THE EFFECT OF PUBLIC DEBT ON ECONOMIC GROWTH IN KENYA

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D63/85656/2016

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DECLARATION

I, the undersigned, declare that this is my original work and has not been presented to any institution or university other than the University of Nairobi for examination.

Signed: ..........................  Date: 16/11/2017

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D63/85656/2016

This Research project has been submitted for examination with my approval as the University Supervisor.

Signed: ..................................  Date: 16/11/2017

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ACKNOWLEDGMENT

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DEDICATION

I dedicate this project to my family, especially to my husband and children who supported and encouraged me all through and also to my Parents who had the ambitions and the dream of education and showed me the first steps.
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<td>Central Bank of Kenya</td>
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<td>DD</td>
<td>Domestic Debt</td>
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<td>EAC</td>
<td>East African Countries</td>
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<td>ED</td>
<td>External Debt</td>
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<tr>
<td>GNI</td>
<td>Gross National Income</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<td>KSHS</td>
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<td>PIGR</td>
<td>Growth in private Investment</td>
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<td>QTM</td>
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<td>RIR</td>
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<td>ROK</td>
<td>Republic of Kenya</td>
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<td>TPD</td>
<td>Total Public Debt</td>
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<td>WB</td>
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ABSTRACT

Debt accumulation is a common feature of many developing countries' economy. Kenya, being a developing country, has over time relied heavily on borrowings, aids, and grants to fund its development projects. Kenya recorded a Government Debt to GDP of 55.20 percent of the country’s Gross Domestic Product in 2016. Government Debt to GDP in Kenya averaged 53.74 percent from 1998 until 2016, reaching an all-time high of 78.30 percent in 2000 and a record low of 38.20 percent in 2012. However, this has been fluctuating over time due to lack of economic stability in Kenya. This study therefore sought to investigate the effect of national debt on economic growth in Kenya. To achieve this goal, the study used a descriptive research design. The used secondary data for a period of ten years (2007-2016), this data obtained from Central bank of Kenya. A regression model, descriptive statistics and Correlation analysis were used for analyzing the data. The study concluded that national debt was negatively related to economic growth in Kenya. This implied that increase in national debt impacted negatively on economic growth. The regression model used in this study was statistically insignificant in explaining the effect of national debt on economic growth in Kenya. Further, net exports and consumption contributed positively to GDP. An increase in national debt, interest rates and inflation was found to impact negatively on economic growth. Due to time and funding constraints the study limited itself to Kenya only. It would have been more appropriate for the researcher to conduct a comparative study in East Africa and other neighboring countries that are similar in terms size and areas of intervention, the findings can then be compared and conclusion drawn on concrete facts. The Kenya government should find ways of increasing consumption and net exports in order to enhance economic growth. The Kenya government should look for alternative means of raising revenues other than use of debt either internally or externally. This country should try and raise adequate revenues through taxes, treasury bills and bonds and privatization to mitigate national debt and borrowing in order to boost economic growth. A comparative study should be conducted for a period of more than ten years in order to obtain more detailed and conclusive results that can be used to make generalization in another middle income country like Kenya that is similar in terms of size and areas of intervention. Findings can be compared and conclusion made on concrete facts.
CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Debt accumulation is a common feature of many developing countries economy. Issues surrounding on the effects of accumulation of debt over the years is a controversial issue (Akram, 2010). There are several studies done both theoretical and empirical in trying to analyze the question of the rise of public debt and its effects in economic growth. High rate of borrowing is majorly aggregated by low savings and this may lead to an adverse effect called the “debt overhang” effect. This effect occurs when debt is greater than the ability of a country to repay and the anticipated servicing cost on debt being high hence depressing further domestic and foreign investment (Karagol, 2002). The crowding out effect is an alternative way through which debt obligations affects economic growth. This occurs when the service costs are serviced by a larger portion of the foreign direct investments and the ripple effects is that there will be very little left for capital investment to stir up the economic growth.

Another way through which debt burdens can affect economic growth is known as “crowding out” effect. This is the effect were, a greater percentage of all available foreign direct investment capital is used to service debts, thus leaving very little percentage available for investment which in turn stirs up economic growth. According to Abbas (2007), the higher interest rates increase the cost of financing new private investment "crowding-out ". There is limitation of economic growth; the trade balance will be negative due to the high interest rates in which are an important parameter of economic growth. An increase in demand for local currency is triggered by foreign investors attraction to the government assets compared to other assets. There will be an increase in imports and a decrease in exports. Economic growth will be hindered by the large trade deficit. However,
several other authors (Pattillo, Poirson & Ricci, 2004) conducted studies but found out that they could not find the significant evidence on crowding out effect. Others such as (Chowdhury, 2004, Clements, Bhattacharya & Nguyen, 2003) found that debt service obligations and debt burden have an effect of both reduced investment and economic performance in general (Ochieng, 2013).

The debt overhang hypothesis holds that the composition of public spending is altered and that also the private investment is discouraged by the service and stock of public debt. A country’s budget interest is increased by the interest payments to finance the external borrowing. The effect is that the reduction of the public savings increases the country’s deficit. This can only be increased by an increase of the private savings that in return will offset it. Interest rates may be either driven up or crowd out all the credit that could be available for private investments, the economic growth will eventually be depressed. All the public resources may be squeezed that is available for human capital and investments (Clements et al., 2005). On the other hand, Keynesian theory holds that the productive capacity of an economy is not determined solely by the aggregate demand but rather there are host of factors which influences productivity. This may lead to erratic behavior which affects productive capacity, employment and inflation rates. The Keynesian economists further argue that decisions of the private sector may sometimes result to inefficient macroeconomic outcomes which require an active response by the public sector especially by enacting policies that stabilize the economy.

