THE EFFECT OF COMMERCIAL BANK LENDING INTEREST RATE ON ECONOMIC GROWTH IN KENYA

BY

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DECLARATION

I, the undersigned declare that this research project is my original work and that it has not been submitted for any course qualification in this or any other university or institution for academic credit.

Signature……. Date…….

Ohando Mercy Adongo **D63/85569/2016**

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

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DEDICATION

I would like to dedicate my research project to my family for their love and support during this study.

ABSTRACT

Banks have the responsibility of determining set the base rate and therefore shape the interest rate in Kenya, which is equivalent to the CBK rate. (Panizza & Presbitero, 2014), argue that interest rate landscape is vital in the profitability of any business. The CBK influences the performance of all sectors by setting the bank rate and monetary policy. Many of the studies that have been undertaken have concentrated on a given sector. There have been insufficient studies conducted on the economy at large. This research focuses on satisfying the gap that prevails. Its goal is to investigate the effect of lending interest rate on economic growth in Kenya and the empirical studies that assist in responding to the research objective. I obtained data from the KNBS and from the Central bank of Kenya for duration of 10 years ranging from 2008 to 2017 and in the same light; the data was regressed quarterly to assist in addressing the concerns. The research indicated that there is an indirect correlation between interest rate and the economic growth. Apart from the main variable under study, the lending interest rate, the study incorporated other variables like exchange rate and inflation rate. The study went further to determine their relationship to economic growth. It is critical for the government establish policies that regulate the lending interest rate since it is a significant factor in determination of economic growth. The study also investigated the behavior of exchange rate and inflation rate in relation to economic growth.

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LIST OF ABBREVIATIONS

ANOVA……....Analysis of Variance

CBK…….....Central Bank of Kenya

CBR…….....Central Bank Rate

GDP……...Gross Domestic Product

KNBS…….....Kenya National Bureau of Statistics

LIR…….....Lending Interest Rate

RER…….....Real Exchange Rate

SPSS……....Statistical Package for Social Sciences

CHAPTER ONE: INTRODUCTION

1.1 Background to the Study

The lending charges provided by credit companies determine the decision on whether to save or spend their money. When interest rates escalate, people tend to save more, which is because they intend to delay their today's spending to a future date. Moreover, when interest rate augments, people gravitate towards less borrowing because it is expensive to take loans (Panizza & Presbitero, 2014) posit that. When the interest rate is high, the spending rate diminishes. Additional funds will divert into saving, and there will be less borrowing on investment and consumption. Contrarily, if interest rates are less, people and enterprises will amass less, as their gains on deposits are minimal. They will tend to borrow excess because the price of borrowing is affordable (Lavoie, 1996). Consequently, there will be increased spending thus improving the economy.

Several economists have developed theories to explain the effect of the lending interest rate on economic growth in an effort to help economies spur growth. This study has expounded on several theories including loanable funds theory, classical theory, Keynes liquidity theory, and fisher effect. These theories have been helpful in explaining the different cycle stages of the economy such as the boom and the depression. The theories have also assisted individual citizens to invest wisely and appreciate more the efficiency of the central bank in regulating the lending interest rate. The theories also come in handy in assisting the government to come up with better monetary policies that will stimulate economic growth.

1.1.1 Study Context

Back in 2011, the CBK restrained the growing inflation in the nation by increasing the CBR from 7% to 18%. Consequently, there was a decline in the actual economic growth 3.5% to 1.9% (Osoro, 2016). The decline was despite the presence of rain which usually boosts economic growth.

Kenya was declared a lower middle income nation, with its economy 25% greater than the originally anticipated after the rebasing of its Gross Domestic product in September 2014. The country's economy is anticipated to have augmented by 6% in 2015 (Idalu, 2015). The Kenyan economic update indicates that the country is becoming one nations in the continent growing very fast and has the potential to become one of the rapidly flourishing economies in East Africa, as a result f reduced energy costs, manufacturing as well as other industries. The pace of the increment is anticipated to be supported by a steady macroeconomic atmosphere, perpetual investment in infrastructure, enhanced business landscape, and international trade integration.

1.1.2 Lending Interest Rate

LIR is the highest rate of interest expensed on unsecured loans by financial institutions to private individuals and companies. It is the cost of borrowing money from a financial institution. The LIR is denoted as a proportion of the cumulative value of loan. It is the cost that a borrower incurs to use resources immediately. Dupas & Robinson (2013) elaborate that it is the cost that associated with prevailing obligations on assets relative to impending claims on assets. The LIR has a direct relation to economic

Fluctuations in interest rate have a significant effect on savings and consumption conduct of families, capital amassment behaviors of enterprises and on the investment allocation of local and international traders in the fiscal and exchange rate markets. These fluctuations impact the

total demand and total supply levels in a country, which may happen instantly or over a range of 2 years. These variations affect what economic agents anticipate and plan for their future as well as the nation's economic development. The market forces of demand and supply determine the equilibrium interest rate, which aligns with the classical economic theory. The key factors shaping interest rates encompass the level of inflation, CBK's monetary policy, the period of credit, and the money supply (Low & Chan, 2017).

1.1.3 Economic Growth

Economic growth refers to the enlargement in the ability of an economy to generate products, about one period to the next. Conventionally, the total economic development is assessed using the gross domestic product, or gross national product, though there are other standards employed. Regularly, but not automatically, aggregate profits in productivity match with the heightened average marginal productivity, which implies the average laborer in a country grows to be more productive. Economic growth is measured in terms of GDP. GDP refers to the total sum of final goods produced in a state in a year. GDP is measured using expenditure or income approach. The expenditure approach takes into account the summation of household spending, firms' spending, and government spending. Usually, it is evaluated in real or nominal terms. GDP is usually measured regarding dollars and not regarding goods and services, which is mainly because though an economy can produce additional products and service, some are worth more than others. Value is also a consideration in economic growth, not only quantity (Sinn, 2012).

Economic growth is facilitated by the increase in gross capital formation, technological progress, labour productivity. Government uses the proceeds from taxes to invest in capital formation such as infrastructure, which is critical for the growth of the economy (Pollin & Zhu, 2006). Where the revenue is not adequate, governments rely on loans from both domestic and external sources

to finance their programs. These loans have to be repaid often with interest and the investments should earn income that is adequate to cover the interest otherwise the government will be forced to divert large amounts of tax revenues to cover the debt servicing, which negatively affect its ability to implement projects that are critical for the economy.

1.1.4 Interest Rate and Economic Development

The Austrian School of Economic Thought theory was investigated rigorously regarding its ability to offer interpretation of the United Kingdom Business Cycles measured by GDP fluctuations from 1990 to 2006 (Whittle, 2012). The Austrian Theory of the Business Cycle, originally developed by quite possibly the greatest economist ever, Ludwig von Mises. The results indicate that there is an understanding to be obtained from a research of United Kingdom Business Cycles from an Austrian Economic Framework. The theory explains why the economy seems to go in cycles from boom to bust and from depression to boom. The more people save and make their money available for banks to lend out to borrowers, the lower the interest rate will be as banks compete with each other by offering a lower interest rate to lure borrowers. The lower interest rate is partly reflective of the fact that savers have refrained from consumption, thus making the wealth they would have consumed, available to borrowers.

Modigliani (1944) examined some of the critical theories of interest and money such as Keynesian theory and to develop, ultimately a more general theory that will take into account the important contributions of each analysis as well as the part played by different basic hypotheses. The key goal of conducting the study was to evaluate the contribution of liquidity preference in Keynesian model. Liquidity preference theory posit that investors are interested on an increased interest rate on assets with chronic maturities, which inherently has higher risk, because all other variables being constant, investors prefer more liquid assets. The study found out that the long-

term equilibrium rate of interest is the rate at which makes the demand for money to hold indefinitely elastic. The economic theorist is coerced to acknowledge that under particular scenarios the rate of interest is determined explicitly by institutional factors.

