EFFECTS OF MONETARY POLICY MEASURES ON THE ECONOMIC GROWTH IN KENYA

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ABSTRACT

The study examined the effects of monetary policy measures on the economic growth in Kenya. This study considered gross domestic product growth rates as essential economic growth indicators. The effects of monetary policy variables; money supply, interest rates, exchange rates and cash reserve ratio on the economic growth in Kenya was studied. This study adopted descriptive research design. The study used both primary data collected using questionnaires and secondary data. The secondary data used was captured by the central bank of Kenya and the Kenya national bureau of statistics within a period of 7 years. The data was summarized and analyzed using SPSS version 20 and Eviews to produce inferential statistics using multiple regression analysis so as to determine the relationships between the dependent and independent variables. The findings of correlation and regression analysis revealed that money supply was positively and significantly related to economic growth. Interest rates and exchange rates were found to have a negative relationship with economic growth measured by GDP growth rate. The findings further revealed that cash reserve ratio had positive but insignificant relationship with economic growth. This study concludes that CBK must formulate and conduct monetary policy with the aim of keeping overall inflation within the targets. The study recommended that CBK should come up with policies that will ensure that interest rates and exchange rates are maintained at an optimal level that will enhance levels of domestic savings and private investment.

Keywords: Monetary Policy, Interest Rates, Money Supply, Exchange Rates, Cash Reserve Ratio, GDP Growth

INTRODUCTION

Monetary policy is concerned with discretionary control of money supply by the monetary authorities in order to achieve stated or desired economic goals. Governments try to control the money supply because most governments believe that its rate of growth has an effect on the rate of inflation. Monetary policy consists of a Government's formal efforts to manage the money in its economy in order to realize specific economic goals. The objectives of monetary policy may vary from country to country but there are two main views. The first view calls for monetary policy to achieve price stability, while the second view seeks to achieve price stability and other macroeconomic objectives. In the domestic economy, this translates to keeping inflation low, maintaining low interest rate, ensuring a good Gross Domestic Product value, all for economic stability. Therefore, monetary policy is a tool for macroeconomic management though its application varies from country to country and produces different results (Okwo, 2012). Ivrendi and Yildirim (2013) observed that tight monetary policy in most countries increases the value of legal tender, interest rates and reduces inflationary pressure and output. Nzotta and Okereke (2009) observed that the prime aim of monetary policy is to make sure that supply of money is in consonance with the growth level of the economy. Without committing errors, monetary policy by the CBN has facilitated the introduction of an active money market where treasury bills and raising debt for government have grown in size and value, hence becoming prominent earning assets for investors and a source of balancing liquidity in the market. (Nzotta and Okereke, 2009).

Gul, Mughal & Rahim (2012) stated that notwithstanding the dispute among economists on this relationship, there is strong presumption that monetary policy is associated with economic growth. Monetary policy is without doubt an important tool for enhancing growth in the economy. It influences aggregate demand and aggregate supply, so affecting economic growth accordingly (Gul, Mughal & Rahim, 2012). Kahn (2010), observes that monetary policy objectives are concerned with the management of multiple monetary targets among them price stability, promotion of growth, achieving full employment, smoothing the business cycle, preventing financial crises, stabilizing long-term interest rates and the real exchange rate.

The Central Bank of Kenya's principal objective is formulation and implementation of monetary policy directed at achieving and maintaining stability in the general economy (CBK 2010). The aim is to achieve stable prices; that is low inflation and to sustain the value of the Kenya shilling through economic growth. CBK formulates and conducts monetary policy with the aim of keeping overall inflation at the Government target of 5 percent (CBK 2010). Achieving and maintaining a low and stable inflation rate together with adequate liquidity in the market facilitates higher levels of domestic savings and private investment and therefore leads to improved economic growth, higher real incomes and increased employment opportunities. CBK's monetary policy is therefore designed to support the Government's desired economic activity and growth as well as employment creation through achieving and maintaining a low and stable inflation (CBK 2010).

The central bank of Kenya adopted monetary policy as part of measures to strengthen the shilling, the economy, promote foreign direct investments and discourage the decline of the exchange rate. The CBK's main goal is to achieve an inflation rate of 5

percent and an economic growth of 10% and above (CBK, 2010).This however isn't the case. The Central Bank of Kenya capped the real growth rate at 4.4% in 2011 and 4.6 per cent in 2012. This was the annual measure of GDP growth adjusted for inflation and expressed as a percentage. Again, KNBS, (2015) in its economic survey states that the economy grew by 5.6 per cent in 2015 and 5.3 per cent in 2014 a dip from 5.7 per cent in 2013. This slow growth was not accompanied by significant economic development. The Kenyan economic Growth rate is also relatively slow compared to other developing nations like Tanzania and Rwanda. Neighboring countries Tanzania and Rwanda grew faster than Kenya, posting 7.2 per cent and 6.0 per cent growth rates respectively (KNBS, 2015).

