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EFFECT OF INTEREST RATES ON ECONOMIC GROWTH IN KENYA

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Abstract: **The study sought to investigate interest rates effects on Kenyan economic growth. Specifically, the study assessed lending interest rates and central bank rates effects on economic growth. The study reviewed rate of interest classical theory, loanable funds theory, Keynes Liquidity Preference Theory, theory of pricing and the Solow Growth Model. Research Design embraced in the study was longitudinal. This study was anchored on Solow's Growth model. Data on central bank rates, lending interest rates and economic growth were obtained from financial reports publicized by the central bank. Secondary data collected was for a period ranging from 2001 to 2020 and recorded in a data collection sheet designed in excel. Appropriateness of data was assessed through diagnostic tests which included multicollinearity, heteroscedasticity and autocorrelation in regard to regression analysis assumptions. Descriptive statistics such as central tendency measures, inferential statistics, correlation and regression analysis were involved in the data analysis. The results revealed that commercial banks' lending interest rates during study period was higher than the rates by central bank. The results showed that lending rate of interest depicted positive but statistically insignificant correspondence with GDP while central bank rates depicted positive and significant correspondence with GDP. The combined model results however showed that the model is significant hence interest rates significantly affect economic growth. Following study's findings, a conclusion drawn was that effects of interest rates on growth in the economy was significant. The study concludes that commercial banks' lending interest rates depicts positive but have insignificant effects on growth in the economy. In addition, the study concludes that central banks rates have a positive and affects growth in the economy significantly.**

Keywords: **Interest Rates, Economic Growth, Lending Interest Rates and Central Bank Rates.**

1. INTRODUCTION

Background of the Study

Economic growth is an active macroeconomic variable in raising living standards and alleviating poverty. Accelerating progress toward the Millennium Development Goals (MDG) requires rapid and sustained growth. Growth has the potential to create virtuous cycles of wealth and opportunity (OECD, 2008). Through economic growth, population and society income transfer becomes easy. In dynamic expanding society, redistribution of money is easier in comparison to a rigid society. A high rate of economic growth increases production of services and goods, job opportunities, people's standard of living and reduces unemployment rate. (Haller, 2012). Economic growth also leads to human personality fulfillment and multilateral development, as well as an increase in people's material and spiritual prosperity and a rise in civilization and culture. Economic growth dictates a progressive social evolution of society which encompasses human conditions improvement based on economic advancement. Economic growth lays the groundwork for a higher standard of living, better medical care, a better educational system, and a more equitable distribution of wealth in society (Anyanwu, Uchenna & Kalu Alexanda, 2015).

Kenya's economic growth has been inconsistently rising and falling. The economic growth from the year 1999-2003 was below 5% but increased to 5.1% in the year 2005 where there was a rise up to the year 2007 (World Bank, 2020). The growth for the year 2008 dropped which was largely as a result of post - election violence and peaked on the year 2010 reaching a high of 8.41% but dropped to 4.56 in the year 2012 (World Bank, 2020). The latter years have experienced slight rises and falls. Unemployment rate in Kenya was highest in 2002 and 2003 at 2.9% and lowest in 2008 at 2.6% (World Bank, 2020). During the period when economic growth was low between 1999-2003, employment rate was at its highest above 2.8% while it consistently and significantly dropped between the years 2013 through 2019 when economic growth was consistently above 5% (World Bank, 2020). Further, where between the years 2002-2007, economic growth rose steadily from 0.55% to 6.85% while the debt to GDP ratio dropped steadily from 61.84% to 38.37% (Central Bank of Kenya, 2020). From 2015 to 2019, Kenya experienced an average rate of economic growth of 5.7 percent, putting the country among the fastest-growing economies in Sub-Saharan Africa. This Kenyan economic performance was aided by a stable macroeconomic environment and positive confidence from investors.

