

**THE RELATIONSHIP BETWEEN BUDGET DEFICIT FINANCING AND  
ECONOMIC GROWTH IN KENYA**

**MORAA WINNYROSE**

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**DECLARATION**

I declare that this research project is my original work and it has not been submitted to any institution for academic purposes.

Signature.....

Date.....

Name: Moraa Winnyrose

Reg: D63/65621/2013

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

Signature: .....

Date: .....

Name: Herick Ondigo

Lecturer

School of Business

University of Nairobi

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## **DEDICATION**

I dedicate this work to my husband Robert and my kids Ciello, Cyrille and Ainsley.

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## LIST OF ABBREVIATIONS

CBK	Central Bank of Kenya
DW	Durbin-Watson test
FY	Fiscal Year
GDP	Gross Domestic Product
GNP	Gross National Product
IMF	International Monetary Fund
KIPPRA	Kenya Institute for Public Policy Research and Analysis
MCA	Member of County Assembly
MTP	Medium Term Plan
PSBR	Public Sector Borrowing Requirement
WB	World Bank

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## **ABSTRACT**

This was a descriptive study undertaken with the aim of assessing the relationship between budget deficit financing and economic growth in Kenya. It was guided by three research objectives; to evaluate the influence of deficit financing on economic growth, to find out the effect of human capital creation on economic growth and to establish the relationship between the country's investment and economic growth. It applied the use of secondary data which was collected from government reports and publications on economic growth and deficit financing from 2002- 2012 given on quarterly basis. The analysis of the data involved Co-integration tests, Granger causality tests and Vector Auto Regression (VAR) model method to analyze the regression model. The significance of the results was tested at 5% level by the use of t-test and f-test for the model significance test. The findings indicated that, deficit financing have a great effect on the economic growth of a nation as a budget deficit implies lower taxes and increased government spending which will increase aggregate demand and this may cause higher Real GDP and inflation. Increased investments on resourceful activities like industrial production are vital in determining the ability of a nation to achieve economic growth. The study therefore suggests that, greater budgeting discipline that will reduce wastage in government expenditure should be encouraged in the nation and that the government should redirect its fiscal policy that would favor the private investor by discouraging high government expenditure and maintaining low fiscal deficit. The study was however limited by the use of secondary data which limits its findings in reliability as explaining the accurate picture of the phenomenon under study. Therefore the research suggests areas for further studies including; the impact of pressure from external shocks and political uncertainty to foreign investments which are sources of revenue and stimulates of economic growth.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background to the Study**

A number of developing economies are driven by economic plans that specify social and economic objectives to be achieved in the short run and long run (Debbie, 2009). According to Eli (2010) the role of budgeting in a developing country is much different from that of developed country. He adds that budgets are used in developing countries as an integral part of development planning owing to the un-cyclical and chronic nature of unemployment in developing countries that reflect structural bottlenecks of developing economies. This necessitates the injection of additional purchasing power, instead of increasing the level of production and employment which causes larger imports and raises the price level.

Today just like in the past, deficit budget policy has remained a famous instrument of fiscal policy used to increase the rate of economic growth. The most popular model of deficit finance is borrowing which is done through issuance of government bonds. This however diminishes the real value of money and makes the future unpredictable for economic actors. For most countries, the current public debt is larger than the growth rate of their economies. This has both direct and indirect effects. Budget financing through borrowing has created doubt about the real debt condition of states. In the need to secure better economic conditions, governments are forced to implement expansive fiscal policies with the aim of stimulating economic growth.

### **1.1.1 Budget Deficit Financing**

Deficit budgeting is common characteristic of almost all budgets in today's world (Kuncoro, 2011). According to Kuncoro, governments as the fiscal authority state have right to use all the available resources in the economy and by not being limited to its possession only it can have expenses in excess of its revenue. Eli (2010) argues that deficit financing may add productivity and additional value in the economy but it may also create burden to the economy. He attributes this to the fact that deficit financing is only productive when expenditure is made on capital goods and productive channels and it can be a burden to the society if it is based on recurrent expenditure.

Capital for development schemes can be easily obtained from deficit financing. Deficit financing means the government is spending in excess of revenue and the deficit is being met by drawing money from the Central Bank of the country. This leads to creation of money a move that can be helpful in initiating the process of development where a large volume of unemployed resources exist. It will also bring about not only an expansion of the monetized sector but also provides an easy way of obtaining capital for development schemes. The main danger from deficit financing according to (Kosimbei, 2009) is from inflation. Kosimbei explains that the economy may have to face inflationary pressure if the excess propensity to consume does not correspondingly lead to an increase in the level of output due to some bottle-necks of the economic system. He further reiterates that there is the possibility of price levels, rather than the output levels increasing as a result of deficit financing creating more problems than it has solved. He advises that for deficit financing to be successful, there should be correct forecasting about the possible developments in

future in the field of production and consumption. Kaplanoglou and Rapanos (2013) note that if forecasting is correctly done and price level does not materially increase, the deficit financing will become a blessing for economic development.

Government uses various methods to finance budget deficit. Taxation, external as well as internal loan, drawing upon its accumulated cash balances through central bank are some of the sources used to finance such deficit (Fatima, Ahmed, & Rehman, 2012). Deficit financing through tax financing assumes that increase in government expenditure is financed by an equivalent rise in the tax revenue collected from the economy. Such a policy operates through the negative impact on disposable income and therefore on private consumption and investment. The first impact of a tax increase is to reduce private consumption on an almost per unit basis while reducing the effect on private investment in subsequent periods. The effect on any other variable will occur in time lags (Kaplanoglou & Rapanos, 2013).

Money financing is another option of financing government deficit. Here, an increase in government expenditure is financed by an equivalent increase in seigniorage revenue. The central bank is assumed to print money from the treasury department without any obligation on the part of the government to pay interest or repay the principal. By the government spending this money, aggregate demand is increased and the currency in circulation in the economy also increases. This leads to the growth of the financial wealth of the private sector and on the broad money supply. Just like in tax financing, broad money demand, private consumption and private investment are affected with time lags (Friedman, 1978).

Debt financing by restraining credit to the private sector option assumes that the government through the central bank has the power to impose an arrangement with the commercial banking system whereby a certain amount of credit is allocated to the government with an equivalent reduction in the credit extended to the private sector. In an economy that is financially repressed, such credit rationing on the official lending rate is negligible. Decrease in the credit allocated to the private sector leads to an increase in borrowing in the informal financial market. Private financial wealth will increase with reduction of bank credit to the private sector. The policy of private expenditure effects are incorporated by including credit restraint as well as the size of domestic credit allocated to the private sector (Kaplanoglou & Rapanos, 2013).

According to Baumol & Blinder (2005) the use of bond financing at the market rate of interest is equivalent to using fiscal policy in deregulated financial market. Financial institutions in this case are assumed to be free to choose the value of Treasury bill in their portfolio and the rate at which they lend to the government is determined by market forces. Just like in credit restraining, additional government spending in this case is reflected in the change of the public sector borrowing requirement (PSBR). However, unlike credit restraining, PSBR is financed by the creation of new credit by the banking system without affecting the private sector access to bank credit. The government sector will then be expected to raise the Treasury bill rate as an incentive to the banks in their search for additional finance. Such resources are expected to be supplied from the banks' own funds or by mobilizing additional savings from the private sector. They can also approach the central bank as a lender of last resort. As the increase in the Treasury bill rate is translated into an increase in the deposit rate, private agents swap their idle balances (inflation hedges) for bank deposits. This will increase the financial wealth of the private sector.

### **1.1.2 Economic Growth**

Economic growth is often defined as an increase in a country's output i.e. the production of goods and services. However, economic growth is also sometimes described as an increase in average incomes and standard of living (Baumol & Blinder, 2005). Economic growth is commonly measured by a country's gross domestic product (GDP) which is the total value of the goods and services produced during a set period of time. There are two ways of measuring GDP, nominal GDP and real GDP. Nominal GDP calculates the value of all the goods and services produced during a set period of time using current prices. Real GDP involves calculating the value of all the goods and services produced during a set period of time using constant prices. Economists usually use real GDP when calculating economic growth in a country because it takes inflation into account.

GNP is a similar measurement to GDP. It is the total value of all the goods and services produced by a country's own citizens during a set period of time. This means that it excludes the value of production from foreign firms and citizens but includes the value of production from firms and citizens who are overseas. Just like GDP, GNP can be measured in nominal terms which uses current prices or in real terms which accounts for inflation.