LITERATURE REVIEW

John Maynard Keynes's most influential work, "The General Theory of Employment, Interest, and Money", was published in 1936 (Keynes, 2008). A new synthesis was necessary, and that is what Keynes sought to create. In particular, he concluded that classical economics rested on a fundamental error. It assumed, mistakenly, that the balance between supply and demand would ensure full employment. On the contrary, in Keynes's view, the economy was chronically unstable and subject to fluctuations, and supply and demand could well balance out at an equilibrium that did not deliver full employment. The reasons were inadequate investment and over-saving, both rooted in the psychology of uncertainty. The solution to this conundrum was seemingly simple: Replace the missing private investment with public investment, financed by deliberate deficits (Keynes, 2008). Keynes intended government to play a much larger role in the economy (Galbraith, 2009). His vision was one of reformed capitalism, managed capitalism; capitalism saved both from socialism and from itself. The Liquidity Preference Theory was

first developed by John Maynard Keynes (1936)" The liquidity preference or cash balances theory of interest rates, is a short-term theory that was developed for explaining near-term changes in interest rates, and hence, is more relevant for policymakers. According to the theory, the rate of interest is the payment to money (cash balances) holders for the use of their scarce resource; liquidity, by those who demand liquidity; money or cash balances (Yergin and Stanislaw, 2008). Gustav Cassel's (1918) theory of purchasing power parity (PPP) is the benchmark when it comes to exchange rate formation. It is based on the law of one price for the same product in different countries, adjusted for transaction costs, especially transportation costs. The PPP theory is the oldest exchange rate theory, and one economist who has done some of the best research on this theory, Lawrence Officer, claims that it was already well developed in the 1500s by scholars at the University of Salamanca (Gustav, 1918). The PPP theory draws on the law of one price, which says that arbitrage will lead to prices of the same products becoming equal everywhere. Systemic risk is modeled as the endogenously chosen correlation of returns on assets held by financial sector. The limited liability of financial sector and the presence of a negative externality of one bank's failure on the health of other financial sector players give rise to a systemic risk-shifting incentive where all financial sector undertake correlated investments, thereby increasing economy-wide aggregate risk. Regulatory mechanisms such as bank closure policy and capital adequacy requirements that are commonly based only on a bank's own risk fail to mitigate aggregate risk-shifting incentives, and can, in fact, accentuate systemic risk (Acharya, 2009).

Empirical Literature Review

Chipote and MakhethaKosi (2014) explored the role played by monetary policy in promoting growth of

the South African economy. The study showed that long-term connection existed among the variables and that money supply is insignificant monetary policy instrument that drive growth. Chuku (2009) used real effective exchange rate, minimum rediscount rate, and broad money (M2) to determine how output and prices in Nigeria are affected by shocks arising from monetary policy implementation and showed that M2 is the most significant among the three policy instruments. Imoughale and Ismaila (2014) in his analysis found that M3 and applicable rate of interest have no statistical significance on the sector's output. Okoro (2013) found that money supply and total credit was directly proportional and they were related on the long run to economic growth. Gul, Mughal and Rahim (2012), reviewed how the decisions of monetary authorities were influential on stabilizing price, economic growth, curtailing deficits in balance of payments and reducing unemployment level. The regression analysis showed that contractionary monetary policies with balanced adjustment of explanatory variables exerted favorable influence on the explained variable. Shamshad (2007), found that Government policies, including, monetary policy can only affect the production process through its impact on interest rates. He believes there are two main channels of monetary policy. Okoro (2013), found that foreign exchange rate, was directly proportional on the long run to economic growth. Saibu and Nwosa (2011), results indicated that the manufacturing sector is not receptive to monetary policy and the agricultural sector is sensitive to changes in exchange rate. Piffer, (2013) argues that reserve requirement will influence the multiplier while leaving the monetary base unchanged while Pérez-Forero and Vega, (2014) in their analysis suggest that shocks to the two reserve requirement ratios produce a negative effect on aggregate credit in their corresponding currencies and a mild effect on both aggregate real economic activity and the price level.

