

**LENDING INTEREST RATE AND ECONOMIC GROWTH IN
KENYA**

**A RESEARCH PROJECT SUBMITTED IN PARTIAL
FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD
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DECLARATION

STUDENT DECLARATION

This research project is my original work and has not been presented for examination to any other university and I further declare that all the sources that have been used or quoted have been indicated and acknowledged by means of complete references.

Signature..... Date.....

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D61/71267/2014

SUPERVISOR'S DECLARATION

This research project has been submitted for examination with my approval as the university supervisor.

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DEDICATION

This research is dedicated to my father Washington Adede Otago, a great believer in education. During my childhood, he supported me in everything about education. I dedicate this research to my mother Flora Atieno Owaga for her encouragement and interminable prayers. Finally, I dedicate this research to my unborn children whom I hope will have great brains and embrace education.

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ABBREVIATIONS AND ACRONYMS

ANOVA	Analysis of Variance
CBK	Central Bank Kenya
CBR	Central Bank Rate
GDP	Gross Domestic Product
IFR	Inflation Rate
KIPPRA	Kenya Institute of Public Policy Research and Analysis
KNBS	Kenya National Bureau of Statistics
LR	Lending Rate
MPC	Monetary Policy Committee
REXR	Real Exchange Rate
SPSS	Statistical Package for Social Sciences

ABSTRACT

Interest rates are one of the most important drivers of the economy in that it tends to set the pace for investment markets. For the past decades the debate on interest rate and economic growth has attracted the attention of many researchers in different areas of studies. Economic growth is an important macroeconomic objective for a country. Learning how interest rate changes can influence the market place as well as help an individual understand its impact on their day-to-day life. Decrease in interest rate attracts capital inflows and thus strengthening the local currency (Mishkin, 2010). Conversely increase in interest rates slow economic growth since it reduces the purchasing power of consumers and lessen their desire to borrow. The CBK through the monetary policy and the bank rate has a very strong bearing on the performance of any sectors. This study delved on the effects of interest rate on the general economic growth in order to fill the knowledge lacuna that currently exists. Its aim was to establish the effect of lending interest rate on economic growth in Kenya and the empirical evidences that help answer the research objective. A causal research design was undertaken by the researcher in this study and this was facilitated by the use of secondary data which was obtained from the publications of KNBS and the Central bank of Kenya for a 15 year period starting 2000 to 2014 and the same was regressed quarterly to help answer the research question. The study established that there is a negative relationship between interbank lending interest rate and the economic growth. Interest rate was studied in isolation in an attempt to establish its effect to the economic growth of Kenya. In a nutshell, since lending interest rate has some kind of bearing on economic growth, it's imperative that the government puts policies in place to control the movements of the same.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

For the past decades the debate on interest rate and economic growth has attracted the attention of many researchers in different areas of studies. Economic growth is an important macroeconomic objective for a country. Interest rates are one of the most important drivers of the economy in that it tends to set the pace for investment markets. Learning how interest rate changes can influence the market place as well as help an individual understand its impact on their day-to-day life. Increase in interest rate attracts capital inflows and thus strengthening the local currency (Mishkin, 2010). Conversely increase in interest rates slow economic growth since it reduces the purchasing power, that is, consumers do not have enough money to meet their financial needs adequately and besides, they have less desire to borrow. The interaction between these economic phenomena is often muddled by a series of other factors namely levels of government debts, the sentiment of financial markets, trading terms, stability of the political arena and the overall performance of the economy (Saunders, 2011).

Long-term economic growth has been a central concern of the economic profession and its historical roots can be traced back to the classical and Keynesian economic literatures (Smith, 1776; Ricardo, 1817; Harrod, 1939; Domar, 1946). The most influential contribution comes from the work by Solow (1957) and Swan (1956). Their model is famously known as the Solow-Swan or neoclassical growth model. The model provides explanation of economic growth by including labour as a factor of production and augmenting technology as a shift factor in the production function. Developing countries desire to attain optimal economic growth through favourable

return on investments and balance of trade. The determinants of economic health are interest rates, exchange rates and inflation rates. These three vastly connected variables are closely monitored and manipulated as and when necessary. The process of growth of the economy and why there are such glaring differences in the standards of living across countries is just one of the most important and above all challenging areas of concern in the growth of the economy.

Kenya became a lower middle income country, with its economy 25% larger than earlier expected following the rebasing of its Gross Domestic Product in September 2014. Kenya's economy is estimated to have grown by 6% in 2015. The Kenyan Economic Update for June 2015 indicates that Kenya is emerging as one of Africa's key growth centers and is also poised to become one of the fastest growing economies in East Africa, supported by lower energy costs, investments in infrastructure, agriculture, manufacturing and other industries. The momentum of the growth is expected to be sustained by a stable macroeconomic environment, continued investment in infrastructure, improved business environment, exports and regional integration.

1.1.1 Lending Interest Rate

Interest rate is a percentage charged for use of borrowed money. It is the opportunity cost of money. Howells (2008), defines the rate of interest as a payment from borrowers (deficit units) to lenders (surplus units) which compensates the savers cum lenders for parting with their funds for a definite period of time usually expressed in days, months or years and at some risk. Ngugi and Kabubo (1998), states that the primary role of interest rate is to assist in the mobilization of financial resources and

ensure efficient and proper use of resources in the furtherance and elevation of economic growth and development.

Therefore, interest rates include the rates paid for deposits (deposit rate) and the rates applied on loans to deficit units (lending rate) for a given period of time. Deposit rates include savings, call and time deposit rates whereas lending rates comprise of rates charged on overdrafts (overnight borrowings) and term loans otherwise known as long-term borrowings (Ngugi & Wambua, 2004).

The rate of interest plays a big role in the financial system of a country through the allocation of resources in the economy. The rates have the capability to play the intermediary role between potential lenders and borrowers (Kinyua, 1997). A high interest rate on deposits acts as an incentive for savers to part with their money and keep it with deposit taking institutions instead of putting the money in other different investment opportunities. A high rate of interest on lending for borrowers translate to high borrowing costs which discourages potential borrowers due to the fact that it leads to high production costs which have a negative effect on returns (Kinyua, 1997). This means that a balance has to be maintained for purposes of economic development in terms of investment. The rate of deposit has to be high in order to entice deposits which form part of the resources for lending while the lending rate has to be favourably low so as to attract borrowing for investment (Kinyua, 1997).

The rate of interest that is charged on a loan will be influenced, to some extent by the risk of default. Borrowers that appear equally risky in the opinion of the bank have a higher chance of suffering from rising interest rates. This phenomenon is due to the fact that banks tend to incorporate risk factor in the portfolio of loans that normally carries a higher rate of interest (Funkor, 2000). Bankers have experienced numerous

frustrations in their attempt to recover loans whose performance is in arrears through the judicial proceedings. This leads to the incurrence additional expenses by the bank in lengthy litigation procedures. These costs form part of interest rates to be charged. Julian (1986), states that a substantial increase in government borrowing in order to finance current spending will push up interest rates if there is no parallel increase in savings by private sector. This occurs even with stationary inflation rate.

The real interest rate- an interest rate harmonized with either realized or expected inflation rate is the relative price of consuming now rather than later. As such, it is a key variable in vital theoretical models employed in finance as well as in microeconomics- such as the consumption based asset pricing model (Lucas, 1978). According to Keynes (1936), interest rate represents the cost of borrowing capital for a given period of time. Due to the fact that borrowing is a significant source of finance for many firms, prevailing interest rates are of much concern to the firms due to the indexing of interest rate on borrowing arrangements of the firms ultimately affecting growth.

