

**AN ANALYSIS OF CROWDING-OUT OF PRIVATE SECTOR BY GOVERNMENT
BORROWING IN KENYA**

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DECLARATION

This project is my original work and has not been presented for a degree in any other university or any other award.

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DEDICATION

To my dear parents and my beloved family

ACKNOWLEDGEMENT

I would like to thank Almighty God for providing me life and well-being during my studies. I also appreciate my supervisor Dr. Charles Nzai for guidance and dedication to my supervision. Special gratitude also goes to my workmates, fellow students and friends for their moral support.

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ABBREVIATIONS AND ACRONYMS

ADF	Augmented Dickey Fuller
ARCH	Autoregressive Conditional Heteroscedasticity
ARDL	Autoregressive Distributed Lag Model
CBK	Central Bank of Kenya
ESF	Exogenous Shock Facility
IMF	International Monetary Fund
GDP	Gross Domestic Product
OLS	Ordinary Least Squares
VAR	Vector Auto Regression
VECM	Vector Error Correction Model

OPERATIONAL DEFINITION OF TERMS

Crowding Out	It is a situation in which government actively borrows internally leading to increase in real interest rate resulting a decline in savings available to private investors
Credit	Contractual accord where a borrower gets something of value now and agrees to pay the lender at a later time, normally with interest.

ABSTRACT

The government of Kenya has been running budget deficits every year of its national accounting. The government has therefore been forced to borrow either from the domestic or external financial markets to bridge those deficits to offer its citizens services. Government borrowing creates other macroeconomic problems in the economy. The objectives of the research were to evaluate the determinants of government borrowing and the effects of that borrowing on private sector credit, the crowding out impact of state loans. Two models for each objective with clear variables based on economic theory were constructed for estimation where variables included government borrowing or domestic debt, budget deficits, lending rates, efficiency of tax agency, private sector credit and political factors. Data was collected from reports published by government agencies for period 1990-2021 and data analysis techniques included the Auto Regressive Distributed Lag model. Co-integration and unit root tests were done prior to analysis. Domestic government borrowing is determined by the level of budget deficit, domestic savings, inflation rate in economy and lending rates. Budget deficit and inflation rate were both found to positively and significantly determine government borrowing in the long-run, while else domestic savings and lending rate were found to be negative and significant in determining domestic government borrowing. The research findings on the impact of loans acquired by government on free enterprise economy capital in Kenya showed that domestic government borrowing negatively and significantly affect the level of private sector capital. The crowding out effect is huge as a percentage rise in loans acquired by government causes six percent of private sector investors crowded out of investment. Interest and lending rates were found to negatively and significantly affect private sector capital level. Based on the study findings, budget deficit should be minimized as much as possible by reducing unnecessary government expenditure. Similarly, domestic savings should be encouraged as this stimulates domestic investment due to availability of stock of capital for investment. Inflation rate should be maintained as low as possible below 5 percent in order to stimulate government borrowing. Lending rates should be kept low by central banks to increase lending by commercial banks as this ensures enough money is in circulation to facilitate borrowing and investment by the government in key sectors. Domestic government borrowing should be discouraged as much as possible, other sources of funds should be sort to finance expenditure such as health, infrastructural development, education and manufacturing. The study has demonstrated that state loans from local sources causes crowding out of the private sector investment and has also recommended ways through which state loans from local sources can be reduced to ensure private sector investment and spur economic growth of the economy

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

1.1.1 The Crowding-Out Effect

Crowding-Out Effect describes the cutback in investments in the private sector brought about by an increment in expenditure in the public sector. Whenever the states expenditure goes above the usual amount, it can prompt a rise in state loans (Ahmed & Miller, 2000). This consequently raises the demand for credit reserve. Such an addition brings about an increase in lending rate and a reduction in the quantity of money at hand to meet the requirements for investment of the private sector. Consequently, such actions by the government crowds out the private investment in the country, that is, individuals and businesses of all sizes are forced out, or “crowded-out” of the market (Cruz & Teixeira, 1999).

The link between private investment and state borrowing is a perpetual matter in economic development and growth based on many empirical and theoretical academic documents that have been authored to form a concept if state borrowing brings about crowding in or crowding out Macfarlane, *et al.*, (2017). Proper use of loans could bring about enhanced growth in the economy and thus, improved living standards, Kendren (2009). To enhance the effectiveness of state loans, there is need for comprehensive reforms in the administration of public finances. Nonetheless, in many instances, loans have not been adequately put into service, for example, projects funded by loans from international bodies have, due to insufficient planning, failed to produce enough resources to pay back the borrowed loan. Whittaker (2007) states that funds should be borrowed with the sole purpose of “assisting reduce poverty by having confidence in the norms of work and entrepreneurial potential of the poorest people in the world”. Nonetheless, sometimes the locally acquired loans are used

for recurrent expenditure and not investment and manufacturing. As a result of these opposing views, crowding out effect has been discussed for over a hundred years in various forms and will continue to be debated.

1.1.2 Government Borrowing and Domestic Debt in Kenya

Governments normally get loans from local financial institutions or foreign lenders in situations when public expenditure is way above current revenue (Fayed, 2012). Domestic Public Debt is the accounts collectible owed to bearers of Government securities such as Treasury Bonds and Bills. Domestic debt is issued on behalf of the Government by floating Treasury bonds and bills through the central bank of Kenya. Domestic debt is also made up of securities against small savings and market stabilization schemes. In Kenya, loans acquired locally is used for different purposes including funding the recurrent budget deficits when the government is unable to meet its budget obligations with the locally collected revenue and grants sourced externally and loans. Domestic debt is also used for execution of monetary policy via open market activities and also the state can use debt tools for financial markets enhancement (Hasnat & Ashraf, 2018). The reason for getting loans is also to impact demand for keeping up a stable economy (Ouattara, 2004). Table 1.1 presents a breakdown of Domestic Debt in Kenya.

Table 1.1: Percentage distribution of Domestic Credit in Kenya

Years	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Total Domestic Credit (Millions)	1,271.6	1,532.1	1,727.7	1,957.5	2,329.0	2,793.9	2,973.2	3,279.3	3,450.2	3,660.5	4,340.9
National Government (%)	27.3	21.4	24.5	21.0	8.8	18.8	19.9	22.8	24.9	24.6	31.3
Other Public Bodies (%)	1.7	2.0	2.9	2.0	2.1	3.0	3.5	3.4	2.9	2.5	2.1
Private Sector (%)	70.7	76.6	75.0	79.5	80.9	78.3	76.5	73.7	72.2	72.9	66.6

Source: KNBS, 2021

Table 1.1 shows the distribution of credit among the national government, government agencies and the private sector. Total domestic credit has been increasing over the years however; the proportion available to private sector is declining over the same period. Access to loans by the National Government and other public bodies has been increasing from about 23 per cent in 2013 to 33.4 per cent in 2020. However, loans to private sector declined from 79.5% in 2013 to 66.6% in 2020. Slowing down loans to the private sector has been associated with many elements along with the enactment of the interest rate cap that became effective in September 2016; rise in non-performing loans, effect of winding up of three commercial banks; impact of liquidity shock in 2015/2016 and inability of minor banks to acquire credit in the interbank market. In spite of the borrowing rate ceiling, credits advanced to the Government have gone up tremendously leading to crowding-out of vital sectors of the economy as well as manufacturing and production. Moreover, Table 1.1 above indicates that domestic debt has been rising throughout the period 2010 to 2020. The national government's borrowing also indicates that it was crowding out private sector borrowing between the periods because as national government borrowing increased it can be observed that the private sector received less credit from the financial institutions.

Kenya's economy for many decades has been marked by inadequate revenue driving the government to rely on getting loans from internal and external sources to fund deficiency in the budget. Moreover, more public sector entities such as the County Governments and State Corporations also get loans from separate sources (Republic of Kenya, 2013). Because of recurrent expenditure, the Kenya government has been weighed down by public debt adding up to Ksh 5 trillion in 2018 which is equivalent to 58% of GDP (Republic of Kenya, 2018)

Those in authority in government have always been in the spotlight for engaging in imprudent taking of loans from internal sources and thus suppressing growth by denying private sector access to credit within the financial market which is still relatively not adequate enough to meet the demands of both government and private sector (Lau, Tan & Liew, 2019). The assertion warrants significant observation in the context of the nation's urgent need to an improved economic expansion. The growth standard in the country in the past has been quite reasonable at about 5% annually. However, halving poverty by 2030 which is a crucial millennium development objective requires that the growth rate improve significantly. The country's blue print, the Vision 2030 expected GDP growth rate of 10% plus annually from the year 2012. Furthermore, the unemployment rate at about 40% is yet to be reduced. It is clear that in the current state, the economy should strive at achieving growth impetus. Figure 1.1 shows the trends of Debt to GDP Ratio for the years 1990 to 2021. Figure 1.2 shows the budget deficit for the financial years 2009/2010 and 2020/2021.

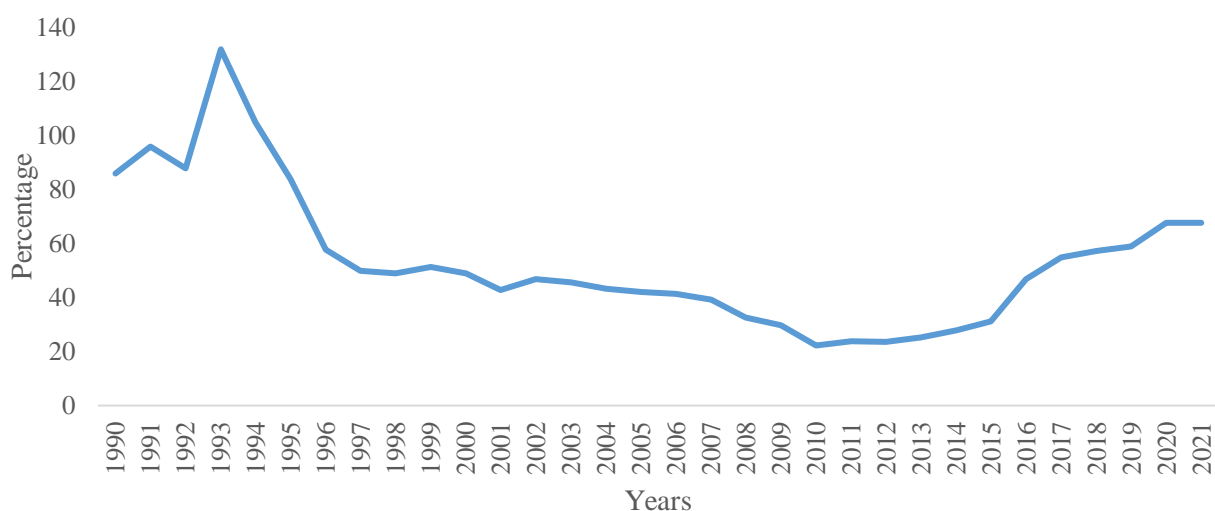


Figure 1.1: Debt to GDP Ratio in Kenya
Source: IMF, 2022

Based on Figure 1.1, the debt to GDP ratio was at its lowest of about 22.24 per cent in 2010 and has been on a steady increase of up to 69.73% in 2021. The figure also shows that in 1990s debt to GDP ratio was relatively high of over 90 percent indicating that a larger proportion of Kenya GDP was going for debt repayment at the expense of service provision in key sectors of the economy. However, post 2000 the ratio is on the declining trend leading to the growth of the private sector. From 2010, debt to GDP again starts to increase constraining credit availability to the private sector leading to crowding out of the key sector that provides employment opportunities, production of goods and services as well as revenue generation to the government. This can further be elaborated by Figure 1.2 which shows that the budget deficit relatively decreases between 2009/10 and 2010/11 financial years and sharply increases to -9.11 per cent in 2015/16 financial years, then further to -9.22 per cent in 2016/17. The deficit then started to decline to -7.06 per cent in 2017/18 financial year (Republic of Kenya, 2021).