Many measures of economic growth such as GDP and GNP can also be measured in per capita terms. Per capita is simply a measurement of economic growth per person. Therefore, GDP per capita is the total value of all the goods and services produced in a country during a set period of time divided by the total population of the country. Per capita is useful because it shows whether or not output is increasing per person.

### **1.1.3 Effect of Budget Deficit Financing on Economic Growth**

Deficit financing is a delicate fiscal weapon for stimulating economic development but only if it is wisely used. It has the potential of benefiting the economy as it is a useful tool for mobilizing additional resources for economic development and helps the utilization of unutilized and underutilized resources of the country besides helping in building up social and economic overheads. With deficit financing, a country may be able to ensure higher levels of employment through the productive use of resources (Kuncoro, 2011).

According to George (2009), the effects of deficit financing on the economy depends upon the method for which it is financed. When the government borrows funds, it competes with the private business borrowers for funds. The additional demand for funds raises interest rate in the money market. As a result, thereof, the private investment is depressed- the crowding out effect (Blanchard, 2008). In case the deficit financing is financed by printing of notes by the central bank, it creates inflationary impact on the economy, which not only discourages foreign investment but also reduces exports, increases imports, increases inequality in the distribution of income, lowers savings rate in the economy and encourages wasteful expenditures. Hudson (2011) notes that deficit financing creates inflationary pressure in the economy and if the time lag between the injection of created money into the economy and the completion of development projects is long and the extra demand for goods is not matched by additional output, there is greater inflationary pressure in the economy. In case, the time lag is short, there is then a lesser inflationary effect on the economy.

The most popular model of deficit finance according to Brownbridge and Tmumusiime-Mutebile (2007) is borrowing, which is usually done by issue of government bonds. When the government is over indebted tends through national bank to buy government bonds which increases the money flow and reduces the interest rate pressure. However, it diminishes the real value of money and makes the future unpredictable for the economic actors. The current public debt growth is larger than the growth rate of the economy for most of the developing countries. It's expected that the growing public debt will cause problems in perspective related to its service.

There are various channels for public debt effect on the economy. Most notable is the direct effect on the interest rates accompanied with the necessity to sell larger supply of bonds. Baumol and Blinder (2005) note that as the supply of bonds intended for sale increases, their prices tend to fall, and the market interest rates go up; except if credit offer is timelessly elastic and the private borrowing is reduced. They further explain that the interest rate increase can be temporary limited from the capital inflows and that, interest rate component of the public expenditure will tend to rise, and consequently raise future fiscal deficits impacting the effect on the investment and expenditure and thus on the perspective economic performance. Additionally, deficit financing impacts exchange rate and therefore trade flows and capital movement.

According to Fatima, Ahmed, and Rehman (2012), big and sustainable debt financed deficits raise the real interest rates under given level of savings and crowd out the private investments. The deficits can be financed through decline in money balance in the private sector triggered with the higher interest rates. Therefore, at lower level than full employment, the economic activity can be increased but at expense of declining interest rate sensitive investment demand.

Related to this is Exchange rate crowding out which will lead towards larger international capital inflows, which reduce the effect of deficit consumption on interest rate (Blanchard, 2008). Then there is Portfolio crowding out when the government bonds participate with raising part in the private portfolio, the possession of private assets must be reduced and again puts pressure on interest rates. In other words, wealth effect has a growing influence on the fiscal effectiveness. When the saving raises, the demand for private asset (capital) and/or money balance may increase and bring tore composition of the portfolio. Which one of these two effects will prevail, depends upon the question: Are the bonds closer portfolio substitute for money or capital? This issue is only matter of financial mix choice. According to Friedman (1978), government bonds are close substitutes for private assets, and subsequently reduce the demand for those assets.

#### **1.1.4 Overview of Kenya's Budget Deficit Financing and Economic Growth**

Just like many other developing countries, the Kenyan government has for the past several years been a perpetual casualty of budget deficit. Studies by Debbie (2009) reveal that in the past, the government has adopted several and diversified strategies with the aim of reducing the budget deficit. Strategies adopted include attempts and measures to widen the tax base and various austerity measures to reduce the recurrent expenditures. One of the most notable attempts to reduce luxurious recurrent expenditures that was the move to reduce the fleet of senior government officials to only one official vehicle which should be less than 1800cc to the ministers and their assistants. Then there was the controversial reduction of overseas travel allowances to senior government officials and Members of County Assembly MCAs, along with the holding on of purchase of new vehicles and furniture's and reduction in budget allocation for:

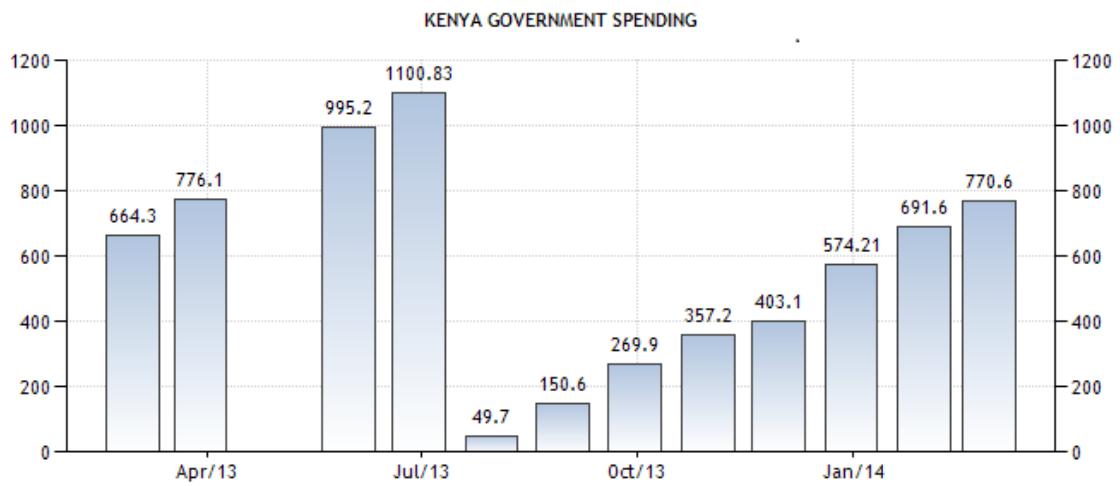
hospitality, printing & advertising and other low priority sectors. These measures are as evidenced in the Finance Bills of 2010 and 2011.

Budget deficits in Kenya since independence have been attributed to government revenues falling short of expenditure demands due to inadequate budgetary resources brought about by low economic performance, among other causes. Eli (2010) observes that budget deficits have contributed to the weak economic performance, by accumulating the high public debt and the associated high interest rates. According to the Medium Term Debt Strategy (2012), the government intends to raise resources through external borrowing in a bid to meet central government budgetary requirements at minimum cost whilst maintaining a prudent level of risk. One of the measures taken is in encouraging the development of domestic debt markets to meet the government's borrowing requirement to cover the deficits in a manner that supports macro-economic stability for sustainable growth over the medium term (George , 2009).

International Monetary Fund; World Bank (2010) concludes that Kenya shows increasing risk of unfavorable debt developments, especially under a shock to GDP growth, unchanged fiscal policy, or materialization of some contingent liabilities. This makes the sustainability of Kenya's debt to be dependent on macroeconomic performance and a prudent borrowing strategy. According to KPMG (2013) in spite of the numerous austerity measures and the various attempts by the Kenyan Government to widen its tax base, Kenyan government still maintains a budget deficit, with the 2013/14 budget hitting an all-time high of 1.6 trillion with a deficit of 14.45% of the gross domestic product as compared to 6.8% of GDP in 2011/12 budget.