Changes in interest rate have profound impact in saving and consumption behavior of households, capital accumulation decisions of firms and on the portfolio allocation of domestic and foreign traders in the financial markets as well as in the exchange rate markets. In generally it is agreed that these changes affect the combined demand and combined supply positions in an economy that may occur immediately or for a lag of up to two years. These changes also influence the expectations and plans of economic agents about their own future and the thinking about welfare and redistributing of income and about the prospects of the economy (Keynes, 1936).

If real interest rate is low then the cost of doing business, living and investing is low. This stimulates the economy because loans become affordable. Therefore, consumers tend to borrow more and spend as much. Interest rate also affects the inflation level. It influences financial level in the economy. The determination of positive interest rate (lending in excess of inflation rate) is viewed as a prerequisite for successful and sustainable finance (Buckler, 1999).

The real rate of interest in a country is normally influenced by external factors such as the rate of interest in other countries of the world and expectations about the movements of exchange rate in big economies. When interest rates in overseas countries sky rocket, the rate of interest on domestic currency investments becomes comparatively high. This helps in avoiding the flight of capital abroad and a fall in the rate of exchange of the domestic currency against other known world currencies (Cox, 1991). This study will use the average lending rate of commercial banks in Kenya.

1.1.2 Economic Growth

Economic growth refers to an increase in the capacity of an economy to produce goods and services compared from one period to another (Lipsey and Chrystal, 2007). It can be measured in nominal terms, where it is not adjusted for inflation, or in real terms, where it is adjusted for inflation (Ayres and Warr 2006). Economic growth measures growth in monetary terms and looks at no other aspects of development (Illyas and Siddiqi, 2010). According to Swan (1956), economic growth is the increase in the amount of goods and services produced in the economy over time. It is the expansion of the nation's income. According to Solow (1956), economic growth allows a nation to focus long term businesses trends and compare different government policies. It indicates the direction of the economy.

Economic growth can be either positive or negative. Negative growth is realized when the economy shrinks and in most cases it is associated with economic recession and depression (King and Levine, 1993)

The growth of an economy is thought of not only as an increase in productive capacity but also as an improvement in the quality of life to the people of that economy and besides, it is associated with technological improvements (Lipsey and Chrystal, 2007).

A change in real Gross Domestic Product (GDP) is commonly used as an economic growth indicator of the overall health of an economy, as well as to measure the standard of living in a country (Lipsey and Chrystal, 2007). GDP is the total dollar amount of goods and services produced in the country; the sum of all money spent in the economy whether on consumption, investment, government spending and net exports. When this rate is adjusted for inflation the end result is referred to as real GDP. It includes all of private and public consumptions, government outlays, investments and exports less imports that occur within a defined territory and is measured annually (Ayres and Warr 2006). This study will adopt GDP as a measure of economic growth.

1.1.3 Lending Interest Rate and Economic Growth

Interest rates are major economic factors that influence the economic growth in an economy. Corb (2012) argued that interest rate is an economic tool used by the Central Bank of Kenya (CBK) to control inflation and to boost economic development. Control of the inflation or deflation in the economy is a major role entrusted to the CBK by the government. The rationale behind the need to control the interest charged on credit or on any other financial instrument is based on the need to

control economic patterns that have great effects to the society. Holding all factors constant, controlling and setting of interest rates has big economic implication to the economic growth hence creating a need for rational decision making process within the industry. The interest rate does affect the economy as a whole, the stock and bond markets, inflation and recession. Rising and falling interest rates also affect consumer and business psychology. When interest rates are rising, both businesses and consumers tend to cut back on their spending. High interest rates have the negative effect of increasing the cost of borrowing and consequently limiting the level of aggregate investment and consumption and the overall economic growth in the country (Ng'etich and Wangari, 2011).

The role and functions of interest rates in an economy is to enable the flow of savings into investments in order to promote economic growth. They act as important tools of policy formulation in the financial system that inspires savings and investment (Rose, 1989). Interest rates have always been a concern to anyone with interest on a country's economic structure. It is the price borrowers must pay to secure loanable funds from a lender from a given period of time (Rose, 1989). In the theory of interest rates, Fisher (1930) noted that interest rates are determined by the supply of savings and the demand for investment capital.

International forces determine interest rates through foreign investments. When foreign investors are willing to lend money to the domestic economy so as to supplement the domestic sources, this can drive interest rates down. With time, these factors have come to be associated with influencing interest rates globally (Federal Reserve Bank 1980). Kimura (1997) analyzed interest rates in Kenya from a historical perspective. The finding explained an interest rate as a function of a number of

factors: $R_n = R_r + R_f + P_r + P_u + d$ where the variables of the equation indicate R_n as the interest rate charged for using borrowed money, R_r as the real interest rate that covers the cost of using borrowed money, R_f as the expected rate of inflation in a subsequent future period, P_r as the premium for the risks associated with a given investment, P_u as the additional premium to cover general economic uncertainty in the country and d as any disturbance factor that can be explained by the above variables.

From the study, the above interest structure had not changed much for the past thirty years and had no indications of changing whatsoever in the near future. The variables in the equation determine an interest rate in general be it deposit or lending since either way there is a lender or a borrower. Kimura concluded that high interest rates generates higher interest rates in the near future periods due to inflationary tendencies where prices adjust upwards to reflect the high cost of borrowing.

1.1.4 The Kenyan Economy

In the first decade of independence between 1964 and 1973 there was remarkable performance with the economy growing at an average of 6.7 percent. This was as a result of emphasis on small holder agricultural farming and growing demand both domestically and within East Africa. The period that followed between 1973 and 1985 was characterized by oil shocks of 1973/74 and 1979/80 which affected the economy negatively. The mismanagement of proceeds from coffee boom of 1976/77 together with the effects of the oil shocks resulted to balance of payment problems (Mwega and Ndung'u, 2002). During this period the government was the major investor leading to a 37 percent increase in government spending.

Following the effects of the second oil price shock, attempted military coup of 1982 and severe drought in 1983-84, the average growth in GDP declined to 3.2 percent. This was followed by mini-coffee boom of 1986 which saw the economic growth increase to an average of 5 percent. The favourable weather condition after the drought and decreased oil prices also favoured economic growth (Mwega and Ndung'u, 2002). As a result of ethnic clashes experienced during multi-party elections in 1992 followed by major drought in the same year the average economic growth rate declined further to 2.5 percent. During this period, the interest rates were high, there were large exchange rate depreciations as a result of foreign exchange market liberalization and growing budget deficit and hence balance of payment problems. Most donors withdrew foreign aid, leading to a remarkable decline in foreign investments.

All major sectors of the economy like tourism, agriculture and manufacturing recorded poor performance leading to further decline in average economic growth to 1.9 percent in the late 1990s. After ethnic clashes in 1997, the effect of El Nino rains experienced in 1997/98 which had a great impact on infrastructure and major draught in year 2000 (Economic Report on Africa, 2002), Kenya's economic growth was at 0.6 percent in year 2000.

A modest recovery was experienced between 2001 and 2007 when real GDP growth rate rose to 7.0 percent. This was as a result of increased investor confidence after 2002 general elections, increasing economic integration and increased donor support. However, various challenges experienced in 2008 namely post-election violence, high fuel and food prices, global economic turmoil and unfavourable weather condition

saw economic growth take a downturn recording a real GDP growth of 1.7 percent (Kenya Economic Survey, 2009).