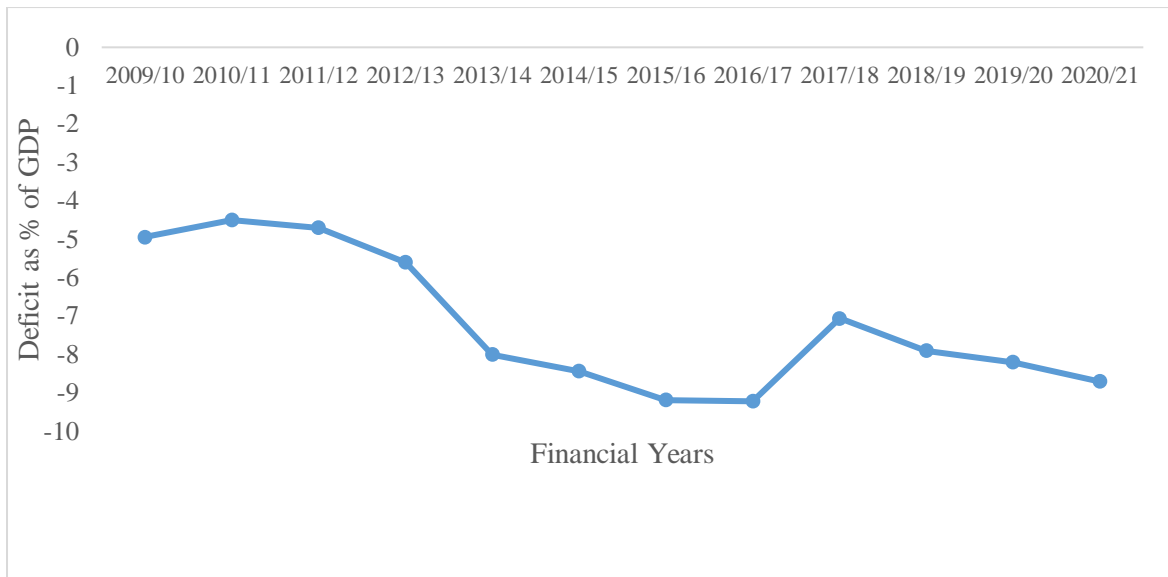


Figure 1.2: Budget Deficit in Kenya
Source: National Treasury, 2021

Figure 1.2 shows that budget deficit in the country was at its lowest in 2010/11 standing at -4.5 per cent of GDP but started rising hence forth to a record of above -9 per cent of GDP in 2016/17. Generally, other than the year 2010/11 where budget deficit showed an improvement where it dropped all the other years 2009 to 2017 the country's budget deficit rose. In relation to Table 1.1, it may be presumed that rising budget deficit led to increased loans acquired by the government thus crowding out the private sector in the country. The budget deficit forces the government to borrow more from both the external and internal sources to bridge the gap. Government can resort to borrow internally and with the limited credit available, the amount left for the private sector diminishes and if the process continues eventually crowds out the private sector investment (Švaljek, 2009). This indicates the reason as to why government should not resort to internal sources of credit but seek from the external sources such as International Monetary Fund (IMF), World Bank and other corporate lenders in the world market.

1.1.3 Private Sector Financing in Kenya

Kenya has an active private sector, primarily consisting of small informal businesses with less than five employees. There are 7.4 million micro, small scale and medium businesses in the nation, most of which need additional finance to recover from the detrimental effects of the COVID-19 pandemic. A private sector that is prosperous is key to attaining the goals of Vision 2030 in the country. Moreover, the accomplishment of Vision 2030 is hugely based on the part played by the private sector in attaining the nation's output targets and, in doing so, generating substantial job opportunities and wealth. Kenya greatly depends on funding support from donors and has traditionally paid attention to capacity building than projects that generate revenue (Were, 2011). In the infrastructural sector for instance, Kenya is faced with a huge infrastructure funding deficit approximated at \$2.1 billion per year, which inhibits development and output. Continuous spending of about \$4 billion annually is essential in meeting the nation's infrastructure requirements. With public debt currently at about 57 percent of GDP, this shortfall cannot be covered by resources from public. The nation ought to implement the public-private partnership framework to address the financial deficit in the infrastructural sector. The World Bank Group approximates that enhancing infrastructure funding could increase Kenya's per capita output rate by three percent (Murungi & Okiro, 2018).

Private sector credit is a key path for private investment in emergent countries like Kenya. Loans acquired locally by private sector as capital are advanced by financial institutions via purchase of non-equity securities, loans, trade credits and other invoices that start off an appeal for payment (McLeay, Radia & Thomas, 2014). The financial institutions comprise deposit money banks, monetary authorities, and other financial institution's where information is obtainable. Private sector development and investment are key in lowering

poverty level. In comparison with public sector endeavors, private investment mostly in competitive markets has massive prospects to support growth. Private markets are the main mechanism of producing fruitful jobs and higher earnings (Ramírez, 1994). An empirical examination of the assertion of the importance of private sector credit to stimulate economic expansion and the adverse effects of government borrowing to frustrate growth of private credit was therefore necessary (King'wara, 2015). This study hypothesizes that if there is enough cash in the financial system, loans by the government may not necessarily influence private investment and government borrowing in Kenya is majorly a political matter than economic one.

1.2 Statement of the Problem

Practically, for many countries around the world particularly the developing countries, the easiest option for governments is to acquire loans from either local or foreign markets to solve the problem of budget deficits. Government borrowing due to budget deficits then creates domino effects in the economy such as a rise in borrowing rates and eventually leading to crowding out of the private sector. Kenya has not been an exception to this scenario. The government of Kenya has suffered budget deficits for many years and has resorted to both domestic and external borrowing to bridge budget deficits. As a result, the country's private sector has been crowded-out from the domestic capital market resulting in decline in private sector investments. The country's economic blue print, the Vision 2030 is anchored in private investments and the country will not achieve the targets set in the vision as long as the private sector is starved of capital due to government borrowing from internal sources (King'wara, 2015).

Studies on crowding-out phenomenon in Kenya are still necessary in relation to similar studies done in the country because, one, the studies by Lidiema (2018); and, Mutuku and Kinyanjui (2018) did not cover adequately the period when the country adopted a devolved system of 47 county governments which naturally has direct implications on government borrowing and consequently crowding-out phenomenon. These studies revealed mixed results of the crowding-out phenomenon in the country which warrants further research. Mutuku and Kinyanjui (2018) observed that crowding-out phenomenon in the country is a short-run outcome while Lidiema (2018) observed that crowding-out of the private sector in the country is a long term phenomenon. Even though the above mentioned studies focused on the effect of government borrowing both in short-run and long-run, none of them considered the analysis of crowding out of private investment by government borrowing in Kenya that the current study is anchored on.

1.3 Research Questions

- i. What are the determinants of government borrowing in Kenya?
- ii. What is the magnitude of the crowding-out phenomenon in Kenya?

1.4 Objectives of the Study

The general objective of the research is to conduct an analysis of the crowding-out phenomenon in Kenya. The specific objectives were:

- i. To investigate the determinants of government borrowing in Kenya.
- ii. To estimate the magnitude of the crowding-out phenomenon in Kenya.

1.5 Significance of the Study

Credit creation by commercial banks in Kenya is inadequate and government borrowing is equally becoming a chronic problem for the country. The study's key stakeholders who will benefit from its findings are therefore government agencies like the National Treasury and Central Bank and the country's commercial banks. The civil society who represents the interests of the 'common man' will also get the opportunity to acquire knowledge on crowding out and government borrowing that facilitates their initiatives in championing the interests of their constituents. Lastly, by addressing the gaps that were noted in both the empirical and theoretical literature that was reviewed, the research findings are an addition to available knowledge.

1.6 Scope of the Study

This study used time series data for the time between 1990 and 2020. The study's variables such as budget deficits, loans by commercial banks, interest rates and interest rate regimes have been in play in the country's economy during this period of study. This period of study is equally current and would therefore provide the latest status on the behavior of these variables.

1.7 Organization of the Project

The project is arranged in five different chapters. The first one covers Study Background, Problem Statement, Research Questions, Study Objectives, Significance of Study, Study Scope and Project Organization. The second chapter comprises the Review of Literature and covers Introduction, Theoretical Literature, Empirical Literature and Summary of Literature. The third one comprises Methodology of Study and covers Introduction, Research Design, Definition and Measurement of Variables, Data Collection Procedure and Analytical

Techniques, Theoretical Framework and Model Specification. The fourth one comprises Empirical Findings of the Study. The fifth chapter contains the Summary, Conclusion and Policy Implications of the research. Lastly the project provides References.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction.

This chapter comprises the theoretical and empirical literature reviewed on government borrowing, crowding out effects and credit creation by commercial banks. The first section reviewed the theoretical foundations that this study was based on with clear discussions on the interrelations between the variables at play in them. The second section reviewed empirical studies carried out on these phenomena while the last section attempted to bring out the gaps that this reviewed literature had and which this study intended to fill.

2.2 Theoretical Literature

There are many theories on which government borrowing, crowding out effects and credit creation are anchored on. Some of the theories are discussed below:

2.2.1 Crowding-out Theory

Crowding out is the tendency of reducing private or individual consumption as an outcome of enhanced government spending or a circumstance in which operations that are private reduces due to increased operations of the government in the financial sector (Buiter, 1990). This mainly is when the national government increases spending financed by taxation implying more taxes has to be collected hence reducing disposable income of individuals and therefore affecting consumption. On the other hand if the spending has to be increased without increasing tax revenue, then governments always resort to internal borrowing reducing funds available for private investment hence crowd out the sector from the financial space. Murungi & Okiro (2018) the entry of government to secure loans reduces amount of loan available to high risk individuals or private sector as a whole leading to a decline on the private investment hence affecting service delivery and limiting employment opportunities.