1.1.5 Lending Interest Rate and Economic Development in Kenya

Governments establish regulation on the bank LIRs to prevent usury. Presently, due to the long duration of inflation, instances of high LIRs, and plunging economic growth, usury ceilings is enforced in many different nations including Kenya. Kenya adopted an interest cap on commercial banks of 14.5% to shield borrowers from unreasonable lending patterns and avail loans at affordable rates (Ngugi, 2001).

The interest rates in Kenya were fairly steady before the 1990s because of the mixture of bank policies and price policies in the nation. After 1992 general elections, changes in interest rates became volatile (Rachael & Moses, 2017). There was an acute increase in interest rate for the most of 1993 in conjunction with uncontrollable inflation. The borrowing rate juggled between 12% and 16% to September 2011 resulting in a massive increment in borrowings to the private organizations, government yearning for loans, and development in the country. Exaggerated lending interest rates in Kenya have demotivated perennial investment and inhibited economic development. The private sector is discouraged from borrowing with nominal interest rates lying between 20-30%. Moreover, the 5% variance between the lending rate and the deposit rate is much more significant than what other equivalent economies implement.

The initial review conducted in 1974 showed that the real interest rate was negative as a result of the severe inflation. Inflation decreased during the coffee boom, and interest rates heightened due to the expansionary fiscal policy. The impact of this became apparent when borrowing rates became positive in real terms in 1979 (Belloumi, 2010).

1.2 Research Problem

Interest rates influence both savings decisions and investment decisions. It is simple to venture into capital markets and fund a new project when the interest rates are low, but the same opportunity may not be lucrative in the long run if the anticipated interest rates increase. Consequently, this influences the type of commodities available in the economy, the jobs provided and how investments are organized. The bank LIRs play a vital role in the economy (Osoro, 2016). Therefore, it is important to study the effects of the LIRs in economic growth to enable investment decisions that will boost economic growth.

Over the previous 20 years, commercial banks in Kenya have been favored with an interest rate spread of roughly 11.4% on average. The bank lending rate in the country declined from 13.68 percent in November to 13.64 percent in December of 2017 (Maana, Owino & Mutai, 2008). The average bank lending rate was 16.31 to 2017 from 1971. During this period, the country recorded the highest lending rate of 32.28 percent in April 1994 and the lowest record in January 1972 of 9 percent. The CBK has maintained its interest rate of 10 percent for eight consecutive times. The main motivation was to control inflation to spur economic stability and growth in the betterment of the business environment. The average interest rate in Kenya from 1991 to 2018 has been 14 percent attaining its highest peak of 84.67 percent in July 1993 and it's lowest of 0.83 percent in September of 2003. The dynamic bank LIRs experienced in Kenya spurred varied economic growth. It is important to study the effects of the LIR on economic growth in order for the government to establish proper regulations that will induce positive economic growth.

Shawn (2009) sought to investigate financial development, bank ownership after India governmentalized its well-established private financial institutions. This encouraged diverse bank ownership practice across various regions, enabling rational acknowledgement of the power

of financial institution ownership on financial progression, lending interest rates, the standard of intermediation in addition to job creation and investment. During the period of financial constraint, credit markets with governmentalized financial institutions faced expedited credit growth. Nationalization resulted in reduced borrowing interest rates, reduced standard intermediation, and may have dwindled employment returns in trade and services. Growth lending targets were achieved, but there was no significant effect on the actual economy.

Ng'etich (2011) explored the effects of the interest rate spread on the level of non-performing assets in Kenya. Ng'etich incorporated a descriptive research design in his study in which he focused on all the commercial banks in Kenya that were in operation in 2008. The banks were 43 in 43 in counting. The study employed questionnaires to get responses from both primary and secondary sources. The study concluded that the interest rate spread impacts significant assets in banks as it inflates the cost of borrowings expensed on borrowers. Regulations on interest rates have significant effects on assets non-performance, therefore, regulations influence the interest rate spread in financial institutions are instrumental in averting moral hazards related to non-performing assets. The research suggests that financial institutions in the country should and fix interest rates potently because interest rate regulations can modify the level of interest rates as well as non-performing assets. The proposed study seeks to establish the effect of the bank LIRs on economic growth in the country. The research question of the study was what is the effect of the lending interest rate on economic growth in Kenya?

1.3 Objective of the Study

To establish the effect of the commercial lending interest rates on economic growth in Kenya.

1.4 Value of the Study

The findings of this study will be of benefit because it will offer knowledge towards accomplishing macroeconomic goals of Kenya vision 2030, the nation's economic framework for perrenial development in the nation (Osoro, 2016). The research will be instrumental to CBK in bettering efficacy of its monetary policies. The findings of the research will enlighten CBK of the suitable policies to implement in its regulatory roles that are steered at ascertaining the strength of the country's exchange rate on one end and increasing development through the offering of price-friendly credit services on another end.

The financial institutions that issue credit will benefit from the research for purposes of optimizing profits from lending facilities, as they will adjust their commodities to align the interest of their clients. Eventually, the lending cost will influence the financial institution's lending rate, their performance and hence the relevance of this study to perform their roles accordingly. Both scholars and researchers will benefit from the study as a guide for impending studies and as a guide for forming conclusions in similar researches (Ngetich, 2011).

The government regulates the money circulating in the economy using monetary policies like adjusting the lending rates that the Central Bank charges the commercial banks (Low & Chan, 2017). The government increases the LIRs for commercial banks when there is too much money circulating in the economy. The commercial banks will, in turn, increase the lending rates to its customers. Conversely, when there is little money flowing in the economy, the government through the Central Bank reduces the LIR to the commercial banks. As a result, commercial will charge a lower LIR, therefore, cause more customers to borrow more.

Investors should be able to understand the different strategies that the government uses to know the correct time to make investment decisions. For example, with the interest capping that was recently introduced in Kenya, investors should comprehend that and take advantage of the situation. Before interest rate capping, commercial banks used to enjoy an interest spread of up to 11.4% discouraging many people from seeking loans (Maana, Owino & Mutai, 2008). With the introduction of the new policy of LIR maintained at 14%, investors can acquire loans for economic activities.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter focuses on the theories of interest rates, the outcome in economic development as a result of the fluctuation in interest rates and empirical review. Also, it highlights the discrepancies identified from the analysis of past as well as the present state of study in the field.

2.2 Theoretical Framework

This paper delves into several theories: loanable funds theory, the theory of pricing, the classical theory of interest rate, Fisher effect and Keynes liquidity theory.

2.2.1 Loanable Funds Theory

Borrowers pay interest rate because of using somebody else's finances for a defined duration and Dennis Robertson posit that the dynamics of supply and demand establish this cost. Dennis Robertson formulated the theory in the 1930s (Bengoa & Sanchez-Robles, 2003). According to neoclassical economist loanable finances. The loanable funds market comprises of schemes and processes to conduct transactions between borrowers and lenders.

Households and firms form the fundamental constituents of the demand for loanable funds. Families demand loanable funds because they choose present commodities to the same quantity of future products. Individuals tend to depict positive rate of time preference, which implies individuals prefer goods obtainable immediately rather than those goods available in the far future. The tendency is not shocking since the world is filled with a lot of uncertainty of substantial value (Rachael & Moses, 2017). Consumers are also willing to pay for earlier utilization of durable products such as home theaters.