The continuous economic growth has not been attained in Kenya for a long period of time. The growth rates have been fluctuating over the years 1960s but was high in the 1960s and early 1970, but it however declined in the year 1975 due to the decline in economic performance. The cut of
the multilateral aid and bilateral aid due to mismanagement of resources, the real GDP reduced over the years following the declining of agricultural production, (Osewe, 2013). The 1980 and 2002 period, the worsening of the social indicators was noted. A liberalization and economic reform was begun in the year 1993 by the Kenyan government. There was appointment of minister of finance and governor of the central bank. With the assistance of international monetary fund and World Bank a series of economic measures was undertaken. Import licensing and price controls were eliminated by the government. The program saw the privatization of most of the public companies, most of the civil servants were laid off, and Foreign exchange controls were removed. There was introduction of monetary and fiscal policies. The rise of 4% was realized in the period 1994 all through to 1996. The rise of the Kenya’s real growth domestic product was a major stride (ROK, 2013). In 1997, the weather was adverse, Kenya was approaching the general elections that was to be held in the then December 1997 and this led to slowed economic activities; the effect was that the economy was slow and stagnant. In July 1997, the Kenyan government was to meet governance reforms and commitments from IMF, however this was not realized. Lending was suspended for the 3 years that followed, 90 million dollars was also put on hold by the World Bank (IMF, 2013). This steered the enactment of Kenya anti-corruption Authority, transparency was enhanced in the government procurements and reduction of the government payroll. Poverty reduction and Growth facility was signed by The IMF amounting to 150 million dollars.157 million dollars was signed by the World Bank for Economic and Public Sector Reform credit. Kenya’s GDP was about 17.39 billion dollars in the year 2006.
1.1.1 Public Debt

These are borrowings made by government to fund its expenditure. There are two types of debt the domestic and foreign debt. It’s important for government to improve the economic status of a country; this can only be done if there are available resources for public expenditure. The resources are obtained internally from borrowing from the domestic market and also from the taxes paid (Karagol, 2002). Externally this amount can be borrowed from the World Bank, international monetary fund among others. Public debt is important and valuable if it’s invested in productive activities. However, it can also shift the tax burden to the future generation if it’s spent on unproductive activities. Public debt creates macroeconomic stability in the economy of a country. There is a ripple effect in that there is injection of capital inflows that will increase the domestic savings, the savings will be used for further investments and the GDP growth rates will be high. The overall effect is that the welfare of its citizens will improve. Regardless of the source of the debt it can be classified as either productive or unproductive depending on how it’s used.

When a country borrows money from other countries (or foreigners) an external debt is created. It owes its all to others. When a country borrows money from others it has to pay interest on such debt along with the principal. This payment is to be made in foreign exchange (or in gold). If the debtor nation does not have sufficient stock of foreign exchange (accumulated in the past) it will be forced to export its goods to the creditor nation. To be able to export goods a debtor nation has to generate sufficient exportable surplus by curtailing its domestic consumption. The burden of external debt is measured by the debt-service ratio which returns to a country’s repayment obligations of principal and interest for a particular year on its external debt as a percentage of its exports of goods and services (i.e., its current receipt) in that year (Osewe, 2013).
1.1.2 Economic Growth

Economic growth refers to the increase in production capacity of an economy, compared from one period to another. It’s normally measured as the percentage rate, change in real gross Domestic Product (GDP), usually in per capita terms. There is an established relationship between public debt and economic growth. Economic growth is majorly attained though investment. Lim (2001) developed the growth hypothesis that Chakrabarti uses in the assertion, stagnant and slow growing economies provides less opportunities for profit making as compared to fast growing economies.

When a country borrows money from other countries (or foreigners) an external debt is created. It owes its all to others. When a country borrows money from others it has to pay interest on such debt along with the principal. This payment is to be made in foreign exchange (or in gold). If the debtor nation does not have sufficient stock of foreign exchange (accumulated in the past) it will be forced to export its goods to the creditor nation. To be able to export goods a debtor nation has to generate sufficient exportable surplus by curtailing its domestic consumption. Countries with low saving ability results to debt in order to facilitate these investments. Public borrowing cannot be avoided and to the other hand it’s not an alternative measure for economic growth. It injects money from external investors (external debt), it distributes the assets among these who have more assets than they can use at a particular time. Others get a chance of getting the assets that they can use to initiate economic activities that will trigger the economic growth (Osewe, 2013).

1.1.3 Public Debt and Economic Growth

Issues surrounding on the effects of accumulation of debt over the years is a controversial issue (Akram, 2010). There are several studies done both theoretical and empirical in trying to analyze
the question of the rise of public debt and its effects in economic growth. The continuous economic growth has not been attained for a length of time. The growth rates have been fluctuating over the years 1960s but was high in the 1960s and early 1970, but it however declined in the year 1975 due to the decline in economic performance. The cut of the multilateral aid and bilateral aid due to mismanagement of resources, the real GDP reduced over the years following the declining of agricultural production, (Osewe, 2013). The 1980 and 2002 period, the worsening of the social indicators was noted. There was an increase of the infant mortality by 18 thousand per thousand births, the life expectancy decreased by 10 from 57 years to 47 years for the period 1986 to 2000. A liberalization and economic reform was begun in the year 1993 by the government. There was appointment of minister of finance and governor of the central bank. With the assistance of international monetary fund and World Bank a series of economic measures was undertaken. Import licensing and price controls were eliminated by the government. The program saw the privatization of most of the public companies, most of the civil servants were laid off, and Foreign exchange controls were removed.

There was introduction of monetary and fiscal policies. The rise of 4%was realized in the period 1994 all through to 1996. The rise of the real growth domestic product was a major stride (ROK, 2017). There has been increase of the public debt over the years. The relationship between the economic growth and attraction of FDI remains a controversial issue. Lim (2001) developed the growth hypothesis that Chakrabarti uses in the assertion, stagnant and slow growing economies provides less opportunities for profit making as compared to fast growing economies. Mishkin and Eakins (2009) checked on the relationship between economic growth and FDI, the findings showed that there was a positive effect. While Gastanaga et al., (1998) found that the link was weak for
the period between 1975-1978 but the link was positive in support of the hypothesis over the period of 1983-1986. Aoki (2007) found that the correlation on the developed countries was negative and weak whereas for the less developed countries it was positive but weak. There was insignificant effect in a lagged economy for a sample in the Sub Saharan Africa but positive for sample obtained from the non-sub Saharan countries (Asiedu, 2002). The significant effects were positive on growth of FDI (Gastanaga et al., 1998).

1.1.4 Public Debt level and Economic Growth in Kenya

A number of the developing countries increased their private borrowings back in the years 1970s (Osewe, 2013). The perception of mismanagement of public resources and poor governance saw the decline in development assistance to Kenya in the 1990s. Other factors that contributed to the decline of the assistance includes the collapse of the Soviet Union and the end of the cold war. There was a debt crisis in Kenya in the early 1990s. The famous Goldenberg scandal contributed largely into the reduction of the donor inflows. The government resulted to expensive short term borrowings and the regular debt rescheduling so that it finances its expenditures (Putunoi & Mutuku, 2013).