Most countries particularly in developing nations operate a deficit budget where the revenue generated is far much less than the expenditure in any financial year. In such a case, the government resorts to external loans to fund budget shortcomings. Although in rare circumstances this does not influence the internal rate of interest and amount of money available to the private sector for loans, the likelihood of crowding out the private sector is quite high (Mlachila, Loko & Beaugrand, 2012). Murungi & Okiro (2018) argued that if the deficit comes from the expenditure of domestically produced goods, then, external borrowing resort by the government causes a rise in exchange rate which in turn causes crowding out of the private exporters and producers. On the other hand, when the government borrows whether internally or externally to produce services and goods that complements or counteracts those that the private sector provides would possibly lead to crowding out effect, signaling bankruptcy in the government that later affects investment opportunities within the private sector.

The theory is relevant to the research as it shows how public borrowing simultaneously brings about crowding out of the private investment in economy in which there is increased government borrowing both internally and externally. The weakness of this theory is that it does not show the model on how this transmission effect occurs. Nonetheless, those who make policy decisions should take into consideration how public borrowing brings about crowding-out effect on private sector investment, via whatever medium applied by the national government, and to what extent to which the action outweighs the benefits accrued from the use of borrowed money or value for money is realized by the public as is argued by the classical economists (Chhibber, 1988).

Yap (1990) and Borensztein (1990) established that external debt negative effects weakened private sector investment. Edo (2002) also affirmed that public debts negative affect investment in developing countries which Kenya is a member, this was due to increase in public expenditure, balance of payment problems and interest rates leading to increase debt volume. Measures suggested by the theory to curb debt accumulation were; export promotion, privatization and expanding capital markets through structural adjustment programs. Even though the theory articulates determinants of debt, measure to address the problem, the theory fails to scientifically explain how external borrowing brings about crowding out of the private sector which is its shortcoming.

2.2.2 The Debt Overhang Theory

It is mostly used in the field of economic growth against borrowing by the public which is always perceived to have a negative relationship between debt volume and investment level leading to low capital formation, this negative connection is known as debt overhang (Krugman,1988). The theory opioned that repayment of the outstanding debt always falls below the real value, implying that the current value of the allocated resources do not match the value of the outstanding loan.

Sachs (1989) together with Bulow & Rogoff (1990) argued that economies that are heavily debt distressed normally results to distortions and eventually slows down the economic growth of both private and public sectors. Further, servicing of these debts exhausts a larger percentage of a country's revenue such that possibilities of a country getting back to normal growth path is almost close to impossibility. Levy-Livermore & Chowdhury (1998) suggested that the effect will still be felt on investment even if structural programs are implemented to check on government borrowing, the theory states that debt overhang does

not occur due to accumulation of capital stock but also through changes in debt repayment environment which delay repayment hence increasing the debt stock in the economy.

Public debt in Kenya has become a burden for the future generations as debts incurred today will be paid in future with an interest (Were, 2011). It is estimated that the public debt is likely to reduce consumption level in Kenya over lifetime as the money invested in development projects available over lifetime consumption may not decline. The theory is applicable as there is likelihood that public debt volume will outweigh the ability of the country to repay thereby becoming unsustainable resulting to decline in private investment as a lot of funds will be used to service debt.

2.2.3 Credit Creation Theory

The theory was first applied in the banking sector during the first in eighteenth century by John Law Economist Frenchman. John Law was a mercantilist when blood circulation was discovered and together with other scholars MacLeod, Keynes, Albert Hahn and Hayek agreed that credit creation was the blood of the society. The theory is mostly discussed in textbooks on the money multiplier concept of credit creation, little has been talked about in academic books on the same concept within the banking. The proponents of the theory believed that banks do not require deposits in order to issue loans as the core mandate of banks is to create credit as it is useful for economic activities such as production, investment as well as capital accumulation (MacLeod, 1906).

2.3 Empirical Literature

Various studies have been done to ascertain the best theory to explain the functioning of banks Turner (2012), Werner (2014) & Werner (2016), on financial intermediation theory, credit creation and fractional reserve theory, the empirical findings were that it is only the credit creation theory that explains social optimum allocation of resources among different economic sectors in the economy. Theory holds that money is the most advance and abstract nature of credit as compared to credit and wealth. It comes from endogenous exchange process that comprise of credit transfer, obligation and termination where it creates both claim and repayment obligation. Hahn (1920) maintained MacLeod opinion but diverted a little bit by believing that it is not only savings that creates credit as commercial banks can create credit without necessarily savings from the members but from capital formation. Through technological progress and labour in the economy, credit boost capital formation.

A study done by Lidiema (2018), on the effect of loans taken by the government on investment by private sector in Kenya found that internal borrowing has significant negative relationship with overall gross fixed capital accumulation which diminishes in future or in the long term. Further, the study opined that continuous loans that the government takes domestically have a deleterious effect on investment which in the end affects the economy. The research proposed that proper blue print should be put down to guard domestic borrowing and internal interest rates but stimulate the growth of small and micro enterprises that encourage the economic development of the nation. The research adopted time-series data for a period of 39 years collected from World Bank on study variables such as gross fixed capital formation as dependent variable with gross domestic per capita, domestic debt, lending rates, domestic credit to private sector, external debt as independent variables. Auto Regressive Distributed Lag (ARDL) was used in testing the co-integration while cumulative

sum squares and cumulative sum tests were conducted to find out short and long run stableness of the variables coefficients.

According to Ado & Ibrahim (2019), while investigating the connection between government borrowing and the growth of public sector in Nigeria, found that there is a higher chance or capacity by the government to take loans than the private sector hence in the end crowd-out the private sector which negatively affect the advancement of the sector. The research suggested that both monetary and fiscal policies that enhance the growth of private sector should be adopted to improve the growth of the private sector. The Vector Auto-regression model was adopted in the examination of time-series data gathered on the study using variables like credit growth to government sector, credit to private sector, interest rates and domestic debt. Multivariate co-integration was adopted in testing co-integration between the variables.

A study done by Lau, Tan & Liew (2019) to find out the impact of public loans on private section investment in Malaysia found that public loans crowds out private section investment in both long and short run hence lowering the output of the private sector which is key in the provision of the employment opportunities in the nation. The research recommended that government ought to maintain a healthy debt levels that encourage the growth of the public sector rather than crowding out of the sector.

According to Cooray (2019), while studying the influence of public loans on the private section in Sri Lanka found that domestic borrowing by the government does not lead to crowding out of the private but rather leads to inflation in and/or indebtedness of the economy. This implies that government can actually finance deficits in the budget without

necessary affecting the investment in the private sector, this can be achieved through employment of monetary policies to curb the negative effects on the private investment. The study used time-series data for a period of 54 years from 1960 to 2014 on study variables such as private investment as dependent variable while interest, gross domestic product and public borrowing as independent variables. Vector Auto-regression model was adopted to analyze the research after undertaking time-series pretest analysis on the study variables. The study opined that internal borrowing by the government has no crowding out effect but only affect inflation rate in the economy as well as debt distress an area that the current study determined to obtain the right position of government borrowing on private investment.

Hasnat & Ashraf (2018) carried out a study to investigate long run crowding out in private sector as an outcome of government internal loans interest rates sensitivity and fiscal deficit induced interest rates significantly crowd out private investment in India. Auto-regressive distributed lag approach was adopted to analyze the impact of borrowing rate sensitivity on private investment while granger causality was used to fiscal deficit induced interest rates on private investment as well as two-tier undertaking to investigate the existence of financial crowding out impact on the private section investment. Time-series data was gathered on research variables like market capitalization as dependent variable used as a proxy for private investment while interest rates, government bond capitalization and commercial bank credit as independent variables.

Ayturk (2017), examined the impact of government loans on corporate investment in 15 advanced countries in European countries between 1980 and 2014 found that government borrowing significantly determine corporate investment in developed nations. Further, the study opined that there is a negative link connecting private investment and government

borrowing levels in any given countries under study. Additionally, the study found that increased government borrowing crowd-out private sector investment, at the same time, large investment firms which are more credit worth were found to be more sensitive to government borrowing than those which are financially fixed. The study used panel data from the 15 developed countries in European nations on study variables such as government net debt as dependent variable while inflation rate, price levels, gross domestic product, return on equity and yield on bonds as independent variables.

Zaheer, Khaliq & Rafiq (2017), did a study to investigate the influence of government loans got from domestic commercial banks on private sector investment. The outcome was that of a significant negative influence of government loans affecting credit worthiness of the private sector as one percent increase in government loans causes an 8 percent crowding out of the private section in Pakistan because of reduction in loanable funds. However, banks' lending capacity was established as positively significant to private section investment while discount rate had a negative coefficient which was statistically insignificant due to low variability in concession rate during the duration of the study. On the other hand, industrial production index had a minimal significant positive impact on the private section credit while consumer price index was statistically insignificant. The study applied vector correction model (VECM) with monthly data from 1998 June to 2015 December on study variables such as private sector loans by commercial banks as the dependent variable while government borrowing, discount rate, lending capacity growth, industrial production index growth, and consumer price index as the independent variables.

A study done by Ehalaiye, Botica-Redmayne & Laswad (2017) on determinants of government borrowing in Zealand found that income level is a major determinant of

government borrowing rather infrastructural spending. Similarly, spending on other assets such as education, health leads to increased government borrowing. Further, interest rates in the country and natural disaster and calamities leads to increased borrowing in order to address these problems affecting economic growth as well as the well-being of the citizens. Panel data from 17 cities in Zealand was used to analyze the study using variables such as government debt as the dependent variable with capital expenditure on infrastructure, revenue rates, other income other than revenue, other assets apart from infrastructural assets, funds for own investment as the independent variables. The results showed that revenue rates, other assets apart from infrastructure and other income apart from revenue were found to be positive and significantly influence with government loans. In addition, finances for own government investment negatively affected government borrowing in Zealand over the period of study.

According to Tkačevs & Vilerts (2019) while studying on impact of government borrowing on fiscal discipline and the subsequent influence on the magnitude of investment in the private section established that borrowing locally by the government negatively and significantly affect private sector investment implying that increase in government borrowing lead to decline or deterioration of the fiscal policy in the country which eventually negatively affect private sector investment. The exploration research methodology with panel data obtained from member states on fiscal policy as dependent variable, debt to gross domestic product, output level, government borrowing costs and political stability as independent variables from 1985 to 2015. Based on the study findings, the research suggested that interest rates should be moderate as low interest rates encourage government borrowing which eventually leading to crowding out of the private sector.