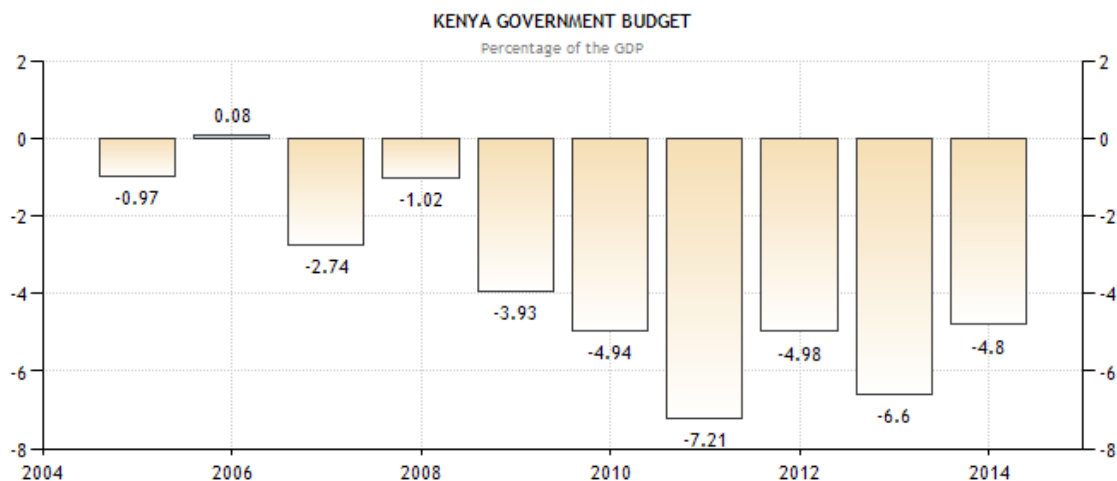
Accordingly, there is an urgent need to address the issue of how best to contain the deficit, hence the need to study the determinants of such fiscal deficits. Figure 1.1 compares the government spending in FY 2013/2014 and figure 1.2 Kenya government deficit as a percentage of GDP from 2004 to 2014.

**Figure 1.1 Kenya Government Spending 2013/2014**



Source: [www.tradingeconomics.com/](http://www.tradingeconomics.com/) Central Bank of Kenya

**Figure 1.2 Kenya Government Deficit**



**Source: [www.tradingeconomics.com/](http://www.tradingeconomics.com/) Central Bank of Kenya**

Recent development in Kenya's fiscal policies revolve on the Eurobond which promises that the economy of Kenya will grow by 6.4% in 2015 from 5.8% with an inflation rate of around 7.5%. This anticipated issuance of a \$2 billion sovereign bond by Kenya is expected to push interest rates further downwards in the coming months as the government cuts domestic borrowing.

### **1.2 Research Problem**

The use of deficit financing to maintain total spending or effective demand was an important discovery of the economic depression of 1930 and has evolved into major instrument in the hands of government to ensure high levels of economic activity (Blanchard, 2008). Following the Keynesian Revolution in macroeconomics, a large number of economists argue that deficit spending is required to achieve full employment and a higher rate of economic growth.

As a result of expanding activities, the Kenyan government expenditure has been increasing each year. However, the accompanying increase in government revenue has never been sufficient to finance this increase in government expenditure. Domestic resources are inefficient emphasizing the vast difference between outlay and revenue. Pattern of government expenditure shows that there is significant growth of recurrent expenditure and principal repayment expenditure but there is only a little growth of capital expenditure. Public savings and its efficient use are important aspects of domestic resource mobilization for a developing country like Kenya. This should be accompanied by private savings and public savings for economic development to be attained. For the government to balance its budget and have lasting impacts on the society, it should be able to supply certain goods and services to promote flexibility and build capacity for future output.

For Kenya to achieve a sustainable economic growth, budget should fulfill the objective of increasing employment opportunities, reducing poverty and inequality, increasing the standard of living of its people and the most important the stability in the economy. Decisions on government fiscal transactions have a direct and immediate influence on the national economy. While making decision considering the national interest, attention has to be focused on the process through which public revenue is collected and public expenditure is determined, allocated and controlled. Kenya recorded a Government Budget deficit equal to 4.80 percent of the country's Gross Domestic Product in 2013 (Institute of Economic Affairs, 2014). Government Budget in Kenya averaged -2.72 Percent of GDP from 1998 until 2013, reaching an all-time high of 0.81 Percent of GDP in 2000 and a record low of -7.21 Percent of GDP in 2010. Even with growth in the country's GDP, Kenya has never attained a budget surplus.

Various researchers such as Baldacci et al (2003); Pechman (2004) and Krugman (2010) have carried out studies on deficit financing in different contexts. What was apparent in their findings was that depending on the level of development of a country and the determinants of economic growth that are significant in that country, deficit financing may be detrimental or helpful. Further these studies and others have shown the effect of deficit financing on the economic growth of a country depends on the budget deficit position of the country. Locally, researchers such as Menjo and Kotut (2012); Kosimbei (2010) and Okello (2013) have all tried to relate different aspects of fiscal policies on economic growth with their findings generally indicating that any fiscal policy has an effect on economic growth; the effect may however be positive or negative. Moreover, there is the general feel arising from Keynesian school of thought and classical school of thought that fiscal policies affect aggregate demand but in converse directions. Question remains whether fiscal policies are efficient enough to bring about economic growth. Hardly any studies have been documented to establish this fact especially in the Kenyan context. This leaves the researcher wondering whether there is any relationship that exists between deficit financing and economic growth. If there is, is the relationship positive, negative or neutral?

### **1.3 Research Objective**

#### **1.3.1 General Objective**

To assess the relationship between budget deficit financing and economic growth in Kenya.

### **1.3.2 Specific Objectives**

The study was guided by the following specific objectives;

- i. To evaluate the influence of budget deficit financing on economic growth
- ii. To find out the effect of human capital creation on economic growth
- iii. To establish the relationship between investments and economic growth

### **1.4 Value of the Study**

Many theorists such as the Keynesians, classical and neo classical theorist have tried to explain the relationship between government financing and economic growth. While some of them feel that deficit financing negatively impacts economic growth, others feel that it is the much needed intervention to stimulate development and subsequent growth of the economy. The findings of this study will prove, or falsify one of the schools of thought or even both and come up with a new theory to explain the effect of deficit financing on economic growth.

For economic growth to be achieved governments have to employ fiscal policies, monetary policies or a mix of both. The findings will inform policy makers and national planners on the long run effect of debt on economic growth. This can inform their future policy and decision making on matters relating to national debt. This also can inform government officials on how debt affects the economy and can inform their decisions on how to deal with past and present debts. The findings will also shed more light on the debt-economic growth nexus and hence inform their contributions and debate on the issue on formal and informal forums. Thus,

politicians can use the results from this study to mobilize the electorate for or against debt as a budget deficit fixing policy.

The findings of this study are also expected to add knowledge to individuals interested in learning issues pertaining to economic growth and deficit financing. Findings of this study will be available in libraries of academic institutions and online libraries as a source of information. At the end of the study the researcher provided recommendations which other scholars may use to come up with their study.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter reviews literature in light of budget deficit financing and how it relates to economic growth. The researcher outlines theories related to the two variables as well as contextual and conceptual review of the same. This chapter also outlines the determinants of economic growth. The determinants of economic growth identified in this chapter include; budget deficit financing, demographic and geographic factors, political and socio economic factors, institutional factors, economic factors, human capita, innovation and research and development and investment. The researcher will discuss Keynesian, neo classical and Ricardian view of budget deficit financing and economic growth.

#### **2.2 Theoretical Review**

Emphasis will be laid on Keynesian view of budget deficits. Keynesian theory advocates government borrowing only in cyclical downturns when there is a rise in private sector saving and period of unemployment. The neo classical growth theories on the other hand envision far sighted individuals planning consumption over their own life cycles. Budget deficits raise total lifetime consumption by shifting taxes to subsequent generations. If economic resources are fully employed, increased consumption necessarily implies decreasing savings. Interest rates must then rise to bring capital markets into balance. Under the Ricardian view, successive generations are linked through voluntary motivated resources transfer and under certain conditions,

consumption is determined as a function of dynastic resources. To Ricardian economists, deficits merely shift the payment of taxes to future generations making deficit a matter of indifference.

### **2.2.1 Keynesian View of Budget Deficits**

Keynesian theory was first developed by Keynes in the 1930s where Eisner (1989) suggested that increased aggregate demand changes the profitability of private investment and leads to a higher level of investment at any given rate of interest. Thus deficits may actually stimulate aggregate saving and investment despite the fact that they raise interest rates. In Eisner's view, increased consumption is supplied from otherwise unutilized resources. Many traditional Keynesians argue that deficits need not crowd out private investment.