Public borrowing cannot be avoided and to the other hand it’s not an alternative measure for economic growth. It injects money from external investors (external debt), it distributes the assets among these who have more assets than they can use at a particular time. Others get a chance of getting the assets that they can use to initiate economic activities that will trigger the economic growth (Osewe, 2013). However, it’s not all rosy with the accumulation of stock of debt. There is a negative impact on private investments levels in Kenya over some time. The cost of borrowing
by the private sector has increased. The current flow of resources is used to finance the external
debt and that very minimal s available for the domestic market (Karazijiene and Saboniene, 2009).
The ripple effect is that the economic and social status of the citizens of Kenya has been poor due
to the macroeconomic management is poor and status of the public debt has totally distorted the
economy. The balance of payment deficits and the fiscal has been exacerbated by the debt problem.
Primary export has been over relied on, the export growth has been slow over the years, the
exchange rates has been overvalued, the interest rate is negative, all this factors have contributed
to the rise of the public borrowing. The public borrowing is estimated to be 53% of the Gross
domestic product (ROK, 2007).

The cabinet secretary and the National Treasury are provided with a framework on borrowing from
the domestic market on behalf of the government through the issuance of Treasury build and bonds
by the Internal Loans Act (Cap 420). The Central Bank of Kenya provides to the government of
Kenya an overdraft and it’s also a domestic borrowing as provided for and limited by law. There
is no limit in law in issue of treasury bonds and bills as a form of domestic borrowing. The External
Loans and Credit Act, CAP 422 of the laws of Kenya has a limit on the its external borrowing to
an amount of 500 billion and above as its total indebtedness to the unless through an approval of
National Assembly resolution (Ochieng, 2013).

There has been increase of public debt over the years. The nation’s external debt has increased
over the years from 466,294 Million in 1996 to 3.76 trillion as at June 2017. The overall debt was
attributed to the increase in external and internal borrowing by the government (CBK, 2017).
Domestic borrowing from the commercial banks has also increased.
There was negative economic development as a result of countries having high levels of debt as exhibited in the 1970s. The United Nations Development Decade despite having an increase of about 5% in terms of their growth rates, nearly of the amount was used to repay the debt obtained from their original and official lenders. Debt servicing was difficult necessitating the governments to reschedule the debts due to the reduction of cash flows by the government. Over the years there has been reduction of the assistance that is multilateral in the developing nations in the Sub Saharan Africa; the private sector liquidity has increased with the expansion of the Eurodollar market.

1.2 Research Problem

The effect of increasing level of public debt has become a great concern to most developing countries (Thugge, 2008) Some theories in economics propagate that reasonable levels of borrowing can enhance economic growth (Poirson & Ricci, 2002). Others argue that continuous borrowing can lead to crowding out investment which in turn reduces future output and wages. If the output and wages is affected, the state of an economy becomes vulnerable.

Kenya has promoted economic growth through undertaking several public development projects in an attempt of improving the welfare of its citizens. For instance, the recently launched Standard gauge railway was financed using external borrowing. Domestic savings could not cater for all this public expenditure. Public debt has been acquired externally since the domestic saving was inadequate to finance the projects of a country. Kenya has over relied heavily on foreign aid, grants and public debts to meet its expenditure (Were, Ngugi and Makau, 2006). The increase in public debt has been attributed due to overreliance on it and that the real interest has been rising over the years, the total service debt, inflating the high exchange rates has been attributed to it. The
difficulties in payment have made the country to divert its resources to repaying the debt instead of using the resources for domestic consumption and economic development (Kibui, 2009). (Thugge, Heller and Kiringai 2008) found that most developing countries are concerned by the increasing levels of the public debt. However economic theory asserts that the economic growth of a developing country is enhanced if the levels of borrowing are reasonable (Patillo, Poirson and Ricci, 2002). Investment can be crowded out by government borrowing and that wages and future output are reduced (Stiglitz, 2000). The welfare of the citizens is vulnerable if the wages and output is affected.

The country is under pressure to attain Vision 2030, Millennium development goals and the country need to generate more employment, this claims should be taken seriously (Achieng, 2010). Studies have been done severally on economic growth and private investment. For instance, M’Amanja & Morrissey (2003) did a study on fiscal policy on economic growth in Kenya. The findings of the study revealed that external loans had a negative impact on long run growth, domestic debt and its impact on the economy in Kenya from 1996-2007 by Maana, Owino & Mutai (2008) on their studies revealed both public Debt and Economic growth had a positive relationship which was significant. Kibui (2009) study on impact of external debt on public investment and economic growth in Kenya from 1970-2007. The study indicated that the debt service ratio was significant in explaining GDP growth in Kenya, Achieng (2010) carried out a study on the effect of domestic debt on the private investment in Kenya from 1963-2009 indicated that the debt service ratio and domestic debt was significant at 5%, Njuru (2012) analyzed the impact of fiscal policy on private investment in Kenya and noted that fiscal policy design mattered to private investment and Ochieng, 2013 who studied the relationship between public debt
and economic growth using the Harrod Domar Growth model and found that domestic debt was reasonably sustained. The above researchers have been looking at the determinants that contribute to economic growth. The study sought to answer the research question: Does public debt have any effect on the economic growth of Kenya?

1.3 Research Objective of the Study

The objective of this study was to determine the impact of public debt on the economic growth of Kenya.

1.4 Value of the Study

The findings of this study on the effects of public debt on economic growth of Kenya, will help the government of Kenya in coming up with a policy on development on management strategy towards debts. The study sought to evaluate the nature of relationship between the public debt and economic growth and therefore it will serve as a motivator in formulating policies regarding debt levels. The move provides a framework in which provided economic growth to be sustainable in the country.

Investors both individuals and institutional will get information on whether the country is in a position into repay its debt obligations, and therefore they will make informed decisions when lending to the government to avoid issues of bad debts. This study sought the government debt percentage being measured against the country GDP. This helped in terms of estimating the government yield bonds as well the borrowing costs.

The Government of Kenya is interested in growing the economy into a double digit GDP. This
study provides useful information with regard to how the economic activities of the state can be improved through the prudent borrowing. This is because a productive debt can be re invested leading to increased economic activities which will ultimately result to greater GDP.

The study provides academicians and researchers enriched knowledge bases where they will find the information provided from this study useful for reference in other related areas. This study forms a basis for conducting further studies in relation to this topic.
CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter will review both empirical reviews and theoretical reviews. The sections will be divided as follows, the theories in the study, the international empirical studies, the local empirical studies, the summary of the literature review and finally the conceptual framework for the study.

2.2 Theoretical Review

These are the theories that support the research objectives in the study of the effect of public debt on the economic growth in Kenya.

