# THE EFFECT OF BANK INTEREST RATE CAPPING ON SELECT MACROECONOMIC VARIABLES IN KENYA

**BY**

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## DECLARATION

I, the undersigned, declare that this project is my original work and has not been presented to any other University of Nairobi for academic credit.

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This research project has been submitted for examination with the approval of:

Signature …… Date 19 November 2022

**Professor Cyrus Iraya** **Project Supervisor**

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## DEDICATION

The project is dedicated to my parents, Mr. Stephen Mutisya Ndeti and Mrs. Florence Wayua, who provided me with much-needed resources and who have always encouraged me. To my loving son Jason Levi Mutisya, as well as my siblings Caroline and Felix, for their unending love and prayers.

## Table of Contents

## LIST OF FIGURES

## LIST OF TABLES

## LIST OF ABBREVIATIONS

| | |
|---|---|
| **CBK** | Central Bank of Kenya |
| **CBR** | Central Bank Rate |
| **GDP** | Gross Domestic Product |
| **IFC** | International Finance Corporation |
| **KIPPRA** | Kenya Institute for Public Policy Research and Analysis |
| **SDG** | Sustainable Development Goals |
| **SMEs** | Small and Medium Enterprises |
| **KNBS** | Kenya National Bureau of Statistics |

## ABSTRACT

In Kenya, interest rates were determined by the market forces without any government intervention for several years. The government's attempt to impose interest rate caps in 2001 failed. For a long period of time Kenyan banks enjoyed higher interest rates and made great profits from interest rate margins, in which banks charged inflated loan rates while reimbursing low savings rates. The law limiting the maximum lending rate to 4% above the central bank rate (CBR) and the minimum deposit rate to 70% received presidential assent and went into effect in September 2016. Proponents of interest rate caps argued that lowering interest rates would increase the economy's money supply, create financial inclusion for lower-income groups, and result in increased economic growth. The goal of this study was to assess the role of interest rate caps on key macroeconomic variables with a specific focus on economic growth rate, unemployment rate, and inflation rate. Data was collected on a quarterly basis and analyzed for a total of 28 quarters, 14 before the interest rate cap (Q1 2013 to Q2 2016) and 14 during the interest rate cap (Q3 2016 to Q4 2019). Data was sourced from the Central bank of Kenya, World bank and the Kenya National Bureau of statistics portals. The study employed a descriptive research design, and the t-test of paired samples was applied in the analysis. The study was undertaken to determine whether there was a significant difference in the means of the chosen variables before the law was implemented and during the time it was in place. SPSS analysis program was applied in the data analysis. The outcomes of the investigation indicated that there was a considerable difference in the means of unemployment rate between the two time periods. However, the difference in the means of the economic growth rate and the inflation rate for the two time periods studied was not statistically significant. The conclusion drawn from these observations is that the government's interest rate regulation was ineffective because it resulted in increased unemployment while economic growth and inflation rates changes were negligible. As evidenced in 2019, the failure of the interest rate ceilings led to the repeal of the law, so the government and Central bank policy makers should learn from the experience and in future should find alternative strategies for regulating the performance of these macro-economic variables.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background to the Study

Macroeconomics is the study of the entire economy; it focuses on issues such as total output, national income, unemployment levels, and overall price levels (Mankiw, 2016). These factors are referred to as macroeconomic variables and they affect the health of an economy. The government can intervene through various macroeconomic policies divided into fiscal policies and monetary policies to stabilize the economy. Interest rate is the charge on a loan, or the benefits gained on a savings account. Interest rates are an important monetary policy tool that can be utilized to accelerate or slow the economic growth. The central bank utilizes monetary policies to manage the economy's money supply. Adebiyi (2002) suggests that interest rates are one among the crucial monetary policy tools applied across economies. The government of a country can intervene by regulating the interest rates existing in the market using interest caps and this influences the level of macroeconomic variables. Prior to the implementation of the interest cap in 2016, the cost of credit was high as the rate of interest levied by Kenyan banks compared to its peers was high (CBK, 2018).

The project was founded on three theories: the Keynesian liquidity preference theory, the endogenous growth model, and the rational expectations theory. Markets, according to the Keynes, are flawed and do not always self-correct. The endogenous growth theory focuses on the growth of an economy based on internal factors. The factors considered include technological progress, investment in human capital, and government incentives to boost investment levels, interest rates, and inflation rates. The rational expectations theory holds

that individual economic agents can base their decisions on the best knowledge available and learn from previous patterns when making decisions.

According to Lee and Werner (2018), most economists believe that interest rates stimulate economic growth, and central banks frequently make the same claim. Vision 2030 is the development model for the Kenyan economy from 2008 to 2030 and it focuses on three pillars: the economic, social, and political pillar. Over the vision's horizon, the economic pillar aims to achieve and maintain a sustainable economic growth rate of 10%. (KENYA: Vision 2030, 2006). The economic pillar addresses six industries; agriculture, financial services, manufacturing, wholesale and retail, tourism, and information technology. The macroeconomic variables impact all these areas. Several researchers have probed the interaction among interest rates and macroeconomic variables over the years. This study was conducted to assess the impact of the interest rate caps regime in Kenya on the selected macroeconomic variables.

### 1.1.1 Interest Rate Capping

Interest rate caps, as per IFC (2013) is a regulatory mechanism aimed at determining "fair and reasonable interest rate" on loans and deposits. Miller (2013) describes interest capping as an action by the government of establishing the maximum lending rate aa well as the lowest deposit interest rate. Capping of interest rate is an approach of government financial control in which interest rate regulations are used to protect consumers (Maimbo, & Gallegos, 2014). Interest rate cap is a limit to the price which the financial institutions can charge to borrowers. It is an intervention measure passed by the government to safeguard consumers from usury by commercial banks and to allow for low-income families financial

inclusion and the small and medium enterprises (SMEs). It is a mechanism that has been adopted widely to protect the welfare of the consumers.

The implementation of interest rate caps may be due to political and economic motives. Adede (2015) opined that capping interest rates in Kenya was a greater constitutional and democratic step for the country. The cap was expected to lead to greater economic outcomes of double-digit economic growth, achieving Kenya's Vision 2030 and the 2030 global sustainable development goals (SDG) as well as the Africa Agenda 2063. The strategy of capping interest rates has been adopted by different countries and some are still in use while other countries have scrapped it off a good example being Zambia and Kenya. In Kenya the interest rate cap was implemented in September 2016 through the amendment of the banking Act section 33. The reform set borrowing rates at 4.0 percent over the Central Bank Rate (CBR), and deposit rates at 70.0 percent of the CBR. The interest rate cap was scrapped off in November 2019. Policymakers who advocate for interest rate caps argue that it is necessary to protect customers from usury by encouraging the availability of credit at acceptable rates of interest and limiting lender exploitation. The interest rate cap regime in Kenya only lasted for 3 years and it was characterized by reduced credit availability, reduced financial product diversity, and increase in costs for low-income borrowers (Cytonn, 2019). Interest rate caps could thus be a valuable instrument for giving interim financing to a critical industry or aiding a sector until it becomes self-sustaining (Miller, 2013). The variable of interest rate capping has been measured quantitatively by scholars. In this paper the interest rates were measured based on the quarterly lending rates.