RESEARCH METHODOLOGY

A descriptive research design was used in this study. The study used primary and secondary sources for data collection. The study used secondary data collection manual for collecting secondary data. The study administered questionnaires to senior level managers in the Central Bank of Kenya and the Kenya Bureau of Statistics. Secondary data included data as captured by the central bank of Kenya and the Kenya national bureau of statistics within a period of 7 years. The Overall annual reports of monetary policies between the year 2008 and 2014 forms the target population. The sample size was made up of twenty senior managers at the Central bank of Kenya and the Kenya bureau of statistics because they are involved in decision making. The study considered a purposive sampling technique where questionnaires were administered to a total of ten senior level managers at the Central bank of Kenya and ten senior managers at the Kenya Bureau of Statistics. The questionnaire had both closed and open-ended, predetermined and standardized set of questions (Mugenda & Mugenda, 2003).

Descriptive statistics such as mean, standard deviation, frequency distribution and percentages were used to analyze the data. Data collected was analyzed using SPSS version 20. This produced inferential statistics; multiple regression analysis thus determining the relationships between dependent and independent variables

ANALYSIS, FINDINGS AND DISCUSSIONS

Trend Analysis of Study Variables

This section provided the analysis of trends of study variables across the study period. The trend analysis was conducted to help establish the movement of the variables under study and thus help in performing unit root analysis as the trend analysis

graphically indicates the pattern of movement in the variables.

Trend Analysis for Exchange Rate

The trend analysis of exchange rate indicated that exchange has been increasing across the study period. Exchange rate was lowest in 2008-09 but increased steadily in 2010. The increase between 2011 and 2012 was however slower compared to the increase between 2013 and 2014.
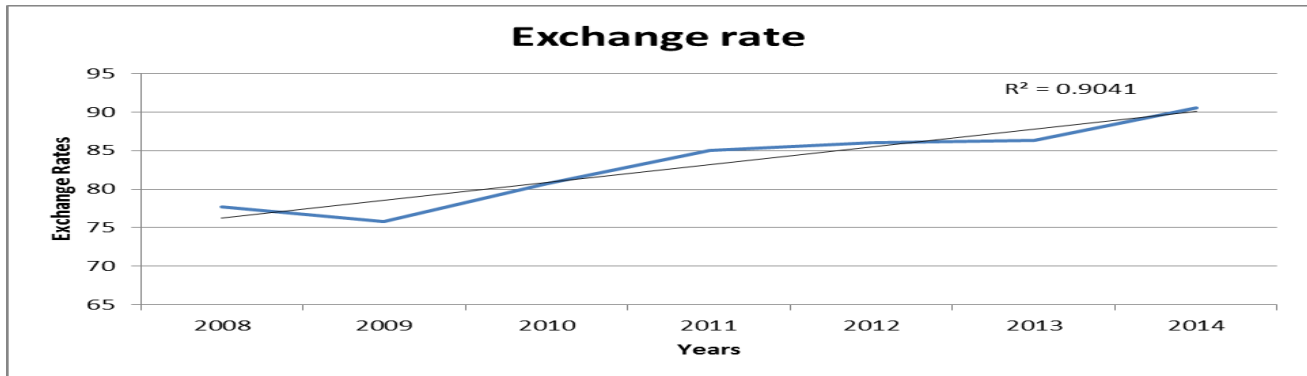
Exchange rate

$R^2 = 0.9041$

Figure 1: Trend Analysis for Exchange Rate

Trend Analysis for GDP Growth

The trend results for GDP indicated that GDP growth rate exponentially increased between 2008 and 2010. This growth coincided with recovery the country was making after the election violence. The results further indicated that GDP growth declined between 2010 and 2012 before slowly recovering in 2013.