2.2.1 Keynesian Economic Theory

Keynes (1936) argues that economic output is influenced by aggregate demand in the short run. The Keynesian also agree to the fact that aggregate demand does not necessarily equal the productive capacity of the economy but rather, there are host of factors which influences productivity. This may lead to erratic behavior which the following variables are affected inflation, production and employment. The economists behind Keynesian theory further asserts that private sector decisions may a times lead to an active response on inefficient macroeconomic outcomes by the public sector especially by enacting policies that stabilize the economy. The Policies enacted majorly focus correction of short term economic needs of the society. The government is mandated with implementing the Fiscal and monetary policies in order to regulate the level of economic output. According to Keynes, economic growth and Public debt has a positive relationship.
2.2.2 Debt Overhang Hypothesis

The theory holds that the composition of public spending is altered and that also the private investment is discouraged by the service and stock of public debt. A country’s budget interest is increased by the interest payments to finance the external borrowing. The effect is that the reduction of the public savings increases the country’s deficit. This can only be increased by an increase of the private savings that in return will offset it. Interest rates may be either be driven up or crowd out all the credit that could be available for private investments, the economic growth will eventually be depressed. All the public resources may be squeezed that is available for human capital and investments (Clements et al., 2005).

The public debt too might have some growth effects that are nonlinear either through productivity growth or accumulation of capital as suggested by the theory. The theory further suggests that country’s ability to pay might be lower than the amount of debt that a country may have. Further foreign and domestic investment may be discouraged by the amount of borrowing by a country. Investors are not willing to be charged higher taxes by the creditors with the increase in their production to service the debt that they might be having. The investors are not willing to incur current investments costs with n anticipation of increased output in the future (Krugman, 1988). The theory argues that be increased borrowing, cause debt overhang effect that will eventually cause the government’s inability to repay the debt. The theory shows a negative relationship between the debt borrowed and the economic growth.

2.2.3 The Crowding out Effect Neo-Classicalists theory

The theory argues that all individuals should have a plan on their consumption decision entirely
on their life cycle. Increased borrowing increases the present consumption by shifting the tax burden to generation in future. Income growth is influenced by the foreign direct investment as well as financial injection into the country. This increases more production increasing the growth rate. The increase in per capita per person is an indicator of the growth rate (Nair, 2010). Human capital and research and development are variables that spur growth in the long run. New forms of capital are introduced, collaboration that is international on research and development is facilitated, and production of intermediate product varieties are developed by the MNCs, technology is transferred to other firms as well as technological spillages that are not affiliated to the foreign firms in the host economy (Ikiara, 2003). Bajona and Kehoe (2010) explained production of multinational firms. The discussion was based on neoclassical theories that explain the movement of capital within the Heckscher-Ohlin framework.

2.3 Determinants of Economic Growth

The determinants of foreign direct investments are grouped into micro and macro variables. They are the variables which determine the output. The micro variables are the country specific factors that determine the level of foreign investment the macroeconomic policy stability, Gross Domestic Product, Inflation, Interest Rate and Exchange Rates (Athanasoglou et al., 2005).

2.3.1 Public Debt

These are borrowings made by government to fund its expenditure. There are two types of debt the domestic and foreign debt. It’s important for government to improve the economic status of a country; this can only be done if there are available resources for public expenditure. The resources are obtained internally from borrowing from the domestic market and also from the taxes paid
(Karagol, 2002). Externally this amount can be borrowed from the World Bank, international monetary fund among others. Public debt is important and valuable if it’s invested in productive activities. However, it can also shift the tax burden to the future generation if it’s spent on unproductive activities. Public debt creates macroeconomic stability in the economy of a country. There is a ripple effect in that there is injection of capital inflows that will increase the domestic savings, the savings will be used for further investments and the GDP growth rates will be high. The overall effect is that the welfare of its citizens will improve. Regardless of the source of the debt it can be classified as either productive or unproductive depending on its use.

2.3.2 Interest Rates

Demirguc-Kunt and Huizingha (2000) found that high interest rate increases the foreign direct investments. However, studies done in the USA shows that it’s only possible in smaller countries. During recession, the interest rate goes down leading to slower investments. During boom period the interest rates goes up leading to an increase in the investments eventually the GDP growth rate goes up. Countries that experience such, it’s hard for them to maintain the market growths when the market rates drops.

2.3.3 Exchange Rates

The exchange rate of local currency against the dollar between January 2006 and June 2015 was volatile. Appreciation of local currency leads to a loss of Country's competitiveness of her export which has a negative impact of domestic stock market for export oriented quoted companies due less profitability. Depreciation causes opposite effects for export oriented companies since their exports are competitive (Desaro, 2012). Exchange rates fluctuation can cause the local currency
appreciated or depreciate, thus affecting the Balance of payments of a country.

2.3.4 Inflation Rates

Inflation is the overall rise in price levels. High inflation raises the cost of living leading to a shift of investments to consumptions. This leads to fall in demand of stocks leading to slump on share prices. Inflation also increases the cost of inputs which have a negative impact on earnings which have a negative impact on earnings of quoted companies thus affecting stock returns (Bayramova and Ojagverdiyeva, 2010).

High inflation raises the cost of living leading to a shift of investments to consumptions. This leads to fall in demand of stocks leading to slump on share prices. Inflation also increases the cost of inputs which have a negative impact on earnings which have a negative impact on earnings of quoted companies thus affecting stock returns (Bayramova and Ojagverdiyeva, 2010).

2.4 Empirical Literature Review

Osewe (2013) used Solows growth model in analyzing the effect of external debt and inflation on economic growth on Kenya and found that there was no long term causality between the variables in the study. Ochieng (2013) used Harrod Domar growth model in determining the relationship between public debt and economic growth, the finding was that the domestic debt was reasonably sustainable. The above studies used the Harrod Domar Growth model whereas the current study will use the endogenous growth model.
Njuru (2012) analyzed the effect of fiscal policy on private investment in Kenya. VAR model was used the conclusion was that the implementation mattered on the design of the fiscal policy only on private investments levels. The research was focused on the fiscal policy and private investments. Qureshi and Ali (2010) Studied the effect of high public debt levels on the economy of Pakistan for the period between 1981 to 2008. They found that the impact was negative on the economy of Pakistan. This study will borrow heavily from the above study.

Sheikh, Faridi and Tariq (2010) assessed the impact of domestic debt on growth model, the finding was that there was there was an impact on the domestic debt. OLS technique was used the study period was for the period 1972 all through to 2009. The debt servicing costs on domestic debt was negative compared to the domestic debt on the economic growth. Findings of the current study will be compared to the above study. Checherita and Rother (2010) did a study on the average impact of public debt on per capita over a period of 40 years, this was done in 12-euro area countries from 1970-2009. The finding was that the government debt on economic growth curve was nonlinear and negative too.