### 1.1.2 Macroeconomic Variables

Brinson, Singer and Beebower (1991) explains macro-economic variables as the elements that are relevant to the whole economy. According to Kamamia (2018) macroeconomic variables are factors that are not influenced by the income levels and greatly affect the growth performance of an economy. Macroeconomic variables are economic factors that affect the entire economy (Olukayode & Akinwande, 2009). Macroeconomic indicators show an economy's health and determine the fate of investments. Any economy's price determination mechanism is influenced by macroeconomic variables. The uncertainty of macroeconomic variables has a substantial impact on the financial and commodity markets, generating price volatility.

The selected macroeconomic variables for this study were the economic growth rate, inflation rate, and unemployment rate. Inflation is understood as an escalation in the overall pricing level for merchandise and services in an economic cycle. Antwi, Mills, and Zhao (2013) explained economic growth rates and inflation are two of the most important and closely related macroeconomic variables. High inflation rate has been a common occurrence in Kenya which is similar to other developing nations. Economic growth is the mechanism by which the economy's productive capacity expands over time. which results from an increase in the levels of national output and services (Khan, Chaudhry & Farooq, 2019). A country's economic growth has an impact on the level of employment as explained by Okun’s law which analyses how the unemployment level is tied to economic growth. The unemployment rate is the proportion of the workforce that is out of work, the rate surges or declines in reaction to economic changes. When the economy grows and more jobs are created, the unemployment rate is projected to fall.

All the macroeconomic variables under study are expressed in percentages. The information on these macroeconomic variables was be gathered from the World Bank, Kenya national bureau of statistics, and Central Bank of Kenya websites.

### 1.1.3 Interest Rate Capping and Macroeconomic Variables

The interest rate regulation is used by an economy's central bank as a monetary tool to control inflation and boost economic growth. Examples of macroeconomic variables are interest rate, economic growth, currency exchange rates, unemployment levels, inflation rate, and the balance of payments. Most developing countries, utilize interest rates as a popular instrument to stabilize the performance of the economy. In the wake of high cost of credit, it is difficult for most people to access formal financing and interest rate caps are deemed to be a major relief. However, those who oppose the use of the interest rate caps argue that it would stifle economic growth. Input-based solutions, such as ceilings on rate of interest, alter the market; thus, it is preferable to permit the market determine the interest rate while supporting certain desirable industries through other means, (Miller, 2013).

Adebiyi (2002) opined that any economy's desire is to have sustained economic growth, but this macroeconomic goal cannot be met in the face of hash and precarious interest rates. At lower interest rates the incentive to save decreases and increases the level of consumption, and investment spending resulting in an upsurge in aggregate demand. The rise in demand for goods and services leads to a hike in demand for labor, lowering unemployment. Different studies evaluated the causal relationship between inflation rate and interest rate. The results have indicated a unidirectional relationship from inflation rate to interest rate. To control inflation rates, the central bank of a country must intervene by regulating the money supply. At reduced interest rates, the investment levels are expected

to increase which enhance economic growth and result in employment opportunities thus reducing the unemployment levels.

Empirical studies relating to interest rate and macroeconomic variables have been carried out by different scholars. The implementation of the interest rates cap act in Kenya back in September 2016 was received with mixed reactions from the proponents and the critiques. The regulation of interest rates at the time was aimed at encouraging low-cost capital investments and stimulating economic growth and development (CBK, 2018). A review of Kenya's post-independence performance indicates that the country experienced rapid economic growth in the 1960s and 1970s, but this was not upheld in the 1980s and 1990s. Growth averaged 5.7 percent in the 1960s and 7.2 percent in the 1970s, before falling to 4.2 percent in the 1980s and 2.2 percent in the 1990s, (Swainson, 1978). Throughout the 1980s and 1990s, Oil shocks plagued the economy and the coffee boom's proceeds were mismanaged. Mismanagement of the proceeds from the 1976/77 coffee boom, combined with oil shocks effect, culminated in balance of payment problems (Mwega & Ndung'u, 2004). This study seeks to explore how interest rate capping in Kenya influenced the macroeconomic variables.

### 1.1.4 Interest Rate Capping and Macroeconomic Variables in Kenya

The implementation of the interest cap act in Kenya back in September 2016 was received with mixed reactions from the proponents and the critiques. Interest rate regulation at the time was intended to encourage low-cost capital expenditures while also supporting economic growth and development. (CBK, 2018). Ethnic riots erupted during multi-party elections in 1992, followed by a severe drought the following year, reducing economic growth to 2.5 percent. Interest rates were high at the time, there were huge exchange rate

depreciations due to foreign exchange market liberalization, and the fuscal deficit was widening, causing balance of payment concerns. A majority of donors withdrew foreign aid, causing a significant drop in foreign investment. In the late 1990s major economic sectors such as tourism, agriculture, and manufacturing, performed poorly, as a result the average economic growth dropped to 1.9%. The 1997 ethnic clashes and the influence of El Nino rains in 1998, had significant adverse impact on infrastructure. Severe draught erupted in 2000, and the economy experienced the lowest growth rate of 0.6 percent. However, in subsequent years, the country economic performance has been improving supported by the adoption of major economic and structural measures under the Economic Recovery Strategy (ERS), as well as a favorable exterior surroundings.

The 2007 general election heightened inter-ethnic disdain and skepticism in the rule of law, which is likely to have a detrimental economic impact (Harsmar, 2012). Other significant events, such as drought and the global financial crunch, were all essential in establishing policies to boost the economic performance of Kenya. In the subsequent years the country experienced favorable weather conditions, which increased agricultural production, as well as the deployment of counter-cyclical demand management measures. The economy's recovery from the post-election clashes of 2007 and 2008 decline was aided by a sound macroeconomic environment, political stability, large public investments in infrastructure, and growth in domestic demand (KIPPRA, 2020).

Despite economic liberalization in the 1980s and 1990s, free trade plans were unreliable and frequently revoked. Significant supply constraints hampered manufactured exports, including unavailability, high financing costs, foreign exchange and inflation fluctuations, infrastructural deficits, and an adverse regulatory framework, all of which increased

transaction costs and hampered the country's competitiveness. The inflation rate of Kenya has been fluctuating with the highest levels being experienced between 1988 and 1994 which averaged 23.72% and 26.24% in 2008 following the post-election violence. During the periods 2012 to 2019, the trend has been decreasing with spikes noted during the election years. The challenge of unemployment in Kenya remains highest among the youth despite the majority being educated. For an extended period of time, the overall unemployment rate oscilated below 3% while the unemployment rate among the youth has been oscillating around 7%. The issue of unemployment can be tackled by ensuring the economic growth rate is sustainable. The CBK utilizes monetary policies to stabilize the prices in the economy in order to manage the inflation rate.