Interest rates is a significant economic issue that affect an economy's ability to grow where the central bank uses it as a tool to manage inflation and promote economic growth. (Lee and Werner 2018). If all other variables are held constant, managing and setting rates will have a significant economic impact on how well the economy performs, necessitating the necessity for an industry-wide rational decision-making process (Irungu 2013). Poor interest rate decisions have a major impact on the economic indicators across industries, particularly finance related sectors. (Salami and Oluseyi 2013). For monetary policy, central bank employs rate of interest as a financial mechanism, which when it increases its own interest rate it signals to other financial institutions such as commercial banks who will follow suit. Since almost all financial institutions are profit-driven, the central bank's high interest rate will force other institutions to charge similarly high rates, which will negatively influence the overall performance of the economy. Lekan, Adekola and Braide (2018) assert that, banks advance overdrafts and loans to economic agents so as to foster development plan activities and investments in order to support their own growth as well as national growth. Lower rates are therefore thought to stimulate the economy and/or inflation, whilst higher rates are thought to have a deterrent effect on economy growth.

Statement of the Problem

Kenya's ambition of achieving a 10% rate of economic growth in vision 2030 to become a middle-income economy has not been an easy task. The governmental institutions are still struggling in achieving their goals and agendas within their long-term development plan encompassed in the "Vision 2030". The country has continued to register low levels of economic growth. In the first (2008-2012) Medium Term Plan of vision 2030, average economic growth rate was 4.18% as compared to a targeted rate of 8.66% while the average investment was 20% of GDP as compared to a targeted rate of 27%. The financial recession of 2009 affected most economies of the world which explain the slow growth rate in the country during this season.

The Second Medium Term Plan (2013 - 2017), expected a growth of national investment from 24.7% in 2013 to 30.9% of the GDP in 2017 while expected growth of total national savings was projected to move from 16.4% to 25.7% in the same period but according to National Treasury, national investments expressed as GDP percentage was 21.7%, 23.5% and 23.5% for 2013, 2014 and 2015 years respectively. The rate of economic growth during this season was affected by the introduction of new governance that was the first to operate under the 2010 Constitution which repealed old constitution of 1969 that had major changes in the governance setup including but not limited to devolved county governments, independent commissions, bicameral legislative houses, constitutionally tenured judiciary among other institutions. (World Bank, 2020). Further, the Total National Savings in 2013, 2014 and 2015 were 12.7%, 14.5 % and 15.9% respectively. (Kenya National Bureau of Statistics 2016). Economic performance from 2015 to 2019 was an average of 5.7% and this was facilitated by strong confidence by investors, macroeconomic environment stability and resilience of the service sector. However, the economic growth rates for the years 2014, 2015,2016, 2017, 2018 and 2019 were 5.4%, 5.7%, 5.9%, 4.9%, 6.3% and 5.6% respectively which is still very far from the target of 10% (Central Bank of Kenya, 2020). A number of factors could be contributing to the slow rate of economic growth which necessitates this inquiry that will assess effects interest rates have on Kenyan economic growth. Several research investigations have been done on interest rates and economic growth but have failed to capture various aspects. The study therefore will fill the gaps above by assessing rates of interest effects on both central bank rate and lending rates by commercial banks on Kenyan economic growth. In particular, the inquiry sought to investigate lending interest rates and central bank rate effects on growth of the economy in Kenya.

General Objective

The broad objective of the study was to investigate interest rates effect on Kenyan economic growth.

Specific Objectives

Specific objectives were;

I. To investigate effects of lending interest rates on economic growth in Kenya.

II. To investigate effects of central banks rates on economic growth in Kenya.

2. LITERATURE REVIEW

Theoretical Literature Review

Solow Growth Model

Robert Solow and Treva Swan (1956) developed this long run exogenous growth model where they got their motivation and insight from Keynesian Harrold Dormar Model. The Solow growth model analyses economic growth levels over time in an economy as a result of variations in advances in technology, saving and growth in population rates. This economic growth model emphasizes on accumulation of capital, labour (expansion in population) and productivity advancement arising from advancement in technology. (Daron, 2009). Solow growth model depicts aggregate output function mostly of Cobb Douglas nature that predicts the convergence of long run equilibrium in steady state where technological advancement will be the only way to achieve permanent growth. Variations in the long run of population and saving increase, will only have level effects.