In the simplest and most naive Keynesianism model, increasing the budget deficit by causes output to expand by the inverse of the marginal propensity to save. In the standard IS-LM analysis of monetary economies, this expansion of output raises the demand for money. If the money supply is fixed (that is the deficits is bond financed), interest rates must rise and private investment falls. This in turn reduces output and partially offsets the Keynesian multiplier effect (Hicks, 1980).

The Keynesian view as in Krugman (1994) was however objected on two major issues. First, the Keynesian outlook on budget deficits presupposes that the government can and will "fine tune" fiscal policy. If we grant that deficits stimulate aggregate demand, it follows that there are circumstances in which this stimulation may be detrimental. Even the most steadfast Keynesian is willing to concede that at full employment real deficits crowd out private investment and raise the rate of inflation. Recognizing the real cost of crowding out, many Keynesians (such as

Eisner) argue for a policy of nominal deficits, which would preclude real deficit from rising once the economy achieved full employment. This policy would channel all the effects of inappropriately timed deficits into inflation. Advocates of this strategy apparently adopt the purist view that Inflation is costless. Inflation interacts with the tax system produce significant distortions of behavior. It then redistributes resources in undesirable directions. In addition higher rates of inflation are associated with greater price variability. Formal models of price adjustment suggest a causal relationship. Thus inflation adds significant randomness and uncertainty to the economic environment If Keynesian analysis implies that deficits can have either positive or detrimental effects then the proper management of fiscal policy becomes critical.

The second critique of the Keynesian school of thought on deficit financing was its view on the effects of temporary deficits. Keynesian view primarily describes the effects of temporary deficits. Indeed it is essentially compatible with the neoclassical paradigm which primarily concerns the effects of permanent deficits in failing to distinguish between temporary and permanent deficit, it is argued that Keynesians provide misleading advice to policy makers (Hollander, 1987).

As postulated in the Keynesian school of thought, with fiscal policies there is the possibility of existence of unemployed resources in the economy as well as the crowding out of private investment. This view is relevant in a study on economic growth as it highlights the downside on the use of fiscal policies in stimulating economic growth.

### 2.2.2 Ricardian Equivalence Theory

Ricardo (1951) argues that there is no difference for households if they are faced with the present value of future taxes, or with buying debt now and receiving rent. Only the quantity of government purchases is relevant to the economy as revealed in Barro (1974). This result is called Ricardian Equivalence. Consider a household buying bonds  $D$  at time  $t_1$  and a government retiring the bond  $D$  at  $t_2$  including rent  $r$ . The government then has to tax the household  $e^{R(t_2)-R(t_1)}Datt_2$ . The household now has an asset with net present value of  $D$  at  $t_1$  and a liability with a net present value of  $Datt_1$ . It is assumed that a household spreads consumption according to the permanent-income hypothesis. In short, the permanent-income hypothesis states that consumers will base their spending not just on current income, but on all future income streams. This implies that the household's net wealth does not change and therefore the households' consumption behavior does not change. Although this result looks simple and straightforward, it has great implications for policy making. In traditional economics, a shift from tax to bond financing increases consumption, because consumption only depends on disposable income, which is income minus taxes or  $Y-T$ . This implies that a country can increase consumption by cutting taxes and financing it by issuing bonds. But if Ricardian equivalence holds, this does not make a difference. Ricardian equivalence would also make efforts by countries to cut taxes during recessions futile, since households expect taxes to rise afterwards.

Ricardian equivalence is still debated. There are some reasons why Ricardian equivalence would not hold. One would be the turnover of population. Since it is not the same population holding debt and paying taxes because of a limited lifespan, the population does not expect to pay the

taxes associated with a rise in debt and therefore does increase consumption when taxes are replaced by bonds (tax cuts). Another could be the fact that Ricardian equivalence is built on the permanent-income hypothesis. For Ricardian equivalence, this implies that consumers will not spend more today if they receive a tax cut if they know they will be facing higher taxes in the future. But liquidity constraints, a pre-cautionary saving motive or impatience can cause a departure from the permanent-income hypothesis. Some empirical analyses have also shown that permanent income does not always hold (Ricardo, 1951).

Ricardian equivalence theory analyses the trade-off between the uses of government bonds to raise money to close the budget deficit versus the use of taxation to raise money. A review of this theory is necessary in a study of deficit financing as it provides options by comparing the more productive option for governments to raise money to balance their budgets. The theory also provides insight to income theories of consumers and households which is one of the factors used in the measurement of economic growth in the GDP approach.

### **2.2.3 Neo Classical Growth Theories**

Marshall (1890) and Fisher (1989) postulates that governments should not intervene in the economy. They claim that an unobstructed free market is the best means of inducing rapid and successful development. Competitive free markets that are unrestrained by excessive government regulation are seen as to be able to naturally ensure that the allocation of resources occur in such a way that the greatest efficiency possible is achieved. Only if this happens will economic growth and stabilization occur. The proponents of neoclassical growth theories suggest three

alternative approaches to achieving economic growth; the free market approach, the public choice approach and the market friendly approach.

The free market and public choice approach contend that the market should be completely free and any government intervention will distort the situation. The market friendly approach advocates free markets while recognizing the possibility of presence of market imperfections especially in markets of developing countries.

Neoclassical theories also have its base on good governance. The notion of good governance has been elaborated, in part, through a component of the neoclassical counter-revolution called new institutionalism. The basic premise of this perspective is that development outcomes depend on institutions such as property rights, price and market structures, money and financial institutions, firms and industrial organizations, and relationships between government and markets. The essence of good governance is to ensure the existence of these institutions and their proper role and functioning, as seen from the perspective of neoliberal theory. According to neoliberal thought, good governance requires freeing the market from state control and regulation; reducing government expenditures for social services like education and health care; maintaining roads, bridges, the water supply, and so forth; and selling state-owned enterprises, goods, and services (including banks, key industries, railroads, toll highways, electricity, schools, and hospitals) to private investors(Catao & Terrones, 2003).

The Solow growth model in Solow (1988) as a neoclassical model agrees that market price allocation is more efficient than government intervention. Additionally, it is noted that state

owned enterprises hardly fulfill their promises leading to inefficiency besides the lack of incentives to promote economic growth.

Neo-classical school of thought provides the basis for monetary policies adopted by government.

A review of the theory by this school of thought is relevant in this study as it may explain the negative effect of deficit financing as a fiscal policy by the government on economic growth.

#### **2.2.4 Keynesian Theories of Economic Growth**

This theory was first put forth by Keynes (1936). The theory postulates that government intervention is necessary to stimulate economic growth. The government can intervene to correct market failures that lead to budget deficits by adjusting taxes and government expenditures. In a simple Keynesian model, output is determined by aggregate demand, because of price rigidity and excess capacity (an output gap). Aggregate demand consists of public and private spending. If there is an exogenous shock, governments can boost public spending and so get the aggregate demand up at the trend level of output with the cost of running a deficit. Another reason to run deficits is unemployment. Unemployment rises when a country is in a recession. When unemployment rises for the long term, fiscal policy is useless, because the equilibrium unemployment has shifted. But when there are short run fluctuations around the long term equilibrium because prices and wages are too rigid, fiscal policy can help. This is called countercyclical fiscal policy.

Keynes regards public expenditures as an exogenous factor which can be utilized as a policy instrument to promote economic growth. From the Keynesian thought, public expenditure can contribute positively to economic growth. Hence, an increase in the government

consumption is likely to lead to an increase in employment, profitability and investment through multiplier effects on aggregate demand. As a result, government expenditure augments the aggregate demand, which provokes an increased output depending on expenditure multipliers (Keynes, 1924).

According to Keynes, the economy is subject to fluctuations, and supply and demand could well balance out at an equilibrium that did not deliver full employment. The solution to this conundrum was seemingly simple: Replace the missing private investment with public investment, financed by deliberate deficits. The government would borrow money to spend on such things as public works; and that deficit spending, in turn, would create jobs and increase purchasing power. Striving to balance the government's budget during a slump would make things worse, not better. In order to make his argument, Keynes deployed a range of new tools—standardized national income accounting (which led to the basic concept of gross national product), the concept of aggregate demand, and the multiplier (people receiving government money for public-works jobs will spend money, which will create new jobs)(Keynes, 1924).

