by higher interest rates resulting into a negative relationship between inflation and performance of banks.

The reserve requirement had a negative but significant effect on performance of commercial banks in Kenya. It is consistent with Aburime (2008) who used a sample of 154 banks with 1255 individual observation on unbalanced panel data over the period 1980-2006 to investigate the macroeconomic determinants of bank profitability in Nigeria. The result revealed that real interest rate, inflation, monetary policy and foreign exchange regime are negatively associated with banks' return on assets.

Discount rate had a positive and significant effect on the performance of commercial banks in Kenya. This is consistent with Brock (2010) who studied on the relation between commercial bank profit rates and banking concentration in Canada, Western Europe, and Japan. and indicated that when central banks raise their discount, rates, commercial banks may raise their lending rates sooner by more percentage points than their deposit rates which means when discount rates are high, commercial banks' profit rates are also high because the banks interpret the high discount rates as a signal to raise their lending rates without as great an increase in their borrowing rates.

The Exchange rate had a negative but significant effect on performance of commercial banks in Kenya. This study was also consistent with Aburime (2008) who used a sample of 154 banks with 1255 individual observation on unbalanced panel data over the period 1980-2006 to investigate the macroeconomic determinants of bank profitability in Nigeria which revealed that the foreign exchange regime between trading partners are negatively associated with banks' return on assets.

5. Conclusions

The study found that to a very great extent Inflation rates influence the performance of the commercial banks in Kenya. There is a negative relationship between the inflation rates and the performance of commercial banks in Kenya. Increases in inflation rates results in decrease in performance of banks. This is in line with Waseem *et al.* (2014) who studied on the impacts of inflationary trends on banks' performance in Pakistan .The study concluded that as inflation increases ROA, ROE and net interest margin of Muslim Commercial Bank Limited, Allied Bank Limited, United Bank Limited and Bank Al-Falah Limited decreases. The study therefore concludes that an increase in inflation rates will result into a decrease in performance of commercial banks in Kenya.

The study found that to a very great extent the reserve requirement greatly influences the performance of commercial banks in Kenya. The reserve requirement rates negatively affect the performance of the commercial banks in Kenya. This is in line with Aburime (2008) who investigated the macroeconomic determinants of bank profitability in Nigeria. The result revealed that monetary policy is negatively associated with banks' return on assets. The study therefore concludes that as reserve requirement increases it will result into a decrease in performance of commercial banks in Kenya. Higher levels of reserve requirement result in lower bank performance.

The study found that to a great extent the discount rates influence the performance of commercial banks in Kenya. The Discount rates strongly influence performance of commercial banks in Kenya. That is there is a positive relationship between the discount rates and the performance of commercial banks in Kenya. This is in line with Ndungu, (2003) who studied that with an increased discount rate banks increase the rates that they charge their customers to borrow money thus lead to an increase in performance. The study therefore concludes that the as the discount rates increases/higher levels of discount rates lead to a positive/a higher level of performance of commercial banks in Kenya.

The study found that to great extent exchange rates influences the performance of commercial banks. The exchange rates strongly affect the performance of the commercial banks in Kenya. There is a negative relationship between the exchange rates and the performance of commercial banks in Kenya. Higher levels of exchange rates lead to lower performance in commercial banks. This is in line with Mwanza (2007) who investigated whether the level of derivative activities is associated with the market perception of banks interest rates and exchange rate risk. In conclusion therefore, higher levels of exchange rates lead to lower performance in commercial banks.

Recommendations

The study recommends that the Central Bank of Kenya should set base reserve requirements that do not pressurize banks in their operations. This will help grow the banking industry in Kenya and hence develop the economy.

Secondly, Commercial banks should pursue policies that would improve access to finance for a majority of the population, thus, raising the level of monetization in the economy for economic development and effective implementation of monetary policy. CBK should Contain and deal with any imbalances and risks in the economy before they become a threat to the overall financial system stability.

Thirdly, the study recommends that inflation rate should be contained through sound policy measures as higher inflation rates may hurt the performance of the banking industry in Kenya. Fourth, the study recommends that it is important that the Government addresses the issue of weakening local currency since this triggers instability in the financial sector through negative impact on trade balance, higher external debt service and foreign reserves. Variations in exchange rates lead to lower performance in commercial banks and in the economy in general and hence the government should investigate more on ways of stabilizing the shilling.

Lastly, the study recommends that the commercial banks management should strategize on best way to set up discounts rates for their banks as this will go a long way dictating the borrowing and lending culture of the commercial banks in Kenya and in return enhance their performance.

Acknowledgments

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