The growth in population is constant at rate g. if the current population is N, then the link between the population growth and current population gives us future population N' = N (1+g). where future population is depicted by N'. It assumes Consumers have a fixed proportion of saving (s) in the incomes and consumes the rest hence Consumption Equation C= (1-s) Y which links consumption C and Output Y. The Model assumes that economic agents in an economy use similar technology in production their inputs being capital (K) and labour (L). Therefore, equation for the production function will be Y = aF(K, L) which links output level (Y), Labour(L) and Capital(K).

In addition, the model assumes constant return to scale (CRS) to the production function which implies that when amount of labour and capital stock is doubled, the output level will be doubled. The model puts more emphasizes on capital and output per worker rather than aggregate capital, output, present capital K, Capital stock in future K', capital depreciation rate d and capital investment level I all of which are linked through accumulation of capital equation. K'= K (1-d) + I. (Solow, 1956).

Empirical Review

Lending Interest Rates and Economic Growth

Adede (2015) assessed relationship between lending rates of interest on general Kenyan economic growth. The researcher used causal research design in the analysis of the Central bank of Kenya and Kenya National Bureau of Statistics Secondary Data for a period 2000 – 2014. From this sample size of 15years the regressed results established that the interbank lending interest rate and economic growth had a negative relationship.

Mushtaq and Siddiqui (2016) conducted a study on how economic performance in Islamic and Non Islamic economies are affected by interest rates. It adopted general method of moments(GMM) and random effect of 17 Islamic and 17 non Islamic countries for a period of 2005 – 2013. From the analysis, rate of interest indicated positive significant effect of economic performance in Non-Islamic countries while inflation, rate of interest and investments depicted negative impact on investment in both Islamic and non-Islamic countries.

Hariz et al (2017) did an inquiry on how economic development is impacted by rate of interest in Asian Countries. Through Convenience Sampling Techniques, 20 companies were sampled from 20 different Asian countries from a target population of 48 countries for a period of 2006 – 2015. The study embraced regression, correlation and descriptive analysis using Eviews software where the findings depicted that interest rate had a significant negative impact on output.

Central Banks Rates and Economic Growth

Muchiri (2012) investigated how market rate of interest of Kenyan mercantile banks are affected by the Kenyan central bank rates. A correlation study was undertaken in addition of descriptive research adopted. 43 commercial banks registered by CBK by December 2011 was study's population where collection of primary data was via structured questionnaires while secondary data was from annual financial statement and CBK. Analysis of data was conducted via SPSS where findings showed that rates of Kenyan Central Bank impacted on Kenyan Commercial banks rate of interest consequently affecting economic growth.

Meshack and Nyamute (2016) determined how Kenyan Commercial banks in the Nairobi security exchange roll are affected by monetary policy. 11 mercantile banks from NSE roll registered by then 30th June 2015 was the target population where descriptive survey was adopted. Data used came from NSE and Kenyan central bank where after analysis, results depicted that tools of monetary policy negatively impacted on NSE listed mercantile banks financial performance.

Acha (2018) investigated how Nigerian growth in SMEs was affected by monetary policy from 1986 – 2016. Analysis of data adopted error correction model and exposit facto designs where Johansen test revealed that growth of Nigerian SMEs was slightly affected by rate of interest where this impact on SMEs eventually translate into effects on whole economy growth.

3. RESEARCH METHODOLOGY

Research Design embraced in the study was longitudinal. This study was anchored on Solow's Growth model. Data on central bank rates, lending interest rates and economic growth were obtained from financial reports publicized by the central bank. Secondary data collected was for a period ranging from 2001 to 2020 and recorded in a data collection sheet designed in excel. Appropriateness of data was assessed through diagnostic tests which included multicollinearity, heteroscedasticity and autocorrelation in regard to regression analysis assumptions. Autoregressive distributed lag (ARDL) model was embraced in analysis of study's data Descriptive statistics such as central tendency measures, inferential statistics, correlation and regression analysis were involved in the data analysis.