In 2010, the real GDP expanded by 5.6 percent after suppressed growth of 1.5 percent and 2.6 percent in 2008 and 2009 respectively. During this period there was macroeconomic stability, low inflationary pressure, favourable weather conditions and private investor confidence remained high therefore boosting economic growth. However, instability of the foreign exchange market in the second half of 2011 and inflation due to high oil and food prices restrained growth further to 4.4 percent in the year 2011

The latest World Bank Group's Kenya's Economic Prospects (2014) reveals that Kenya's economy is estimated to have grown by 5.4% in 2014 and is projected to grow by 6% in 2015. The resilience is likely to continue with the economy expanding at 6.6% in 2016 and 6.5% in 2017. The Kenyan Economic Review for June 2015 indicates the Kenya is emerging as one of Africa's key growth centers and is also poised to become one of the fastest growing economies in East Africa, supported by lower energy costs, investments in infrastructure, agriculture, manufacturing and other industries. The momentum of the growth is expected to be sustained by a stable macroeconomic environment, continued investment in infrastructure, improved business environment, exports and regional integration. The government has also maintained discipline in fiscal and monetary policy, despite increasing pressure from devolution and rising public sector wage bill. Total public debt in 2013/2014 was 43% of Gross Domestic Product (GDP) and is expected to remain below the 50% of the GDP threshold. According to Kenya National Bureau of Statistics, annual average

inflation was estimated at 6.9% end of 2014, and is projected to fall further to 6.4% in February 2015.

While the overall medium term outlook remains favourable, risks exist from the continued downturn of the tourism sector arising from security concerns. External demand for export is also sluggish and low growth of production for exports is widening the current account deficit. Also, the share of the manufacturing sector to GDP has remained stagnant in recent years, with low overall productivity and large productivity differences in firms across subsectors due to lack of competition. Increased competitiveness of the manufacturing sector will be a key driver of growth, export and job creation. Kenya became a lower middle income country, with its economy 25% larger than earlier estimated, following the rebasing of its GDP in September 2014.

Kenya is especially famous for horticultural products. Tourism is another main industry in Kenya. Having realized the importance of tourism to the economy, the Kenyan Government has been working extremely hard to further promote tourism by attracting tourists and travellers from around the world. Another major industry in Kenya is the manufacturing industry. Kenya is mostly involved in the export of raw products but is now working towards keeping more of the added-value process in the country. Kenya does not have a well-established oil industry, but recent discovery of oil in the Northern part of the country may change that. It is the first time that Kenya has made such a discovery.

1.2 Research Problem

Long-term economic growth has been a central concern of the economic profession and its historical roots can be traced back to the classical and Keynesian economic

literatures (Smith, 1776; Ricardo, 1817; Harrod, 1939; Domar, 1946). The most influential contribution comes from the work by Solow (1957) and Swan (1956). Their model is famously known as the Solow-Swan or neoclassical growth model. The model provides explanation of economic growth by including labour as a factor of production and augmenting technology as a shift factor in the production function. Developing countries desire to attain optimal economic growth through favourable return on investments and balance of trade. The determinants of economic health are interest rates, exchange rates and inflation rates.

The impact of the macroeconomic variables in Kenyan economic growth especially interest rates have been of immense interest and concern to financial analyst and both current and potential investors. Nyagena (1991), asserts that a large and abrupt increase in the general rate of interest can have serious effects on critical variables thereby exerting enormous pressure on business entities and the general economy. As a matter of fact, interest rates affect the core operation of an economy in terms of the level of production and consumption through the transition mechanism of inflation, exchange rates just to mention but a few of the monetary variables. Ackley (1961), suggests that macroeconomic theory indicates that it is through the interest rate that the monetary policy actions can be transmitted to the economy. Smith (1970), found out that when the interest rates are not put into consideration, the monetary aggregates lost most of their explanatory powers, suggesting that interest rates have a crucial role to play in the arena of economic growth. Following the liberalization of interest rates, they have fluctuated in response to changes in demand and supply of loanable funds in the financial markets. Leite and Sandrajan (1999), argues that rapid liberalization in a country whose enterprises and financial institutions lack experience could prove counterproductive and result in unsound financial sector.

A number of studies have been done on the effect of interest rate on specific areas of the economy. Researchers have explored the relationship of interest rate and private sector investment interest rate and mobilization of savings as well rates on firms' performance. These studies include; Muguchia (2012), who studied the effects of flexible interest rate on growth of mortgages in Kenya, Olweny and Chiluwe (2012), studied the effect of interest rate on firms' performance. The above studies, which are more sector-oriented, mainly focus on the effect of interest rate on the respective sectors of the Kenya's economy. The current study, therefore, seeks to fill this lacuna by examining the effect of interbank lending interest rate on economic growth in Kenya. The study therefore seeks to answer the following research question, "what is the effect of interbank lending interest rate variations on economic growth in Kenya"?

1.3 Research Objective

The main objective of this study is to determine the relationship between lending interest rate and economic growth in Kenya.

1.4 Value of the Study

The results of this research will be useful to the Kenyan Government, policy makers, legislatures and regulatory bodies such as Central Bank of Kenya in improving the monetary systems. To the investors and citizens, this study provides an insight into interest rates and their impacts on economic growth. This study will contribute to the already existing empirical literature on lending interest rate and economic growth which will form a good base of literature for review by the researchers in the future. The researchers may use the study as a foundation to carry out a further research in this area. Besides, the result of this study will be of interest to academicians, investors and financial analysts as it will provide insights into the effects lending interest rate

on economic growth in Kenya. The study is therefore important in determining the theory behind the Central Bank Interest Rates changes and its influence on economic growth in Kenya.

The study on the effect of interest rate on economic growth in Kenya will provide important insights towards achieving macroeconomic targets of Kenya as outlined in vision 2030; the country's economic blue print for long-term growth in the country. Besides, the study will assist the CBK in increasing the efficiency of its regulatory role. The conclusion made will inform the CBK of prudent policy to adopt in balancing its role of monetary policy which is aimed at ensuring the stability of the Kenyan currency on one hand and accelerating growth through the provision of affordable credit facilities on the other hand.

Determination of the effect of lending interest rate on economic growth in Kenya can provide financial managers and commercial banks' regulators with additional information, including information on how to improve the lending interest rates in a way that they enhances economic growth of a country. The commercial banks that provide credit facilities will find the study useful for maximizing profits from credit offerings as they will modify their products to best suit their customers' needs. The interest rate will ultimately affect the bank's lending rate, their profitability and therefore they need to have this information to perform their functions better.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter discusses theories of interest rates, the economic effects brought about by the changes in interest rates and empirical review. Besides, it outlines some of the gaps that have been identified from the review of historic as well as current state of research in the field.

2.2 Theoretical Framework

This section shades light on the various theoretical theories that have been advanced in the previous studies by different scholars. Theories identified are; the theory of pricing, Fisher's effect, loanable funds theory, Keynes liquidity theory of interest rate and last but not least is the classical theory of interest rate.

2.2.1 The Theory of Pricing

Clarke (1982), describes price as the numerical monetary value that is attached to a good, a service or an asset. If there is too much supply of money in the market, the end result is a downward pressure on the prices of commodities whereas excess demand for money in the market results into an upward pressure on the prices of commodities.

Mishkin (1986), while taking note of the fact that interest rate is the price that lenders charge on borrowed funds, he further argued that the forces of demand and supply in the market would be responsible for the attainment of the market equilibrium interest rate. In this case, the supply side of money market represents the supply of loanable funds while the demand side represents the demand for loanable funds. Therefore, the

determination of interest rate is at equilibrium at the point of intersection of the supply and demand of loanable funds respectively, a position that shares the views of the classical economic theorists.