The major goals of economic policies both monetary and fiscal include reducing the high levels of unemployment; and promote sustainable and increased growth (Mutwiri, 2017). Improving significant growth determinants needs not just legislative enactment, but also its implementation; increased public investment and improved capital project accomplishment; stronger political and economic soundness; and enhanced governance

## 1.2 Research Problem

The capping of interest rates has become a popularized method of controlling the cost of credit among the developing countries. As a monetary policy tool, the interest rate caps in the economy are intended to boost economic growth by promoting financial access to groups that would normally be locked out. Theoretically, at low interest rates the investment levels increase and this ultimately spur economic growth (M. Adebiyi, 2002). However, various empirical studies conducted relating to interest rates and macroeconomic variables provide differing opinions concerning the link between the variables. The interest

rate level in Kenya, was pretty high as contrasted to other nations. and previous attempts in 2001 to introduce interest caps in Kenya failed. The main goal of this research was to examine the effect of interest rate caps on selected macroeconomic variables in Kenya.

Several studies have been undertaken on the topic of interest rate caps and macroeconomic variables. Mokaya, Jagongo and James (2017) conducted research on the impact of macroeconomic variables on lending costs amongst commercial banks in Kenya. In 2019 Micheni and Muturi conducted research on the effect of macroeconomic variables on unemployment in Kenya. Adede (2015) evaluated the effect of lending rates on economic growth in Kenya. Moshi and Kilindo (1999) analyzed the impact of government policy on macroeconomic variables in Tanzania. In 2014, Janda and Zetek studied macroeconomic variables impacting microfinance interest rates in Latin America and the Caribbean. The preceding studies generate new insights on expected relationship between the variables in the Kenyan economy. However, no known study has looked at the influence of interest rate caps on the macroeconomic variables. As a result, the current research aims to bridge a knowledge deficit by establishing if interest rate caps aided Kenya's economy thrive. The goal of this research was to ascertain the effect interest rate caps had on the selected macroeconomic indicators in Kenya.

Interest rates are important features of Kenya's economic system because they influence the cost of borrowing, which is a critical source of finance for firms and consumers and can stimulate economic growth. Interest rates in the economy determine the return on savings; if the return on savings is encouraging, individuals are attracted to save idle cash, increasing the supply of lendable funds in banks, and potentially promoting economic growth. The supply of money affects the price levels in the economy while economic

growth determines the level of employment. If the interest rates are lowered, it promotes financial inclusivity meaning the “Wanjiku” would access credit easily and the small and medium enterprises can also get affordable loans. Interest rates will affect future economic and financial market activity in the Kenyan economy and should be studied continuously to find the right approach of applying this monetary policy tool in stabilizing price levels, improving economic growth, and reducing unemployment rate.

### 1.3 Research Objective

The objective of this research study was to assess the effect of capping of interest rates on select macroeconomic variables in Kenya.

### 1.4 Value of Study

The study aims at contributing more information to the existing pool on interest rate caps and the selected macroeconomic variables. The study considers the role of interest rate control policies on the Kenyan economy and the findings should benefit different groups in the country. It will provide insight to policymakers to recognize policy gaps that should be addressed. The information will shed light on the appropriateness of credit market intervention and serve to guide in future policy formulation by the government as well as the central bank.

The study findings can support private businesses to understand how the policies on credit market intervention impact their businesses and the economy as a whole. This should enable the stakeholders anticipate the business risk associated with such policies and strategies to mitigate the impact. Finally, the study will be a helpful reference for scholars in their research work to better understand how interest rate capping affects other macroeconomic factors such as, inflation, the gross domestic product and level of

unemployment. It shall serve as a benchmark for empirical studies related to similar studies by other scholars.

# CHAPTER TWO: REVIEW OF THE LITERATURE

## 2.1 Introduction

This chapter concentrated on the literature of the selected macroeconomic factors and how they can be influenced by interest rate caps. The subsections of this chapter present the theoretical as well as the empirical literature, and conceptual framework of the variables. The liquidity preference theory, endogenous growth model, and rational expectations theory are the theories used in this study. The significance of this chapter was to serve as a foundation for critiquing existing information and determining knowledge gaps. According to Mukherjee (2002) theory is abstract and difficult, but it establishes a point of reference suggesting what to look for and how economic issues are interlinked.

## 2.2 Theoretical Review

In this part, the theories used in the study are discussed outlining the originator, the assertions of the theory and its relevance to this research. The theories reviewed are the liquidity preference theory, endogenous growth hypothesis, and the rational expectations ideology.

### 2.2.1 Keynes' Liquidity Preference Theory

John Maynard Keynes is known for his contribution to economics theory. He developed the liquidity preference theory where he contends that market interest rates are regulated by the supply, and demand of money and this in an economy is influenced by the central bank policies. He explained that markets are imperfect and do not always self-correct because of inefficiencies in the system. In 1936, Keynes suggested that government intervention is necessary through the application of fiscal policies or monetary policies.

Keynes theory contrasted with the classical economist school of thought. Classical economists held that surpluses result in price reductions at the point of consumption, and that supply may always produce demand. People are assumed to have inexhaustible needs, and the market can self-correct to fulfill aggregate demand and available resources. Therefore, these economist advocates for a hands-off public policy in which markets can self-adjust. Keynes on his side explained that due to existence of natural market inefficiencies, some goods would not meet demand. This can lead to market losses, unemployment, and more inefficiency in the market system.

The concept is important to this review because it furnishes us with insight on how the monetary policy and fiscal policy influence the trend of macroeconomic variables. The total output, inflation rate, level of unemployment, are all influenced by the economy's interest rate level. Every macroeconomic variable shapes the direction of the country’s economic performance.

### 2.2.2 Endogenous Growth Model

Endogenous growth models have been established by economists such as Arrow, Romer, and Lucas, among others. These theories allow governmental and institutional forces to shape economic growth by weakening Solow's notion of exogenous savings and capital formation (Bassanini, Scarpetta, & Hemmings, 2001). The endogenous growth model suggests that economic growth is driven mostly by internal rather than external sources.

The theory highlights the significance of the government offering incentives and subsidies to private-sector organizations to encourage companies to invest in research and development and continue to lead the way in innovation.

Investing in human capital via education or training programs tend to boost scale returns. As a result, labor quality can be enhanced, leading to increased efficiency. The government should enact laws to assist entrepreneurs, which would result in the formation of new businesses and the establishment of new employment. Investments in infrastructure and industrial processes are also required to accomplish production innovation and boost the employment levels in the economy. The economy could sustain growth rates indefinitely because technical innovation augments the physical capital currently in use in manufacturing. Furthermore, as the economy expands, the rate of expansion slows until it reaches its sustainable growth rate (Barro & Sala-I-Martin, 1995).

Endogenous growth models are a crucial theoretical tool for analyzing the concept of growth. These theories are significant because they emphasize the importance of capital accumulation and innovation in generating economic growth. The relevance of this theory to the study is to examine how level of investments in the various sectors of the economy can be increased to boost growth. Investment level is influenced by prevailing interest rates and also affects the price level of goods and services in the economy influencing the inflation rate

### 2.2.3 Rational Expectations Principle

The principle of rational expectations is an economic theory devised by economist John F. Muth in 1961 and popularized in the 1970s by Robert Lucas and Thomas Sargent. Muth (1961) proposes that expectations should be modelled in such a way that they can change endogenously when the structure of the system changes. The following assumptions are made by the theory: people learn from their failures and form rational expectations. Secondly, the forecasts made are unbiased as people utilize economic theories and all

available information when making decisions. People are aware of how the economy operates and how government policies affect macroeconomic factors.