Firms or entrepreneurs take debts because they are a source of capital. Capital is required because of its productivity. Money renders other factors productive. In simple terms, businesses acquire an obligation to invest in capital products. Entrepreneurs sought loanable funds to venture in capital goods and fund roundabout methods of production (Borensztein,, De Gregorio & Lee, 1998).

Investors can profit a lot from investing in roundabout methods of production even if they pay interest to buy equipment, buildings as well as other resources needed in the production process. Roundabout methods of production are more efficient than simple means of production. Therefore, a rise in interest rate results in a surge in the cost of capital (Demirgüç-Kunt, & Huizinga, 1999).

Households and investors would demand more loanable funds when interest rates are low. Similarly, some business endeavors that would be lucrative at a reduced interest rate will not be so at increased rates. There is an indirect correlation between the demand for loanable funds and the rate of interest (Zeller, 1994).

2.2.2 Keynes Liquidity Theory

Keynes liquidity theory developed in 1936 implies that an investor prefers a higher percentage of interest on securities that have an extended maturity period, which exerts higher risk, because all other variables being constant, individuals desire cash or highly liquid resources. Liquid assets are simple to sell rapidly for the full cost. The liquidity preference theory suggests that short-term bonds or investments carry lower interest rates because investors are risking minimal liquidity compared to long-term securities (Demirgüç-Kunt, & Huizinga, 1999).

The three motives that Keynes identified enlighten people at to why people would want to have money and therefore the urgency to have it. These motives affect the demand for money and therefore the banks will adjust the lending rates based on the demand accordingly maximize profits (Hammond, 1991). Supply represents the total goods or services available in the market, which comprises of physical products like vehicles, or non-physical products like booking an appointment with a consultant. At any given time, the supply is definite (Demirgüç-Kunt, & Huizinga, 1999).

Demand relates to the markets yearn for the materials. At any given moment, there is limited demand. The demand changes based on different variables like availability of products, affordability (Pollin & Zhu, 2006). When the supply and demand are at a balance, the economy is at the equilibrium point. If the price surpasses the equilibrium, consumers may shy away from the product. Conversely, if the cost is meager, the demand may be excess than the supply available (Pollin & Zhu, 2006).

2.2.4 Classical Theory

The premises of this hypothesis is that the economy is balances itself. According to classical proponents, the economy is always able of attaining the reasonable position of real GDP, which is achievable when the resources in a country are efficiently used. Although situations may arise to make the that the economy may have a small deviation from the real GDP either in excess or a deficiency, self-adjustment processes occur in the macroeconomic environment that operates to readjust the market back to the balanced level of real GDP. The pioneers of classical theory include Adam Smith and Jean Baptiste Say in the late 18th century and early 19th century (Zeller, 1994).

Low & Chan (2017) highlighted that the classical model assumes that interest rates, compensations, and costs are malleable. Says Law stipulates that when a nation achieves a specific position of real GDP, it also have the potential of providing the returns required to buy that level of real GDP. In simple terms, the country has the potential or the market of all the output that its workforce and companies can produce. Therefore, the economy can always attain the natural level of real GDP.

It is difficult for an economy to attain the natural level of real GDP. Although the finances are obtained from generating a given level of real GDP, there is no assurance that all income will be used. Some people may choose to save the income. The saved income is not used to buy consumption products suggesting that the demand for the commodities exceed supply. If the cumulative demand does not surpass total supply because of total savings, suppliers will decrease their production and lower the number of resources employed (Udoka & Anyingang, 2012). When there is underemployment of resources in an economy, the equilibrium quantity of real GDP reduces its natural level. If there is aggressive saving, the economy may not attain the natural level of real GDP.

2.2.5 Fisher Effect

Fisher is an economic theory that stipulates that there is a direct correlation between inflation and interest rates. The method developed by Irving Fisher in 1930 proposes that the real interest rate is same as the nominal interest rate less the anticipated inflation (Panizza & Presbitero, 2014). Hence, real interest rate plunges as inflation amplifies, except if both inflation and nominal rates are both equal.

The nominal rates are the financial gains a person obtains when they deposit money. The real interest rate takes into account the purchasing power contrary to the nominal interest rate. The nominal interest rate reflects the actual interest rate that depicts the financial increment increased over time to a given sum of money owed to a monetary lender. The real interest rate is the sum that represents the purchasing power of the loan as it matures over time. For instance, if an adjustment in central bank's economic regulations would boost the economy's inflation by 10 percent, then the nominal interest rate of the country would change and amplify by the same margin of 10 percent (Sinn, 2012). In this regard, the assumption may be that a difference in money supply may not impact the real interest rate. However, money supply, directly affects the changes in the nominal interest rate.

2.3 Determinants of Economic Growth

Control Variables are those variables that also affect the dependent variable although they are not the focus of the study (Li & Liu, 2005). In this research, two control variables were identified although there are other: inflation rate and exchange rate. Other control variables include budget deficit. Inflation rate and exchange rate were chosen in this study because of the ease of collecting data as well as analysis.

2.3.1 The lending Interest Rate

Interest is the additional money that is paid to a bank or financial institution for borrowing finances from them, for an individual borrowing. In simple terms, when settling a debt, the borrower pays the principal amount plus the lending charges to the credit institution for using their finances.

The lending charges that is provided by credit companies influence people's choice on whether to save or expend their money. When interest rates escalate, people tend to accumulate extra money, which is because people intend to delay their today's spending to a future date. Moreover, when interest rate augments, people gravitate towards less borrowing because it is expensive to take loans presently and implies lower spending in the latter date when the loans mature. Companies work similarly, as interest rates escalate, the cost of running a business also rises which lowers the incentive for borrowing.

The tendency by borrowers and savers impact investment and consumption decisions and eventually cumulate persistent demand flow of resources from savers to investors and general economic endeavors. Spending rate will be reduced if the interest rate is high. Additional funds will divert into saving, and there will be less borrowing on investment and consumption. Contrarily, if interest rates are less, people and enterprises will amass less as their gains on deposits are minimal. They will tend to borrow excess as the price of borrowing is affordable. Consequently, there will be increased spending thus improving the economy.

2.3.2 Inflation Rate

When the cost of food, energy, products and other services increases, the economy is affected. Inflation refers to a situation whereby the prices of commodities keeps increasing, therefore, influencing the cost of living, borrowing money, establishing ad running a business, corporate and government bonds and any other aspect of the economy (Belloumi, 2010).

Inflation can be both useful and detrimental to the economy. If inflation proves to be immoderate, then it could hurt the economy whereas when it is moderate, the economy could succeed. With moderate inflation, employment grows, people have enough money to purchase goods and services, reduced inflation and the economy grows. As prices rise, the currency

depreciates because the purchasing power reduces (Sarel, 1996). Low inflation may assist an economy to rise from a recession.

Idalu (2015) evaluated how the inflation rate impacts economic development in Nigeria. In the study, tri-variate vector autoregressive approach was implemented, integrating unemployment rate into the model for evaluation. The study captures the system trade-off between targeting low unemployment and managing inflation at a low rate as illustrated by Phillip curve theory. The findings established the dynamics of the correlation within the structure implying that the presence of one-period temporary shock to the consumer level indicates that there is a gradual positive temporary influence on the economy of Nigeria. However, this extends into an adverse and long-standing shock after half a decade. When the government is establishing the inflation-goal policy, the core authority should adopt a perennial structural perception of the economy and the advantages of its policies.