2.4 Summary of the Literature

The discussion above proposes that there are no irrefutable empirical outcomes on whether extra loans acquired by government can lead to crowding-out or not. Some arguments favor crowding-in but others support the crowding-out impact. The arguments above have also differed on the rationale of government borrowing as well and have not consented on what exactly amounts to sustainable government borrowing. By and large, it is considered that the impact of loans acquired by government on private investment varies with situations depending on the current socio-economic circumstances of a country under analysis especially the nature and level of development of its financial market. Nevertheless, it is unanimous that private sector requires capital for it to grow and therefore this study chose the school of thought that government borrowing crowds out private investments particularly given the fact that Kenya's economy is dominated by the private sector.

Unlike the empirical studies that have been reviewed above, this study was unique in that it had adopted the model that incorporates political influence as one key variable in determining government borrowing. In analyzing the effect of government borrowing on private credit, the study while supported by theory had used unique variables in its model than those used by the studies reviewed. For example, this study considered the variables used by the latest study done on the subject matter by Kenya Bankers Association such as External Debt, Domestic Debt and Gross Domestic Product per capita Rate as unnecessary and misplaced and included budget deficit as a variable which in this study was more appropriate in explaining government borrowing than external debt because external debt would be reflected as part of the budget deficit if any.

CHAPTER THREE

METHODOLOGY

3.1. Introduction

The chapter presents research methodology that was used in doing examinations on study objectives. It covers research design, empirical model, theoretical framework, data collection and data analysis techniques and definition and measurement of variables.

3.2 Research Design

This study utilized a non-experimental design. In it, the researcher could not misrepresent, alter or control the predictor theme or variable but rather relied on observations, interactions or interpretation to arrive at an inference. Usually, this means non-experimental research depend on correlations thus tend to have an external validity of high level thus results could be assumed to represent a bigger population.

3.3 Theoretical Model

3.3.1 Determinants of Government Borrowing in Kenya

The theory underpinning objective one of the study was the model of the members of "new political economy" depending on positive perspective. It disregards the supposition of the government as a kind cordial planner, and presumes that those in authority select source of financing on account of the interests and specific restrictions established by institutional authorities (Heinemann & Illing, 2002). The models therefore include the influence of politics in government borrowing which the other theories ignore and it is for this reason that this study adopted this model. This model asserts that fiscal debt and deficit were outcomes of political disagreements between different groups of citizens (future and present politicians) because of disagreements over capital formation (Alesina and Tabellini, 1990) or regarding common expenses (Persson and Svensson, 1989). The models presume that institutions that handle budget decide on the size and deficit and that a

huge budget and fiscal shortfall are an outcome of financial indiscipline. Based on the foregoing arguments, this model of government borrowing could be mathematically stated as follows:

$$G_b = f(P_f, M_y) \dots\dots\dots 3.1$$

Where,

G_b = Government Borrowing

P_f = Political influences on debt

M_y = A host of macroeconomic variables such as interest rates, savings influencing debt.

3.3.2 Effects of Government Borrowing on Private Sector Capital in Kenya

The second objective of the study was theoretically anchored in the crowding out theory. Crowding out in this study is the phenomenon where government borrowing from the domestic financial market denies private sector credit for investments. Theoretically, crowding-out generally happens where public authorities borrow from the domestic market resulting in emergence of a capital crisis because of too much demand which pushes up the borrowing rate leading to a reduction in private investment. The effects of government borrowing in domestic market are debatable with regard to crowding out and crowding in. For example, if borrowed funds are used up to develop services and goods which are regarded as a replacement for services and goods produced in private, the trust in the private investors is lowered leading to a decrease in private investment. Alternately, in a situation in which public institution takes loans to deliver things that complement private sector products, there is a chance that it could lead to crowding-in impact as opposed to crowding-out effect even in a stringent money market conditions. Generally, policy makers should have knowledge on public borrowing in relation to crowding-out effect on investment through different channels and whether or not the damaging impact of such measures is greater than their benefits. From the foregoing argument, crowding out effects can formally be stated as follows:

$$PSC = f(G_b, M_y) \dots\dots\dots 3.2$$

Where,

PSC = Private Sector Credit (Capital Stock)

G_b = Government Borrowing

M_y = Other macroeconomic variables influencing credit creation by commercial banks

3.4 Model Specification

The empirical models to investigate objectives one and two were based on Equations 3.1 and 3.2 above, and were specified, respectively, as follows:

$$G_b = \beta_0 + \beta_1 BD + \beta_2 ETA + \beta_3 PI + \varepsilon \dots\dots\dots 3.3$$

$$PSC = \beta_0 + \beta_1 G_b + \beta_2 LR + \beta_3 DS + \beta_4 CB \dots\dots\dots 3.4$$

Where,

BD = Budget Deficit, ETA = Efficiency of Tax Collection Agency, PI = Political Influence

G_b = Government Borrowing, LR = Annual Central Bank Lending Rate, DS = Domestic Savings.

CBC = Commercial Banks Capacity while β_0 - constant term and $\beta_1, \beta_2, \beta_3$ and β_4 and the coefficients.

3.5 Definition and Measurement of Variables

Key variables of the study are defined and how each variable is measured are also indicated in table 3.1. The study also defined other variables affecting government borrowing and credit availability to the private sector.

Table 3.1 provides the definition and measurement of variables.

Variable	Definition/Measurement of Variable
Government Borrowing (Gb)	Money Value of Domestic Borrowing in a Year
Budget Deficit (BD)	The disparity between budgeted expenditure and revenue for government in a year as per the budget statement.
Efficiency of Tax Collection Agency	This is a dummy to be assessed by whether Kenya Revenue Authority meets its targets or not (1 and 0, respectively)
Political Influence (PI)	A dummy whose value, 1 or 0, will be determined by perceived expenditure that will be assessed to be more of a political populist spending other being economically viable or convincing.
Private Sector Credit (PSC)	Total loanable amount by commercial banks in the country in a year.
Lending Rate (LR)	The annual Central Bank Lending Rate.
Gross Domestic Savings (GDS)	Money value of level of savings held by commercial banks.
Commercial Banks Capacity (CBC)	This will be measured by the liquidity of the commercial banks utilizing the sum value of money of all assets of commercial banks.

Source: Author Computations

3.6 Data Collection Procedure

This study adopted secondary data in annual economic Surveys, economic reports, annual statistical abstracts and bank reports developed by the Kenya National Bureau of Statistics and the Kenya Bankers Association including data from the National Treasury. The data utilized in this research was for the duration between 1985 and 2020.

3.7 Time series Analysis

The research utilized time series data to find out the correlation amongst the variables of study within the period of study.

3.7.1 Testing for stationarity

In empirical analysis, Non-stationarity of time series data is a bit complicated. Stationarity test was conducted to avoid estimation and getting spurious results. This study used ADF test and check for stationarity to find out the integration sequence. The ADF test for stationarity

in the chain involved estimating the equations, (Enders, 2004). Nonetheless, the study used ARDL formed by Pesaran, Shin, & Smith, (2001) to intergrate I(0) and I(1) variables in the identical estimation. so if at all the variables were stationary I(0) then OLS would be acceptable and if at all the variables were non-stationary I(1) then the study would adopt VECM (Johanson Approach) since it is easier model.

3.7.2 Testing for Co-integration

The study data was evaluated by Johansen Co integration test technique. It is a method used to find out the availability of long-term links among variables in a non-stationary series. Prior to assessing co integration, it was critical to determine the integration sequence of the individual time series. If the series was I (1) the study would use DW-test, where DW value would be calculated as $DW = 2(1 - \rho')$ where $\rho = \rho'$ is the estimation first order autocorrelation.

3.8 Diagnostic Tests

The diagnostic tests carried out by the study were multicollinearity, heteroscedasticity test, normality test, correlation test and serial correlation tests

3.8.1 Multicollinearity Test

The test was carried out using Variance Inflation Factor (VIF) to test multicollinearity among the independent variables. The test was necessary to avoid getting spurious results.

3.8.2 Heteroscedasticity Test

The test was carried out using Autoregressive conditional heteroscedasticity (ARCH) Test to ensure that the error term is normally distributed and independent from the independent variables in the estimation model

3.8.3 Normality Test

The test was carried out using Histogram-Normality test to ensure that the residuals are normally distributed in the data

3.8.4 Serial Correlation Test

The test was carried out using Breusch-Godfrey Serial correlation (LM) test to ensure that the error term is serially independent from the independent variables in the estimation model.

3.9 Data Analysis and Presentation

The data was analyzed using Autoregressive Distributed Lags (ARDL) model since the variables were found to be stationary at different levels using STATA version 16.0 and E-views version 10. The results were presented in form of tables and figures.

CHAPTER FOUR

EMPIRICAL FINDINGS

4.1 Introduction

The chapter covers the outcomes of the research as follows; descriptive statistics, time series analysis such as unit root test, correlation and auto-correlation, diagnostic tests as well as empirical findings.

4.2 Descriptive Statistics

Descriptive statistics like maximum, mean, minimum, standard deviation and median are given in Table 4.1.

Table 4. 1: Descriptive Statistics Findings

	GOVT BORROWING	DCPS	BUDGET DEFICIT	DOMESTIC SAVINGS	INFLATIO N RATE	INTEREST RATE	LENDING RATE	BANK LIQUIDITY
Mean	12.90581	27.12323	-5.035484	14.87097	11.59769	8.282806	19.19032	5.924173
Median	12.66214	25.81000	-5.500000	13.87000	9.234126	7.815000	16.57000	5.911880
Maximum	14.97190	40.20000	2.200000	37.16000	45.97888	21.09600	36.24000	8.557917
Minimum	10.90337	18.50000	-10.10000	7.320000	1.554328	-8.010000	12.10000	2.132627
Std. Dev.	1.137931	5.769438	3.094463	6.736859	9.465027	6.989170	6.830457	1.847258
Skewness	0.230848	0.626391	0.430392	1.850411	1.969099	-0.239788	1.090178	-0.705490
Kurtosis	2.114869	2.706898	2.348215	6.610637	7.008722	2.706996	3.058526	2.921872
Jarque-Bera	1.287300	2.138187	1.505788	34.52984	40.78988	0.407965	6.144941	2.579420
Probability	0.525371	0.343320	0.471002	0.000000	0.000000	0.815477	0.046307	0.275351
Sum	400.0802	840.8200	-156.1000	461.0000	359.5285	256.7670	594.9000	183.6494
Sum Sq.								
Dev.	38.84658	998.5925	287.2710	1361.558	2687.602	1465.455	1399.654	102.3708
Observ	31	31	31	31	31	31	31	31

Source: Author Computations

The time series data utilized in the analysis of the research were collected for a period 1990-2020. The results show that inflation rate in the economy had the maximum value of 45.98 while budget deficit had a minimum value of -10.10. Further, the results show that

government borrowing, credit given to private sector locally, domestic savings, inflation rate, budget deficit and lending rate were skewed to the right (positively skewed). On the other hand, interest rates and bank liquidity which measured commercial capacity in the economy were skewed to the left implying that the data was normally distributed but was more skewed to the left (negatively skewed).