The implication of the Keynesian theory is that the government should take a bigger role in the economy since it is the one that has the ability to intervene and manage market failures effectively. He deemed government intervention to be superior to that of the market place. In many economies in both developing and developed countries, Keynesian theory has laid the intellectual foundations for a managed and welfare oriented form of capitalism. The widespread absorption of the Keynesian message has in large measure been responsible for the generally

high levels of employment achieved by most developed countries and for a significant reorientation in attitudes toward the role of the state in economic life (Keynes, 1924).

A review of Keynesian schools of thought in study on economic growth is relevant as Keynesian economist re considered the founders of economics. Many economic policies whether monetary or fiscal in nature are either done in accordance with the Keynesian economics or against the school of thought in case of monetary policies. Keynes's analysis laid the basis for the field of macroeconomics, which treats the economy as a whole and focuses on government's use of fiscal policy spending, deficits, and tax. These tools could be used to manage aggregate demand and thus ensure full employment. As a corollary, the government would cut back its spending during times of recovery and expansion.

### **2.3 Determinants of Economic Growth**

A wide range of studies have investigated the factors underlying determinants of economic growth. Using conceptual and methodological viewpoints, various scholars have identified the determinants of economic growth to include; budget deficit financing, demographic and geographic factors, political and socio economic factors, institutional factors, economic factors, human capita, innovation and research and development and investment.

Besides mentioning the determinants for economic growth, the study indicates clearly how each of them would be measured thus giving the reader more insights on how the study would be achieved. The indication of the measurability of the variables also guides the researcher on data collections and analysis methods as the literature collected in this section makes is easy in the

interpretation of the study results in comparison to other scholars' findings. These determinants are discussed in this section.

### **2.3.1 Budget Deficit Financing**

Eli (2010) in their study found out that increase in government expenditure increases fiscal deficit if revenue is not generated in the same proportion. However, there are other reasons also due to which government expenditure can increase budget deficit even after raise in tax revenue. Budget deficit and public deficit increase even after rise in the tax revenue due to deficient and inefficient social programs. He further found that high inflation leads to decrease in tax revenue in crisis time and low level of tax revenue leads to tax loss which leads to high budget deficit. Further, he states that increasing public spending leads to increase in budget deficit and thus concluded that this disequilibrium results from governments' wrong policies such as using borrowing in order to finance the deficit and this has the potential of stagnating economic growth.

### **2.3.2 Demographic and Geographic**

One of the determinants of economic growth is demographic aspects of any given population. According to Mazilu and Mitroi (2009) aspects such as population density, population growth, population composition and migration are seen as major factors in economic growth. They explain that, high population growth is associated negatively with economic growth as it influences dependency ratio, investment and saving behavior as well as the quality of human capital. On the other hand however, Mazilu and Mitroi note that population density is positively associated with economic growth as it influences specialization, knowledge diffusion among

others. Bleaney and Dimico (2014) associates geographical factors such as natural resources, climate and landlockedness with economic growth as they affect, agricultural productivity, economic structure, transport cost and competitiveness of a nation.

### **2.3.3 Political and Socio-Cultural Factors**

Maria (2012) notes that economic growth has also been linked to political and socio cultural factors. She explains that the political environment of a country plays an important role in economic development as it determines the stability, uncertainty of a country and in the process encourages investment and eventually advances economic growth. Similarly, socio-cultural factors such trusting economies lead to economic growth as such economies have greater incentives to innovate, accumulate physical capital and human resources.

### **2.3.4 Institutional Factors**

Mijiyawa (2006) identifies institutional factors that affect economic growth to include (property rights, regulatory institutions, institutions for macroeconomic stabilization, institutions for social insurance and institutions of conflict management), which not only exert direct influence on economic growth, but also affect other determinants of growth such as the physical and human capital, investment, technical changes and the economic growth processes.

### **2.3.5 Economic Policies**

Keynesian economists believe that economic and macroeconomic policies have also great potential as determinants of economic performance since they can set the framework within which economic growth takes place. Economic policies can influence several aspects of an

economy through investment in human capital and infrastructure, improvement of political and legal institutions and so on. Macroeconomic conditions are regarded as necessary but not sufficient conditions for economic growth (Fischer, 1993). In general, a stable macroeconomic environment may favor growth, especially, through reduction of uncertainty, whereas macroeconomic instability may have a negative impact on growth through its effects on productivity and investment. Several macroeconomic factors that have been identified to impact development include but are not limited to; inflation, fiscal policy, budget deficits and tax burdens.

### **2.3.6 Human Capital**

Human capital is also a main source of growth in several endogenous growth models as well as one of the key extensions of the neoclassical growth model. Since the term 'human capital' refers principally to workers' acquisition of skills and know-how through education and training, the majority of studies have measured the quality of human capital using proxies related to education (e.g. school-enrolment rates, tests of mathematics and scientific skills, etc.). According to Wilson & Briscoe, (2004) there is evidence suggesting that educated population is key determinant of economic growth.

### **2.3.7 Innovation and Research and Development**

Innovation and Research & Development R&D activities can play a major role in economic progress increasing productivity and growth. Torun and Cicekci (2007) attribute this to the increasing use of technology that enables introduction of new and superior products and processes. This role has been stressed by various endogenous growth models, and the strong

relation between innovation/R&D and economic growth has been empirically affirmed by many studies.

### **2.3.8 Investment**

Investment is one of the most fundamental determinants of economic growth identified by both neoclassical and endogenous growth models Barro and Martin (1992). However, in the neoclassical model investment has impact on the transitional period, while the endogenous growth models argue for more permanent effects. The importance attached to investment by these theories has led to an enormous amount of empirical studies examining the relationship between investment and economic growth.

## **2.4 Empirical Review**

The study looks at the relevant studies that had been conducted on the same area. It outlines both the local and international studies. For the international evidence, the focus on published reports given by different Universities and their findings; it also illustrates the methods used to conduct the mentioned studies and the target group capturing different demographics.

The study takes into account the local studies that are relevant to the study topic. It covers both the published and unpublished research where unpublished are obtained from the library and are clearly illustrated as unpublished in the reference list; this tries to bring out the gap that the study seeks to fill as well as the justification for the study.

### **2.4.1 International Evidence**

Haq (2001) in a study on causes and effects of deficit financing in Pakistan established that the scope of deficit financing for accelerating economic growth in backward economy is very bright as they are caught in a vicious circle of underdevelopment. He notes that such countries use funds for investment when the resources of the country are not adequate to initiate the processes of take-off hence the need for deficit financing.

Baldacci et al. (2003) in their study on the use of fiscal policy to spur growth in Bangladesh concluded that fiscal policy has to be tailored to country-specific condition to foster growth. That is, uniform approach to fiscal policy in which all countries are counseled to reduce their deficits under all circumstances is not appropriate. Although the fiscal policy works differently, fiscal adjustments can also spur growth in the former.

Catao and Terrones (2003) conducted a study in South America on fiscal deficit and inflation and found that there is a strong positive relationship between fiscal deficits and inflation among high-inflation and developing country groups, but not among low-inflation advanced economies. They found that 1 percentage point reduction in the ratio of fiscal deficit to Gross Domestic Product (GDP) typically lowers long-run inflation by 1.5 to 6.0 percentage points, depending on the size of the inflation tax base.

According to Pechman (2004), in his review of fiscal policy stimulation in the UK established that while public expenditure may crowd out private investment, it may however improve private sector productivity as a positive externality of the crowding out effect. He notes that net impact on aggregate output of the crowding-out effect of public expenditure clearly depends on the

relative marginal productivities of the public and private sectors. To him, the higher the level of public expenditure, the greater the inefficiency and the lower the level of output. A large budget deficit has considerable effect on national savings and could crowd out private investment. Low investment harms future productivity because each worker has less capital with which to work in the future. The crowding out is brought through higher interest rates as firms that want to borrow for investment projects compete for that smaller pool of available funds. In the process, they bid up the interest rate that they are willing to pay. The higher interest rate dissuades some firms from undertaking their investment projects, with net results that investment declines hence growth.

Christensen (2005) studied the role of domestic debt markets in sub-Saharan Africa (SSA) based on a new data set covering 27 SSA countries during the 20-year period (1980 to 2000) with the objective of discussing long-term developments and identifying key characteristics of African domestic debt markets. The study found that domestic interest payments for sub-Saharan African countries increased from 49.7 percent of total debt service between 1990 and 1994 to 51.9 percent between 1995 and 2000. The proportion of domestic interest payments to government revenues increased from 10.9 percent to 11.5 percent during the period while the ratio of the interest payments to GDP increased from 2.0 percent to 2.3 percent. The significant domestic interest burden is a result of relatively high domestic interest rates. Various comparisons of the cost of domestic versus foreign borrowing suggest that domestic interest rates are much higher than foreign ones.