2.3.3 Exchange Rate

The exchange rate can affect economic development and economic growth rate can affect exchange rate. However, with the interaction of other variables, there is no a direct relationship. A strong exchange rate is normally an indication of economic wellness. In the end, an appreciating exchange rate often takes place in nations with low inflation, enhancing competitiveness and a robust economic success (Basirat, Nasirpour & Jorjorzadeh, 2014). A strong exchange rate can sink economic development because it makes exports pricier, therefore, reducing the demand for exports. It makes imports cheaper hence increasing demand for imports, therefore, diminishing demand for locally produced commodities, which consequently lowers aggregate demand. Moreover, to maintain currency appreciation, the government needs to keep the interest rates elevated. High-interest rates negatively affect economic growth. Presently,

developed nations have a fixed exchange rate, rendering them uncompetitive. The inflexibility in foreign exchange is a key factor is slowing down economic growth (Sidrauski, 1967).

A study about the effect of exchange rate changes on economic growth in particular developing nations over a period extending from 1986 to 2010 was conducted in 2014 (Basirat, Nasirpour & Jorjorzadeh, 2014). The impacts of factors like inflation, production of the previous periods, trading volume on economic progression have been analyzed as well. The findings analyzed by acquiring panel data from 18 economies indicate that the impact of financial growth on economic development as well as the influence of exchange rate fluctuation on economic development are negative and consequential. In Iran the provision of credit facilities is normally enforced to the banking system by the government, thus the government's influence on issuing banking services should be squeezed. The credit transfer to non-performing entities and economic tasks should be deterred and diverted to producing activities by formulating and enhancing a competitive surrounding in the banking sector.

2.5 Empirical Studies

The effect of interest rate on economic development in Islamic and non-Islamic countries is a study that was carried out by two scholars from Nigeria (Mustaq & Siddiqui, 2016). The main goal of the study was to examine the effect of the interest rate on saving and in Islamic and to compare the findings with the respective effects in non-Islamic countries. The method integrated the random effect method and generalized method of moments (GMM) model for saving and investment. The study shows that although the interest rate is imperative in savings and investments decisions, religious variables also are important. Rather than focusing on the interest rate in their economic mechanisms, Islamic nations should consider increasing per capita income, decline payments received and national spending and better employment conditions in

their countries to elevate savings. In addition, they should try to reduce the LIR and inflation to encourage investment.

Georgievska (2011) undertook a study in Greece to determine the catalysts of LIRs and interest rate spreads. In his study, he also identified the effect of the LIR on economic development. The findings reveal that the borrowing rates are predominantly shaped by the size of the bank and the market share and to some degree by deposit rates and non-performing loans. The study used panel estimation to evaluate the factors that determine lending rates and interest rate spreads in Greece. The information used is mainly determined by the empirical and theoretical literature. The interest rate policies enforced by the domestic financial institutions was for a long period evaluated as an approach of significant and non-stable interest rates. However, the acknowledgment of the source of the sustenance of enormous borrowing rates and broad interest spreads was determined based on qualitative evaluation.

The effect of debt management to the budget of Kenya was explored by three university students from Kenyatta University (Maana, Owino & Mutai, 2008). The primary catalyst in the economic development in the period include an impeccable performance of manufacturing, restaurants, agriculture, and financial service industry and transport and communication sectors. The real GDP augmented from 4.6 percent to 7.0 percent from 1996 to 2007. The research design used in the study was descriptive cross-sectional. In this research design, no variables are manipulated in the external environment. In the study, they found out that the domestic interest payments have been increasing but at a gradual rate in relation to the rise in the revenue generated by the government, GDP, and total expenditure. The domestic interest payments as a percentage of turnover declined from 18.0 percent in the financial year 1995/96 to 9.9 percent in the fiscal year 2006/07.

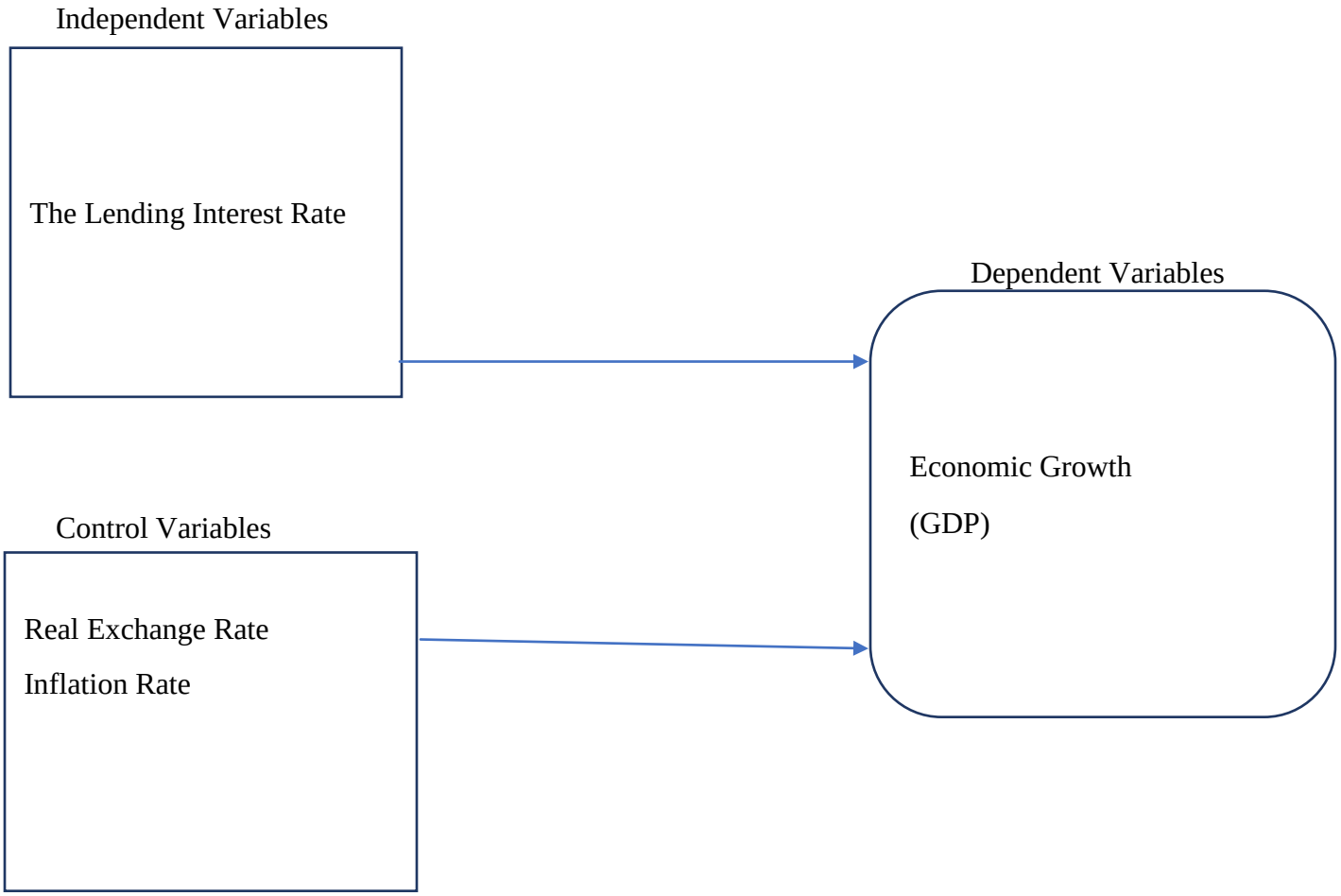
Ngugi (2001) studied the determinants of the interest rate spread for the banking industry in Kenya. The study incorporated panel estimation method to analyze the determinants of interest rate and interest rate spread in Kenya. In the study, he found that the minimum and maximum floors for the pre-liberalization period resulted in maximum interest rate spread. The evolution of the spread shows financial regulation practices where extensive economic policies partly elevated inflation. The interest rate spread is influenced by the size of the bank as well as the market share that they command. In addition, to some extent, it is influenced by deposits and non-performing loans. Consequently, monetary authority reacted by constricting the fiscal system and increasing the interest rates.