The rational expectations theory is applied to analyze the effects of economic policies. Under this theory rational decisions are made based on past trends to predict future outcomes. However, economists can change their expectations if there is a difference between the forecasted outcome and the actual outcome. A major limitation of the rational expectations theory is the assumption that people make decisions based on historical data. It fails to consider other factors that influence future behavior. Caplan (2000) suggests that a limiting factor of this theory is the difficulty in gathering data and the public's limited understanding of how to apply gathered information to own prospects.

Based on the rational expectations theory, people avoid borrowing if they expect interest rates to rise but if they expect the interest rates to drop there is increased borrowing which results in improved performance of the bank. Capping interest rates limits the aspect of forecasting future rates based on the on the existing trends. The banks' earnings are also affected by the policy making them to implement strategies that bar the risky class of borrowers from accessing funds. The interest rate capping therefore interferes with the level of investments, employment rate, and economic growth and the inflation rate of the economy.

### 2.3 Macroeconomic Variables as Determinants of Economic Performance

A country's economic performance is assessed based on its achievement of economic objectives. The performance can be evaluated on the short term as well as long-term goals and the policies put in place to address economic shocks. Lipsey and Chrystal (2015) propose that every macroeconomic policy must be tested to determine whether it can

achieve its main goal or have unfavorable effects on the economy. If it fails the test, it is not enough reason to abandon the policy, but it is enough reason to reconsider it. Several studies have sought to investigate the elements influencing short-term and long-term economic performance in various countries. In this study the focus was on, economic growth rate, level of investments, employment levels, and the inflation rate

### 2.3.1 Economic Growth Rate

An increase in an economy's capacity to generate goods and services from one period to the next is defined as economic growth (Lipsey & Chrystal, 2015). Economic growth is a concept that captures both the increase in outputs both of products and services of an economy as well as the well-being of the citizens of a country. Economic growth is measured by the GDP and is intended to be an inclusive process that is mandatory for improving the well-being of the citizens of the various economies. To achieve sustainable economic growth, three distinct properties which are efficiency, equity and sustainability should be integrated within a single framework. In an effort to align to the Millennium Development Goals and the Sustainable Development Goals, Kenya proposed a sustained growth rate of 10% in the vision 2030 blueprint during the vision horizon. GDP is used to measure an economy's economic growth. GDP is the total dollar amount of goods and services produced in the country; it is the total amount of money spent in the economy. Consumption, investment, government expenditure, and net exports are all included.

### 2.3.2 Inflation rate

Inflation is the tenacious escalation in an economy's pricing levels. Inflation diminishes a unit of currency's purchasing power. The monetary policies implemented by the central bank of a country influence the price stability and this in return affect the economic growth.

To obtain a sustainable economic growth price stability is one of the factors considered by economic policies. Contractionary monetary policies can be implemented to reduce inflation and stimulate economic growth. There is no agreement on the relationship between inflation and economic growth, (Gokal & Hanif, 2004a). Inflation can make predicting the future profitability of investment projects difficult, leading to adoption of more conservative investment methods and reduced levels of investment and economic growth. The use of contractionary monetary policy results in a decrease in supply of money in the economy and causing inflation rate to fall.

### 2.3.3 Levels of Unemployment

Unemployment can be measured by tracking the number of adults who are willing and able to work but lack jobs and by considering the people who are underemployed. A lack of entrepreneurial, marketing, and management skills required to capitalize on growth opportunities contributes to the increase in unemployment. Investing in human capital is the part of the determinants of economic performance and therefore a skilled workforce educated workforce that is diverse is an important foundation of economic growth. High growth rate is typically seen in countries that invest heavily in human capital (Heshmati, 2018). Many working-age adults in most developing countries lack the literacy and numeracy skills required for jobs. Rising youth populations in these countries have become a significant economic and social challenge, putting additional strain on education and skills training services. Technology is intended to assist both organizations and individuals; effective use of technology results in decreased costs and increased productivity, (Acemoglu, 2008). The use of new technologies paves the way for the production of new, lower-cost commodities and capital accumulation, as well as enhanced worldwide

competitiveness and improved quality for scientific research institutes, all while contributing to society's employment levels.

### 2.3.4 Level of Investment

In thinking about economic performance, it's important to understand that aggregate demand, is determined by private consumption, government spending, and investment levels. One key aspect to the economy's efficacy of monetary policy is the relationship between investment and interest rates. Reduced interest rates result in a rise in investment, which raises the value of an economy's GDP. Investment increases an economy's capital stock, and the amount of capital accessible to an economy is a critical factor in its growth. As a result, investment drives economic growth.

## 2.4 Empirical studies

Mokaya, Jagongo & James (2017) conducted research on the impact of macroeconomic parameters on lending costs amongst Kenyan commercial banks. The gross domestic product (GDP) and inflation rate on lending rates among Kenya's 39 commercial banks were the macroeconomic variables studied. The explanatory non-experimental studies design was applied, and secondary data was assembled over the period of 2006-2015. Data analysis was performed through panel regression and correlation evaluation. According to the findings, the rate of GDP increase and inflation had a positive and considerable impact on lending rates. The study revealed that macroeconomic components play a substantial effect in setting commercial bank lending rates, according to the findings. According to the findings, the government should consider macroeconomic considerations while regulating domestic lending rates.

Micheni and Muturi (2019) conducted research on the effect of macroeconomic variables on unemployment in Kenya. In their study they analyzed the effect of four macroeconomic factors on the unemployment rate in Kenya namely, GDP growth, inflation rate, interest rate and exchange rates. The study covered the period of 1984 to 2018 and the quantitative research design was applied. Diagnostic tests and the OLS method were adopted to investigate the affiliation between the variables, and data analysis was carried out using STATA and E-views data analysis tools. Only GDP and past levels of unemployment have a substantial effect on unemployment in the near run, according to the study. In the long run, the rate of GDP growth, the exchange rate, and the lending rates of commercial banks were found to have a considerable impact on unemployment, whereas the rate of inflation was found to be negligible.

Adede (2015) analyzed the effect of lending rates on economic growth in Kenya. The research time frame was fifteen years, and the analytical model was regression analysis involving inferential and descriptive statistics. Based on the study, an increase in interest rates slows down economic growth since it reduces the purchasing power of consumers and lessen their desire to borrow. According to the study, there is a inverse association between borrowing interest rates and economic growth. Based on the findings of the study, since lending interest rate influence the economic growth, the government should implement policies that control the movements of the interest rates.

Moshi and Kilindo (1999) explored the influence of government policies on macroeconomic variables using a case study of private investment in Tanzania. To promote investment, the study suggests that suitable monetary, fiscal, and exchange rate policies, as well as infrastructure, be implemented. The study focused on the period between 1967 to

1996 and data analysis was undertaken using ordinary least squares method. The conclusion arrived at was that the government policies adopted enhanced private investment in the country.

In 2014, Janda and Zetek conducted research on macroeconomic components impacting interest rates of microfinance institutions in the Latin America and the Caribbean. The research encompassed the time period from 2003 to 2011 and the data analysis was executed through the ordinary least squares method. The study found that the choice of a proxy for interest rate has a considerable impact on the macroeconomic conditions and on the interest rate policy of microfinance institutions (MFIs).