Kumar and Woo (2010) assessed the impact of high public debt on long run economic growth for emerging and advanced economies. The findings were that there was an inverse relationship between subsequent growth and initial debt: that is, there was a slowdown in annual real per capita gross domestic product. The impact is somehow smaller in economies that are advanced. The study was done in Euro countries and this forms a basis of looking at the economy of the African country. The variables used in the study were government size, investment and population.
Akram (2010) assessed the effect of public debt on the economic growth in Pakistan he used Solows growth model in the years between 1970 to 2009 leading to a conclusion that the increase in public debt affects investments negatively by deteriorating its economic growth. Analysis on optimal debt levels in low income countries was done by Abbas and Christensen, (2010), the study coved the counties of the sub-Saharan and emerging markets in the years 1975 to 2004 and concluded that domestic debt as a percentage of the GDP that are moderate resulted into positive impacts in the economic growth of the respective countries. He also found out that if the debt level that is above 35% of total bank deposits have adverse impact on the economic growth of a country. Johansen Co integration approach was used in the analysis of the effect of domestic debt on private investment, the findings was that there was significance of 5% level shown by the variables (Achieng, 2010).

Kibui (2009) assessed the impact of external debt on public investment and economic growth in Kenya for the period 1970 to 2007. The time series data was used, debt variables and reduced form growth model was used in examining the impact of external debt on public investments on economic growth in Kenya. It was concluded that the key debt indicators surpassed the critical level since the year 1982. The results show that the debt service ratio is significant in explaining the Gross Domestic Product growth in Kenya for the period 1970 to 2007. The stock of external debt as percentage of GDP and debt service ratio show a negative relationship on public investment. The relief on the burden of debt speed the investment recovery on economic growth in Kenya. It was recommended that the Kenya government to adopt policies that seek to eradicate poverty levels and enhance the economic growth levels, stability should be provided so that investments can thrive; lastly implement measures that increase investor confidence in investments.
that are local. However, the study ignored the domestic debt but it concentrated on the external debt.

Thugge, Heller and Kiringai (2008) found that most developing countries are concerned by the increasing levels of the public debt. However economic theory asserts that the economic growth of a developing country is enhanced if the levels of borrowing are reasonable (Patillo, Poirson and Ricci, 2002). Investment can be crowded out by government borrowing and that wages and future output are reduced (Stieglitz, 2000).

M’Amanja & Morrissey (2003) did a study on fiscal policy on economic growth in Kenya. The findings of the study were that external loans had a negative impact on long run growth, domestic debt and its impact on the economy in Kenya from 1996-2007 by Maana, Owino & Mutai (2008) found that the relationship between economic growth and domestic debt showed an insignificant and positive relationship. Njuru (2012) analyzed the impact of fiscal policy on private investment in Kenya and noted that fiscal policy design mattered to private investment and Ochieng, 2013 who studied the relationship between public debt and economic growth using the Harrod Domar Growth model and found that domestic debt was reasonably sustained.

Cholifihani (2008) studied the short term and long term relationships between GDP and the public debt service in Indonesia. He applied co integration on analysis of a model that is of time series for the period 1980 - 2005. A production function model that is extended was used to test the relationships. It measured GDP as a function of capital stock, debt service, labor and human capital. The finding was that there was a debt overhang problem that was experienced in the long run. This
was evident with the increase in accumulation of debt led to the problem given a slow economic growth. The study was done in Indonesia and a Kenyan perspective is required to be analyzed.

Christensen (2005) surveyed the role domestic debt markets in sub-Saharan Africa 27 sub-Saharan countries was used for the data set over twenty years. This was from 1980 all through to 2000. The finding was that in this domestic markets the investor base is narrower, highly short term and generally small. Also a burden that was significant to the budget was presented by domestic interest payments with crowding out effects that’s significant. Both studies were done for Sub Saharan Countries and a Kenyan perspective will give more insight.

M’Amanja & Morrissey (2003) did a study the consequences of fiscal policy on economic growth in Kenya. The findings of the study confirmed that loans had a negative impact on long run growth of the economy. The study concentrated on the impact of Government national expenditure on economic growth in Kenya. The study was done on a developed country on the impact of Government national expenditure. The study will use this study to compare the impact of Government national expenditure of the developing county against that of developed county. The variables used in this study are consumption, investment and transfers which differed from the researcher’s.

2.6 Conceptual Framework

The conceptual framework outlines the independent variables and the dependent variables. The external debt, the internal debt, real interest rate, inflation, total debt service and private investment are the independent variables. The real GDP measures the economic growth in Kenya. It’s the independent variable.
This can be illustrated as below;

**Independent Variables**

- External debt
- Domestic debt

**Control Variables**

- Real rate of interest
- Real exchange rate
- Inflation
- Net exports

**Dependent Variable**

- Economic growth
- Real GDP

Figure 2.3: Conceptual Framework

Source: (Author, 2017)

### 2.6 Summary of Literature Review

According to finance theory there are different schools of thought regarding the paradigm shifts on the effect of debt on the economic growth. Crowding out effects is experienced when the tax
burden is postponed to future generation through current borrowings by the government. There are several studies done globally and locally such as Sheikh et al (2010); Qureshi and Ali (2010); Akram (2010); Checherita and Rother (2010); Abbas and Christensen (2010); Osewe (2013); Njuru (2012); Ochieng (2013); Achieng (2010); Makau (2008); Kibui (2009); Makau (2008); Maana et al (2008) and M’Amanja & Morrissey (2003) have shown different findings on the effect of public debt on economic growth of a country some have positive affects others negative. Public Debt affects the economic growth as shown by some studies either positively or negatively. The current study is taking into account of the effects of the public debts on economic growth unlike the previous studies that has dwelt on the causality relationships.
CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides a description of the research design, the sample population, sampling procedure and the sample that was used in the selected study. The data collection methods will be discussed and lastly the presentation techniques that was used in the study.

3.2 Research Design

A Research design is a frame of procedures and methods for acquisition of information that is needed (Kothari, 2004). Its overall plan of conducting the study, it answers the research objectives and eventually achieving the objectives of the study. Descriptive research design was used in the study. A descriptive research design uses empirical inquiring and it’s systematic, the design is used where the researcher has no control of the independent variable and that the phenomenon has occurred or rather where no inherent manipulation (Mugenda and Mugenda, 2003). The design helped in building a profile on the effects of public debt on the economic growth in Kenya. It’s appropriate as it was concerned with what, how and when of an occurrence of a phenomenon hence builds profile on the same.

3.3 Data Collection

The study used secondary data in the study. The data on economic development was obtained from the Kenya National Bureau of Statistics. Data on domestic debt was obtained from the Central Bank of Kenya. The study period is 2006/2007-2015/2016 financial periods. This period was important as that there were so many changes such as change of Kenya governments twice and
that it has implication on the macroeconomic variables. The changes were post-election violence
that occurred in the year 2007/2008, changes in country presidency that occurred in 2007, 2013
and in the year 2006 Kenya was a few months away from elections, Grants had been diminishing
for instance the united states aid. Annual data obtained from the Governments Budgets that shows
the surplus and deficits was also key in determining the amounts to be borrowed will be obtained.