2.6 Summary of the Literature Review

The theoretical literature done to establish the effect of the lending interest rate on economic growth is insufficient. The fact that the cost of borrowing money influence cost of capital, the alterations in the cost of money will thus naturally affect the funding of a country (Belloumi, 2010). Despite the fact that some empirical researches acknowledge the relevance of interest rate on economic development, most have concentrated on other variables such as monetary policies, inflation, budget deficit, exchange rate and demand and supply of money. Consequently, there is need to further explore this area of research. Based on this reasoning, the value of this study cannot be overemphasized.

2.6 Conceptual Model

Figure 2.6.1: Conceptual Model of the Effect of the Commercial Lending Interest Rate to Economic Growth in Kenya



The figure 2.6.1 depicts the conceptual framework and the interaction of the variables under study. The conceptual framework provides a pictorial view of the interplay between the variables under research that is dependent variable independent variable and control variables. The lending

interest rate is the independent variable; economic growth is the dependent variable while the inflation rate and the exchange rate are the control variables.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

In this chapter, the paper will mainly focus on the stages that were adopted in finishing the study. It comprises of a plan for the gathering, measurement, and analysis of data. To be precise, this section covers research design, population, sample, data collection tools, data collection approaches and lastly, data analysis.

3.2 Research Design

Research design is the overall approach that is picked to cement the various segments of the research in a sensible and coherent fashion thus ensuring that the issue will be effectively approached. The research design incorporated in the study is the case study. A case study is an exhaustive research of a particular research problem instead of an extensive comparative enquiry or an all-encompassing statistical survey. Usually it is used to narrow down a very extensive field of research into a single or a few researchable examples. In this study, the center of focus will be the government of Kenya making it the entity to study. The research problem of this research is the investigation of the effect of the LIR on the economic growth in Kenya. The study will be determining and analyzing the effect of LIR on the economic growth in Kenya making the government of Kenya the case study. The economic growth in Kenya will be measured using GDP values obtained from KNBS website. The study chose KNBS website as the entity to obtain

data from because KNBS is an organization that purposely deals with collecting, analyzing and disseminating statistical information in Kenya making it more dependable.

3.3 Population

The government of Kenya is the unit of analysis that forms the basis of the study. Unit of analysis is the primary entity that is being evaluated in a study. In this study, the government of Kenya is the unit of analysis because the paper is investigating the behavior or fluctuation of economic growth in Kenya with respect to changes in the LIR. Therefore, the study will be performing a case study on the government of Kenya in an effort to establish the effect of LIR on economic growth. Economic growth will be measured using the monthly GDP values available in CBK website as well as KNBS.

3.4 Data Collection

The study will be dealing with secondary quantitative data compiled from the CBK for the last ten years from 2008 to 2017. Information about gross domestic data will be quarterly analysis obtained from Kenya National Bureau of Statistics official website for the previous ten years. Specifically, the study will be interested in obtaining quarterly GDP growth rate from the KNBS website as well as quarterly inflation and foreign exchange rate from KNBS.

Kenya National Bureau of Statistics and the CBK are reliable sources because they are government agencies. The CBK is responsible for regulating the financial institutions operating in Kenya while the Kenya National Bureau of Statistics is responsible for gathering, compilation,

evaluation, broadcasting and distribution of statistical materials for public utility. Getting information about the GDP will be straight from the KNBS website since it is a reliable source. The monthly LIR will also be extracted from CBK website.

3.5 Diagnostic Tests

Detects the different types of bias that may be present in research with the goal of evaluating the diagnosis.

3.5.1 Unit Root Test

Unit root test is conducted to test the stationarity of the data to avoid making spurious and deducing a misleading conclusion from nonstationary data. The test will be done using Augmented Dickey Fuller Test (ADF). A series with a unit root will give a spurious estimate if methods like OLS are used. The series will require to differencing by order (k) to make it stationary. A series with no unit root is differenced to order (0) and has no issues in estimation.

3.5.2 Multicollinearity Test

Multicollinearity occurs when there is a condition where there is a lot oof interdependency in the independent variables. Consequently, it is considered a disturbance and if it exists, it may render the data gathered unreliable. It can be determined by establishing variance inflation factor.

3.5.3 Normality Test

Normality test is important in determining if a group of data is parallel to normal distribution and to establish the probability of a random variable underpinning the data set to be normally

distributed. The study will use Kolmogorov-Smirnov and Shapiro-Wilk test to determine normality of the data sets in conjunction with graphical representations to support the results by obtained from the two tests.

3.5.4 Homoscedasticity Test

Homoscedasticity refers to a state in which the error term is similar to al figures of the independent factors. The premises of homoscedasticity is pivotal to linear regression models. assumption of homoscedasticity is central to linear regression models. The Breusch-Pagan and Koenker Test Statistics are used in this study to test for homoscedasticitiy.

3.5.5 Autocorrelation Test

Autocorrelation test is used to evaluate the potency of some of the modelling theories innate in implementing regression-like models to analyse data series. Specifically, it determines if a serial relationship that has not been incorporate din the model and if exists it would imply wrong conclusions would be made from other analysis or estimates if not put into consideration.

3.5 Data Analysis

GDP can be measured using two methods: the expenditure approach and the income approach. Nominal GDP is GDP that does not take into account the inflation rate while real GDP takes into account inflation. The components of GDP include consumer expenditure, business expenditure, government expenditure, and net export and imports. GDP as the dependent variable and

consumer, business and net exports and exports as the independent variable, it is essential to establish their relationship to one another.

The study used regression analysis to find the relationship between the dependent and independent variable. Descriptive and inferential statistics were used in data analysis where regression and correlation analysis where the study window period was between 2008 and 2017. The study also calculated the mean as well as the standard deviation. The role of the correlation and regression analysis was to determine the commercial banks' LIR the GDP in Kenya. Microsoft Excel was used to analyze or show the pattern of the LIR and GDP during the study period specified.

The study uses Z-test (two tailed test) (at p-value=0) to evaluate the significance of the overall correlation model at 95% level of significance. The outcome was interpreted depending on the value of the correlation coefficient where p = +1 shows a perfect positive relationship, p = -1 shows an ideal negative relationship and lastly p = 0 shows no connection between the dependent and the independent variable.

The study also used chi-square test. The P-value in the chi-square test is the probability observing a sample statistic as extreme in the test statistic. Since the statistic is at 5% significance level, we use 0.05 probability level as the critical value; hence, if the calculated chi-square value is less than 0.05 value, we accept the hypothesis.