Moreover, the analysis also showed that domestic credit advanced to private sector, interest rates, lending rates and banks' liquidity had values close to 3 hence were mesokurtic implying the data was normally distributed. Variables such as domestic savings and inflation rates had a kurtosis value more than 3 hence were leptokurtic. Lastly, government borrowing and budget deficit had kurtosis value less than 3 hence were platykurtic. This imply that only two variables have high kurtosis and two having low kurtosis, hence, the research concludes that data gathered was distributed normally hence chances of obtaining spurious results were minimized.

4.3 Time Series Test Results

The tests done were unit root test, co-integrating tests and correlation test.

4.3.1 Unit Root Test

The test was done by Augmented Dickey Fuller (ADF) at both trend and intercept. The test was carried out to see to it that all the variables utilized in the analysis were stationary to avoid chance of getting spurious results. Some study variables became stationary at level while others only after first difference implying that the study could not use Ordinary Least Square (OLS) model but Auto-regressive Distributed Lag (ARDL). Based on to the rule of thumb when the research variables are stationary at both level and first difference then ARDL is preferred over OLS. The results are presented in Table 4.2

Table 4. 2: Unit Root Tests Results

Variable	Type of test	t-statistics	P-value	Remarks
Budget Deficit (Level)	Intercept	-3.0256	0.0438	Stationary
	Trend and Intercept	-3.6404	0.0430	Stationary
Domestic Savings (1 st Difference)	Intercept	-8.0277	0.0000	Stationary
	Trend and Intercept	-6.5473	0.0001	Stationary
Inflation (1 st Difference)	Intercept	-6.2381	0.0000	Stationary
	Trend and Intercept	-6.1335	0.0000	Stationary
Interest Rate (Level)	Intercept	-3.9944	0.0045	Stationary
	Trend and Intercept	-4.0549	0.0174	Stationary
Lending rate (1 st Difference)	Intercept	-5.4076	0.0001	Stationary
	Trend and Intercept	-5.4074	0.0007	Stationary
Bank Capacity (1 st Difference)	Intercept	-6.0828	0.0000	Stationary
	Trend and Intercept	-6.4127	0.0001	Stationary
Government Borrowing (1 st Difference)	Intercept	-3.3244	0.0236	Stationary
	Trend and Intercept	-3.6040	0.0470	Stationary
Domestic Credit (1 st Difference)	Intercept	-5.3815	0.0001	Stationary
	Trend and Intercept	-5.2949	0.0010	Stationary
Political Influence (Level)	Intercept	-7.4788	0.0000	Stationary
	Trend and Intercept	-7.3557	0.0000	Stationary

Source: Author Computations

The findings reveal that at 5 percent significance level, the entire variables have a P-value smaller than 0.05 indicating that the entire variables were stationary. According to the rule of the thumb, a variable with a p-value of less than 0.05 is assumed to be stationary while a p-value above 0.05 is non-stationary. After testing the stationarity of the variables, the study found that budget deficit, interest rates were stationary at level while domestic savings, inflation rate, lending rate, banks' capacity, government borrowing and domestic credit to private sector were found to be stationary only after first difference.

4.3.2 Co-integration Test Analysis

It was done to prove if there is an ultimate link connecting the variables utilized to analyze study findings. The findings are presented in Table 4.3

Table 4. 3:Co-integration Test Results

Unrestricted Co integration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.983267	362.6983	175.1715	0.0000
At most 1 *	0.928274	244.0770	139.2753	0.0000
At most 2 *	0.817838	167.6648	107.3466	0.0000
At most 3 *	0.785919	118.2819	79.34145	0.0000
At most 4 *	0.668936	73.58118	55.24578	0.0006
At most 5 *	0.528678	41.52328	35.01090	0.0088
At most 6 *	0.444315	19.70909	18.39771	0.0326
At most 7	0.087959	2.670026	3.841466	0.1023

Trace test indicates 7 co-integrating equation(s) at the 0.05 level

* denotes rejection of the hypothesis at the 0.05 level

**MacKinnon-Haug-Michelis (1999) p-values

Source: Author Computations

It was conducted using Johansen co-integration test using Akaike Information Creteria (AIC) at 1 maximum lag length, the results show that seven co-integrating equations have a p-value of below 0.05 at 5 percent significance level showing no eventual link between the variables hence no co-integration and the variables are good to be used for the analysis of the study findings. Similarly, the worth of trace statistics is greater than the crucial value at 5 percent significance level for the co-integrating equation leading to the assumption that the variables have no long-run relationship and therefore no spurious results could be obtained. According to the rule of the thumb, in the presence of n-variables, then co-integrating equations should be n-1. The study has 8 variables and 7 equations were found to co-integrate at 5 percent statistical significance level proving that there was no co-integration between the variables.

4.3.3 Correlation Test Analysis

It was done to prove if there is an eventual linear link between independent variables. The findings prove that all the variables have both positive and negative weak correlation except government borrowing and bank capacity (bank liquidity) which has a strong positive correlation implying that the two variables cannot be used in the same equation hence only applicable in different equations. The findings are presented in Table 4.4

Table 4.4: Correlation Test Results

	Budget Deficit	Domestic Savings	Inflation	Interest Rate	Lending Rate	Bank Liquidity	Government Borrowing	DCPS
Budget Deficit	1.0000							
Domestic Savings	0.1021	1.0000						
Inflation	0.0577	0.7326	1.0000					
Interest Rate	0.4879	0.0252	-0.3274	1.0000				
Lending Rate	0.1859	0.6877	0.3359	0.3329	1.0000			
Bank Liquidity	-0.4033	-0.7580	-0.6856	-0.0694	-0.5747	1.0000		
Government Borrowing	-0.5093	-0.6001	-0.4828	-0.1317	-0.5805	0.9166	1.0000	
DCPS	-0.4279	-0.6318	-0.5579	0.0330	-0.4933	0.8481	0.8696	1.0000

Source: Author Computations

The models the study employed indicate that government borrowing is a dependent variable in equation 3.3 used to achieve objective one of the study, therefore, bank liquidity cannot be used in equation 3.3 but can be used in equation 3.4 in order to attain the second objective of the research. The challenge of high correlation was addressed by using bank liquidity to achieve objective two. Based to the law of the thumb, a correlation coefficient below or equivalent to 0.8 is considered weak or moderately correlated hence no chances of obtaining spurious results. The study data shows that correlation coefficients were less than or equal to

0.8 for most variables hence were used to analyze study findings as there was no indication of a singular matrix amongst the variables.

4.4 Diagnostic Tests

It was conducted to prove the stability, reliability and validity of the model used in the research. The tests done were heteroscedasticity test, histogram-normality test, serial correlation Langrage Multiplier (LM) test, stability test and the multi-collinearity tests.

4.4.1 Heteroscedasticity Test Analysis

Heteroscedasticity test was carried out using Autoregressive Conditional Heteroscedasticity (ARCH) model to check whether the error term has a constant variance gradually or not. The findings of the analysis are presented in Table 4.5 and 4.6

Table 4.5: Heteroscedasticity Test Results-Equation 3.3

Heteroscedasticity Test: ARCH

F-statistics	1.31E-06	Prob. F (1,26)	0.9991
Observed R-Squared	1.41E-06	Prob. Chi-Squared	0.9991
(1)			

Source: Author Computation

Table 4.6: Heteroscedasticity Test results-Equation 3.4

Heteroskedasticity Test: ARCH

F-statistics	1.31E-06	Prob. F (1,26)	0.9991
Observed R-Squared	1.41E-06	Prob. Chi-Squared	0.9991
(1)			

Source: Author Computation

The results show that at 5 percent significance level, the P-value of observed R-Squared and F-statistics are greater than 0.05 implying that the values are statistically significant hence the variance value of the error term is constant in the long-run, therefore there was no chances of obtaining spurious results from the model.

4.4.2 Normality Test

It was conducted using Histogram-Normality test to prove if the error term is normally distributed or not. The test was conducted using Jarque-Bera. The findings are shown in figure 4.1 and 4.2

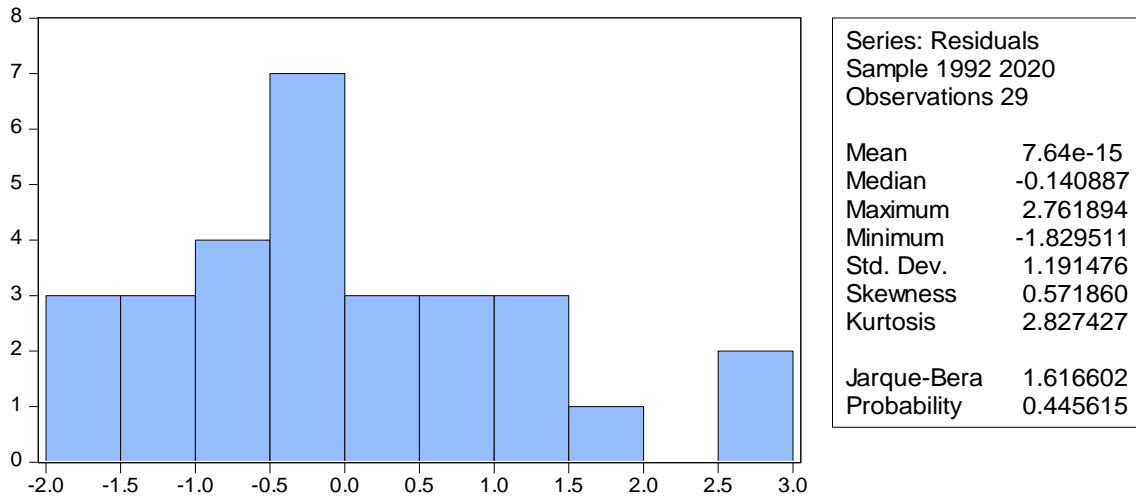


Figure 4.1: Histogram-Normality Test Results-Equation 3.3
Source: Author Computations