3.4 Data Analysis

The study used Statistical Package for Social Sciences Version 21.0 (SPSS) for data analysis. Non
parametric tests on differences and Paired t-test by Sir Williams Gosset were used to test the level
of significance (Mugenda and Mugenda, 2003). The level of significance was 5%. Time Series
Regression Model was used in assessing the effects of the variables. The objectives of the study
guided the way data analysis was done.

3.4.1 Diagnostic tests

Normality tests were used to test the distribution of the variables. This was done in order to
minimize bias from the data that will be used. Auto correlation tests was also done to test for errors
in the data collected.

3.4.2 Analytical model

Before subjecting the data to a regression analysis, a descriptive statistics test was conducted to
provide a general view of the distribution and behavior of the variables in use by showing trends
of the variables in form of tables, graphs, and charts. Residual test for normality of the data series
was conducted and the Jacque Berra coefficient and its p-value observed for significance. The
following equation was derived in order to determine the effect of public debt on the economic performance of Kenya;

A multiple regression model was used to assess the effects of the public debt on the economic growth in Kenya. Harrod-Domar growth model was used as it outlines the growth dynamics. The model holds that capital and levels of savings are functions of the Gross Domestic Product of an economy. The following multiple regression models was used in assessing the effects of public debt on economic growth in Kenya.

\[ Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \epsilon \]

Where:

Where \( Y \) = economic growth which was measured using Real Gross Domestic Product (GDP) growth rate at time \( t \)

\( X_1 = \) national debt which was measured using external debt, treasury bills and treasury bonds

Control variables are as follows:

\( X_2 = \) interest rates a control variable for the study. These rates were obtained from central bank of Kenya.

\( X_3 = \) inflation is a control variable for the study. The rates of inflation were obtained from central bank of Kenya.

\( X_4 = \) the net export expressed as a percentage of GDP (control variable). The percentages were obtained from central bank of Kenya.

\( X_5 = \) consumption which is a control variable. This is expressed as a percentage of GDP.

\( \epsilon = \) Error or random term

\( \beta_0 \) and \( \beta_i \) = regression constants
3.4.3 Tests of Significance

ANOVA (Analysis of Variance) test was used in testing the significance of the model in assessing the measuring the effects of public debt on its economy. The level of Significance was obtained from the ANOVA statistics. We tested the study at 5% significant level and 95% confidence level. If the outcome was to be less than the critical value, then the model would be significant in assessing the effects.
CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter discusses the major findings which were analyzed using secondary data that was obtained from Central Bank of Kenya. The secondary data covered a period of ten years (2007-2016). This constitutes 40 data points obtained through quarterly average. The analysis include: descriptive statistics, correlation analysis and regression analysis. This was done in line with the objective of this study which was to determine the effect of national debt on economic growth in Kenya.

4.2 Descriptive Statistics

Descriptive statistics has been used to give a summary of the results in form of mean, standard deviation, minimum and maximum values in the period of study (2007-2016). It shows a trend analysis of how the variables performed over the period of study. The findings have been presented in the Table 4.1 below:
Table 4.1 Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Kurtosis</th>
<th>Std. Error</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>Statistic</td>
<td>Statistic</td>
<td>Statistic</td>
<td>Statistic</td>
<td>Statistic</td>
<td>Statistic</td>
</tr>
<tr>
<td>GDP</td>
<td>40</td>
<td>.00</td>
<td>11.50</td>
<td>5.2024</td>
<td>2.57366</td>
<td>-.006</td>
<td>.724</td>
</tr>
<tr>
<td>National Debt</td>
<td>40</td>
<td>.00</td>
<td>.11</td>
<td>.0708</td>
<td>.01999</td>
<td>2.865</td>
<td>.724</td>
</tr>
<tr>
<td>Interest Rates</td>
<td>40</td>
<td>.00</td>
<td>19.35</td>
<td>7.8119</td>
<td>3.32281</td>
<td>4.081</td>
<td>.724</td>
</tr>
<tr>
<td>Inflation</td>
<td>40</td>
<td>.00</td>
<td>16.83</td>
<td>8.7300</td>
<td>4.31019</td>
<td>-.892</td>
<td>.724</td>
</tr>
<tr>
<td>Next Exports</td>
<td>40</td>
<td>.00</td>
<td>.00</td>
<td>-.0027</td>
<td>.00105</td>
<td>-.222</td>
<td>.724</td>
</tr>
<tr>
<td>Consumption</td>
<td>40</td>
<td>.00</td>
<td>.05</td>
<td>.0197</td>
<td>.01263</td>
<td>-.277</td>
<td>.724</td>
</tr>
<tr>
<td>Valid N (list wise)</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Research Findings (2017)

The above findings in Table 4.1, the minimum percentage of GDP was 0 while the maximum percentage 11.5%. Within the study period (2007-2016), GDP decreased gradually from 2007 to 2008. In 2009, it increased in the last two quarters. GDP performed very poorly in 2010 and 2011. Then, it rose rapidly to 11.5% in the last quarter of the year 2012. This was the highest mark. In the year 2013, there was a sharp decrease of GDP and in the year 2016, GDP declined by a huge margin. National debt increased rapidly for the last ten years from 5.6 percent to 10.9 percent.
This was an indication that Kenya’s economy largely depends on debt to finance on capital projects. Further, interest rates declined from 8.5 to 6.6 percent, in 2009. Similarly, interest rates faced a huge decrease up to 1.8 percent in year 2012, on the last quarter of year 2013, interest rates increased rapidly to 11.64 percent. In 2014, there was a decrease in interest rates by a small margin of an estimated figure of between 0.5 and 1 percent. Further, there was a slight decrease in year 2016 of an estimated 0.5 percent, from 9.1 in quarter one to 8.63 in quarter four. The level of inflation fluctuated over the study period. However, year 2009 in the last quarter, the lowest level of inflation was experienced, recorded at 4.4%. The average percent of inflation was 8.7 percent, this was an indication that the economy was performing poorly. Net exports increased rapidly over the study period from 0.01 percent to 0.044 percent. This was an indication that even though the net export increased in the study period national debt still impacted negatively on the economic growth in Kenya. The findings also observed that the rate of consumption fluctuated over the study period. However, in the second quarter of year 2016 it had 4.7 percent. This was the highest rate of consumption in the entire study period. The mean value of consumption was estimated as at 2 percent, this rate of consumption was low and might have been attributable to poor economic growth in Kenya.