High correlation signifies a causal relationship, and a small correlation means no causal relationship. It is vital to test the significance of the association to establish if the value is significantly higher than nil. The study uses SPSS V20. The research will use the linear equation shown below:

$$\Delta \boldsymbol{Y} = \boldsymbol{\beta 0} + \boldsymbol{\beta 1}\, \boldsymbol{X1} + \boldsymbol{\beta 2}\, \boldsymbol{X2} + \boldsymbol{\beta 3}\, (\boldsymbol{X3}) + €$$

Where

Table 3.6.1: Variables Description

Y	Dependent Variable The GDP will be measured using the nation's GDP values obtained from the CBK and KNBS. The study will take into account the economic growth in each quarter for the purposes of analysis. The values used in analysis of the study are quarterly figures as they will provide adequate data points.
X1	Independent Variable The lending interest rate will be measured using the percentage values obtained from the Central Bank. The research will be using the quarterly rates provided from the website.
X2	Control Variable Inflation Rate: will be measured using the inflation percentage values obtained from the CBK and KNBS. The inflation rates used are on a quarterly basis.
X3	Control Variable Real Exchange Rate: will be measured using the currency ratios obtained from the CBK. The research will take into account the value of the dollar vs the value of the shilling. The study will use the quarterly data derived from the website.
€	Stochastic error term arising from measurement flaws
β0	Regression constant or intercept

βi	Regression coefficients

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The focus of this section is to discuss the research outcomes on the effect of lending interest rate on economic growth in Kenya. The window period of this study is 10 years ranging from 2008 to 2017. The data collected was analyzed using regression analysis.

4.2 Diagnostic Tests

4.2.1 Autocorrelation Test

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin Watson
1	.625a	.391	.375	1.10618	1.798
2	724b	.498	.498	.99106	1.818

a Predictors: (Constant), Exchange Rate

b Predictors: (Constant), Exchange Rate, Inflation Rate

c Dependent Variable: Change in GDP

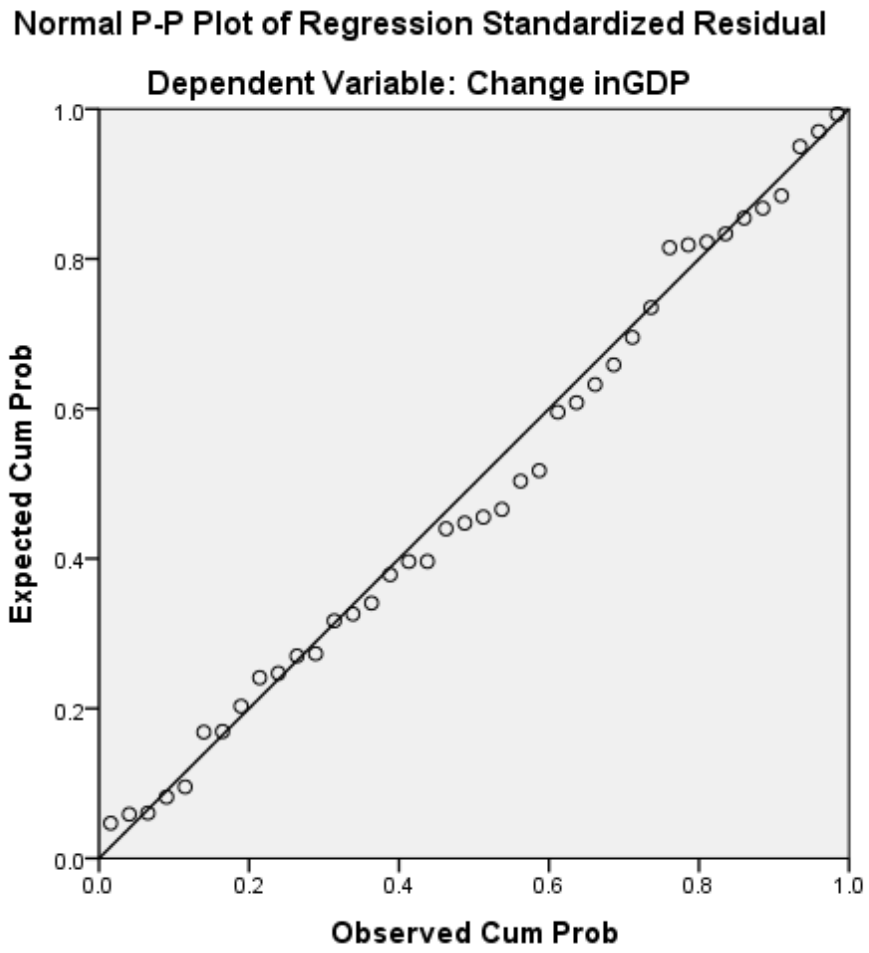
It is observed that the adjusted R2 of our model is 0.375 with the R2 = 0.391 which means that the linear regression explains 9.1% of the variance of the data. The Durbin-Watson d = 1.798, which falls between 1.5 and 2.5. Consequently, the study can presume that the first order linear autocorrelation is not present in the multiple linear regression data used.

4.2.2 Normality Test

Tests of Normality

Lending Interest Rate		Kolmogorov-Smirnov			Shapiro-Wilk		
		Statistic	Df	Significance	Statistic	Df	Significance
Change in GDP	13.666	.322	3		.880	3	0.323
	14.06	.260	2				
	14.87	.260	2				

The data set is acceptable because both Kolmogorov-Smirnov and Shapiro-Wilk give a p value that is greater than 0.05, therefore there is no evidence of significant deviation from the normality of the residuals, which is confirmed by the normality plot as shown below:



4.2.3 Multicollinearity Test

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-1.976	1.778		-1.111	.274		
Lending Interest Rate	.144	0.72	.220	2.012	.052	.997	1.003
Exchange Rate	.063	.015	.492	4.276	0.000	.899	1.112
Inflation Rate	-.0125	.037	-389	-3.384	.002	.902	1.109

According to the coefficient table, collinearity statistics provided VIF value of 1.003, 1.112 and 1.109 suggesting that the VIF value analyzed lies between critical region of 1 and 10, and the study can conclude that there are no collinearity symptoms.

4.2.4 Homoscedasticity Test

Breusch-Pagan and Koenker Test Statistics and Significant Values

Table 4.2.4 Homoscedasticity Test

	LM	Sig
BP	1.563	.668
Koenker	1.704	.636

The results above indicate that the significant value for both the Breusch-Pagan and Koenker Test is more than 0.5, which satisfies the threshold of the tests therefore, we accept the null hypothesis.

4.3 Descriptive Statistics

Table 4.3: Descriptive Statistics

	Mean	Std. Deviation	N
Change in GDP	4.7575	1.39870	40
Lending Interest Rate	15.8228	2.13009	40
Inflation Rate	8.6490	4.36008	40
Exchange Rate	87.8805	10.93294	40

Source: Research Findings

The research indicated that the mean of the economy's GDP for the window period of the study (2008-2017) was 4.7575, inflation rate had an average of 8.6490%, the lending interest rate had an average of 15.8228 while the exchange rate had a mean of 87.8805.

4.4 Correlation Analysis

Table 4.4: Correlations

		Change in GDP	Lending Interest Rate	Inflation Rate	Exchange Rate
Pearson Correlation	Change in GDP	1.000	.245	-.542	.625
	Lending Interest Rate	.245	1.000	.002	.053
	Inflation Rate	-.542	.002	1.000	-.313
	Exchange Rate	.625	.053	-.313	1.000
Sig. (1-tailed)	Change in GDP	.	.064	.000	.000
	Lending Interest Rate	.064		.495	.373
	Inflation Rate	.000	.495		.025
	Exchange Rate	.000	.373	.025	.
N	Change in GDP	40	40	40	40
	Lending Interest Rate	40	40	40	40
	Inflation Rate	40	40	40	40
	Exchange Rate	40	40	40	40

Source: Research Findings

As observed from the correlation table, the researcher undertook a Pearson Product Moment relationship. It was further analyzed that there was a direct association between economic growth and the lending interest rate as indicate by the correlation coefficient of 0.245. Additionally, it was reealed that there was an indirect association between economic growth and inflation variable as indicated by a coefficient of -0.542. there was a direct link between exchange rate and economic growth as indicated by correlation coefficient of 0.645.