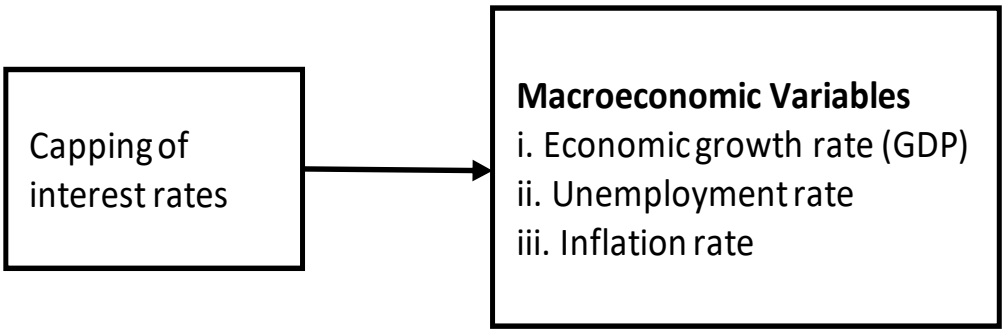
Maimbo and Gallegos (2014) conducted research of countries that applied interest rate regulations to protect consumers. They examined the types of controls used by governments and regulatory bodies in those countries and the criteria used to develop interest ceilings. From the study, 76 countries were identified employing different forms of interest rate caps. Some of the effects of the caps included exit of certain financial firms from the market increase in the total cost of loan due to increased commissions and fees. In their study they concluded that there are other more viable options in order to cut interest rates and expanding credit availability in the long run. The methods can boost competition, facilitate product innovation and other microcredit products, promote financial literacy, ensure full transparency of interest rates, and improve consumer protection platforms. From this probe it can be understood that interest rate caps are not the most effective in regulating the provision of credit or improving the access to finance to the different agents of an economy.

Miller (2013) suggests that interest rate caps can be an appropriate policy in situations where the government seeks to encourage the short-term access to credit for specific sectors. Caps in interest rates are vital for the incubation of some infant sectors in the market until they are economically viable and run without help from the government. To protect customers from usury, ceilings can be used. if they are set high enough to facilitate financial institutions to lend to SMEs profitably. High lending rates are attributed to market failures, and the government can intervene by employing interest rate caps, which are viewed as an ineffective long-term interest rate solution. Since interest rates are a short-term tool, applied policies should focus on issues of market information and structure and reform of the financial sector.

IMF (2019) reviewed the impact of Kenya's interest rate controls, which were implemented in September 2016. The controls were designed to lower borrowing costs, increase credit availability, and increase the return on savings. According to the study, the anticipated impact of the interest rate control law was reversed. The interest ceilings resulted in a disruption of credit to micro, small, and medium-sized businesses; small banks' loan books shrinking; and reduced financial intermediation The interest rate caps reduced monetary policy's signaling effects. The findings suggest that the negative effects could be mitigated by setting the caps high enough to accommodate lending to higher-risk borrowers, as well as alternative approaches to address credit-cost issues would be preferable.

## 2.5 Conceptual Framework

Figure 1




The theories included in this paper explain the variables of interest rate and unemployment level, GDP and inflation rate and the relationship that exists between them. The conceptual framework gives a visual aspect of this relationship. The conceptual framework shown above indicates that the bank lending rates is the independent variable and while the macroeconomic elements are influenced variable. The study assessed if the capping of the bank rates had an impact on the selected macroeconomic variables.

## 2.6 Summary of Literature Review

The study reviewed three theories: the liquidity preference, endogenous economic growth theory and the rational expectations theory. The theoretical literature reviewed in this investigation was to guide in understanding the effect of capping interest rates on the selected macroeconomic variables. Establishing a ceiling on the interest rate is a regulatory intervention that prevents the market aspects of supply and demand from determining the interest rates. The scope of macroeconomic variables is broad and for this study the focus was on economic growth rate (GDP), unemployment rate, and Inflation rate. The study's

findings will give a precedence for subsequent studies that can also analyze the impact of interest rate caps on other macroeconomic variables such as exchange rates and balance of payments. Past literature on the impact of interest rate caps is fairly thin, and what is available documents several potential negative consequences of such policies (Maimbo & Gallegos, 2014).

# CHAPTER THREE: RESEARCH METHODOLOGY

## 3.1 Introduction

The methodology section explains the methods employed for data collection, measurement, and analysis. The subsections of this chapter include: the research design, data collection tools, data collection methods, data analysis methods, and the analytical model.

## 3.2 Research Design

Creswell, (2014) defines a research design framework, or strategy that is utilized to find solutions to research problems. Kerlinger and Lee (1986) define a research design as an investigation's plan, structure, and strategy for answering research questions and controlling variance. For this review, the descriptive research design was used which incorporated an analysis of the selected variables prior to and during the interest rate cap period. The design played a key role in establishing the influence of interest rate caps on the selected macroeconomic variables.

## 3.3 Data Collection

Data collection is an important part of all research studies as it forms the basis for analysis of the variables. In research, the data collecting phase evaluates what information sources are most relevant in addressing the research question, as well as how to gather and organize it (Suter, 2012). For this research study, secondary data was gathered. Secondary data is information obtained from other scholars. The sources of data were the Central Bank of Kenya for the inflation rate, and quarterly GDP. Kenya national Bureau of Statistics and the World Bank for the unemployment rate. The data required was for the period between 2013 to 2019.

## 3.4 Data Analysis

Data analysis encompasses the discovery of trends or patterns in data as well as the results achieved from the analysis. (Suter, 2012). The data on the variables was arranged sequentially to facilitate in obtaining meaningful results and the SPPS program was used for this activity. The data was analyzed using the t-test of paired samples. The independent variable being the lending rates and the dependent variables are GDP, unemployment rate, and Inflation rate.

### 3.4.1 Significance Tests

In this research, the t-test of paired samples was adapted to determine if there is a difference in the mean of the variables between the two periods. The variables were measured for the period preceding the interest rate caps and throughout the interest rate cap regime. The analysis was conducted with a 95% confidence interval and a two-tailed t-test being utilized and the hypothesis tested was:

Null hypothesis $\mathbf{H_0}$: There is no significant difference in the mean of the samples

Alternative hypothesis $\mathbf{H_A}$**:** There is a significant difference in the mean of the samples

# CHAPTER FOUR:DATA ANALYSIS, RESULTS AND DISCUSSION

## 4.1 Introduction

The study's analysis, results, and findings are discussed in this chapter. This study aimed to determine the effect of capping the bank interest rate on selected macroeconomic variables in Kenya. The study relied predominantly on secondary data for the variables of bank lending rates, unemployment rate, inflation rate and gross domestic products (GDP). Data analysis was performed using the t-test of paired samples to determine if there was a significant difference between the mean of the macroeconomic variables before and during the interest rate capping period. The study was conducted for the period from 2013 to 2019 in total data of 14 quarter periods prior to the interest rate cap period and 14 quarter periods during the interest rate capping period was analyzed.

## 4.2 Diagnostic Test

For this research the diagnostic tests performed was the test for normality as the units under the study were less than 50.