GDPGrowth

$R^2 = 0.2423$

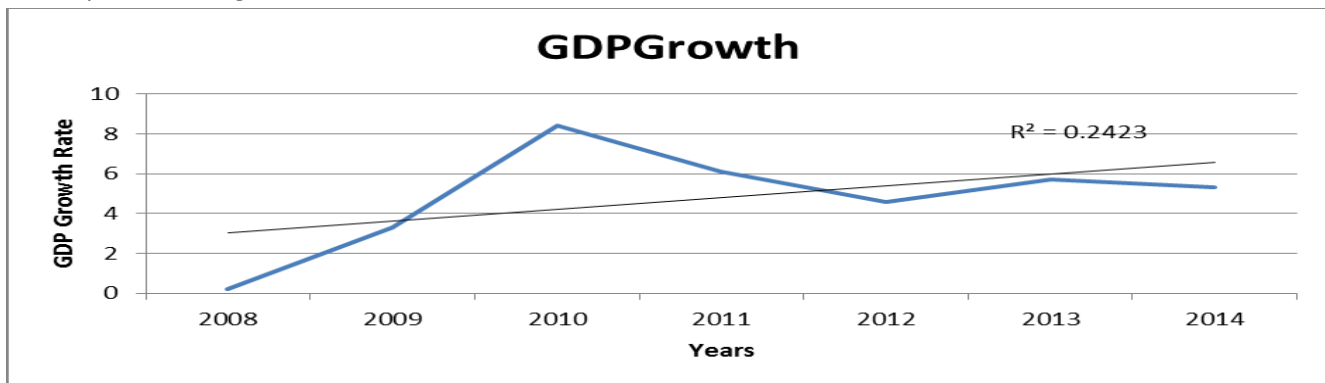**Figure 2:** Trend Analysis for GDP Growth

Trend Analysis for Interest Rates

The trend results for interest rates indicated that interest rates have significantly declined in the last five years. The results further indicated that the decrease in interest rates was very volatile. The results showed that interest rates was lowest in 2009 and 2010 but was highest in 2012 as shown in the figure below.
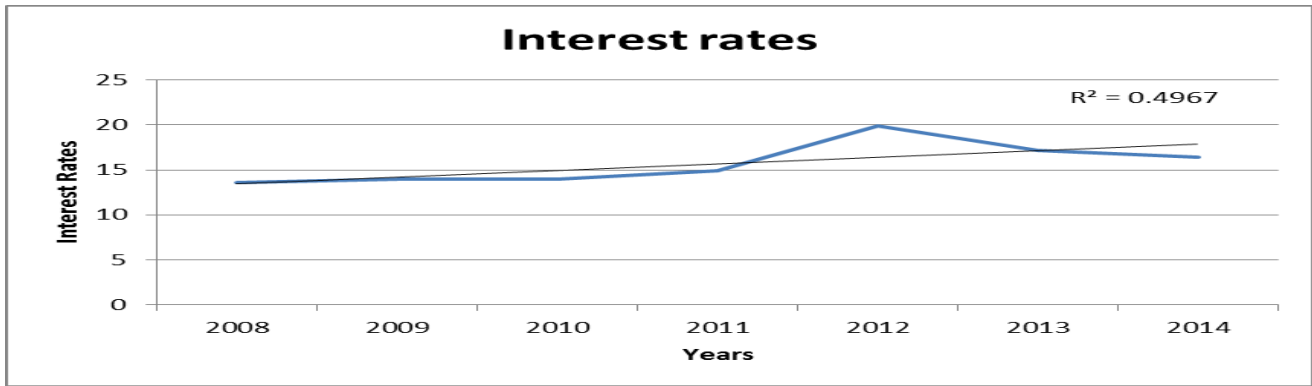
Figure 3: Trend Analysis for Interest Rates

Trend Analysis for Money Supply

The findings of the trend further showed that the money supply was very volatile across the period of the study. The results also indicated that money supply has been decreasing significantly from 2010 and reached its lowest in 2013 before rising again in 2014 as indicated in the figure below.
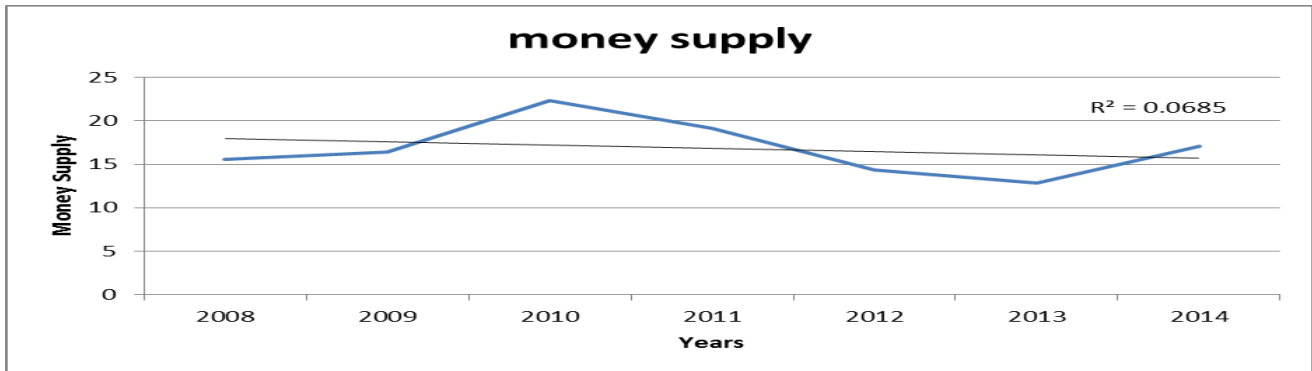
Figure 4: Trend Analysis for Money Supply