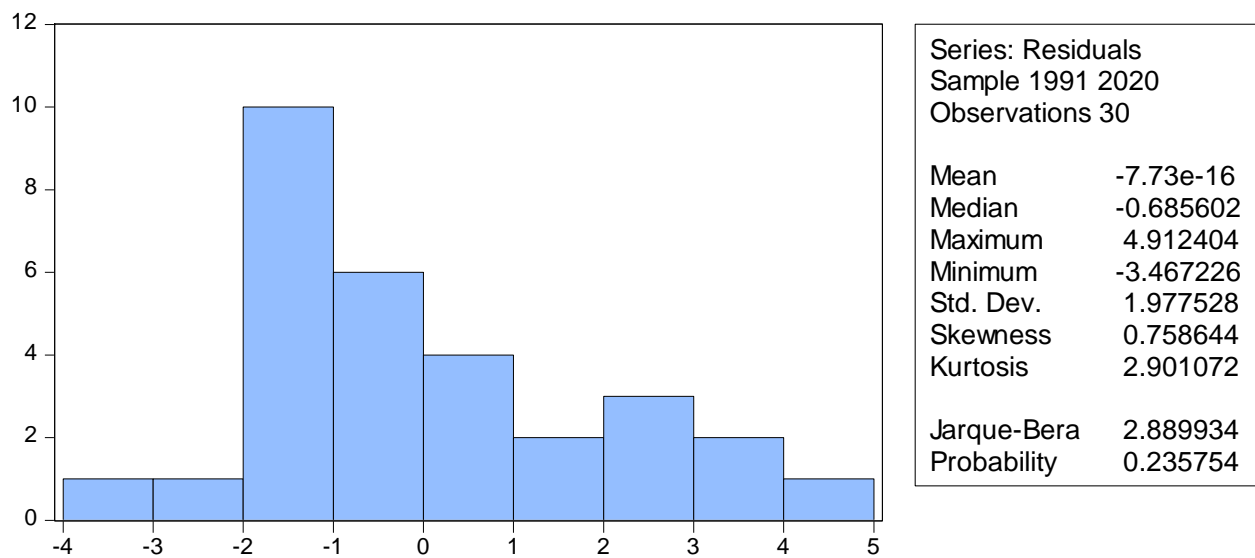


Figure 4.2: Histogram-Normality Test Results-Equation 3.4
Source: Author Computations

The results in figure 4.1 and 4.2 show that the p-value of the Jarque-Bera statistics is more than 0.05 at 5 percent significance level hence are statistically significant. If the p-value is

greater than 0.05 then the salvage values are distributed normally and when p-value is lower than 0.05 then the salvage values are not distributed normally. From the findings the p-values are greater than 0.05 at 5 percent significance level, this implies there is non-normality hence the data is normally distributed indicating that there are no outliers or extreme values in the data that could lead to spurious results.

4.4.3 Serial Correlation (LM) Test

It was conducted to prove if there is continued link in the error term. Breusch-Godfrey Serial correlation (LM) test was utilized to conduct it. The findings are presented in Table 4.7 and Table 4.8.

Table 4. 7: Serial Correlation (LM) test results-Equation 3.3

F-statistics	0.515438	Prob. F (2, 14)	0.6081
Observed R-Squared	1.988931	Prob. Chi-Squared	0.3699
(2)			

Source: Author Computation

Table 4.8: Serial Correlation (LM) test results-Equation 3.4

F-statistics	0.669350	Prob. F (2, 11)	0.5317
Observed R-Squared	3.146386	Prob. Chi-Squared	0.2074
(2)			

Source: Author Computation

The results in the tables show that the F-statistics has a value of 0.515438 and 0.669350 with a p-values of 0.6081 and 0.5317 respectively at 5 percent significance level. The supposition is that the error term is serially independent from the independent variables. If the p-value is above 0.05 at 5 percent significance level, then autocorrelation of the error term is absent and when the p-value is below 0.05 then the error term is continuously autonomous. The findings prove that p-values are above 0.05 at 5 percent significance level hence there was no

autocorrelation implying the model was good for the analysis of the crowding out of the private sector by acquisition of loans by government of Kenya.

4.4.4 Stability Test

It was conducted using Ramsey RESET test only as the study adopted ARDL model which does accommodate CUSUM test. The test was done to check whether the model was well specified or not. The findings are presented in Table 4.9 and Table 4.10

Table 4. 9: Ramsey RESET Test Results

	Value	df	Probability
t-statistics	0.620146	15	0.5445
F-statistics	0.384581	(1, 15)	0.5445

Source: Author Computation

Table 4. 10: Ramsey RESET Test Results

	Value	df	Probability
t-statistics	0.690438	14	0.5012
F-statistics	0.476705	(1, 14)	0.5012

Source: Author Computation

The results show that the t-statistics value is 0.620146 and 0.690438 with p-values of 0.5445 and 0.5012 respectively. On the other hand, the F-statistics value 0.384581 and 0.476705 with p-values of 0.5445 and 0.5012 respectively. Based on the law of thumb when the p-value is above 0.05 then the model is well specified and when it is below 0.05 at 5 percent significance level then the model is not specified. The study results show that p-values were above 0.05 at 5 percent significance level proving that the model was well specified and therefore was good and suitable for the analysis of the research results as the changes in the dependent variable were clarified by the independent variables plus the independent variables have ability in demonstrating any alteration in the dependent variable.

4.5 Regression Results Findings

The research sought to examine crowding out of the private sector by government borrowing in Kenya. The research had two objectives to attain, the first being to investigate the determinants of government borrowing in Kenya and the second objective was to determine the effect of government borrowing on private sector capital in Kenya. The two were achieved as follows.

4.5.1 The determinants of government borrowing in Kenya.

This is the first objective of the research. To attain the objective, the research conducted a regression analysis of domestic government borrowing against budget deficit, domestic savings, inflation rate, interest rates and lending rates while political influence on debt issuance and efficiency of tax collection agency as control variables using ARDL model. The estimation method adopted fixed selection using Akaike Information Criteria (AIC) to select the maximum lag length of two (2, 2) for both the independent and dependent variables. The findings from the ARDL regression analysis shows that the value of the adjusted R-squared was 0.814721, proving that 81.47 percent of the alterations in acquisition of loans by government locally is decided by the level of budget deficit, amount of domestic savings in the economy, inflation rate, interest rates, lending rates that the government obtains the debt from domestic source as well as political influence, however, only 18.53 percent changes in domestic government borrowing are determined by other factors that the study did not consider and were taken care of by the error term. Further, the study found that the value of F-statistics was 14.22 with a probability of 0.0000 which is below 0.05 at 5 percent statistical level means that the model was good and fit to investigate determinants of domestic government borrowing in Kenya. The findings are shown in Table 4.11

Table 4.11: Determinant of government borrowing in Kenya Regression Results

Dependent Variable: Domestic Government Borrowing				
Independent Variables	Coefficients	Std. Error	t-Statistics	Probability
Domestic government borrowing (-1)	0.213821	0.176318	0.121271	0.0359
Domestic government borrowing (-2)	-0.326779	0.166953	-1.957315	0.0079
Budget Deficit	-2.995225	1.166822	-2.56699	0.0280
Budget Deficit (-1)	2.527123	0.676708	3.734439	0.0039
Domestic Savings	-0.462211	0.129248	-3.576162	0.0050
Domestic Savings (-1)	0.285444	0.103155	2.767124	0.0199
Domestic Savings (-2)	-0.243883	0.084349	-2.891354	0.0161
Inflation	0.021715	0.075712	0.286809	0.0080
Interest Rate	0.010571	0.067952	0.15556	0.0879
Interest Rate (-1)	0.081690	0.067427	1.211536	0.2535
Interest Rate (-2)	0.083710	0.059793	1.399997	0.1918
Lending Rate	-0.364464	0.150025	-2.429358	0.0355
Lending Rate (-1)	0.790515	0.172209	4.590432	0.0010
Lending Rate (-2)	-0.523635	0.173034	-3.026199	0.0128
Political Influence	-4.005674	0.794059	-5.044556	0.0005
Political Influence (-1)	-0.517746	0.859389	-0.602459	0.5603
Constant	51.23558	12.50675	4.096635	0.0022
R-Squared	0.892400			
Adjusted R-Squared	0.814721	F-Statistics		14.22003
Durbin-Watson Statistics	1.999546	Probability		0.000075

Source: Author Computations

The value of Durbin-Watson statistics which measures auto-correlation among the variables was found to be 2.0 and based to the law of the thumb, Durbin-Watson statistics value above 1.8 signifies absence of autocorrelation, therefore the study concludes that the variables used had no auto-correlation problems hence no chances of obtaining spurious results.

The constant term was positive (51.24) and statistically significant at 5 percent significance level showing that when there are no determinants the research deliberated, the level of

domestic government borrowing would be 51.24 billion Kenya shillings at period zero, the coefficient of domestic government borrowing in one-period lag was 0.2138 lower than at period zero and statistically significant at 5 percent significance level as the p-value (0.0359) was below 0.05, however, in two-period lag the coefficient of domestic government borrowing was negative (-0.3268) and significant statistically at 5 percent significance level showing that in the long-run domestic government borrowing would be negative and statistically affect other sectors of the economy in terms of investment in essential areas leading to crowding out of the private sector. The results agree with Cooray (2019) that increasing loans acquired by the government locally crowd private sector and at the same time is inflationary in the economy.

The coefficient of budget deficit was negative (-2.9952) and significant statistically at 5 percent significance level showing that a percentage addition in budget deficit government borrowing would decline by 2.99 points, however, at one-period lag, the coefficient was positive (2.5271) and statistically significant at 5 percent significance level showing that eventually, an addition in budget deficit by one percent, domestic government borrowing would also increase by 2.527 points. This means that budget deficit positive and significantly determine level of domestic government borrowing in the economy. The findings corroborate Hasnat & Ashraf (2018) increased budget deficit significantly influence government borrowing in an economy to finance services such as education, health, agriculture and infrastructural facilities further widening the budget deficit gap and therefore in order to bridge the gap, the government has to continue borrowing leading to increased domestic government borrowing if the government resorts to borrow internally which crowd-out the private sector. The findings also confirm Zaheer, *et Al.*, (2017) that found a positive and statistical significance link on the two variables. The research argued that broadening budget

shortfall gap improves local government borrowing as the government change focus to internal sources of funds to finance the deficit and fund the essential sectors such as education, health and infrastructure with high speed of adjustment of 252.71 percent.

The coefficient of domestic savings was negative (-0.4622) and significant statistically at 5 percent significance level at zero-period lag but positive (0.2854) at one-period lag implying that the speed of adjustment to correct the negative effect of domestic savings on domestic government borrowing is low at 28.54 percent meaning domestic savings slightly determines domestic government borrowing. Additionally, the coefficient of local savings was found to be negative (-0.2439) and significant at 5 percent significance level at two-period lag implying that the adjustments declines to 24.39 percent meaning that in the long-run, domestic savings negatively determine domestic government borrowings. The findings confirm Lidiema (2018), Ado & Ibrahim (2019) that domestic savings is negative and significantly influence domestic government borrowing as domestic savings diminishes in the long-run as the incentives to save would decline leading government to borrow more domestically to spend on key sectors of the economy.