### 4.2.1 Test for Normality

The normality test results for the variables before and after the cap was implemented are shown below in tables 4.1 and 4.2 respectively.

**Table 4. 1 Test for normality before interest rates cap**

| | Shapiro-Wilk | | |
|---|---|---|---|
| | Statistic | df | Sig. |
| Economic growth rate before | .958 | 14 | .686 |
| Unemployment rate before | .872 | 14 | .045 |
| Inflation rate before | .866 | 14 | .037 |

Table 4.1 indicates the p-values for the normality test and from this we see that economic growth rate p-value of 0.686>0.05 meaning that the curve approaches a normal distribution. For unemployment rate and inflation rate the p-values of 0.045 and 0.037 are less than 0.05 meaning the data set do not conform to a normal distribution curve.

**Table 4. 2 Test for normality before interest rates cap**

| | Shapiro-Wilk | | |
|---|---|---|---|
| | Statistic | df | Sig. |
| Economic growth rate after | .921 | 14 | .228 |
| Unemployment rate after | .942 | 14 | .448 |
| Inflation rate after | .855 | 14 | .026 |

The p-values for the normality test are shown in Table 4.2, and we can see that the economic growth rate and unemployment rate of 0.228 and 0.448 are greater than 0.05, indicating that the curves near a normal distribution curve. The p-value of 0.026 for and inflation rate is less than 0.05, indicating that the data set does not fit a normal distribution curve.

### 4.3 Descriptive Statistics

The project intended to evaluate the data attributes for the two periods' economic growth rate, unemployment rate, and inflation rate. The data's mean, median, maximum, minimum, skewness, and kurtosis were all taken into account. Skewness analyzes data symmetry; data is symmetric if it is similar on both the right and left sides in regard to the pivotal point. Kurtosis indicates if the data is strongly or weakly tailed in relation to the normal distribution. The kurtosis level between -2 and +2 is regarded as appropriate to represent the normal distribution of -1.96 to 1.96. The tables below show the results of the two periods.

The results from table 4.3 below, show the different statistics on economic growth rate (GDP), unemployment rate, and inflation rate for 14 quarters before the interest rate cap (Q1 2013 to Q2 2016). The results show the minimum levels for GDP, unemployment rate, and inflation rate was 3.2%, 2.76%, and 4.077% respectively. The maximum values for the same variables were 5.9%, 2.808% and 7.543% for the variables that period. The mean value for economic growth was 4.4857%, for unemployment rate was 2.78857%, while that of inflation rate was 6.36307%. The skewness results for economic growth were -0.03183 for unemployment rate was -0.66332, while that of inflation rate was -1.78559. This implies that they fall in the range of a normal distribution of -1.96 to +1.96. The kurtosis values were -0.64558, -0.92461 and 0.13778 respectively which are within the acceptable region of -2 to +2.

**Table 4. 3 Descriptive statistics preceding interest rate cap**

| | | Statistic | Std. Error |
|---|---|---|---|
| Economic growth before | Mean | 4.485714 | .2056502 |
| | Median | 4.700000 | |
| | Minimum | 3.2000 | |
| | Maximum | 5.9000 | |
| | Skewness | -.019 | .597 |
| | Kurtosis | -.745 | 1.154 |
| Unemployment rate before | Mean | 2.788571 | .0045954 |
| | Median | 2.795000 | |
| | Minimum | 2.7600 | |
| | Maximum | 2.8080 | |
| | Skewness | -.396 | .597 |
| | Kurtosis | -1.067 | 1.154 |
| Inflation rate before | Mean | 6.363071 | .2960293 |
| | Median | 6.886500 | |
| | Minimum | 4.0770 | |
| | Maximum | 7.5430 | |
| | Skewness | -1.066 | .597 |
| | Kurtosis | .159 | 1.154 |

**Table 4. 4 Descriptive statistics after capping rate**

| | | Statistic | Std. Error |
|---|---|---|---|
| Economic growth rate after | Mean | 4.828571 | .2575089 |
| | Median | 4.900000 | |
| | Minimum | 3.2000 | |
| | Maximum | 6.1000 | |
| | Skewness | -.472 | .597 |
| | Kurtosis | -.688 | 1.154 |
| Unemployment rate after | Mean | 4.119143 | .2557380 |
| | Median | 4.249000 | |
| | Minimum | 2.7600 | |
| | Maximum | 6.2000 | |
| | Skewness | .556 | .597 |
| | Kurtosis | .326 | 1.154 |
| Inflation rate after | Mean | 6.010714 | .5058166 |
| | Median | 5.516500 | |
| | Minimum | 3.9870 | |
| | Maximum | 10.7970 | |
| | Skewness | 1.504 | .597 |
| | Kurtosis | 2.093 | 1.154 |

Table 4.4 shows the summary statistics analyzed per variable during the interest rate cap regime (Q3 2016 to Q4 2019). The results show the minimum levels for GDP, unemployment rate, and inflation rate was 3.2%, 2.76%, and 3.987% respectively. The maximum values for the same variables were 6.1%, 6.2% and 10.797% for the that period. The mean value for economic growth was 4.828571%, for unemployment rate was 4.119143%, while that of inflation rate was 6.01071%. The analysis for skewness indicated that for economic growth was -0.7906, for unemployment rate was 0.9313, while that of inflation rate was 2.5193. The GDP and unemployment rate values fall within the range of a normal distribution of -1.96 to +1.96. However, for inflation rate, the data is skewed to the right. The kurtosis values were -0.5962, 0.2825, 1.8137 respectively which are within the acceptable range of -2 to +2.

A comparison of the two periods' statistics revealed that after the interest rate cap was implemented, the means of economic growth rate and unemployment rate increased, while the mean inflation rate decreased. The minimum level for economic growth rate was the same for both periods, but the maximum level during the interest cap period was slightly higher than the previous period. The minimum levels of the unemployment rate were the same in both periods, but the maximum levels during the interest rate cap were higher than the previous period. In terms of inflation, the minimum levels during the interest rate cap were lower than the previous period, but the maximum levels during the cap were higher.

### 4.4 Paired Samples Analysis

The study sought to examine if the difference in descriptive statistics on economic growth rate, unemployment rate, and inflation rate is dependable or coincidental in this section.

The results enabled the researcher to determine whether the change is significant. The comparison of the paired sample results is shown in the below.

**Table 4. 5 Paired Samples Means**

| | | Mean | N | Std. Deviation | Std. Error Mean |
|---|---|---|---|---|---|
| Pair 1 | Economic growth rate before | 4.485714 | 14 | .7694725 | .2056502 |
| | Economic growth rate after | 4.828571 | 14 | .9635101 | .2575089 |
| Pair 2 | Unemployment rate before | 2.788571 | 14 | .0171944 | .0045954 |
| | Unemployment rate after | 4.119143 | 14 | .9568840 | .2557380 |
| Pair 3 | Inflation rate before | 6.363071 | 14 | 1.1076401 | .2960293 |
| | Inflation rate after | 6.010714 | 14 | 1.8925925 | .5058166 |

**Table 4. 6 Paired Samples t-test p-values**

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|---|---|---|---|---|---|---|---|---|---|
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference Lower | Upper | | | |
| Pair 1 | Economic growth rate before - Economic growth rate after | -.34286 | 1.16468 | .31127 | -1.01532 | .32961 | -1.101 | 13 | .291 |
| Pair 2 | Unemployment rate before - Unemployment rate after | -1.33057 | .97079 | .25946 | -1.89109 | -.77005 | -5.128 | 13 | .000 |
| Pair 3 | Inflation rate before - Inflation rate after | .35236 | 2.04943 | .54773 | -.83095 | 1.53566 | .643 | 13 | .531 |

Table 4.5 summarizes the means of the macroeconomic variables before implementation of the interest rates caps and the means when the caps were operational. Table 4.6 shows the P-values from the t-test analysis. It is evident that the mean of economic growth rate increased by 0.342857, unemployment rate increased by 1.33057, whereas inflation rate decreased by 0.352357. The p-values of the economic growth rate, unemployment rate and inflation rate were 0.291, <0.001, and 0.531 respectively.