Trend Analysis for Cash Reserve Ratio

An assessment of the average reserve ratio requirement of commercial banks in Kenya was conducted. The findings indicate that reserve ratio was volatile during the period of study. The result showed that 2008 had the highest reserve ratio which later decreased in 2010 before increasing again in 2011. From 2011 the reserve ratio has been decreasing.

Figure 5: Trend Analysis for Reserve Ratio

Descriptive Analysis

Based on primary data the study conducted descriptive statistics including frequencies, percentages and means. This was conducted to find out how the respondents agreed or disagreed with the statements in the questionnaire.

Money Supply

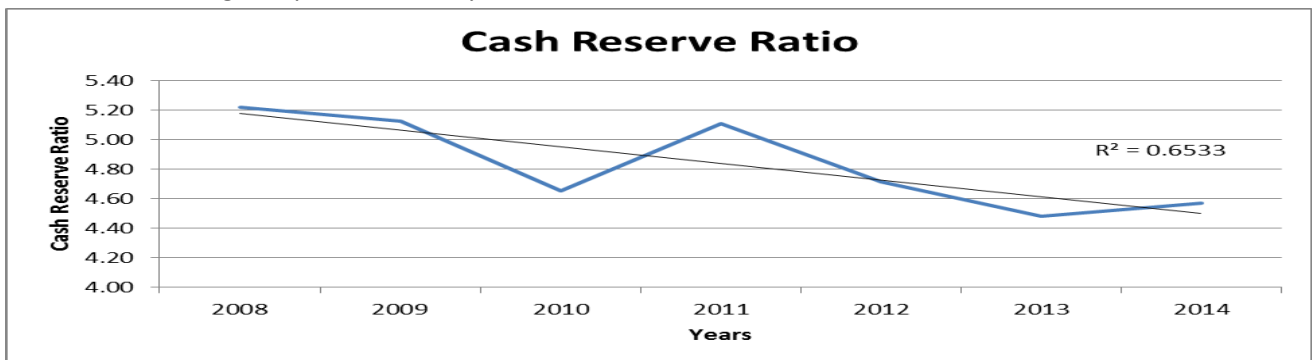The study asked the respondents to indicate the effects of the money supply indicators on economic growth. The study focused on currency demand deposits, lending rates and reserve requirement. The results indicated that all the factors had a mean response of 4 which implied that majority of the respondents indicated that money supply indicators had good effects on economic growth.

Table 1: Money Supply Descriptive Results

	No effect	Weak effect	Fair effect	Good effect	Strongly affect	Mean
Currency demand deposits	5.6%	5.6%	22.2%	33.3%	33.3%	4
Lending rate	5.6%	0.0%	27.8%	22.2%	44.4%	4
Reserve requirement	5.6%	11.1%	22.2%	33.3%	27.8%	4

The findings however contradicted that of Imoughale and Ismaila (2014) in his analysis found that M3 and applicable rate of interest have no statistical significance on the sector's output.

Interest Rate

The study sought to find out the effect of interest rates variables on economic growth. The study assessed the effects of 91 day Treasury bill, interbank rates and Repo rate on economic growth.

The findings showed that 38.9% and 33.3% of the respondents indicated that 91 day Treasury bill had Good effect and strongly effect on economic growth respectively. The results further revealed that the respondents indicated that interbank rate and repo rate had strong effect on economic growth. Okoro (2013), found that interest and inflation rates were inversely proportional to level of economic output and they were related on the long run to economic growth.

Table 2: Interest Rate Descriptive Results

	No effect	Weak effect	Fair effect	Good effect	Strongly effect	Mean
91 day treasury bill	0.0%	0.0%	27.8%	38.9%	33.3%	4
Interbank rate	0.0%	22.2%	16.7%	11.1%	50.0%	4
Repo rate	11.1%	0.0%	33.3%	16.7%	38.9%	4

Exchange Rate

The study further sought to establish the effects of government debt, terms of trade and balance of trade on economic growth in Kenya. The results showed that the respondents indicated that government debt had fair effect on economic growth, terms of trade was also indicated to have fair effects while balance of trade was rated to have weak effects on economic growth.