4. RESEARCH FINDINGS, DISCUSSION CONCLUSIONS AND RECOMMENDATIONS

Descriptive Statistics

The descriptive statistics where mean, standard deviation, minimum and maximum values are provided.

Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Lending Interest Rates	20	15.126	2.366272	11.99583	19.66667
Central Bank Rates	20	9.331452	1.956514	6.357143	16.5
Inflation	20	8.06803	2.891993	4.765	14.2775
Exchange Rates	20	85.66871	12.4017	67.31917	106.4508
GDP	20	4.28	2.069732	-.3	8.1

Source: Research

The results showed that lending interest rates in Kenya for the study period between 2001 and 2020 ranged between 11.996 and 19.667. The average lending rate for the period was 15.126 having a 2.366 standard deviation. During the period, central bank rates averaged at 9.331 having a 1.957 standard deviation. Central Bank's Minimum Rate was 6.357 while maximum rate was 16.5. This indicated that the central bank rate for the period was always lower than the commercial banks' lending rates. During the same period, the average rate of inflation was 8.068 having a standard deviation of 2.892 with minimum and maximum values of 4.765 and 14.278 respectively. The period reported 67.319 and 106.45 being minimum and maximum exchange rates respectively which averaged at 85.669 deviating by 12.402. On the GDP value which is a measure of economic growth, the results revealed that the country registered an average of 4.28 deviating by 2.067 during the period having a minimum and maximum values of -3 and 8.1respectively.

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Correlation Analysis

Correlation analysis for the correlation between response and predictor variables was conducted

Correlation Matrix

	GDP	Lending Rates	Central Rates	inflation	Exchange Rates
GDP	1.0000				
Lending Interest Rates	-0.1853	1.0000			
Central Bank Rates	0.0966	0.4448	1.0000		
Inflation	-0.2498	0.3003	0.4063	1.0000	
Exchange rate	-0.1615	-0.1465	0.0663	-0.3818	1.0000

Source: Research

According to the results GDP depicted negative correlation with lending interest rates (correlation coefficient (r) = - 0.1853). This implied that increase by a unit in lending interest rates would decrease GDP by 0.1853. It was however revealed that the correlation between GDP and central bank rate is positive but weak (r = 0.0966). Hence increasing Central bank rate by a unit, would increase GDP by 0.0966. The correlation between inflation and GDP was shown to be negative with a correlation coefficient of -0.2498. Therefore, this depicted that, an increase of inflation by a unit would decrease GDP by 0.2498. Similarly, correlation between exchange rates and GDP was revealed at negative with a coefficient of -0.1615. This implies that increase of exchange rates by a unit would decrease GDP by 0.1615.

Regression Analysis

Autoregressive Distributed Lag Model

Since there was no cointegration, there was no confirmed long run relationship between time series variables, hence a short run relationship was tested using Autoregressive Distributed Lag model to analyze predictor variables effects on the response variables.

ARDL Model Results

F(7, 10)	=	34.27				
Prob > F	=	0.000				
R-squared	=	0.96				
Adj R-squared	=	0.932				
Log likelihood = 53.225557	Root MSE	0.0169				
GDP	Coef.	Std. Err.	T	P>t	[95% Conf.	Interval]
GDP						
L1.	1.05314	0.100696	10.46	0.000	0.828776	1.277504
Lending Interest Rates	0.008297	0.002112	3.93	0.003	0.003592	0.013001
Central Bank Rates	-0.00947	0.002706	-3.5	0.006	-0.0155	-0.00344
inflation	-1.783378	.2289541	-7.79	0.000	-2.324768	-1.241987
Exchange rates						
-.	.0051159	.0002155	23.74	0.000	.0046358	.005596
L1.	-.003813	.0013787	-2.77	0.020	-.0068849	-.0007412
L2.	-0.06531	0.03923	-1.66	0.127	-0.15272	0.0221
_cons	-0.11824	0.259425	-0.46	0.658	-0.69628	0.459794