Marshall (1990), asserted that is determined by the forces of demand and supply under the perfect market competition model. His assertion borrowed a lot from the classical economic theory and early neoclassical economic theory point of view. This position does not have any divergence from the classical value theory.

2.2.2 Fisher's Theory

This theory was named after the American economist Fisher (1930), and it is the most well-known theory. It forms the basis of the standard recommendation on real interest rate. He argued that financial markets ought to establish the nominal interest rates on deposits that are positive in real terms. This is because savers must be induced to hold financial rather than real assets which on average grow on nominal terms at the rate of inflation. Thus the nominal interest rate must equal the expected inflation rate plus a small underlying real rate. This further makes the lending rate to be positive in real terms since they are based on the cost of deposits as well as a small margin covering the cost of intermediation, cost of reserve requirement, taxes and risk administration costs (Davies, 1986). In this regard, many economists unanimously agree that inflation rate must be kept low if we intend to maintain lower nominal interest rates.

In a nutshell, Fisher's theory suggests that changes in the short-term interest rate principally occur as a result of the changes in the expected rate of inflation. In this case we assume that market agents' expectations about inflation rates are broadly correct. Thus the following formula is applied in the calculation of real interest; $\mathbf{R} = \mathbf{i} - \mathbf{p}$ where \mathbf{R} represent the real rate of interest, \mathbf{i} is the nominal rate of interest and \mathbf{p} is

the inflation rate (Mishkin 2010). Fisher's theory has been largely criticized that it has a deficiency because it has partial equilibrium theory that confines itself to the analysis of the capital market and works with the assumptions that prices of goods and services are already determined (Mishkin, 2010).

2.2.3 Loanable Funds Theory of Interest Rate

This theory was advanced in the 1930s jointly by two economists; Dennis Robertson and Bertil Ohlin, a British and a Swedish economist respectively. Loanable funds refer to the sum of money that is offered and available for lending to consumers and investors during a given period of time. In this case the interest rate model is determined by the interaction between potential borrowers and savers. According to this theory, economic agents are out to make the best use of the resources at their disposal over the lifespan of such resources. For an individual investor to increase future real income, she might consider borrowing funds today in order to take advantage of the currently available investment opportunities in the economy. This only works in the event that the investment's rate of return surpasses the cost of borrowing. It is natural for borrowers to be unwilling to pay higher real rates of interest than the rate of return available to capital. Savers are always willing to save and lend only if the prevailing conditions promise real returns on their savings that will allow them to consume more in the future than they would otherwise be able to do. The extent to which people are willing to postpone consumption depends upon their time preferences (Saunders and Cornet, 2011).

Loanable funds theory of interest rate determination views the level of interest rate in the financial markets as resulting out of the factors that affect the supply of and demand for the same loanable funds. Saunders (2010) asserts that interest rate in this

theory is determined just like the demand for and supply of goods is determined. As interest rate increases, the supply of loanable funds increases as well other factors held constant. He further explains that the demand for loanable funds rises when interest rate falls, other factors all held constant. He identifies economic conditions and monetary expansions as other factors causing the demand curve for loanable funds to shift.

2.2.4 Liquidity Preference Theory of Interest Rate

Keynes (1936) explained the genesis of the rate of interest by the supply and demand for money. He argued that interest rate is not a reward for saving as such because if a person hoards his savings in cash, keeping it under his pillow for example, he will receive no interest, although he has nevertheless refrained from consuming all his current income. He therefore asserted that interest rate is a reward for parting with liquidity. This theory is based on the premise that investors will always prefer short-term securities to long-term securities.

In a world that is not certain, savings and investments may be greatly influenced expectations and exogenous shocks than by the underlying real forces. The risk-averse savers in most cases respond by holding their financial wealth in various forms depending on their feelings about what is likely to happen to asset prices. This prompts them to vary the average liquidity of their portfolios. Keynes (1973), defined liquidity preference theory as the rate of interest set forth in the general theory of employment, interest and money. According to Keynes, the rate of interest depends on the present supply of money and the demand schedule for the present claim on money in terms of a deferred claim. In Keynes view, the primary way that interest rate affect the level of aggregate output is through their effects on their planned investment

spending. Profit seeking organizations make investments in physical capital (machines, factories and the raw materials) as long as they expect to earn more from the physical capital than the interest cost of a loan to finance investment. Interest rate plays a major role in the investment demand schedule. Keynes advocates for government monetary policy which is directed at influencing the rate of interest rate.

2.2.5 Classical Theory of Interest Rate

This is one of the oldest theories which was developed during the nineteenth and twentieth centuries by a number of British economists and elaborated by Irving Fisher (1930). It is concerned by the determinants of pure or risk free rate and argues that the interest rate is determined by two forces namely the supply of savings determined from the household, and demand for investment and capital mainly from the business sector. Classical theorists consider interest rate payment as a reward for postponing current consumption in favour of future greater consumption. High interest rates make savings attractive and worthwhile relative to consumption spending encouraging more individuals to substitute current savings for some quantity of current consumption. This is referred to as substitution effect and it calls for a positive relationship between interest rate and the volume of savings.

Dermirgut and Huizinga (1999) assert that the interest rate fluctuations reflect the substitution between debt and equity financing. The expansion of equity market offers competitive returns and the banks respond this expansion by increasing the deposit rate in order to compete favourably for funds from the public. Besides, expanded markets also reduce the risk absorbed by the banking sector and the banks charge competitive lending rates thus reducing the interest rate margin.

2.3 Determinants of Economic Growth

Economic growth of any country reflects its capacity to increase the production of goods and services. The simplest definition of economic growth can be stated as the increase in the Gross Domestic Product of a given country. Nominal GDP is usually adjusted for inflation factor to reflect real GDP.

Economic growth theory is concerned with explaining the determinants of the long-term trend in potential GDP. Economic growth is the economy's most powerful engine for generating long-term increases in living standards. Continued annual growth has a big impact in the long run because what may appear as modest growth rates have a powerful effect in raising the living standards since its effects accumulate over time. Every macroeconomic policy must be tested on whether it will achieve its main goal or have unfavourable effects on the economy. If it does not pass the test, it is not sufficient to abandon but it is sufficient reason to rethink the policy (Lipsey & Chrystal, 2007). Economic growth refers to an increase in the real GDP of a country which is measured by changes in the national aggregate output. A change GDP is used to measure economic growth within the boundaries of the country because it only considers the value of goods and services produced within that country.

Economic growth is determined by the stage of development in which a country is; the quality and quantity of investments, population size and structure, level of education and training of the population and how liberalized the market is in a country. Several economic theories also give a different view on what affects economic growth in a country. Adams Smith and Cheney both stated the importance of resources in an economic growth; Harrod Domar stated the importance of policies such as tax incentives while Solow explained the importance of technical growth.

2.3.1 Level of Investments

Initially, increasing the rate of investment reduces consumption of goods and services as resources are diverted to investment industries but increased growth rate results in a higher consumption of goods and services in future which also increases the growth rate. The two main factors that influence the relationship of investments and economic growth rate are the difference between gross and net investments and the quality of such investments.

It is only the net investments that increase the wealth of a nation and not investments meant to replace obsolete equipment. These investments must be of the right kind in order to contribute strongly to economic growth. (Beardshaw et al, 2001). It is therefore important to consider the two main roles of investment, which is, as a component of aggregate demand and as an addition to the stock of productive resources which is the objective of the Harrod-Domar model of economic growth (Blackwell, 2009).