Table 3: Exchange Rate Descriptive Results

	No effect	Weak effect	Fair effect	Good effect	Strongly affect	Mean
Government debt	22.2%	27.8%	27.8%	5.6%	16.7%	3
Terms of Trade	16.7%	16.7%	33.3%	27.8%	5.6%	3
Balance of trade	5.6%	33.3%	16.7%	27.8%	16.7%	3

Cash Reserve Ratio

The study further sought to establish the effects of cash reserve ratio on economic growth. The study focused to assess the effect of cash reserve ratio on inflation, lending rate and money supply. The result indicated that the statements had a mean of 3 which indicated that the respondents felt that cash reserve ratio had moderate effect on economic growth.

Table 4: Cash Reserve Ratio Descriptive Results

	Strongly disagree	disagree	Neutral	Agree	Strongly Agree	Mean
Cash reserve ratio has an impacts on inflation	22.2%	5.6%	33.3%	22.2%	16.7%	3
Cash reserve ratio has an impact on lending rate	11.1%	27.8%	16.7%	22.2%	22.2%	3
Cash reserve ratio has an impacts on money supply	11.1%	16.7%	22.2%	27.8%	22.2%	3

Correlation Tests Results

The study conducted a correlation analysis to ascertain the association between the independent variables and dependent variables.

Correlation Results for Money Supply and Economic Growth

The correlation was conducted to test the strength of the association between money supply and economic growth. The findings indicated there existed a strong and significant association between money supply and economic growth (r=0.556, p=0.017). Similarly, Okoro (2013) found that money supply and total credit was directly proportional and they were related on the long run to economic growth.

Table 5: Correlation Results for Money Supply and Economic Growth

		Money Supply	Economic Growth
Money Supply	Pearson Correlation	1	.556[*]
	Sig. (2-tailed)		.017
	N	18	18
Economic Growth	Pearson Correlation	.556[*]	1
	Sig. (2-tailed)	.017	
	N	18	18

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation Results for Interest Rate and Economic Growth

The correlation was conducted to test the strength of the association between Interest Rate and economic growth. The findings indicated their existed a strong negative and significant association between Interest Rate and economic growth (r=-0.509, p=0.031). The findings concurred with Gul, Mughal and Rahim (2012), reviewed how the decisions of monetary authorities were influential on stabilizing price, economic growth, curtailing deficits in balance of payments and reducing unemployment level.

Table 6: Correlation Results for Interest Rate and Economic Growth

		Interest Rate	Economic Growth
Interest Rate	Pearson Correlation	1	-.509[*]
	Sig. (2-tailed)		.031
	N	18	18
Economic Growth	Pearson Correlation	-.509[*]	1
	Sig. (2-tailed)	.031	
	N	18	18

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation Results for Exchange Rate and Economic Growth

The correlation was conducted to test the strength of the association between Exchange Rate and economic growth. The findings indicated their existed a strong negative and significant association between Exchange Rate and economic growth (r=-0.521, p=0.027). The findings of Imoughale and Ismaila (2014) also revealed that exchange rate, was statistically significant to manufacturing sector output.

Table 7: Correlation Results for Exchange Rate and Economic Growth

		Exchange Rate	Economic Growth
Exchange Rate	Pearson Correlation	1	-.521[*]
	Sig. (2-tailed)		.027
	N	18	18
Economic Growth	Pearson Correlation	-.521[*]	1
	Sig. (2-tailed)	.027	
	N	18	18

*. Correlation is significant at the 0.05 level (2-tailed).

Correlation Results for Cash Reserve Ratio and Economic Growth

The study further used correlation test to ascertain the association between cash reserve ratio and economic growth. The results showed that there was a significant positive association between cash reserve ratio and economic growth (r=0.483, p=0.042). Glocker and Towbin, (2012) indicated that reserve requirements can support the price stability objective only if financial frictions are important and lead to substantial improvements if there is a financial stability objective.

Table 8: Correlation Results for Cash Reserve Ratio and Economic Growth

		Cash Reserve Ratio	Economic Growth
	Pearson Correlation	1	.483[*]
Cash Reserve Ratio	Sig. (2-tailed)		.042
	N	18	18
	Pearson Correlation	.483[*]	1
Economic Growth	Sig. (2-tailed)	.042	
	N	18	18

*. Correlation is significant at the 0.05 level (2-tailed).