Brownbridge and Tumusiime-Mutebile (2007) in their study of the link between foreign aid and budget deficit in Uganda in their analysis on the impact of the increase in the fiscal deficit on macro-economic management and on the sustainability of public finances found that foreign aid increased deficits. On the other hand, Feeney (2007) conducted a study in Melanesia and observed that foreign aid decreased deficits in the 1980s and 1990s.

Mayr (2008) in a study in Germany on determinants of economic growth observed that foreign aid in its various forms (grants and debt relief) from various sources (multilateral development banks, bilateral and NGOs) represents a significant share of revenue in many low-income countries. He notes that public funds provided in form of foreign aid and are suspected to increase moral hazard and induce governments to run into even more debt. He concludes that foreign funds should not be contingent on debt levels. Instead, it could finance a share of a given spending, for example on public services that are conducive to growth such as education, health, or based on measures of outcome, such as improvements in debt management.

Krugman (2010) while studying fiscal deficits in Britain contended that deficit spending is a central point of controversy in economics, with prominent economists holding differing views. The mainstream economists position is that deficit spending is desirable and necessary as part of cyclical fiscal, but that there should not be a structural deficit: in an economic slump, government should run deficits, to compensate for the shortfall in aggregate demand, but should run corresponding surpluses in boom times so that there is no net deficit over an economic cycle.

Kuncoro (2011) conducted a study on the sustainability of state budget in Indonesia and observed that the issuance of Government Securities needs to be done with such prudence by considering the burden of payment of maturing government securities. He recommends that a careful study on the other burdens of the state budget needs to be more properly calculated and that a decline of the government debt to GDP ratio does not necessarily mean an increase in the government's financial position.

#### **2.4.2 Local Evidence**

Debbie (2004) conducted a study on the relationship between tax policies and government deficit in Kenya and concluded that the tax policy in the country was mainly to blame for the persistent budget deficit and that there still existed a lot of unexploited areas in as far as tax policy was concerned. Further, the tax policy was blamed for the perpetual budget deficit with most people blaming the narrow tax base and compliance issues as the main areas that lack depth in as far as tax policies are concerned. The researcher further sought to find out the measures that could be put in place in order to reduce and consequently eliminate low tax compliance in the country and it emerged that a whopping 81% believed that reduction in the various tax rate would be the panacea towards increased tax compliance in the country.

Menjo and Kotut (2012) studied the impact of fiscal policy on private investment and economic growth in Kenya by adopting two stage instrumental variable estimation method to perform our regression analysis. The results indicated that fiscal policy impacts on investment and investment plays a major role in the determination of the economic growth in Kenya.

Okelo et al. (2013) did an empirical investigation on the relationship between fiscal deficits and economic growth in Kenya. The study used both exploratory and causal research designs and employed time series secondary data for a period of 38 years (1970-2007), purposively selected and was estimated using OLS method. The study found positive relationship between budget deficits and economic growth, in congruent with the Keynesians assertion and hence recommends prudent financial management and enhanced revenue collection by revenue authority so as not crowd-out private sector investment by borrowing domestically.

Onyango (2013) looked at the determinants of deficit financing in Kenya and established that government ordinary revenues in Kenya had been gradually increasing and that government expenditure has been increasing over the study period. The study further established that there is a direct relationship between debts and the fiscal deficits.

## **2.5 Summary of Literature Review**

The theoretical foundation of the study revolved around the theories supporting the deficit financing and economic growth. The Keynesians propose that the government intervention in economic activity can help spur long term growth by ensuring efficiency in resource allocation, regulation of markets, stabilization of the economy, and harmonization of social conflicts (Keynes, 1936). Classical theorist on the other hand posit that government intervention brings more harm than good to the economy and that free market forces should be allowed to create market failures. classical economists hold the view that government operations are inherently bureaucratic and inefficient and therefore stifle rather than promote growth.

A review of empirical literature reveals that a large number of studies have been conducted on deficit financing however, Brownbridge and Tmumusiime-Mutebile ( 2007), Christinen (2005), (Debbie, 2009), and (Mijiyawa, 2006)are some of the relatively minimal studies that have been conducted in developing countries in Africa compared to the more advanced economies of the world. Locally, scholars such as Onyango (2013), Okeloet al (2013), Kosimbei (2009) and Menjo and Kotut (2012) have tried to study the field of economic growth as influenced by deficit financing. One key aspect of these studies has been the focus on factors that affect economic growth. Others have largely focused on the various variables that are interlinked with deficit financing such as; debt service, government expenditure, lags ordinary tax collection, and the decline in external revenues as a result of global economic and financial meltdown among others. Expenditure on debt service has been found to increase the level of indebtedness consequently increases the levels of deficits by diverting more tax revenues to servicing existing debts that's increasing the deficits. These studies also show that the global economic and financial crisis reduce the levels of budget supports from developing nations thus eroding financing to developing countries budgets as well as the accompanying externalities.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter describes the methods that were employed to provide answers to the research objective of this study as listed in chapter one. Aspects of research methodology such as research design, data collection, data analysis and the analytical model has been discussed in this chapter.

The research design adopted was descriptive in nature. Data for the study was primarily secondary data collected from government reports and publications on economic growth and deficit financing form 2002- 2012 given on quarterly basis. Co-integration, Granger causality tests and Vector Auto Regression (VAR) model method was used to analyze the regression model. T test and F test were used to test for the significance of the model.

#### **3.2 Research Design**

This study adopted a descriptive research design. According to cooper and Schindler (2011), descriptive research involves the quantitative summary of data set that has been collected. This kind of research design helps in understanding the experiment and data set in detail and describes the required details that help to put the data into perspective. Descriptive research design also enables the researcher to make inference during the interpretation stage. In this study, data in deficit financing was used to determine the economic growth trend from 2002-2012. The researcher chose to use this research design as it has great extent of reliability, and the results can be used to generalize concepts more widely, predict future results and investigate causal

relationships. The use of quantitative research design was useful in finalizing the results and proves or disapproves theories.

### **3.3 Data Collection**

Secondary data was used in this study. According to Kothari (2003), secondary data is data that has been collected in other studies. This kind of data was used as it was already available and the researcher had no capacity to produce similar data independently. The researcher utilized desktop research to extract data on budget deficit, trend economic growth and deficit financing. The range used was 2002-2012 on a quarterly basis. Government expenditure data was derived from the annual government budgets given by the government working papers. Data on Government debt service were obtained from the Annual Public Debt Reports over the years and as reported on by the Central Bank of Kenya publications. Other government publications, key institutions publications such as KIPPRA, Kenya National Bureau of Statistics Central bank as well as publications from international organizations such as the World Bank and International Monetary Fund were also sources of data.

### **3.4 Data Analysis**

Based on the Macroeconomic literature definition of deficit financing, the objective of this study of finding the relationship between deficit financing and economic growth can best be achieved using Johansson's (1988) co-integration, Granger causality tests and Vector Auto Regression (VAR) model method. To do this, the researcher had to identify the dependent and the independent variables and establish the causal relationship. The dependent variable in this

study is economic growth while the independent variable is deficit financing. Data were collected from 2002- 2012 on a quarterly basis.

### 3.4.1 Analytical Model

The regression equations used in this study are as indicated below:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \epsilon$$

Y = economic growth measured by GDP per capita

X<sub>1</sub>= Deficit Financing (budgeted annual government revenue - budgeted annual government expenditure) measured as a percentage.

X<sub>2</sub>= Investment (measured as the total capital expenditure including gross fixed capital formation and capital transfer) as a percentage.

X<sub>3</sub>= Human Capital (measured in-terms of workers' acquisition of skills and know-how through education and training as given by the school-enrolment rates; this is a percentage measure of the total number of pupils enrolled for primary level, the total number of students enrolled for secondary and tertiary levels)

$\beta_0$  = Constant

$\beta_1$  = Coefficient for deficit financing

$\beta_2$  = Coefficient for investment

$\beta_3$  = Coefficient for human capital

€ - Standard Error

### **3.4.2 Test of Significance**

The researcher used Z-test (two tailed test) (at p-value=0) to evaluate the significance of the overall correlation model at 95% level of significance. The significance or confidence level is the probability of obtaining similar results through chance. The aim of the tests is to determine whether a significant relationship exists between the dependent variable and the independent variables (Stephan & Levine, 2010).