Source: Research

Results of 0.000 as the P value for the F statistics test implied statistically significance of the overall model since it is less than the significance level of 0.05. R squared was 0.96 which implied that 96% of GDP was explained by the variables lending interest rates, central bank rates, inflation and exchange rates. Further, the relationship between the first lag of GDP and GDP was statistically significant ($p=0.000<0.05$). It was also revealed that a Percentage difference on the GDP first lag increased economic growth (GDP) by 1.05314 Percentage respectively on average at 0.05 statistical significance.

Lending rates of interest and economic growth (GDP) relationship results revealed moderate positive and statistically significant relationship ($\beta1=0.008297$ $p= 0.003$). Therefore, a percentage change in lending rate of interest was associated with an increase of 0.008297 to GDP. On the relationship between central bank rates and economic growth it revealed an existence of a negative but significant relationship between central bank rates and GDP ($\beta2=-0.00947$ $p=0.006$). Hence a percentage change in the central bank rates is associated with a 0.00947 decrease in GDP.

The results for the relationship between inflation and GDP revealed a negative but statistically significant relationship ($\beta3= -1.783378$ $p=0.000$). Hence a percentage unit change in inflation will decrease GDP by 1.783378 units. In addition, the relationship between exchange rates and GDP was shown to be positive and statistically significant ($\beta4=-.0051159$ $p=0.000$). Therefore, this depicts that a percentage change in rate of exchange is associated with a .0051159 increase in GDP. The first lag of exchange rates showed a significant relationship whereas the second lag revealed no statistically significant relationship.

The model was hence confirmed as;

$Y=-0.11824+0.008297LIR-0.00947CBR-1.783378INF+.0051159ER$

Where:

LIR represents Lending Interest Rates

CBR represents output Central Bank Rates

INF represents inflation

ER represents exchange rates

Y represents economic growth.

5. CONCLUSIONS

Based on the findings from the study, it draws a conclusion that interest rates effects on growth in the economy is significant. In addition, the study draws a conclusion that commercial banks' lending rate of interest have a positive and significant impact on economic growth. Increasing lending interest's rates by commercial banks will steer increase in the economy's GDP and hence translate to an increased economic growth. This is explained in terms of increasing the funds available in the banks due to increased incentive to save to enjoy higher interest rates.

Further the study makes conclusion that central banks rates have a negative and significant impact on growth in the economy. Therefore, increasing central bank lending rate of interest will decrease the GDP for the country. This will hence lead to a stalled economic growth for the country. Increasing the central bank rates of lending will mean that less loans are advanced hence not enough supply of money for investment hence decreased economic growth.

6. RECOMMENDATIONS

Following study's conclusions policy makers can therefore adopt the study findings in order to formulate polices that relate to interest rate and economic growth in the country. Policy formulators should transpire policies that will see adjustment of the central bank rates and commercial bank rates to levels that will lead to increased GDP for the country and hence a better position in terms of economic growth. Additionally, the government formulated policies should control the interest's rates charged by the commercial banks to lenders. This will ensure that the banks do not charge exorbitant amount on lenders which might discourage borrowing but at the same time that the amount charged is sustainable for banks to have enough money supply in order to increase their lending capacity for more investments. The government should therefore control the lending interest rates to ensure a stable and growing economy. The government should also come up with measures to increase the supply of money among the banks for borrowers. Central bank of Kenya will be encouraged to come up with

measures to ensure that the rates charged are not too high to scale down the economic growth. The government should formulate policies that regulate the central bank rates to ensure that the rates are able to sustain the operations of the institution while encouraging more borrowing. In addition, government should formulate policies that will guide it to increase its borrowing from commercial banks as opposed to central bank without crowding out the borrowing capacity of other economic agents in the economy as this may lead to increase in commercial bank's money supply.

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