4.5 Regression Analysis

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

Table 4.5: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.625[a]	.391	.375	1.10618

Source: Research Findings

We are able to tell the deviation in the dependent variable by using the Adjusted R squared is which is the coefficient of determination that informs us deviation in the dependent variable because of adjustment in the independent variable. In the analysis above, the figure for adjusted R was 0.375, which is indicative of an increase in economic growth of 37.5% attributable to adjustments in the lending interest rate, exchange rate and inflation rate. This informs us that the change observed in the economy of 37.5% is because of variation in inflation rate, exchange rate, and the lending interest rate. We are able to know the association between the research variables by assessing R, which is the correlation coefficient that reveals the link between the study variables. The analysis above reveals there was a significant direct association between the research variables by 0.625.

Table 4.6: Analysis of Variance

Anova[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	29.800	1	29.800	24.354	.041[b]
	Residual	46.498	38	1.224		
	Total	76.298	39			

Source : Research Findings

b. Predictors: (Constant), Exchange Rate

c. Predictors: (Constant), Exchange Rate, Inflation Rate

The table above reveals the tests from ANOVA, the analyzed data that forms the study framework showed a significant level of 4.1% that means the accumulated information is suitable for drawing conclusions on the study criterion as the significant level is not more than 5%. It also shows that the independent variables in the study: lending interest rate, inflation rate and the exchange rate do have a bearing on the economic growth in the nation.

Table 4.7: Regression Model Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	-2.269	1.434		-1.582	.122
Lending Interest	.080	.016	.625	4.935	.023
(Constant)	.148	1.489		.100	.921
Exchange Rate	.065	.015	.505	4.226	.015
Inflation Rate	-.123	.038	-.384	-3.216	.003

Source : Research Findings

From the data in the above table the established regression equation was

$$\boldsymbol{Y = -2.269 + 0.080\,X1 - 0.123X2 + 0.065\,X3 + 1.434}$$

The regression model aforementioned shows that maintaining the independent variables in the study namely the lending interest rate, inflation rate and exchange rate to a constant zero, Kenya would register an economic downturn of -2.269 and consequently, one unit rise in inflation rate would have an effect of lowering the economic growth in the country by a factor of 0.123. In addition, a single unit growth in inflation rate would decline the economic growth in the country by a multiple 0.65 and lastly, a margin rise in interest rate would result in decrement in economic growth of the country by a multiple of 0.08. Additionally, the above equation informs us that at 95% confidence level and 5% level of significance, inflation rate, exchange rate and the lending interest rate had a significance level of 0.023, 0.03 and 0.015 respectively.

In general, inflation rate appeared to have the greatest impact on the economy of Kenya in regards to growth. Just below inflation was exchange rate then lastly was the lending interest rate. All the independent variables had a p value that was less than five. Overall Inflation had the greatest effect on economic growth in Kenya, followed by the lending interest rate, followed by exchange rate then interest. All the variables were significant ($p<0.05$).

4.5 Discussion of Findings

The results on the Adjusted R squared indicate that there exists a deflection of 37.5% on economic growth as a result of adjustment in the rate of inflation, exchange rate and the lending interest rate. The researcher also observed a significant direct correlation between the variables under study. From the analysis, it is observed that all the three variables under study: the lending interest rate, inflation rate and exchange rate all have a bearing on economic growth of Kenya.

The regression analysis reveals that there exists an indirect correlation between economic growth and inflation rate, exchange rate and the lending interest rate. The outcome of this research aligns with the assumptions of Demirgüç-Kunt, & Huizinga (1999), who proposes that financial liberalization can result in uncertainty and doubt the efficientcy of financial markets to effectively assign credit. Fredrick (1986), purports that high liquidity preference requirement induce crowding out effect therefore providing the government with a lee way to acquire more debt to settle her loans which contributes to a slow growing economy. Zeller (1994) argues that high interest rate is instrumental in regulating inflation. Panizza & Presbitero (2014), argues that small economies are affected by conditions in large countries) that is high large country's interest rate have the concretionary effect on annual real GDP /growth in the domestic economy. However, this impact is mostly felt in nations with a predetermined exchange rates, the consequences on interest are mainly as a result of monetary policy or a trade effect, a demand trigger leads to a temporary increase in real interest rate.

CHAPTER FIVE: SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

From the information gathered and analysed, the study came up with the following discussions, conclusion and recommendations. The opinions are parallel with the objective of the study. The researcher intended to establish the effect of the lending interest rate on economic growth in Kenya

5.2 Summary of Findings

The focus of the research was to evaluate the impact of the lending interest rate on economic growth in the country. The main sources of data was KNBS and CBK . the researcher used multiple linear regression to analyze the collected information from these two sources. Based on the outcome on the adjusted R squared, there was a deviation of 37.5% on the dependent variable, which was economic growth as a result of variation in the independent variables namely: the lending interest rate, exchange rate and inflation rate. Furthermore, the study indicated a robust direct association between the variables under research. According to the ANOVA results, the research was able to conclude that the inflations rate, lending interest rate and exchange rate all have an impact on economic growth in Kenya. The model that the research formed is as written below:

$$\boldsymbol{Y = -2.269 + 0.080\,X1 - 0.123X2 + 0.065\,X3 + 1.434}$$

There was an indirect association between economic growth and the lending interest rate, inflation rate and the exchange rate based on the regression analysis. At 95%, confidence level and 5% significance level inflation rate had the paramount impact on economic growth, followed by the lending interest rate then lastly the exchange rate. The analysis further shows that there is

an indirect association between the dependent variable, which is economic growth and the independent variable, which is the lending interest rate, inflation rate, and exchange rate.

5.3 Conclusion

From the analysis, the research deduced that economic growth and the lending interest rate are indirectly related implying that a surge in lending interest rates has a negative bearing on economic growth in the country. From the findings, the study concluded that there was an indirect correlation between the lending interest rate and economic growth implying that increase in lending rates negatively affect the economic growth in the country. The results from regression and correlation evaluation that there is an indirect association between the dependent variable and the lending interest rates. The rationale behind this observation is that when the commercial banks increase the lending interest rate, the cost of borrowing money becomes very expensive and people become reluctant in spending especially on luxurious products, which also contributes on economic growth in the country.

The analysis goes ahead to show that there is an indirect association between economic growth and the inflation rate implying that an augmentation in inflation leads to reduction in economic growth. This is because rise in inflation tend to push investors away because of the reduction in the purchasing power that ultimately lowers consumption and subsequently affecting the economy negatively by declining the GDP. In other words, inflation suggests increase in prices. Increase in prices can frustrate investment in the country because of the level of risk it creates. Moreover, it can influence the balance of payments by rendering the exports prohibitively pricy, ultimately, the GDP declines further.

Additionally, the analysis reveals an indirect association between economic growth and exchange rate. A depreciating currency discourages foreign investment in the nation, which

contributes further to the gradual economic growth in the nation. A stable exchange rate is a symbol of economic power. In the remote future, a powerful exchange rate usually occurs in nations with slow inflation thereby enhancing business environment. Typically, a feeble currency can spur economic growth but in situations where the imports vs the exports are elastic and the economy has some remnant capacity.

Interest rates are negatively correlated with economic growth. That is, higher interest rates lead to lower growth and lower interest rates lead to higher growth. When a market is in equilibrium, prices become the key variables since there are no quantity constraints. Price movements bring about equilibrium in the market and problems in achieving equilibrium are usually attributed to sources of price rigidity. This focus on prices is the reason why most of the research and policy discussions in modern monetary economics are centred on interest rates. The hypothesis that interest rates are always negatively correlated with economic growth only holds in such a general equilibrium set-up. When markets are in disequilibrium, non-price factors like the quantity of money and credit become important. The short side principle suggests that in a supply-constrained market, suppliers of credit have market power and get to decide whom to transact with. Since such markets are in disequilibrium, lower interest rates need not always lead to higher economic growth.