The coefficient of rate of inflation was positive (0.0217) and significant statistically at 5 percent significance level showing that a percentage addition in rate of inflation results in an addition in loans acquired by the government locally by 2.17 percent meaning that government borrowing would increase even more so as to fund the key sectors of the economy. The finding corroborates Hasnat & Ashraf (2018) high levels of inflation in an economy is most likely to lead to an increase government borrowing due to sensitivity of interest rates necessitated by high levels of inflation. However, the study revealed that rate of lending was negative (-0.3645) and significant statistically at 5 percent significance level

showing that a percentage addition in rate of lending would lead to a reduction in government borrowing domestically by 0.3645 points, similar to a two-period lag where government borrowing would decline by 0.5236 points, this indicates that the rate of adjustment is moderately high at 52.36 percent further decline in domestic government borrowing meaning that government resorts to other source of funds externally meaning that eventually, rates of lending negatively affect government borrowing from domestic sources, the findings disagrees with Zaheer *et Al.*, (2017) that ended up with a positive significant link between the rate of lending and government borrowing domestically temporarily and long-run periods. Lastly, incorporating political influence as an intervening variable in the model, the variables the study considered significantly influence domestic government borrowing meaning that political stability in a country has a role to play in domestic government borrowing.

4.5.2 Effect of government borrowing on private sector capital in Kenya

This is objective two of the research, to attain it, the study carried out ARDL regression analysis of the local credit to private sector on budget shortfall, rate of interest at which loans are advanced, rate of local savings, rate of inflation in the economy, lending rates by commercial banks, level of domestic government borrowing to find out the impact of loans acquired locally by the government on private sector capital in Kenya. Both efficiency of tax agency and political influence were used as dummy variables in the model. The findings are presented in Table 4.12

Table 4. 12: Effect of government borrowing on private sector capital results

Dependent Variable: Private Sector Capital				
Independent Variables	Coefficients	Std. Error	t-Statistics	Probability
Private Sector Credit (-1)	1.148104	0.204033	5.627049	0.0001
Budget Deficit	0.078952	0.213167	0.370375	0.7166
Interest Rate	0.150322	0.69739	2.155502	0.0490
Interest Rate (-1)	-0.125228	0.074560	-1.679566	0.0152
Domestic Savings	-1.435425	1.300416	-1.103820	0.2883
Domestic Savings (-1)	-1.171204	0.808838	-1.448008	0.1696
Inflation	0.093875	0.072487	1.295050	0.2163
Inflation (-1)	-0.177559	0.077695	-2.285320	0.0384
Lending Rate	-0.661488	0.191187	-3.459904	0.0038
Lending Rate (-1)	0.701279	0.194195	3.611213	0.0028
Government Borrowing	-6.866802	1.552419	-4.423291	0.0006
Political Influence	0.632884	0.998637	0.633748	0.5365
Efficiency of Tax Agency (ETA)	-2.104911	1.502198	-1.401221	0.1829
Constant	-55.21516	13.69560	-4.031599	0.0012
R-Squared	0.921374			
Adjusted R-Squared	0.882749	F-Statistics		24.8895
Durbin-Watson Statistics	2.506782	Probability		0.0000

Source: Author Computations

The study adopted ARDL model to estimate equation 3.4 because the variables were co-integrated of different orders that is at level and at first difference implying that OLS was not suitable to find out the impact of local government borrowing on private sector credit.

The results show that the value of adjusted R-squared is 0.882749 showing that 88.27 percent of the variations in private sector credit is determined by the alterations in budget shortfall, domestic savings, rate of interest, level of inflation in the economy, lending rate by banks, level of government borrowing from internal sources. However, political influence and efficiency of tax collection agency was used as control variables to determine whether if considered there was an effect in the changes. This means that only 11.73 percent of the

variations are decided by other variables the study did not capture but was taken care of by the error term in the model. The value of F-statistics was found to be 24.89 with a p-value of 0.0000 below 0.05 is significant statistically at 5 percent significance level showing that the model was suitable to decide the impact of loans acquired by government on private sector capital in Kenya. On the other hand, Durbin-Watson value of 2.5 is higher than 1.8 at 5 percent significance level showing an absence auto-correlation within the variables and hence the study used the variables to find out the impact of local loans acquired by government on private sector capital.

The constant figure was found to be negative (-55.21) and significant statistically at 5 percent significance level, showing that when the factors are absent the research considered, private sector capital available was zero or in a deficit and therefore not enough for all the borrowers both public and private, similarly, this also shows that the capital accessible to private sector is not adequate to be advanced so as to trigger investment in the economy if government also targets the capital to provide essential services in the economy, this drives out the private investor in the long run by 114.8 percent as indicated by the coefficient of private sector credit of 1.148 in the long-run implying the effect of government borrowing from internal sources are greater and therefore have a huge impact on the economy eventually.

The research also determined that the coefficient of budget shortfall was positive (0.07895) but significant statistically at 5 percent level of significance, the finding contradicts Hasnat and Ashraf (2018) that found a negative and statistical significance meaning that at budget deficit widens, capital available to private sector decreases or diminishes. However, the current study opines that as budget deficit gap widens, capital available to private sector also increases meaning in case of budget deficit in the economy, the government would resort to

other sources of finance such as borrow externally to finance the budget deficit hence the amount of capital available to private sector also increases though budget deficit insignificantly determines the amount of capital available to private sector.

The coefficient of rate of interest in the economy was determined to be positive (0.1503) and significant statistically at 5 percent significance level, showing that a percentage point addition in rate of interest, capital available to private sector borrowers also increases by 15.03 percent in short-run this is because a higher interest rates motivates lenders to advance more loans to as to gain more in future when the borrowers will be making the payment of principle amount plus interest earned. However, in the long-run, interest was found to be negative (-0.1252) and statistically significant at 5 percent level of significance implying that one percent point increase in interest rates, amount of domestic capital available to private sector decreases by 0.1252 points. The finding confirms that of Ehalaiye *et Al.*, (2017), Lidiema (2018) as well as Hasnat & Ashraf (2018) that found significant negative relationship between interest and private sector capital meaning that an increase in interest rates lowers or reduces amount of capital available to private sector as borrowers would reduce their credit appetite because of fear of paying more in future when the principal amount and interest payment matures holding their current borrowing for future when the interest rates declines. Literatures have also shown that high interest rates negatively affect investment as a higher interest rates reduces amount of return realized from an investment opportunity and therefore, potential investors would hold borrowing to invest due to high interest rates this in turn reduces amount of capital or credit to private sector which the finding of the study confirms though the analysis in long-run with the rate of adjustment of 12.52 percent.

Further, the study revealed that domestic savings negatively and insignificantly affect private sector capital available both temporarily and eventually. The finding contradicts Lidiema (2018) that realized a negative and significant impact of local savings on private sector capital availability, this is because as the amount of domestic savings increases, government would resort to internal borrowing which significantly affect the amount available for private borrowers negatively affecting the amount of capital accumulation for private sector. Additionally, the inflation rate coefficient was determined to be positive (0.0938) and insignificant statistically temporarily, however, eventually, the coefficient was determined to be negative (-0.1776) and significant statistically at 5 percent significance level showing that an addition in inflation rate by one percent point, domestic private sector capital decreases by 0.1776 points. The finding corroborates Hasnat & Ashraf (2018) that found a long-run effect of inflation rates on domestic capital available to private sector, this is because inflation has the effect of hiking prices of goods and services and similarly the cost of credit will also go up diminishing the amount available for private borrowers as credit to private investors becomes more expensive hence the borrowers resort to hold current borrowing for future when inflation rate declines so as to invest and earn higher returns.

The study also found that the coefficient of rate of lending to be negative (-0.6615) and significant statistically at 5 percent significance level temporarily showing that a percentage point addition in rate of lending, private domestic capital declines by 0.6615 points this corroborate findings by Zaheeri *et Al.*, (2017), this is because as central bank increase its lending rates to commercial banks, the amount of capital or funds set aside by the commercial banks for domestic borrowing decreases immensely affecting the sector negatively. In the long-run, the coefficient was determined to be positive (0.7013) but significant statistically at 5 percent significance level, this disagrees with Lidiema (2018) and Zaheeri *et Al.*, (2017)

that found negative and significant effect both temporarily and eventually. The positive link eventually based on the present research is because the commercial banks would have adopted to the rates and set aside enough funds to lend to private borrowers hence domestic borrowing would increase as lending rates by central banks to commercial banks increases, this is due to promising investment opportunities available in the economy that motivates private investors to borrow more in order to invest therefore, lending rates by the central bank to commercial banks in long-run have positive impact of local credit given to private sector.

The coefficient of domestic government borrowing was determined to be negative (-6.8668) and significant statistically at 5 percent significance level showing that a percentage point addition in acquisition of loans by government locally, domestic credit available to private sector decreases by 6.867 points. The finding corroborates Ayturk (2017), Ehalaiye *et Al.*, (2017), Tkacevs & Vilerts (2019) and Ado & Ibrahim (2019) determined that a negative and significant link between loans acquired by government locally and private sector capital, this is because government borrows at a higher interest rates than private sector and the loan is guaranteed due to low rate of default as compared to private sector. The continued government borrowing from internal sources constraint the amount of funds available to private borrowers hence driving the private sector out of the investment opportunity, the finding corroborates Lau *et Al.*, (2019) found out that increased domestic government borrowing crowds out private investment in the economy as financial institutions are more sensitivity to government borrowing than private borrowing. This is because commercial banks reduce amount to lend to private sector or otherwise lend at a higher interest rates due to high rate of default and therefore, the amount of capital to private sector reduces by a bigger margin as opined by the study findings. However, the finding disagrees with Cooray

(2019) that loans acquired by government does not crowd out private sector investment but rather inflationary as government borrows internally at a higher interest rates to provide essential goods and services at a higher price in order to generate revenue to repay the principal amount plus interest rate. The escalation in prices of services and goods leads to general increase in price levels in the economy which is inflationary as opined by Cooray (2019) rather than crowding out the private sector.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter covers summary of study, policy implications, conclusion, contributions to knowledge and suggestions for further research.

5.2 Study Summary

Economic output in Kenya has been low over the years since independence, this is because of stagnation in the development of key sectors that immensely contributes to economic growth. For instance, agricultural sector contribution declined to about 3.9 percent while inflation rate remains high of 100 percent all time in early 90s. In the year 2000s, the government of Kenya initiated adopted policies that lead to growth of GDP to 7 percent in 2007, the highest since independence, however, in 2008 the growth declined to negative six percent this forced the government to revert to acquiring loans from both local and external sources because of constraint revenue generation. In recent times the government of Kenya has been running on a budget with shortfall and relies on loans to offer services to her citizens such as education, health, infrastructure as well as security.

By 2018, the government had incurred debts amounting to 5 trillion Kenyan shillings which is equivalent to about 60 percent of GDP CBK, report (2019) to continue providing key service to the citizen. Kenya appetite for loans has increased to about 10 trillion Kenya shilling as the debt ceiling was increased to Kshs. 10 trillion forcing the government to increase her loan mixture opting for more domestic borrowing against external borrowing, this has resulted to decline in private investment as well as business. This has forced private sector out of investment opportunities what is referred to as crowding out of private sector as domestic credit available to private sector declined from 78 percent in 2013 to 72 percent in 2017, this is coupled with closure of three commercial banks in 2016 affecting liquidity in the

economy. In spite of this, domestic government borrowing has gone up significantly crowding out private sector. Even though credit to private sector still available, the continuous increased domestic government borrowing rises alarm and therefore, there is need to conduct a study to analyze crowding-out of private sector because of the loans acquired by government of Kenya with specific focus on investigation of determinants of government borrowing and determine the impact of loans acquired by government on private sector businesses in Kenya.