4.3 Collinearity Diagnostics

Collinearity implies two variables are near perfect linear combinations of one another. Multicollinearity involves more than two variables. Presence of multicollinearity implies that regression estimates are unstable and have high standard errors.
From the above table 4.2, Collinearity diagnostic test shows that most of the Eigen values are close to zero; this indicates that the predictor variables are intercorrelated and therefore small changes in data values may lead to large changes in the estimates of the coefficients.

### 4.4 Pearson’s Product Moment Correlation Coefficient

The study conducted a Pearson’s correlation coefficient to determine the association between variables. The correlation scale is defined as follows: values between 0.0 to 0.3 indicate that there is no correlation, between 0.31 to 0.5 shows a weak correlation, between 0.51 to 0.7 a moderate correlation and between 0.71 to 1.0 indicates that there is a strong correlation between the study variables.
Below are the results the Table 4.3 below:

Table 4.3 Pearson’s Correlation Coefficient GDP

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>National debt</th>
<th>Interest rates</th>
<th>Inflation</th>
<th>Net Exports</th>
<th>Consumption</th>
</tr>
</thead>
<tbody>
<tr>
<td>GDP</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>National debt</td>
<td>.176</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interest rates</td>
<td>-.384*</td>
<td>.305</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Inflation</td>
<td>-.449**</td>
<td>-.192</td>
<td>.542**</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Net exports</td>
<td>.057</td>
<td>-.906**</td>
<td>-.359*</td>
<td>.088</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Consumption</td>
<td>-.005</td>
<td>.288</td>
<td>.123</td>
<td>-.053</td>
<td>-.212</td>
<td>1</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

From the above results in Table 4.3, the findings revealed that there was no correlation between GDP and national debt, net exports and consumption. The correlation scores were as follows: .176, .057 and -.005 respectively. On the other-hand, there was a weak relationship between correlations between the following variables: interest rates and inflation with GDP. The correlation scores were: -.384 and -.449 respectively.

4.5 Regression Analysis and Hypothesis Testing

A linear regression model was used to test the hypothesis for this study which had predicted a negative relationship between national debt and economic growth in Kenya.
4.5.1 Model Summary

The model summary gives information on regression line’s ability to account for the total variation in economic growth. The results are presented in the Table 4.4 below as follows:

Table 4.4 Model Summary

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.479a</td>
<td>.230</td>
<td>.117</td>
<td>2.31799</td>
</tr>
</tbody>
</table>

a. Predictors: (Constant), Consumption, Inflation, Net exports, Interest rates, National Debt

The coefficient of determination was .230 this implied that national debt only explained 23 percent of the variability in economic growth in Kenya. This was an indication that the model was insignificant.

4.5.2 Analysis of Variance

The study did a regression analysis to determine whether there was a statistically significant relationship between the variables as shown in Table 4.5:
Table 4.5 Analysis of Variance

ANOVAa

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>5</td>
<td>10.905</td>
<td>2.029</td>
<td>.099b</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>34</td>
<td>5.373</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>39</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

a. Dependent Variable: GDP
b. Predictors: (Constant), Consumption, Inflation, Net exports, Interest rates, National Debt

P-value

The regression model was statistically insignificant since the probability value .099>5 percent which means that the model is statistically insignificant. These findings are consistent with the hypothesis of this study which predicted a statistically insignificant relationship between national debt and economic growth in Kenya.

4.5.3 Model Coefficients

This table gives a summary of the results of the regression equation. The values in column B represent the extent to which the value of that independent variable contributes to the value of the dependent variable. The other column shows the level of significance of the study variables. Below are the results in the Table 4.6 below:
Table 4.6 Model Coefficients

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>(Constant)</td>
<td>8.559</td>
<td>2.372</td>
<td></td>
<td>3.608</td>
</tr>
<tr>
<td>National Debt</td>
<td>-1.425</td>
<td>56.609</td>
<td>-.010</td>
<td>-.025</td>
</tr>
<tr>
<td>Interest rates</td>
<td>-.149</td>
<td>.164</td>
<td>-.188</td>
<td>-.907</td>
</tr>
<tr>
<td>Inflation</td>
<td>-.209</td>
<td>.120</td>
<td>-.349</td>
<td>-1.738</td>
</tr>
<tr>
<td>Net exports</td>
<td>31.310</td>
<td>940.117</td>
<td>.012</td>
<td>.033</td>
</tr>
<tr>
<td>Consumption</td>
<td>1.054</td>
<td>31.601</td>
<td>.005</td>
<td>.033</td>
</tr>
</tbody>
</table>

a. Dependent Variable: GDP

The regression model for this study is as follows:

\[ GDP = 8.559 - 1.425X1 - 0.149X2 - 0.209X3 + 31.310X4 + 1.054X5 + \epsilon \]

National debt, interest rates and inflation had an inverse relationship with economic growth in Kenya. This implied that a unit increase in these variables would result into a corresponding decrease in economic growth in Kenya. On the other-hand, consumption and net exports had an inverse relationship with economic growth in Kenya. This implied that a unit increase in these variables resulting into a corresponding increase in economic growth.

The findings revealed all the variables under investigation these are: national debt, interest rates, inflation, net exports and consumption were statistically insignificant in explaining the effect of national debt on economic growth in Kenya. This is because their p-values were above 5 percent.
as follows: .980, .371, .091, .974 and .974 respectively. This conforms to the hypothesis of this study which had predicted a negative relationship between national debt and economic growth in Kenya.

4.6 Discussion and Findings

The findings revealed that GDP fluctuated over the study period (2007-2016) however; there was a rapid increase of 11.5 percent. This was the highest percentage in the study period. This implied that Kenya’s economies largely depended on debt to finance its capital projects. Interest rates decreased from 8.5 to 6.6 percent, in 2007. Further, there was a slight decrease in year 2016 at 0.5 percent, from 9.1 in quarter one to 8.63 in quarter four. This implied that the economy was performing poorly. Inflation fluctuated constantly over the study period. The highest level of inflation that was recorded in the study period was 16.8 percent.

Net export increased rapidly in the study period which was an indication that national debt impacted negatively on the economic growth in Kenya. The rate of consumption fluctuated over the study period. However, in the second quarter of year 2016, it had 4.7 percent. This was the highest rate of consumption in the entire study period. The mean value of consumption was estimated at 2 percent; this rate of consumption was significantly low and was attributable to poor economic growth in Kenya.

Correlation analysis found that there was no correlation between GDP and national debt, net exports and consumption. The correlation scores were as follows: .176, .057 and -.005 respectively. These findings are consistent with a study by Kuria (2001) who concluded that there was no
correlation between GDP and public debt in Kenya. Further, there was a weak relationship between interest rates and inflation with GDP. The correlation scores were: -.384 and -.449 respectively. These findings are consistent with Ochiel (2013) who concluded that there was a weak relationship between interest rates and GDP.