In bid to test the hypothesis, the researcher used chi-square test. Chi-square is a statistical test commonly used to compare observed data with data we would expect to obtain according to a specific hypothesis. The P-value in the chi-square test is the probability of observing a sample statistic as extreme as the test statistic. Since the test statistic is at 5% significant level, we use 0.05 probability level as our critical value hence if the calculated chi-square value is less than the 0 .05 value, we accept the hypothesis (Schindler, 2008). Finally, the study conducted linear regression equations to test for the extent of relationship between deficit budgeting as the independent variable with economic growth measured in GDP as the dependent variable. In simple linear regression, the study predicts scores on one variable from the scores on a second variable. The predicted variable in the study is called the criterion variable and is referred to as Y. The variable the study bases its predictions on is called the predictor variable and is referred to as X. When there is only one predictor variable, the prediction method is called simple regression (Stephan & Levine, 2010).

## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSION**

#### **4.1 Introduction**

The chapter presents the analysis part of the study. The analysis is based on the research objectives where each objective is tackled according to the analysis techniques designed in the methodology.

#### **4.2 Budget Deficit Financing and Economic Growth**

To effectively evaluate the effect of budget deficit financing on Economic growth, the data was analyzed to determine the statistical properties of the time series variables used in the estimation. The essence is to determine whether these variables are stationary or not. This is because macroeconomic data often appear to possess' stochastic trend that can be removed by differencing the variables.

##### **4.2.1 Test of Stationarity**

In the analysis, the Augmented Dickey Fuller was employed to test the order of integration of the variables. The unit root test results are presented in table 4.1;

**Table 4.1 Unit Root Test**

Variable	Levels	1 <sup>st</sup> Difference	2 <sup>nd</sup> Difference	Level of Integration
Growth			-	I(1)
Deficits	-2.31831			I(1)
Human Capital	4.45267	-5.42190	-	I(1)
Investment	5.33281	-3.81822	-	I(1)

Critical Values: 1% -2.614029, 5% -1.947816, 10% -1.612492

**Source: Research Findings**

The first step in constructing the cointegration model and testing the Granger causality relationship is to test the stationarity of the series over time and to determine the degree of integration based on the Phillips and Perron unit root test (PP). The analysis of time series showed that the time series of deficits, human capital and investments and real gross domestic product are not stationary at their levels at the (5%) level of significance. However, the series are stationary at their first differences, which indicates that the series are integrated of degree one.

**4.2.2 Cointegration Test**

Since the series are non-stationary with the same order of integration, they may be cointegrated if there exist some linear combination of the series that can be tested for stationarity, *i.e.* (I(0)). Cointegration relationship between budget deficits and economic growth is tested using the (Engle and Granger, 1987) two steps procedure. The linear equations are first estimated by OLS; then the residuals from the regression are tested for stationarity using PP unit root test.

**Table 4.2: Cointegration Test**

Rank	Eigen value	Likelihood Ratio	5% Critical value	1% Critical value	Hypothesized no of CE(s)
R=0	0.53810	116.1593	95.38	113.18	None*
R=1	0.61101	75.7752	82.32	89.92	At most 1
R=2	0.40516	42.5782	59.41	65.48	At most 2
R=3	0.38372	21.5432	39.57	46.42	At most 3
R=4	0.29462	12.0923	24.72	28.90	At most 4
R=5	0.10039	4.1673	12.09	14.66	At most 5
R=6	0.08421	0.9217	3.94	6.64	At most 6

**Source: Research Findings**

Table 4.2 contains the estimates of the cointegrating relationship and the estimated standard errors on the coefficients that we obtain with the Johansen estimator, with the signs changed for comparison with the regression output, along with the estimated coefficients from dynamic OLS. The estimates are quite similar. A striking feature of the estimation of cointegrating relationships is that the estimates are unaffected asymptotically by omitting non-trending explanators. They are also unaffected asymptotically by measurement error bias. The unbounded variance of the stochastically trending variables swamps those biases in large samples. Since the tests indicate that the residuals are stationary, i.e.  $I(0)$ , then there is a Cointegration between budget deficits and economic growth.

### 4.3 Granger Causality Tests

The Granger causality test was applied as the statistical hypothesis test for determining whether the independent variables' time series is useful in forecasting economic growth. The results are as presented in table 4.3 below;

**Table 4.3 Pairwise Granger Causality Tests**

Null Hypothesis	F-Stat	Critical F value at 1%	Critical F value at 5%	Critical F value at 10%	Decision
Budget Deficits Does not Granger cause GDP growth	3.13**	3.22(6,42)	2.33(6,42)	1.92(6,42)	Rejected at 5%
GDP growth Does not Granger cause Budget Deficits	5.18***	3.22(6,42)	2.33(6,42)	1.92(6,42)	Rejected at 1%
Investment Does not Granger cause GDP growth	6.31***	3.22(6,42)	2.33(6,42)	1.92(6,42)	Rejected at 1%
GDP growth Does not Granger cause Investments	3.84***	3.22(6,42)	2.33(6,42)	1.92(6,42)	Rejected at 1%
Human Capital Does not Granger cause GDP growth	1.88**	2.74(9,39)	2.07(9,39)	1.76(9,39)	Rejected at 5%
GDP growth Does not Granger cause Human Capital	2.26**	2.74(9,39)	2.07(8,40)	1.76(8,40)	Rejected at 5%

**Source: Research Findings**

The symbols \*\*\*, \*\* and \* indicate the rejection of the null hypothesis that one series does not Granger cause another at 1%, 5% and 10% level of significance respectively. Values in brackets are lower and upper degrees of freedom (df) respectively. For all Models, DW statistic ranged between 1.81 and 2.24

The findings revealed that there exists a strong bidirectional causal links between budget deficits and economic growth. The null hypotheses that budget deficits does not Granger cause economic growth and vice versa have been rejected at 5% and 1% level of significance respectively based on the model.

Significant results were obtained in relation to the causal link between investments and GDP growth. The findings reveal that there is a strong two way causal relationship between investment and economic growth (GDP). This implies that an increased investment in the country generates more taxable income, consumption, re-investment as well as increased employment rates.

Also results from the model indicate that, there is a strong bidirectional causal link between economic growth and human capital creation. In this case, economic growth is seen as a driver of the growth in human capital creation.

#### **4.4 Regression Analysis**

To evaluate the effect of budget deficits on the country's economic growth, regression analysis was conducted which the results are presented in table 4.4 which gives the summary of the model and table 4.5 which gives the coefficients that answer the regression model.

**Table 4.4: Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.910 <sup>a</sup>	.892	.878	2.6172

a. Predictors: (Constant), Deficit financing, investment, human capital

**Source: Research Findings**

The model summary gives the coefficient of determination (R square) which is the measure of the extent to which the predictor variables influences the dependent variable. The R square value from the table is 0.892 which explains that, holding other variables constant, the deficit financing, total investment and human capital creation account for 89.2% of the variability in the economic growth of the country. This therefore shows that, other variables which were not considered in this study would account for 10.8% of the variability in the country's economic growth.

Also, the table gives the adjusted R square which is the measure of the reliability of the results. The value as the table indicates is 0.878 illustrating that, the study results are 87.8% reliable. Thus, based on this, the model results are significant and reliable in explaining the influence of the predictor variables to the dependent variable.

**Table 4.5 Regression Coefficients**

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.62	4.56		1.89	.007
	Deficit Financing	1.56	1.24	.834	1.26	.021
	Investment	23.46	10.90	11.13	1.15	.015
	Human capital	4.69	1.79	2.17	1.62	.002

a. Dependent Variable: Economic growth

**Source: Research Findings**

The regression coefficients in the table answer the regression model  $Y = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \epsilon$

Where:

Y = economic growth

X1 = deficit financing, X2 = investment, X3 = Human capital

$\beta_0$  = Constant,  $\beta_1$  = coefficient of deficit financing,  $\beta_2$  = coefficient of investment,  $\beta_3$  = coefficient of human capital

$\epsilon$  = standard error

Based on the table results, the model therefore becomes;

$$Y = 8.62 + 1.56 X1 + 23.46X2 + 4.69X3$$

From the model, it is clear that, holding the predictor variables constant at zero (0), the growth of the economy could be 8.62 which is the level to which the growth would be without the influence of the predictor variables. Also, the results show that, budget deficit financing indicated a positive reaction with economic growth which has a significant effect tested at 5% level. Total investments and the human capital creation through education enrollment rates have been found to have a positive impact on growth as indicated by their coefficients which are all significant at 5% level of significance.