To attain the two objectives, the research used non-experimental research design with yearly time-series data for the duration between 1990 and 2020 from Central Bank of Kenya, World Bank, Kenya National Bureau of Statistics as well as Kenya Bankers Association. Both pre-test and post-test analysis were done to ensure that on chances of obtaining spurious results. The stationary test was done to determine the co-integration order to allow determine the model to be used in the analysis. The variables were found to be stationary at a point and at first variation and hence the most appropriate model to be used was Auto-regressive Distributed lags to approximate the coefficients of the components in the two linear equations on achieving the two objectives of the research.

To examine the factors influencing local acquisition of loans by government in Kenya, the study used domestic government borrowing amounts as dependent variable while budget deficit, domestic savings, inflation rate, interest rate, lending rate as independent variables with political influence as intervening variable. The research found that budget deficit is negative and significant temporarily while positive eventually this was similar to local savings, and borrowing rates. Inflation rate was determined to be positive and significantly determine government borrowing, however, interest rate was found to positively and

significantly determine government borrowing only temporarily while eventually it was found to insignificantly determine domestic government borrowing. Lastly, the study established that political influence has no impact on the model investigating the determinant of domestic government borrowing in Kenya.

To determine the impact of local government borrowing on internal private sector capital, the research used local credit given to private sector as dependent variable while budget shortfall, domestic savings, interest rate, inflation, lending rate and domestic government borrowing as the independent variables while efficiency of tax collection agency and political influence as control variables. The study found that budget deficit in Kenya positively and insignificantly affect private sector capital, interest rate positively and significantly affects private sector capital in short-run while in long-run, is negative and significantly affect private sector capital. Level of domestic saving insignificantly affect private sector capital both in temporarily and eventually, further, inflation insignificantly affect domestic credit advanced to private sector temporarily but eventually inflation rate negative and significantly affect domestic credit advanced to private sector. Lending rates by central bank to commercial banks negative and significantly influence private sector capital in short-run while in long-run it positively influence amount of capital available to private sector. Lastly, the study revealed that government borrowing from domestic sources is negative and significantly affect amount of capital to private sector.

5.3 Conclusion

The study sought to carry out an analysis of crowding out of private sector by local acquisition of loans by government in Kenya with a focus to address two specific objectives. These objectives were firstly to examine the factors influencing local government borrowing

in Kenya and secondly to find out the impact of government borrowing on domestic private sector capital in Kenya. Depending on the research findings, conclusions were drawn as follows.

Domestic government borrowing is determined by the level of budget deficit, domestic savings, inflation rate in economy and lending rates. Budget deficit was found to positive and significantly determine government borrowing in the long-run, therefore, a huge budget deficit in an economy stimulates government to resort to borrow to fund the budget deficit and it becomes more worse when the government resort to borrow internally this is because the government competes with the private investors on the available funds but since government has low chances of default therefore commercial banks or lending institutions are guaranteed of future repayment at a higher interest rates. Similarly, domestic savings was found to negative and significant in determining government borrowing in the long-run, this is because domestic savings constitute capital formation in an economy, a high level of domestic savings encourages government to resort to domestic sources of funds as the debts have no strings attached as well as favorable borrowing terms as opposed to external borrowings. A higher capital stock realized through savings than the amount required by the domestic investors encourages government to borrow internally and invest the funds in the key sections of the economy like health, education, roads, agriculture and electricity as well as manufacturing which further yield a higher return in the economy leading to economic growth as well as economic development. However, in the long-run, as domestic savings increase, domestic government borrowing decreases, this is due to the fact the government will have accumulated a higher stock from the investment made from previous borrowing and therefore any level of domestic savings leads to low domestic government borrowing.

On the other hand, inflation rate positive and significantly determine government borrowing, this is because as inflation rate increases, government would resort to borrow more internally in order to provide goods and services to avoid over-burdening the citizens of the high cost of living. High inflation rate in the economy also forces government to borrow internally as opposed to low inflation rate according to study findings. This government would borrow to provide goods and services at a lower price which is affordable by the larger population of which majority are poor. When government provide essential goods and services at lower prices, then, this ensures that inflation remains within the band encouraging further borrowing by the government from domestic sources. The study also established that lending rate negative and significantly determine domestic government borrowing, this is because low lending rates by the central bank stimulates domestic government borrowing in an economy as the government is able to incur these debts at affordable cost and investment in sectors that earns future higher returns therefore repays the debt in time or when fall due without constraining the economy.

Secondly, the study findings on the impact of loans acquired by government on private sector capital in Kenya showed that domestic government borrowing negatively and significantly affect the level of private sector capital. As government increases her borrowing from domestic sources, the amount of capital advance to private investor decreases implying that commercial banks would not advance loans to the private investors, this forces the private sector not to invest and rely on government services and goods and in the end push private sector investors out of the business commonly referred to as crowding-out of the private sector investment. The outcomes also show that the crowding out effect is huge as a percentage increment in loans taken by the government results in six percent of private sector investors crowded out of investment.

Interest rate was also found negative and significantly affect private sector capital level, this is because a higher interest rates discourages borrowing by the private sector as this consumes part or the entire returns earned from the investment crowding out the private sector investors. However, lending rates were found to be negative and significantly affect private sector capital, this is because high lending rates by central bank reduces the sum of accessible credit by the commercial banks to private borrowers as commercial banks have less funds to lend, this makes loans to look less attractive to the borrowers hence fail to investment thereby crowding out the private sector investment.

5.4 Policy Implications

Depending on the research results, the policy implications made are; Budget deficit should be minimized as much as possible by reducing unnecessary government expenditure, this is supported by the fact that a one percent point increase in budget deficit, government borrowing from domestic sources increases by 2.527 points. Similarly, domestic savings should be encouraged as this stimulates domestic investment due to availability of stock of capital for investment, this is backed by the fact that one percent addition in local savings, government borrowing from domestic sources declines by 0.2439 points. Further, inflation rate should be maintained as low as possible below 5 percent in order to stimulate government borrowing, this is affirmed by the findings that a percentage addition in inflation rate, loans acquired by government goes up by 0.0217 point. The low inflation ensures that essential services provide by the government are affordable to the majority of the citizens because inflation rate is known to have the effect of increasing prices of goods and services in the economy. Lending rates should be kept low by central banks to increase lending by commercial banks as this ensures enough money is in circulation to facilitate borrowing and

investment by the government in key sectors, this is backed by the findings that a percentage addition in lending rates, loans acquired by government goes down by 0.5236 points. Lending rates can be maintained at a level that creates a conducive environment for borrowing to occur and encourages investment in the economy so as to spur economic growth as well development.

The research recommends that local government borrowing should be avoided as much as possible and resort to other sources of funds to finance expenditure such as health, infrastructural development, education and manufacturing. This is backed up by the fact that a percentage addition in local government borrowing results in crowding out of private sector investment by 6.8668 points. Government ability to borrow internally has the effect of stimulating other factors like interest and inflation rates and eventually widens the budget deficit gap. Government borrowing would be inflationary when the debts incurred are used for recurrent expenditures as opposed to capital expenditures, recurrent expenditure has the effect of increasing the amount of money in circulation, this stimulates demand for goods and services by the households resulting to excess demand in the economy. The excess demand leads to price increase according to the law of demand, the spiraling cost of services and goods is an indication that a lot of money purchasing few goods leading to inflation and this is why the study recommends that government should borrow to invest in development projects that earns returns in future and be able to repay the principal amount together with the interest earned. Similarly, government borrowing also trigger interest rates in the economy, this is because government borrows at a higher interest rates than private borrowers. The high cost of loans to private sector crowd-out the sector and therefore interest rates should be maintained as low as possible to avoid crowding out of private sector

investment. This can be achieved through reviews or legislation of interest rates that encourages borrowing so as to invest and enhance economic output of the economy.

5.5 Contribution to Knowledge

The study has demonstrated that government acquiring loans from local sources results in crowding out of the private sector investment and has also recommended ways through which government acquiring loans from local sources can be reduced to ensure private sector investment and spur economic growth of the economy. The study has also shown that policy makers as well as government should design that encourage borrowing externally and at the same time investment in development projects as opposed to recurrent expenditures that is only inflationary and also leads to increased cost of borrowing to the private sectors investors.

Further, the study has also shown that budget deficit forces government to acquire more loans in order to fund the budget shortfall and that interest rates also reduce borrowing by the private sector leading to crowding out of the sector from the economic activities in the economy. Moreover, inflation rates have been found to increase government borrowing internally as well as crowds out the private sector by a larger margin.

Lastly, this is among the few studies conducted in Kenya that provides a non-experimental analysis of crowding out of private sector by the acquisitions of loans locally by the government in Kenya utilizing time-series data with Auto-regressive Distributed Lags (ARDL) model.

5.6 Areas for Further Research

The present research carried out an analysis of crowding out of private sector by acquisition of loans locally by the government in Kenya and has shown that it crowds out the private sector by reducing the amount of capital available to private sector. The study suggests that further research be done to find out the impact of interest rates on domestic government borrowing in provision of essential services in Kenya. The research also suggests that further studies be conducted to find out the value of private sector to government revenue generation and lastly, the study suggests that a similar research should be conducted by utilizing panel data to show a comparative analysis of the crowding out of private sector across nations so as to make policies that can be implemented across countries.

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APPENDICIES

Appendix 1: Data Collection Approval



KENYATTA UNIVERSITY
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NAIROBI, KENYA
Tel. 810901 Ext. 4150

Internal Memo

FROM: Dean, Graduate School

DATE: 2nd November, 2021

TO: Luke Wahome Kinyua
C/o Economics Theory Dept.

REF: K102/30687/2015

SUBJECT: APPROVAL OF RESEARCH PROJECT PROPOSAL

This is to inform you that Graduate School Board at its meeting of 27th October, 2021 approved your Research Project Proposal for the M.Econ. Degree Entitled, "An Analysis of Crowdingout of Private Sector by Government Borrowing in Kenya."

You may now proceed with your Data Collection, Subject to Clearance with Director General, National Commission for Science, Technology and Innovation.

As you embark on your data collection, please note that you will be required to submit to Graduate School completed Supervision Tracking and Progress Report Forms per semester. The forms are available at the University's Website under Graduate School webpage downloads.

Thank you.


HARRIET ISABOKE
FOR: DEAN, GRADUATE SCHOOL

c.c. Chairman, Economics Theory Department.

Supervisor:

1. Dr. Charles Nzai
C/o Department of Economics Theory
Kenyatta University

HI/enj