2.3.2 Market Liberalization and Trade

A country benefits immensely by allowing free markets and taking measures to increase international trade hence promoting market liberalization. Competition in the market place encourages specialization and creates efficiency which promotes trade and investments. A government may take measures to increase the proportion of exports to imports and also employ taxation policies that will encourage market liberalization (Beardshaw et al, 2001).

International trade has gained importance as a source of economic growth for developing and developed countries alike. It is therefore expected that removing trade

barriers can improve development perspectives of participating countries because imports increase competition and variety in domestic markets, benefiting both consumers and domestic production. Trade can also stimulate domestic firms to adopt best practices, and also increase the size of their markets for goods and services, resulting in lower average costs and increased productivity. Finally, trade helps a country earn foreign exchange which can be used to finance imports.

With trade liberalization, resources move to expanding areas of the economy, creating jobs, while resources in contracting sectors are displaced, resulting in unemployment and hardship. Some countries – and especially developing countries – may find that trade does not take place on a level playing field because higher production costs may make their goods less competitive in the international markets, while cheaper goods from more developed countries may flood into their domestic markets and destroy local production of competing equivalents.

2.3.3 Level of Education and Training

It is said that the wealth of a nation lies in the skills of its population. A country must therefore ensure that it has adequate skills it needs to enable it advance its economy. An investment in human capital is therefore a priority for economic well- being of a country. Education is also a component in the quality of life thus those receiving higher education consume an economic product which will improve their standard of living as well as their quality of life (Beardshaw et al, 2001).

An economy requires a labour force with the appropriate levels of skills to perform its main functions. In general, skilled manpower is created by education and training. In 1970 the Industrial Training Act was enacted by the Kenyan Government to make

provisions for the regulations of the training of persons engaged in industries and to establish training schemes.

2.3.4 Inflation Rate

The ultimate goal of economic policy in most countries of the world is to obtain sustainable economic growth coupled with price stability. Therefore, fiscal policy with the aim of productivity growth and monetary policy with price stability goal should be coordinated and implemented effectively. To maintain a sustainable economic growth and price stability simultaneously, can prove to be a hard nut to crack for policymakers. In spite of Keynesian theory, some economic concepts hold the view that moderate inflation is a stimulus for economic growth (Mubarak 2005).

However, because of rational expectations and inflationary spiral, gradually increasing price level can transform into high price level and macroeconomic uncertainty, which is harmful to economic growth (Feldstein, 1982; Ocran, 2007; Khan and Senhadji, 2001). At the same time zero level of inflation or disinflation also negatively impacts economic growth due to decreasing motivations of producers.

There is no consensus about the nature of inflation-economic growth relationship. Drukker et al. (2005) categorizes four principal predictions in the literature regarding the impact of inflation on output and growth:(a) Sidrauski, (1967) predicts that there is no effect of inflation on growth, and he further argues that money is super-neutral; (b) Tobin (1965) assumes that money is a substitute for capital and this revelation causes inflation to have a positive effect on long-run growth; (c) Stockman (1981) puts forward a cash-in-advance modeling which money is complementary to capital, causing inflation to have a negative effect on long-run economic growth; (d) New class of models which assert that inflation has a negative effect on long-run economic

growth if the inflation rate exceeds certain threshold level. This class of models assumes that there is a non-linear relationship between inflation and economic growth.

In a nutshell, inflation is an economy-wide sustained trend of increasing prices from one year to the next. The rate of inflation is important as it represents the rate at which the real value of investment is eroded and the loss in spending power over time. Inflation also tells investors exactly how much of a return their investments need to make for them to maintain their standard of living. Thus, investors buy investment products with returns that are equal to or greater than inflation (Reilly and Brown 2011). As an economy grows, businesses and consumers spend more money on goods and services. In the growth stage of economic cycle, demand typically outstrips the supply of goods, and producers can raise their prices; a phenomenon that increases inflation.

2.3.5 Budget Deficit

To achieve sustainable economic growth of a country balanced budget is not only important but also necessary. Budget deficit results in situations where the expenditure of the country exceeds its revenue (Reilly and Brown, 2011). Budget deficits as a percentage of GDP may decrease in times of economic prosperity.

Deficit spending by the government stimulates the economy in the short-run by making households feel wealthier (Okpanachi and Abimiku, 2007), thus raising total private and public consumption expenditure. Through the resulting increase in the aggregate demand, budget deficit has a positive effect on macroeconomic activity, thereby stimulating savings and capital formation (Khan and Grill, 2009). Government purchases in an underemployed economy add to aggregate demand at

prevailing prices and interest rates with no arithmetic necessity for private households to offset (displace or crowd-out) their own buying as long as public goods are not close substitutes for private goods.

The resulting faster growth of nominal GDP would automatically produce faster growth of real GDP and demand would thus create its own supply, in stark contrast to Say's Law (Reynolds, 2001). The Keynesians recognize the possibilities of government spending crowding-out private (investment) spending through increased cost of credit (interest rate). Hence the recommendation by Musgrave (Okpanachi and Abimiku, 2007) that fiscal deficit should be implemented only during a depression when interest rates are likely to be unresponsive in order to avoid the dampening effect of rising interest rates on private investment expenditure.

2.3.6 Real Exchange Rate

This is the value of a country's currency in terms of another currency. Economists have long known that poorly managed exchange rates can be disastrous for economic growth (Easterly, 2005). A high real exchange rate (undervaluation of the currency) stimulates economic growth. This is true particularly for the developing countries of which Kenya is among them.

Exchange rates play a vital role in a country's level of trade. Those countries with relatively stable and low inflation rates tend to display an appreciation in their currencies, as their purchasing power increases relative to other countries. Economists assert that a higher currency makes a country's exports more expensive and imports cheaper in foreign markets and vice versa. A higher exchange rate can be expected to lower the country's balance of trade while a lower exchange rate would increase it. As affirmed by Kumar & Clark (2004), foreign exchange affects international trade and

capital flows. Low exchange rate may signal recession and political instability. Strong exchange rates often serve as an indicator of favorable commercial conditions for a particular country. It directly impacts on the international trade since imports are cheaper and export expensive.

Nations with deteriorating currency values are less attractive to foreign investors. International savers prefer to purchase stocks and invest in currencies that feature stable and appreciating foreign exchange to maximize their returns. This ensures economic growth (De Macedo et al, 2001).

In a nutshell, economic growth is a powerful weapon in the fight against poverty. It leads to a transformation in the lifestyles and living standards of ordinary citizens and the technological advancement made enhance the production of new and more superior products which improve the living standards of the citizens in a country. Economic growth requires heavy investments of resources both in physical capital and human capital, and such investments do not yield returns immediately. Due to the scarcity of resources, sacrifices have to be made in the current period to make provisions for better goods and services in the future and therefore consumers must be willing to consume less and invest more now so as to reap greater benefits tomorrow. This is the opportunity cost and the main cost of economic growth (Lipsey & Chrystal, 2007).

2.4 Policies Regulating Interest Rates and Foreign Exchange

Epstyn& Jermakowics (2010) concede that governments put to use a barrage of policies and legislations to monitor the behavior of interest rates and foreign exchange

in the economy. As stated by Ngugi (2011), the Central Bank of Kenya (CBK) is the major government institution tasked with the management of money circulation, value and policy. Monetary policy is the CBK's main tool of controlling interest rates and exchange rates in the economy. Basically, interest rates are the main objects of monetary policy in regulating exchange rate, circulation and value of the Kenyan currency. The Central Bank Rate (CBR) is a major device of regulating the amount of money in circulation through the examination of interest rates (World Bank, 2010).