5.4 Recommendations for the Study

Based on the outcome of the study, the research suggests that the government shou;d have more control of the lending interest rate as it was established that rise in the lending interest rate adversely affects the economy. The research also recommends that the government should control the rise in inflation through different fiscal policies as rise inflation also has a negative impact on the growth of the economy. The government should not forget to regulate the

exchange rate, as a lower rate will boost investment in the nation, which directly contributes to economic growth.

5.5 Limitations of the Study

There were a number of challenges encountered in completing this research. In accomplishing its objective, the study period was set to 10 years starting form year 2008 to year 2017. Secondary data collected from the Kenya National Bureau of statistic and Central banks of Kenya had the challenge of accuracy. Although the information was verifiable given the sources such as CBK and KNBS, it however, could be susceptible to such downsides.

The research focused on investigating the effect of lending interest rate on economic growth in the country. It had a window period from the year 2008 to 2017. A prolonged period would have had the advantage of providing a more comprehensive result such as booms, recovery, depression or recessions which would have been a more insightful information hence given a wider dimension to the issue.

Determining the right topic. The research topic is the foundation on which everything else rests, therefore, it is vital to determine the topic carefully. The topic of my project the effect of the lending interest rate on economic growth in Kenya is very critical because economic growth is something that affects people of Kenya and the dynamics of the lending interest rates influence the investment decisions of every investor. Consequently, it is imperative to learn about the interplay of the two variables to spur economic growth and make wise investment decisions.

The cost involved in undertaking this project is very high. There were several stages that had to be done to complete the project including registering the project which necessitated significant amount of money. Aside from that, it was necessary to meet my supervisor frequently for

consultation and to track my progress not to mention the printing cost that is involved. Most of the research was done online and therefore internet cost was incurred. Overall, the various expenses necessary were worth it because the objective of the research was accomplished.

There was also the challenge of obtaining the different types of data necessary for the study. The two most reliable sources were KNBS and Central Bank of Kenya and therefore if these two entities have not yet published that kind of data a researcher needs then it makes the entire research difficult. In this instance, the key variables that was pertinent in this study include economic growth, inflation, foreign exchange rate, and the lending interest rate. The two key entities have not given the monthly economic growth by rather they have given quarterly rates. Therefore, the study was forced to switch from monthly analysis to quarterly analysis.

Data analysis was also problematic because it is highly dependent on the nature of data obtained meaning that since the research data collected was quarterly then all the other variables had also to be quarterly. Apart from economic growth, the other variables have not been given on a quarterly basis. Therefore, to make sense of the data provided, an average of three months falling in a given period was calculated to represent the value of that particular quarter to have uniformity when it comes to data analysis.

5.6 Areas for Further Research

Exhaustive research is needed on the effect of the lending interest rate on the budget shortfall in Kenya. Shortfalls can cause inflation if the gap are supported monetary policy meaning that the CBK reacts to the deficiency by pumping more money into the economy. The CBK has to main reactions in such budget deficit situations: the CBK buys securities provided by the government

to support the shortfall or the private sector buys securities from the government and then the CBK curbs any possible rise in interest rates.

It is imperative to investigate the correlation between budget deficit and domestic borrowing. The country's domestic borrowing has increased to Sh1.91 trillion as Kenya continues depending on the domestic market to support an enormous budget shortfall at year ending 2017. Recent public debt provided by the Central Bank of Kenya (CBK) indicates the stock of government domestic debt has risen by Sh100 billion since the start of the prevailing financial year, having begun at Sh1.81 trillion on July 1. International debt was originally at Sh1.8 trillion as of mid-year 2016, meaning that the country's total public debt has increased. The surging stock of debt has spurred worries over chronic sustainability, particularly with tax revenue increasing gradually and the KRA regularly collecting less revenue than predetermined. Researchers postulate that although it is simple for the country to borrow domestically, there is a risk that the private sector may not be able to access the funds due to crowding out effect.

Further investigation have to be done on the factors that drive interest rate spread of commercial banks in Kenya. There are bank-specific factors that play a significant role in the determination of interest rate spreads. Not only is this information to investors but also important to government of Kenya because it also directly the economy. Shading light on this area will help the Central Bank impose efficient policies that are mutually beneficial to both the banks and the economy at large.

Additional research is necessary on the effect of the capping on the lending interest rate on economic growth in Kenya that was passed into law in 2016. There have been mixed reactions to the effect of the capping of the lending interest rates as some analyst cite that it has had a negative impact on economic growth while others citing it as beneficial to economic growth due

to increased borrowing to the private sector. The antagonist argue that banks turn away small borrowers because of an increase in declining loan accounts and increase lending to the government and large corporate firms further decreasing credit to the private sector.

Lastly, there is need to carry out further research on the how the changes on interest rate affect the profitability of the banking system. The banking industry's performance elevated with rise in interest rates. Organizations in the banking industry like the retail banks, insurance firms and commercial banks have huge cash balances due to business operations. The profit emanates from the marginal difference between the yield they generate with this cash invested in short-term notes and the interest they pay out to customers.

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APPENDICES

Appendix I: Data Collection Sheet

	GDP Rate	Lending Interest Rate	FX Rate	Inflation
2008				
2009				
2010				
2011				
2012				
2013				
2014				
2015				
2016				
2017				

Appendix II: Data

Year	Quarter	Change in GDP	Lending Interest	Exchange rate	Inflation Rate
2008	1	1.5	14.06	64.924	12.53
	2	1.6	14.06	63.783	16.79
	3	1.8	13.66	71.409	16.32
	4	1.9	14.87	78.04	15.48
2009	1	2.6	14.87	80.261	14.44
	2	2.3	15.09	77.851	9.86
	3	4.8	14.74	75.605	9.19
	4	3.9	14.76	75.431	8.02
2010	1	4.9	14.8	76.947	3.97
	2	4.8	14.39	81.018	3.49
	3	4.3	13.98	80.912	3.21
	4	5.2	13.87	80.568	4.51
2011	1	5.5	13.92	84.206	9.19
	2	5.3	13.91	89.049	14.48
	3	6.1	14.79	96.357	17.32
	4	4.3	20.04	86.663	18.93
2012	1	4.2	20.27	82.897	15.61
	2	4.3	21.49	84.789	10.05
	3	5	19.73	84.613	5.32
	4	4.9	18.15	85.994	3.20
2013	1	6.1	17.73	85.818	4.11
	2	7.5	16.97	85.488	4.91
	3	6.4	17	87.413	8.29
	4	5.8	16.86	86.309	7.15
2014	1	5.2	16.91	86.489	6.27
	2	6	16.36	87.612	7.39
	3	4.6	16.04	88.836	6.60
	4	4.8	15.99	90.444	6.02
2015	1	5.8	15.46	91.727	6.31
	2	5.6	15.48	97.705	7.03
	3	6.1	16.27	105.275	5.97
	4	5.5	18.3	102.195	8.01
2016	1	5.3	17.79	101.485	6.45
	2	6.3	18.18	101.145	5.80
	3	5.6	13.86	101.271	6.34
	4	5.7	13.66	102.132	6.35
2017	1	4.7	13.61	102.853	10.28
	2	5	13.66	103.491	9.21
	3	4.4	13.69	103.12	7.06
	4	4.7	13.64	103.095	4.50