### 4.5 Discussion of the Result obtained

By comparing the means of the two eras, the review established that the mean of the economic growth rate and unemployment rate increased during the interest rate cap while that of inflation rate decreased. The research was conducted to explore the effect of interest rate capping on economic growth rate, degree of unemployment, and rate of inflation in

Kenya. According to the descriptive statistics, the implementation of the law on interest rate caps resulted in a change in the mean of the variables. The mean of economic growth rate increased from 4.4857% to 4.8285%, the mean for the unemployment rate increased from 2.7886% to 4.1191%, while that of inflation rate decreased from 6.3631% to 6.0107%.

The t-test of paired samples was done to determine whether the differences seen between the two periods were significant at a 95% confidence level. The t-test statistics guided the researcher in making the conclusions outlined in this paper. The interpretation of the results was done for each macroeconomic variable as follows. The P-value for economic growth rate of 0.291> 0.05 therefore the null hypothesis $H_0$ that the means are not significantly different was accepted. This indicated that economic growth rates were independent of the interest rate levels. The P-value for unemployment rate of was <0.001 resulted in rejection of the null hypothesis indicating that unemployment rates were dependent on the interest rate levels. The P-value for inflation rate of 0.531 > 0.05 implying that the means are not significantly different between the two periods leading to acceptance of the null hypothesis. The conclusion made was that inflation rates were independent of the interest rate level.

Low interest rates are used as an expansionary monetary policy to increase money supply and reduce unemployment rate. An increased in money supply in the economy results in an increase in investments resulting in a boost in economic growth. On the other hand, increase in money supply also prompts an increase in prices of goods in the economy resulting in increased inflation. From Keynes' thesis of liquidity preference, government intervention is necessary since the markets are inefficient. However, the classical economic school of thought advocates that the market should be left alone as it will self-adjust. The

Kenyan government by imposing interest rate caps was seeking to protect consumers from usury and create an incentive to enable “Wanjiku” and SMEs to access financial services with the aim of improving economic growth and reducing the unemployment levels. Their actions were well aligned with the endogenous economic growth model.

From the data analyzed, the move by the Kenyan government of regulating interest through the caps was ineffective. The intervention worked in the opposite direction from what was intended. The interest rate cap regime was characterized by; reduced credit availability, reduced financial product diversity, and an increase in the bank fees and commissions which made it difficult for the target groups to enjoy financial inclusivity. Adede (2015) explained that interest rates and economic growth have an inverse relationship. In this study when interest rates were lowered through the capping law economic growth was statistically insignificant. In their study Micheni and Muturi (2019) had indicated that the lending rates applied had an impact on unemployment rate ultimately, and through this research a significant shift in the mean was noted. Miller (2013) pointed out that interest rate should be applied as a short-term solution as they prove to be ineffective in the long-term. In Kenya the interest rate cap was in place for only three years and the based on the data analyzed, the study concluded that lower interest levels did not significantly influence the economic growth rate and inflation rate in Kenya but had a large impact on the unemployment levels. The policy makers who repealed this law can therefore learn from the failed experience and be more strategic in finding alternative tools of lowering interest rates in the economy and managing the other macroeconomic variables to boost the performance of the aggregate economy.

# CHAPTER FIVE: SUMMARY, CONCLUSSIONS AND RECOMMENDATIONS

## 5.1 Introduction

This chapter presents the study's results, discusses the conclusions, and makes recommendations. to provide more information to the existing pool that could assist in future surveys.

## 5.2 Summary of the Findings

The study sought to investigate the impact of rate caps on key macroeconomic variables in Kenya. The variables considered were the rate of economic growth measured using GDP rates, the unemployment rate, and the rate of inflation. Quarterly data for 28 quarters was collected and analyzed, with 14 quarters prior (Q1 2013 to Q2 2016) and 14 quarters during the interest cap regime (Q3 2016 to Q4 2019). Data was gathered from the websites of the Central Bank of Kenya, the Kenya National Bureau of Statistics (KNBS), and the World Bank. For the two periods, SPSS was used to explore the data via descriptive statistics and t-tests. The findings are used to make statistical conclusions about interest rate caps influence on the selected macroeconomic variables in Kenya.

Descriptive statistical analysis showed that the minimum level for economic growth rate was the same for both periods, but the maximum level during the interest cap period was slightly higher than the previous period. The minimum levels of the unemployment rate were the same in both periods, but the maximum levels during the interest rate cap were higher than the previous period. In terms of inflation, the minimum levels during the interest rate cap were lower than the previous period, but the maximum levels during the cap were higher.

The t-test of paired samples analysis provided the p-levels of economic growth rate, unemployment rate, and inflation rate as 0.291, <0.001, and 0.531 respectively. The conclusion drawn from the P-values was that the means for economic growth and inflation rate had no significant difference, but that of unemployment rate had a significant difference. This was interpreted to imply that both economic growth rate and inflation rate were independent of the interest rate levels while the unemployment rate was dependent on the interest rate levels. The rule of t-test analysis at a 95% confidence level is that if the p-value is larger than 0.05 then there is no significant difference in the means of the two periods. However, when the p-value is lower than 0.05 then there is a significant difference in the means.

### 5.3 Conclusion

The results obtained from this study were analyzed against the available literature both from theoretical and empirical studies. The implementation of interest rate caps was a means of ensuring that the Kenyan economy had balanced policies and strategies in place to achieve specific goals such as a significant increase in GDP, a reduction in unemployment percentage, regulating inflation rates, and maintaining currency exchange rates. The expected results were that if interest rates are lowered, then the cost of borrowing would be lower resulting in an increase in the spendings of households and capital investments by businesses. The move would stimulate economic growth which would result in increased investments and more job opportunities hence a reduction of unemployment rate. This would be in alignment with the expansionary monetary policy concept. Another expected observation is that a spike in inflation rate would be noted as

the increase in money supply would result to a surge in the prices of commodities in the economy.