Section 36 (4) of the Central Bank of Kenya Act stipulates that the Central Bank shall publish the lowest rate of interest it charges on loans to banks and that rate shall be known as the Central Bank Rate (CBR). The level of the CBR is reviewed and announced by the Monetary Policy Committee (MPC) at least every two months and its movements, both in direction and magnitude, signals the monetary policy stance (International Monetary Fund, 2011).

Ngugi (2011) further upholds that whenever the Central Bank is adding liquidity through a Reverse Repo, the CBR is the lowest acceptable rate. Likewise whenever the Bank wishes to remove liquidity through a Vertical Repo, the CBR is the highest rate that the CBK will pay on any bid received. Changes in the CBR reflect the monetary policy stance that the Bank is pursuing.

Exchange rate controls have degenerated greatly due to their many adverse effects. They have proved to have much more negative effects than positive ones. Although, most countries no longer employ them, they are still a trade barrier in countries such as Zimbabwe. The chief purpose of most systems of exchange control is to avert or

redress an adverse balance of payments by limiting foreign-exchange purchases to an amount not in excess of foreign-exchange receipts (Sakar, 2011).

2.5 Empirical Reviews

Empirical studies on Kenya's economic growth analysis are numerous. Earlier studies, which are more sector-oriented, mainly focus on the impact of interest rate on the respective sectors of the Kenyan economy. Although some of the empirical studies appreciate the importance of interest rate on economic growth, others have tended to focus more on other factors like inflation, monetary policies, and demand and supply of money. This study therefore seeks to fill the gap that currently exists by focusing on the relationship between lending interest rate and economic growth.

McKinnon (1973), and Shaw (1973), content that financial repression through a controlled interest rate regime affects economic growth and development adversely. Shaw further argues that financial repression has brought about large differentials between lending and deposits interest rates. There is a tendency by the authorities to set high reserve requirements in Less Developed Countries of the world. The standard recommendation is that positive real interest rate must be established on both deposits and loans by eliminating interest rates and credit ceilings, ending selective credit allocation and lowering the reserve requirements. McKinnon in his argument favoured financial deepening and high interest rates as they spur economic growth and development.

Modigliani and Cohn (1979), termed the negative relationship between changes in interest rates and stock returns as a misunderstanding of the relationship between interest rates and its fundamentals. They maintained that investors do not appreciate the implications of inflation on the value of equity and thus they tend to misprice

stocks when expectations about inflation (and thus nominal interest rates) change. The negative relationship between interest rate and the stock prices exist because interest rate can influence the level of corporate profits which in turn influence the price that the investors are willing to pay for the stock through expectation of higher future dividend payments. A decrease in interest rate decreases the cost of borrowing and thus serves as an incentive for expansion. This will have a positive effect on future expected returns for the firm. Secondly, substantial amount of stocks are acquired with borrowed money hence an increase in interest rate would make transaction more costly.

Mwega et al (1990), and Macharia (1995), argue from a conventional economic theory, that higher interest rates have two separate effects on private savings that work in opposite directions. First their effect on savings is positive as people tend to save more and secondly they reduce current consumption. Montel (1995), recommends financial liberalization as it is expected to generate positive gains to economic growth and development. It leads to a positive real interest rate as the nominal interest rate increases from the government's set low levels. According to Montel, real deposit rates are found to have a positive impact on the savings, which in turn affects the levels of savings positively.

The financial system also gains efficiency in the intermediation process such that the interest spread between the lending and the deposit rate narrows. Mehran (1997), contends that an efficient financial system is critical not only for the domestic capital mobilization but also acts as a vehicle for gaining a competitive advantage in the global market. Financial reforms put a lot of emphasis on the abolition of interest rates and credit ceilings and the promotion of a competitive environment with reduced government control and ownership. Although achieving competitiveness does not

imply the non-existence of an interest rate spread, it has been noted that the size of the spread is much higher in a non-competitive market. This generally calls for strengthening of the regulatory and the legal framework to enhance the stability of the market. Bank interest rate spread could be interpreted as an indicator of the efficiency of the financial system. A well-developed efficient banking system is a prerequisite for saving and the investment decision necessary for rapid economic growth.

Korir (2006), took note of the fact that a high interest rate on lending by most financial institutions in the country has made it almost impossible for the poor to access such credit facilities and effectively negates on poverty alleviation. Korir further contended that for the first time borrowers can confidently face their banks and negotiate interest rates on their loans based on the new CBK rate. Muguchia (2012), studied the effects of flexible interest rate on growth of mortgages in Kenya, Olweny and Chiluwe (2012), on the other hand researched on the effect of interest rate on firms' performance. The above studies, which are more sector-oriented, mainly focus on the effect of interest rate on the respective sectors of the Kenya's economy.

Giovanni (2012), argued that small economies are affected by conditions in large countries in that a high interest rate experienced in a large country has the concretionary effect on the annual real GDP growth in the domestic economy. But this effect is centered in countries with fixed exchange rates. The effects on interest rate in small countries are through direct monetary policy channel and the general capital market or trade effect. A demand shock leads to short term rise in the real interest rate.

2.6 Summary of Literature Review

The theoretical literature on the effect of interest on economic growth is inconclusive. Given that interest rate determine the cost of capital, the variability of interest rate will therefore intuitively impact on the overall financing of the economy. Although some of the empirical studies appreciate the importance of interest rate on economic growth, others have tended to focus more on other factors like inflation, monetary policies, and demand and supply of money. Therefore a lot need to be studied on the effect of interest rate on economic growth. It is in light of this that the importance of this study cannot be overemphasized.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter sets out the various stages that were followed in completing the study. It involves a blueprint for the collection, measurement and analysis of data. Specifically it contains the following subsections; research design, target population, data collection instruments, data collection procedures and finally data analysis.

3.2 Research Design

Creswell (2003), defines research design as the scheme, outline or plan that is used to generate answers to research problems. Dooley (2007), notes that a research design is the structure of the research as it is the glue that holds all the elements in a research together. The research design constitutes the blueprint for the collection, measurement, and analysis of data. It is a plan and a structure of investigation so conceived as to obtain answers to research questions (Charemza and Deadman, 2007). The plan is the overall scheme or program of the research. The research design is the plan aimed at achieving the objective (Cooper and Schindler, 2011).

The research design employed in this study was descriptive in nature. Descriptive studies describe the characteristics associated with the subject population. According to Pride and Ferrell (2007), descriptive research design deals with answering the following questions: where, who, when, what and how related with a certain research problem, descriptive studies cannot decisively establish solutions to why a scenario is what it is. Descriptive studies are used to acquire information regarding the present status of the phenomena and to describe what exists with regards to variables in a scenario. Descriptive statistics is valuable and the most appropriate research design

since it brings out the relationship and causal effect of interbank lending interest rate on GDP.

A correlational study aims at examining the covariance between two or more variables. The reason for this choice was to determine if variables show a negative or positive relationship and the magnitude of the relationship given by the correlation coefficient between the variables being studied.

3.3 Data Collection

The study used quarterly averaged interbank lending interest rates obtained from the Central Bank of Kenya. Quarterly GDP values were obtained from the Kenya National Bureau of Statistics. The study used secondary data, regressed quarterly for a 15 year period starting from 2000 to 2014.