Regression Results on the Monetary Policy Measures on Economic Growth

Effects of Money Supply on Economic Growth

The results showed a relationship R= 0.556, indicated a strong positive relationship between money supply and economic growth. $R^2 = 0.309$ indicated that 30.9% of variation in the economic growth can be explained by money supply while the remaining percentage is explained by other variables not in the model. F-test was carried out to test influence of money supply on economic growth. The results of ANOVA test show that the F value is 7.171 with a significance of p value = 0.017 which was less than 0.05, meaning that money supply had significant influence on economic growth.

Table 9: ANOVA for Money Supply and Economic Growth

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.625	1	1.625	7.171	.017[b]
1	Residual	3.625	16	.227		
	Total	5.250	17			

a. Dependent Variable: Economic Growth

b. Predictors: (Constant), Money Supply

The results showed that coefficient β = 0.665 was also significant with a p-value=0.017 which is less than 0.05. The results implied that a unit change money supply will result in 0.665 units change in economic growth. This revealed that there is a significant positive linear relationship between money supply and economic growth. Similarly, Okoro (2013) found that money supply and total credit was directly proportional and they were related on the long run to economic growth.

Table 10: Coefficient for **Money Supply and Economic Growt**h

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.971	.982		.989	.337
	Money Supply	.665	.248	.556	2.678	.017

a. Dependent Variable: Economic Growth

Effects of Interest Rates on Economic Growth

Regression analysis was conducted to establish the relationship between interest rates and economic growth. The results revealed $R^2 = 0.259$ which indicated that 25.9% of variation in the economic growth can be explained by change in interest rates while the remaining percentage is explained by other variables not in the model. F-test was carried

out to test influence of Interest Rates on economic growth. The results of ANOVA test show that the F value is 5.585 with a significance of p value = 0.031 which was less than 0.05, meaning that Interest Rates had significant influence on economic growth.

Table 11: ANOVA for Interest Rates and Economic Growth

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.358	1	1.358	5.585	.031[b]
1	Residual	3.892	16	.243		
	Total	5.250	17			

a. Dependent Variable: Economic Growth

b. Predictors: (Constant), Interest Rate

The results showed that coefficient β = -0.249 was also significant with a p-value=0.031 which is less than 0.05. The results implied that a unit change interest rates would result in -0.249 units change in on economic growth. This revealed that there is a significant negative linear relationship between interest rates and economic growth. The findings concurred with Okoro (2013) who found that interest and inflation rates were inversely proportional to level of economic output and they were related on the long run to economic growth.

Table 12: Coefficient for Interest Rates and Economic Growth

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.421	.373		11.852	.000
	Interest Rate	-.249	.105	-.509	-2.363	.031

a. Dependent Variable: Economic Growth

Effects of Exchange Rate on Economic Growth

Regression analysis was conducted to establish the relationship between Exchange Rate and economic growth. The results revealed R^2 = 0.272 which indicated that 27.2% of variation in the economic growth can be explained by change in Exchange Rate while the remaining percentage is explained by other variables not in the model. F-test was carried out to test influence of exchange rate on economic growth. The results of ANOVA test show that the F value is 5.967 with a significance of p value = 0.027 which was less than 0.05, meaning that exchange rate had significant influence on economic growth.

Table 13: ANOVA for Exchange Rate and Economic Growth

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.426	1	1.426	5.967	.027[b]
1	Residual	3.824	16	.239		
	Total	5.250	17			

a. Dependent Variable: Economic Growth

b. Predictors: (Constant), Exchange Rate

The results showed that coefficient β = -0.321 was also significant with a p-value=0.027 which is less than 0.05. The results implied that a unit change Exchange Rate would result in -0.321 units change in economic growth. This revealed that there is a significant negative linear relationship between

Exchange Rate and economic growth. The findings of Imoughale and Ismaila (2014) also revealed that exchange rate, was statistically significant to manufacturing sector output.

Table 14: Coefficient for Exchange Rate and Economic Growth

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.500	.393		11.461	.000
	Exchange Rate	-.321	.132	-.521	-2.443	.027

a. Dependent Variable: Economic Growth

Effects of Cash Reserve Ratio on Economic Growth

Regression analysis was conducted to establish the relationship between cash reserve ratio and economic growth. The results revealed $R^2 = 0.233$ which indicated that 23.3% of variation in the economic growth can be explained by change in cash reserve ratio while the remaining percentage is explained by other variables not in the model. F-test was carried out to test influence of cash reserve ratio on economic growth. The results of ANOVA test show that the F value is 4.865 with a significance of p value = 0.042 which was less than 0.05, meaning that cash reserve ratio had significant influence on economic growth.