The findings of this study guided the researcher to make the below conclusions. The p-value of <0.001 for unemployment indicated that interest rates and unemployment rates were connected. A significant change was noted in the mean of the unemployment rate when the interest rate caps were implemented. However, from the p-values of 0.291 and 0.531 for the economic growth rate and inflation rate same conclusion could not be made as this indicated that the change in the means was not statistically significant. From the results the researcher concluded that had the legislation on the capping of interest rates remained in operation for a longer period, the level of unemployment could have increased while the economic growth and inflation rates might remain at almost the same level. Contrary to the economic theory that at low interest rates the investment levels increase, economic growth is expected to rise, and unemployment rate is expected to decrease as new opportunities are created. The outcomes revealed that economic growth was not significant enough while the unemployment rate increased significantly instead of decreasing. The implementation of the interest rate caps was an interference of the money demand and supply forces, and this limited access to credit for "Wanjiku" and for the small and medium size enterprises. From the study the mean of the inflation rate decreased when the law was enforced which led to the conclusion that the two are unidirectional.

The interest rate caps fell short in accomplishing the objectives of financial inclusivity, improved economic growth and lower unemployment levels. The low-income households and SMEs had limited financial products available to them from the banks and this meant they had to seek alternative sources for financing.

## 5.4 Recommendation

The results of the study led to the conclusion that there was no statistically significant change in the economic growth rate and the inflation rate, but a significant change was noted in the unemployment rate. This led to the conclusion that interest rate caps are not the sole solution to balancing the macroeconomic variables even in the short-term and that policy makers should examine and combine different tools to achieve these goals. The study recommends that interest rate caps as a medium for regulating macroeconomic variables should be assessed against other monetary and fiscal policy tools before implementing. Other parameters that affect the aggregate economy interest rates should be analyzed to find effective solutions such as the market structure and asymmetry in market information.

At lower interest level it was expected that low-income households would have better access to credit but with an increase in the unemployed population, this could have potentially hindered most from accessing loans due to their credit rating. Policy makers should reconsider implementation of such a law by taking into consideration all affected groups such as businesses which generate employment and banks who provide loans. Public participation is key in making such a decision as involving the needs of all stake holders could allow for a more controlled environment which could make the interest regulations effective. Instead of implementing a blanket policy on interest rate caps, the central bank can have ceilings for different products based on the demand from consumers. Another approach would be regularizing the cost of borrowing based on business tiers or type of transaction.

## 5.5 Limitations of Study

The study considered the ramifications of interest rate caps on three macroeconomic variables namely, economic growth, unemployment rate, and inflation rate. However, we have other macroeconomic variables such as exchange rates, and balance of payments that could have been significantly influenced by the law. The study depended on secondary data for the analysis and to draw conclusions of the consequences of interest rates caps on the macroeconomic variables. One of the macroeconomic variables studied was the unemployment rate. The data for this variable was mostly in form of annual data from 2013 to 2018. However, the KNBS has implemented a program that now reports the unemployment rates on quarterly basis form the year 2019.

A major limitation for this research was the limited period of the study as the interest rate caps only lasted for three years (from September 2016 to November 2019). Such a short period of time could not effectively capture the long-term effects of such a law on the macro-economic variables and a longer period could provide more reliable information. The research looked at the impact of interest rates caps as a sole event influencing macroeconomic variables ruling out the likelihood that other parameters may have contributed to the performance of these variables during the period under study.

## 5.6 Suggestions for Supplementary Research

The study's findings necessitate the essence for additional research in this topic of effects of interest rate caps on macroeconomic variables. A researcher could investigate the impact of interest rate caps on other macroeconomic variables like exchange rates and the balance of payments. Other countries such as Nigeria and Japan use interest rate caps in

segmentation criteria instead of having a blanket law and the study recommends research on the effects on the interest rate caps on macroeconomic variables in such a setup.

In 2019, the finance bill was signed to remove the interest rate capping which lasted for only three years. The repeal aimed at allowing the free-market concept where market dynamics determine the interest rates in the economy. In Kenya the law existed for a limited period of time and the study recommends that research could be conducted in countries that have kept interest rate caps in place for longer periods of time than Kenya. Different research could be done to figure the impact of eliminating interest rate restrictions on the macroeconomic variables.

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## APPENDICES

### APPENDIX I: Data for period before interest rate capping

| PERIOD PRIOR TO INTEREST RATE CAP | | | | | |
|---|---|---|---|---|---|
| **Year** | **Quarter** | **Lending rate (%)** | **Economic Growth rate (%)** | **Unemployment rate (%)** | **Inflation rate (%)** |
| 2013 | Q1 | 17.900 | 3.60 | 2.808 | 4.077 |
| | Q2 | 17.430 | 4.70 | 2.808 | 4.367 |
| | Q3 | 16.947 | 3.70 | 2.808 | 6.997 |
| | Q4 | 16.960 | 3.20 | 2.808 | 7.423 |
| 2014 | Q1 | 15.993 | 4.90 | 2.795 | 6.780 |
| | Q2 | 16.747 | 5.90 | 2.795 | 7.033 |
| | Q3 | 17.000 | 5.10 | 2.795 | 7.543 |
| | Q4 | 16.317 | 4.30 | 2.795 | 6.180 |
| 2015 | Q1 | 15.620 | 4.80 | 2.777 | 5.817 |
| | Q2 | 15.573 | 5.00 | 2.777 | 6.993 |
| | Q3 | 16.083 | 4.70 | 2.777 | 6.143 |
| | Q4 | 17.347 | 5.30 | 2.777 | 7.350 |
| 2016 | Q1 | 17.927 | 3.80 | 2.760 | 7.023 |
| | Q2 | 18.147 | 3.80 | 2.760 | 5.357 |

### APPENDIX II: Data from the era while interest rates were capped

| PERIOD DURING THE INTEREST RATE CAP | | | | | |
|---|---|---|---|---|---|
| **Year** | **Quarter** | **Lending rate (%)** | **Economic Growth rate (%)** | **Unemployment rate (%)** | **Inflation rate (%)** |
| 2016 | Q3 | 16.540 | 4.40 | 2.760 | 6.333 |
| | Q4 | 13.687 | 4.80 | 2.760 | 6.500 |
| 2017 | Q1 | 13.653 | 5.40 | 3.513 | 8.770 |
| | Q2 | 13.660 | 3.30 | 3.513 | 10.797 |
| | Q3 | 13.680 | 3.20 | 3.513 | 7.523 |
| | Q4 | 13.677 | 3.50 | 3.513 | 4.983 |
| 2018 | Q1 | 13.607 | 5.20 | 4.249 | 4.490 |
| | Q2 | 13.237 | 6.10 | 4.249 | 3.987 |
| | Q3 | 12.847 | 5.30 | 4.249 | 4.697 |
| | Q4 | 12.557 | 6.00 | 4.249 | 5.607 |
| 2019 | Q1 | 12.493 | 4.80 | 6.200 | 4.397 |
| | Q2 | 12.480 | 6.00 | 4.700 | 5.590 |
| | Q3 | 12.440 | 5.00 | 5.300 | 5.033 |
| | Q4 | 12.350 | 4.60 | 4.900 | 5.443 |

## APPENDIX III: Data Sources

1. Quarterly lending rates were obtained from the Central Bank of Kenya website.
2. Quarterly economic growth rates were obtained from the Central Bank of Kenya website.
3. The unemployment rates from 2013 to 2018 were obtained from the world bank website. The quarterly data for 2019 was sourced from the Kenya national bureau of statistics website.
4. Quarterly inflation rates were sourced from the Central Bank of Kenya website.