3.4 Data Analysis

Burns and Grove (2003), defines data analysis as a mechanism for reducing and organizing data in order to produce findings that require interpretation by the researcher. Data was analyzed using regression analysis and descriptive statistics. Regression analysis was employed to analyze data and establish the effect of interbank lending interest rate on economic growth in Kenya. Data analysis was done by the use of inferential and descriptive statistics where Correlation and regression analysis was used for the study covering a period of 2000 to 2014. Also determined in the study were the mean and standard deviation. Regression and correlation analysis were set up to establish the relationship between interbank lending interest rate and GDP in Kenya. The independent variable used in the analysis was the interbank lending rate whereas the dependent variable was the GDP. Correlation between the

two variables was examined so as to determine the relationship of interbank lending interest rate and GDP. The trend of the interbank lending interest rate was analyzed during the period selected and compared with the GDP on corresponding years using Microsoft Excel.

The results was interpreted based on the correlation coefficient where $\rho = +1$ indicates a perfect positive correlation, whereas $\rho = -1$ indicates a perfect negative correlation and finally $\rho = 0$ indicates no correlation between the two variables.

Large correlation coefficients indicate that one variable has a huge influence on the other variable or the relationship is causal or the variables being correlated have a number of causes in common. On the other hand, small correlations indicate that the variables are possibly not linearly related. A test for the significance of the correlation is added. This test is added to find out if the value is significantly greater than zero. 5% significance level will be used. The research made use Statistical Package for Social Sciences Version 20 (SPSS V20). The linear regression model adopted for the study is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Where,

Y = Economic Growth measured as a change in Gross Domestic Product (Dependent variable),

X_1 = Lending Rate (LR), inter-bank lending rate

ϵ = Stochastic Error Term.

X_1 represents the independent variable.

β_0 = Intercept or the regression constant and β_1 represent the regression coefficient for the independent variable whose value is to be determined. The regression coefficient indicates the relationship between economic growth as a dependent variable and the independent variable. The term ϵ represents the random term standing for any errors that could arise out of the random behaviors or measurement errors.

Included below is the operation definition of variables as well as how the researcher measured them.

GDP- Is the Gross Domestic Product of Kenya. In this study, GDP will be measured using the country's GDP values obtained from KNBS.

LR- Is the lending rates and more precisely the interbank lending rates. In this study quarterly weighted lending rates will be measured using its absolute values obtained from CBK.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter discusses and presents the analysis, results and findings of the study. The purpose of this study was to determine the effect of lending interest rate on economic growth (GDP) in Kenya. The study relied predominantly on secondary data. Regression and correlation analysis of the data were conducted to ascertain whether there is a positive or negative relationship between the lending interest rates and the selected economic indicator. The study was conducted on a 15 year period and secondary data for the period 2000 to 2014 was used in the analysis. Regression analysis was employed in analyzing the data.

4.2 Data Presentation

The findings of the study were as follows:

4.2.1 Descriptive Analyses

Table 4.2.1.1: Descriptive Statistics

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
GDP	60	.0005	.0389	.014039	.0102554
Interest Rate	60	.0281	.9130	.250371	.1505819
Valid N (list wise)	60				

Source: Research Findings

The study revealed that the mean of the seasonally adjusted Gross Domestic Product for the past ten years was 0.014039 and the mean monthly change in interbank

lending rate was found to be 0.250371. The minimum monthly change in the seasonally adjusted GDP and the interbank lending rates were 0.0005 and 0.0281 respectively

4.2.2 Correlation Analysis

Table 4.2.2.1: Correlations Coefficient

		GDP	Interest Rate
GDP	Pearson Correlation	1	-.112
	Sig. (2-tailed)		.043
	N	60	60
Interest Rate	Pearson Correlation	-.112	1
	Sig. (2-tailed)	.043	
	N	60	60

Source: Research Findings

The researcher conducted a Pearson Product Moment correlation. The findings on the correlation analysis between interbank lending interest rate and economic growth were a weak negative correlation of -0.112. This is an indication that there was a negative but weak relationship between changes in interbank lending interest rates and economic growth.

4.3 Regression Analysis

In this study, a regression analysis was conducted to test the influence among predictor variable. The research used statistical package for social sciences (SPSS V 20) to code, enter and compute the measurements of the regression.

Table: 4.3.1 Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.112 ^a	.013	.004	.0102781

a. Predictors: (Constant), Interest Rate

Source: Research Findings

The adjusted R squared is a coefficient of determination which tells us the variation in the dependent variable due to changes in the independent variable. From the above findings, the value of R squared was 0.004 a signal that there was a variation of 0.4% on economic growth of Kenya. The R correlation coefficient shown in the table above indicated that there was a negative relationship between the study variables.

Table 4.3.2: Analysis of Variance

ANOVA ^a						
Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	.000	1	.000	2.739	.043 ^b
	Residual	.006	58	.000		
	Total	.006	59			

a. Dependent Variable: GDP

b. Predictors: (Constant), Interest Rate

Source: Research Findings

From the ANOVA statistics in table 4.3.2 above, the output data which is the population parameters had a significance level of 4.3% which shows that the data is good for making conclusions on the population's parameters as the value of significance (p-value) is less than 5%. The F calculated at 5% level of significance was 2.739 and since F calculated is greater than the F critical (value 2.262), this shows that the model was significant. This is a sign that interbank lending interest rate affect economic growth.

Table 4.3.3: Regression Model Coefficients

Coefficients ^a						
Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	
	B	Std. Error	Beta			
1	(Constant)	1.012	.003		4.681	.000
	Interest Rate	.008	.009	.112	.860	.043

a. Dependent Variable: GDP

Source: Research Findings

Given the equation;

$$Y = \beta_0 + \beta_1 X_1 + \epsilon$$

Out of the research findings at hand, the established regression equation was as follows:

$$Y = 2.012 + -0.112X_1 + 0.0102781$$

From the above regression equation, it was revealed that holding the interbank lending interest rate constant, the economic growth would be 2.012%. A unit increase in interbank lending interest rate would lead to a decrease in economic growth of Kenya by a factor of 0.112.

4.4 Discussion of Findings

From the findings on the Adjusted R squared the study found that there was variation of 0.4% on economic growth of the country due to changes interbank lending interest rate. The study further revealed that there was a weak negative relation between the study variables. From the findings on the ANOVA the study found that the interbank lending interest rate influence changes in the economic growth of the country.

From the regression analysis the study found that there was a negative relationship between economic growth and interbank lending interest rate. From the findings on the correlation analysis, the study found that there was a weak negative correlation between interbank lending interest rate. The finding of this study concur with Alejandro's who in 1985 argued that financial liberalization can lead to instability and he questioned the ability of the financial markets to allocate credit efficiently. Fredrick (1986), explain that high liquidity preference requirement encourage the crowding out effect of the private sector and provides the government with the buffer of resources to finance her deficits. This leads to underdevelopment of the economy. He contends that high interest rate is an effective tool for curbing high inflation. Giovanni (2012), argues that small economies are affected by conditions in large countries) that is high large country's interest rate have the concretionary effect on economic growth of a domestic economy. But this effect is centered in countries with fixed exchange rates, the effects on interest rate in small countries are through direct monetary policy channel and general capital market or a trade effect, a demand shock leads to a short term rise in the real interest rate.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

In this chapter, a summary of discussion, conclusions and recommendations are represented. The first section of the chapter provides a summary of the purpose of the study, the research question, summary of the research methodology used and then the summary of the results and findings. The next section discusses the results and the findings of the study. The third part of the chapter illustrates the conclusions drawn from the discussions. Finally, the chapter concludes by providing recommendations guided by the research question, limitations of the study and finally suggestions on further areas of study.