The regression results found that the coefficient of determination explained 23 percent of the variability in economic growth. The linear regression model adopted for this study was statistically insignificant because the probability value was .099>5. These findings are consistent with the hypothesis of this study which predicted a statistically insignificant relationship between national debt and economic growth in Kenya.

These findings are also consistent with a study by Moki (2012) who concluded that the regression model was statistically insignificant. National debt, interest rates, inflation, net exports and consumption were statistically insignificant in explaining the effect of national debt on economic growth in Kenya.

This is because their p-values were above 5 percent as follows: .980, .371, .091, .974 and .974 respectively. These findings are consistent with Muinga (2014) who concluded that net exports and consumption were statistically insignificant in explaining the effect of External public debt and economic growth in Kenya.
CHAPTER FIVE: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction
This chapter consists of the major findings that were drawn from chapter four of this study. This chapter consists of the summary of the findings, conclusion, recommendations and suggested areas for further studies.

5.2 Summary of Findings
The findings revealed that GDP fluctuated over the study period (2007-2016) however; there was a rapid increase of 11.5 percent. This was the highest mark in the study period; which implied that GDP performed poorly. National debt increased rapidly for the last ten years from 5.6 percent to 10.9 percent. Kenya’s economies largely depended on debt to finance its capital projects. Interest rates decreased from 8.5 to 6.6 percent, this was an indication that the Kenya’s economy was performing poorly. The level of inflation fluctuated constantly over the study period. The highest level of inflation that was recorded in the study period was 16.8 percent. Net export increased rapidly in the study period which implied that national debt impacted negatively on economic growth in Kenya. The mean value of consumption was estimated at 2 percent; this rate of consumption was significantly low and was attributable to poor economic growth in Kenya. Correlation analysis found that there was no correlation between GDP and national debt, net exports and consumption. Further, it was revealed that there was a weak correlation between interest rates and inflation with GDP in Kenya.

Coefficient of determination explained 23 percent of the variability in economic growth. The linear regression model adopted for this study was statistically insignificant because the probability value was above 5 percent, .099>5. These findings are consistent with the hypothesis of this study which
predicted a statistically insignificant relationship between national debt and economic growth in Kenya. National debt, interest rates, inflation, net exports and consumption were statistically insignificant in explaining the effect of national debt on economic growth in Kenya.

5.3 Conclusion

The study concluded that national debt was negatively related to economic growth in Kenya. This implied that an increase in national debt impacted negatively on economic growth. When a country borrows more to invest in capital projects it is more likely to impact negatively on economic growth of a country in the long-run. The regression model used in this study was statistically insignificant in explaining the effect of national debt on economic growth in Kenya.

The study further concluded that net exports and consumption contributed positively to GDP, this implied that an increase in net exports and consumption led to an increase in economic growth. It was also concluded that an increase in national debt, interest rates and inflation might impact negatively on economic growth.

5.4 Limitations for the Study

Due to time and funding constraints the study limited itself to Kenya. It would be more appropriate for the researcher to conduct a comparative study in East Africa and other neighboring countries that are of similar in terms economic power and demographics and then compare findings and draw conclusions based on more facts.

The study confined itself to a period of ten years which is this period short when determining the effect of national debt on economic growth of a country. This is because the effect of this relationship could vary fundamentally depending on period. How the variables manifest themselves and their implications could affect this relationship in the short-run and in the long-run. Therefore, the results obtained herein
are not conclusive. The study also limited itself to five variables which are: national debt, gross domestic product, inflation, interest rates, and consumption and net exports. Economic growth is affected by a myriad of factors other than the ones discussed in this study like technology, politics and infrastructure among other factors. It is imperative to consider incorporating other factors that affect economic growth in order to find out whether this relationship will hold.

The study adopted a linear regression model which is a statistical model which is often inappropriately used to model non-linear relationships. This model is limited to predicting numeric output. It is advisable to test the variables using other financial econometrics model like Chi square among other models. This will assist to drawn more plausible and reliable conclusion which are more accurate.

The study utilized secondary sources of data for a period of ten years. This kind of data is historical in nature and might not all the time reflect the actual needs of the researcher; this might affect the validity and reliability of the results obtained and impact negatively on the findings and the conclusion drawn in this study.

5.4 Recommendations

National debt and GDP were found to have a negative relationship with economic growth. This implies that an increase in government borrowing leads to a significant reduction in resources in the private sector which might be exposed to more taxes to pay interest on debt. This highly discourages private investments and impacts negatively on economic growth. It is however important for the government to find an optimal level of debt which promotes both the private investments and economic growth. The study recommends that the Kenya government should find ways of increasing consumption and net exports in order to enhance economic growth. This is also supported by the findings of this study which has proved that an increase in consumption and net exports results into a corresponding increase
in economic growth.

The government should look for alternative means of raising revenues other than use of debt either internally or externally. This country should try and raise adequate revenues through taxes, treasury bills and bonds and privatization to mitigate national debt and borrowing in order to boost economic growth. The study recommends that Kenya needs to adopt and implement strategies to reduce debt, stock and problems associated with debt service. The government should lay more focus on debt management profile particularly for its expenditure items. This can be achieved by putting borrowed funds into productive projects and programs which will boost economic growth.

The empirical findings concluded that there exists a negative relationship between national debt and economic growth. The study therefore recommends that the government should set policies that create a platform for increased avenues to raise finances to finance capital projects like construction of roads and other infrastructural developments that requires a huge capital investment.

5.5 Suggestions for Further Research

The study was conducted within a limited time and scope. This however necessitated the need to study a period of ten years only. It would have been appropriate to conduct the study for a period of more than ten years in order to obtain more detailed and conclusive results that can be used to make generalization in another middle income country like Kenya that is similar in terms of size, economic power and demographics.

The study was limited to: national debt, economic growth, consumption, net export, inflation and interest rates. It is worth noting that a country’s economic growth is affected by macro-economic variables that might affect the relationship between national debt and economic growth. Future researchers should incorporate other variables like technology among other factors that influence economic growth.
A comparative study should be conducted to include countries in East Africa or Africa that are similar in terms of size. This will increase the scope of the study and provide room for more accurate and reliable results.

The findings revealed that only net exports and consumption variables showed a positive relationship with economic growth. Therefore, a comparative study should be conducted between consumption and interest rates versus national debt, inflation and interest rates. This will provide more insights in shaping and guiding the direction towards realizing improved economic growth.
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373-387.


## APPENDICES

### APPENDIX I: COMPUTED FIGURES OF STUDY VARIABLES

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