Table 15: ANOVA for Cash Reserve Ratio and Economic Growth

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.224	1	1.224	4.865	.042^b
	Residual	4.026	16	.252		
	Total	5.250	17			

a. Dependent Variable: Economic Growth

b. Predictors: (Constant), Cash Reserve Ratio

The results showed that coefficient $β = 0.386$ was also significant with a p-value=0.042 which is less than 0.05. The results implied that a unit change Cash Reserve Ratio would result in 0.386 units change in on economic growth. This revealed that there is a significant positive linear relationship between Cash Reserve Ratio and economic growth. Glocker and Towbin, (2012) indicated that reserve requirements can support the price stability objective only if financial frictions are important and lead to substantial improvements if there is a financial stability objective.

Table 16: Coefficient for Cash Reserve Ratio and Economic Growth

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.298	.595		3.863	.001
	Cash Reserve Ratio	.386	.175	.483	2.206	.042

a. Dependent Variable: Economic Growth

Multivariate Regression Results

This section contains the results of regression model of the effect of monetary policy measures on the economic growth in Kenya. The variables used in this analysis were in their raw forms. The results are presented in table 16. The R squared of 0.889 indicates a satisfactory goodness of fit. The model implies that 88.9% of the variation in economic

growth is explained by the independent variables (monetary policy measures). The overall model was significant as demonstrated by an F statistic of 208.7012 (p-value= 0.000). This further implied that the independent variables had good joint explanatory power on economic growth.

Table 17: Regression Analysis Results

Dependent Variable: GDPGROWTH

Method: Least Squares

Date: 09/20/16   Time: 00:19

Sample: 2008 2014

Included observations: 7

Variable	Coefficient	Std. Error	t-Statistic	Prob.
Interest Rates	-7.642719	1.440531	-5.305488	0.0000
Money Supply	23.30828	2.911256	8.006261	0.0000
Exchange Rate	-11.07591	4.123180	-2.686255	0.0107
Cash Reserve Ratio	4.665533	1.919563	2.430519	0.1357
C	9.797100	22.69378	0.431709	0.7080

R-squared	0.889678	Mean dependent var	4.800000
Adjusted R-squared	0.669033	S.D. dependent var	2.554734
S.E. of regression	1.469731	Akaike info criterion	3.783844
Sum squared resid	4.320217	Schwarz criterion	3.745208
Log likelihood	-8.243454	Hannan-Quinn criter.	3.306315
F-statistic	208.7012	Durbin-Watson stat	0.777672
Prob (F-statistic)	0.000000		

Optimal Model

***GDP Growth* =**9.79+ -7.642 (*Interest Rates*) +23.30 (*money supply*) + -11.07(*exchange Rate*) +4.66 (*cash reserve Ratio*) **+**

ε

The findings revealed that interest rates were negatively and significantly related to economic growth, The findings also revealed that money supply was positively and significantly related to economic growth The findings further revealed that exchange rates was negatively and significantly related to economic growth. The study finally revealed that cash reserve ratio had positive but insignificant relationship with economic growth measured by GDP growth. Similarly, Imoughale and Ismaila (2014) study also found that Interest rate impacted negatively on economic growth. While Okoro (2013), found that interest and inflation rates were inversely proportional to level of economic output and they were related on the long run to economic growth. The findings of this study concurs with Onyeiwu (2012) whose analysis indicated that supply of money caused a rise in gross domestic product and balance of payments but failed to

suppress inflation in the Nigerian economy. The study provided inference of a positive influence of monetary policy on economic growth and its weakness to ensure macroeconomic stability.

Conclusion

Monetary policy consists of a Government's formal efforts to manage the money in its economy in order to realize specific economic goals. Governments` objectives to control the money supply is grounded on believe that its rate of growth has an effect on the rate of inflation. Monetary policy is highly necessary for stabilizing the flows of capital, conditions in the capital market and promoting growth in less developed economies. CBK's monetary policy should therefore be designed to support the Government's desired economic activity and growth as well as employment creation through achieving and maintaining a low and stable inflation. This study also concluded that CBK should formulate and conduct monetary policy with the aim of keeping overall inflation within the targets.

Recommendations

This study recommended that CBK should ensure adequate liquidity in the market, low interest and exchange rates to facilitate higher levels of domestic savings and private investment and to improve economic groswth, higher real incomes and increased employment opportunities. The CBK and the government to place more emphasis on quantity based nominal anchors such as money supply since it has significant effects on real GDP and prices.

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