From the analysis and data collected, the following discussions, conclusion and recommendations were made. The responses were based on the objectives of the study. The researcher intended to establish the effect of interbank lending interest rate on economic growth in Kenya.

5.2 Summary of Findings

The theoretical literature on the effect of interest on economic growth is inconclusive. Given that interest rate determine the cost of capital, the variability of interest rate will therefore intuitively impact on the overall financing of the economy. Although some of the empirical studies appreciate the importance of interest rate on economic growth, others have tended to focus more on other factors like inflation, monetary

policies, and demand and supply of money. It is in light of this that the importance of this study cannot be overemphasized.

The objective of the study was to establish the effect of interbank lending interest rate on the economic growth in Kenya. Secondary Data was collected from Central Bank of Kenya and Kenya National Bureau of Statistics and a simple linear regression analysis was employed in the data analysis. From the findings on the Adjusted R squared, the study found that there was variation of 0.4% on economic growth of the country due to changes in interbank lending interest rate. The study further revealed that there was a weak negative relationship between the study variables. From the findings on the ANOVA, the study found that the interbank lending interest rate influence changes in the economic growth of the country. The study also revealed that the established regression equation was

$$Y = 2.012 + - 0.112X1 + 0.0102781$$

From the regression analysis the study found that there was a negative relationship between economic growth and interbank lending interest rate. From the findings on the correlation analysis, the study found that there was a weak negative correlation between economic growth and interbank lending interest rate.

5.3 Conclusions

In conclusion the study revealed that increases in interbank lending interest rates negatively affect the economic growth in the country. It was found from the regression and correlation analysis that there was a negative relationship between economic growth and interbank lending rates in Kenya. The study further revealed

that increase in interbank lending interest rate reduces borrowing which in turn slows economic growth.

5.4 Recommendations

From the findings and conclusion, the study recommends that there is need for the government to control the country lending rates as it was found that lending rates negatively affect the economic growth of the country. The study also recommends that there is need for the CBK to make use of the conclusions in order to inform them the of prudent policy to adopt in balancing its role of monetary policy which is aimed at ensuring the stability of the Kenyan currency on one hand and accelerating growth through the provision of affordable credit facilities on the other hand.

The study is recommended for use by the investors and citizens as it provides them with the much needed insight into interest rates and their impacts on economic growth.

Determination of the effect of lending interest rate on economic growth in Kenya can provide financial managers and commercial banks' regulators with additional information, including information on how to improve the lending interest rates in a way that they enhances economic growth of a country. The commercial banks that provide credit facilities will find the study useful for maximizing profits from credit offerings as they will modify their products to best suit their customers' needs. The interest rate will ultimately affect the bank's lending rate, their profitability and therefore they need to have this information to perform their functions better.

5.5 Limitations of the Study

This study had its own unique limitations. In attaining its objective, the study was limited to 15 years period starting form year 2000 to year 2014. Secondary data

collected from the Kenya National Bureau of statistic and Central banks of Kenya was also limited to the degree of precision of the data so obtained. While the data was verifiable since it came from the CBK and KNBS publications, it nonetheless could still be prone to shortcomings. The study was limited to establishing the effect of interbank lending interest rate on economic growth in Kenya. A longer duration of the study which would have probably given a longer time focus and a broader dimension to the problem would have captured periods of various economic changes such as booms, recessions, depression or even recovery.

5.6 Areas for Further Research

The study sought to establish the effect of lending interest rate on economic growth in Kenya. While this was done, it recommends a study to be done on the relationship between budget deficit and foreign direct investment in Kenya. In addition there is need for a study to be conducted on the relationship between budget deficit and domestic borrowing.

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APPENDICES

Appendix 1: Data Capture Form

Year	Value (Ksh.) of GDP per Annum	Quarterly	Quarterly Value of GDP (Ksh.)	Quarterly Value of Interbank Lending Interest Rate
2000		Q1		
		Q2		
		Q3		
		Q4		
2001		Q1		
		Q2		
		Q3		
		Q4		
2002		Q1		
		Q2		
		Q3		
		Q4		
2003		Q1		
		Q2		
		Q3		
		Q4		
2004		Q1		
		Q2		
		Q3		
		Q4		
2005		Q1		
		Q2		
		Q3		
		Q4		

2006		Q1		
		Q2		
		Q3		
		Q4		
2007		Q1		
		Q2		
		Q3		
		Q4		
2008		Q1		
		Q2		
		Q3		
		Q4		
2009		Q1		
		Q2		
		Q3		
		Q4		
2010		Q1		
		Q2		
		Q3		
		Q4		
2011		Q1		
		Q2		
		Q3		
		Q4		
2012		Q1		
		Q2		
		Q3		
		Q4		
2013		Q1		
		Q2		
		Q3		
		Q4		

2014		Q1		
		Q2		
		Q3		
		Q4		

Appendix II: Data

Year	Value (Ksh.) of GDP per Annum	Quarterly	Quarterly Value of GDP (Ksh. Million)	Quarterly Value of Interbank Lending Interest Rate
2000		Q1	243,430	9.25 %
		Q2	242,026	7.02 %
		Q3	243,697	8.35 %
		Q4	246,909	9.43 %
2001		Q1	248,880	11.03 %
		Q2	259,939	10.03 %
		Q3	258,558	11.14 %
		Q4	252,726	10.33 %
2002		Q1	261,146	10.04 %
		Q2	256,814	8.79 %
		Q3	251,648	7.72 %
		Q4	255,660	8.37 %
2003		Q1	257,725	7.44 %
		Q2	259,003	4.39 %
		Q3	268,440	0.47 %
		Q4	269,239	0.74 %
2004		Q1	275,819	1.00 %
		Q2	274,369	1.69 %
		Q3	275,246	2.19 %
		Q4	281,902	5.88 %
2005		Q1	284,256	8.33 %
		Q2	293,422	7.98 %
		Q3	296,165	7.77 %
		Q4	297,932	7.80 %
2006		Q1	296,974	7.68 %
		Q2	310,314	7.10 %

		Q3	317,766	5.81 %
		Q4	318,415	6.20 %
2007		Q1	329,325	6.50 %
		Q2	335,209	6.97 %
		Q3	336,345	7.35 %
		Q4	336,505	7.07 %
2008		Q1	328,746	7.06 %
		Q2	341,548	7.37 %
		Q3	346,238	7.23 %
		Q4	343,147	6.77 %
2009		Q1	702,855	5.67 %
		Q2	711,723	4.81 %
		Q3	722,388	3.25 %
		Q4	726,699	2.88 %
2010		Q1	739,896	2.76 %
		Q2	761,606	1.92 %
		Q3	790,837	1.40 %
		Q4	809,998	1.06 %
2011		Q1	818,659	1.20 %
		Q2	817,703	5.29 %
		Q3	824,059	10.12 %
		Q4	835,458	21.87 %
2012		Q1	846,296	20.48 %
		Q2	852,565	16.80 %
		Q3	864,530	9.90 %
		Q4	877,763	7.37 %
2013		Q1	905,394	8.01 %
		Q2	926,474	7.40 %
		Q3	902,101	8.11 %
		Q4	906,255	10.14 %
2014		Q1	943,516	8.59 %
		Q2	981,622	7.25 %

		Q3	950,257	9.10 %
		Q4	961,981	6.83 %

Source: GDP Values from KNBS; Interbank Lending Rates from CBK.