Thus, based on the coefficients obtained, a unit increase in deficit financing would result to a 1.56 times increase in the growth of the economy. Also, a unit change in the total investments would lead to a 23.46 times changes in economic growth in the same direction. The findings as well indicate that, given a unit increase in the human capital creation, economic growth would increase consequently by 4.69 times.

#### **4.5 Hypothesis Test**

$H_0$ :  $B_1=1$ ; deficit financing affects economic growth and;

$H_A$ :  $B_1 \neq 1$ ; deficit financing does not affect economic growth,

To test the significance of the results that there is a relationship between deficit financing and economic growth, chi-square test was conducted which as well tests the hypothesis of the study. The results are as presented in table 4.6 below;

**Table 4.6 Chi-square Test for the significance of the Relationship between variables**

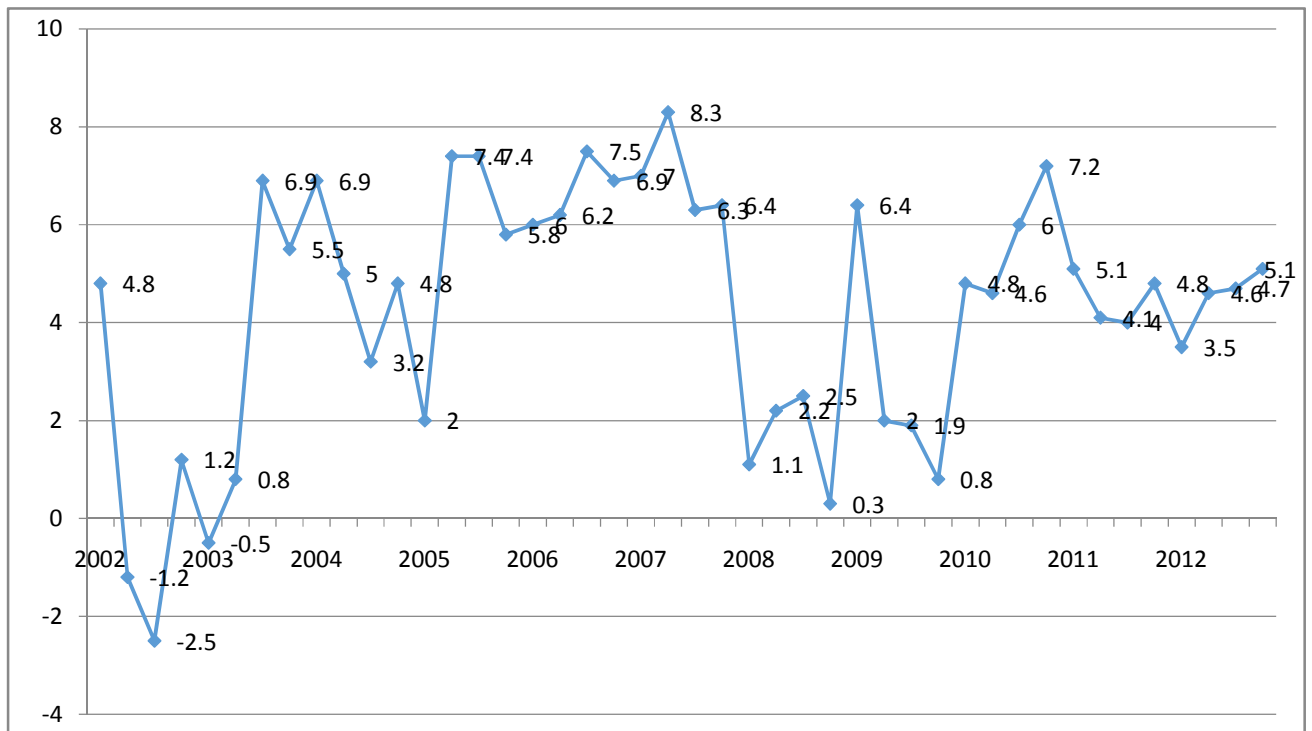
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	38.287 <sup>a</sup>	3	.009
Likelihood Ratio	41.392	3	.020
Linear-by-Linear Association	14.709	1	.017
N of Valid Cases	11		

**Source: Research Findings**

The Pearson Chi-square test was conducted to test the hypothesis from which the results as presented in the table indicates that, the Pearson coefficient is 38.287 with 3 degrees of freedom. This coefficient is statistically significant as the significant value was obtained to be 0.009 less than the critical value in a 2-tailed test at 5% level which is 0.025. Thus, this confirms that the relationship between deficit financing and economic growth is statistically significant at 5% confidence interval.

## 4.6 Budget Deficit Financing and Economic Growth

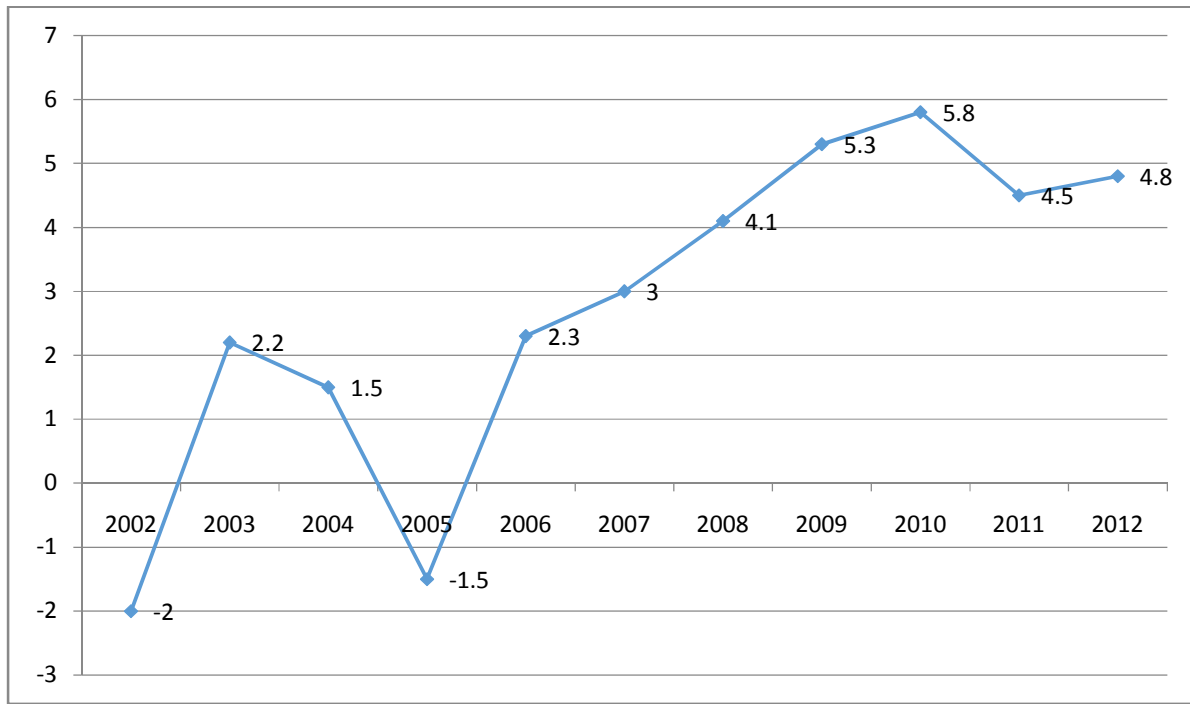
Figure 4.1 Growth in GDP



Source: Research Findings

From the figure, it is clear that, generally the GDP over the period has had an increasing trend. However, much fluctuation have been recorded in some quarters with the second quarter of 2007 recording the highest growth rate of 8.3 while the third quarter of 2002 had the lowest growth rate of -2.5. The figure also illustrates that, since 2005, the economy had a gradual increase in growth up to the first quarter of 2007 which conversely dropped significantly up to the last quarter of 2009 after which it started its recovery.

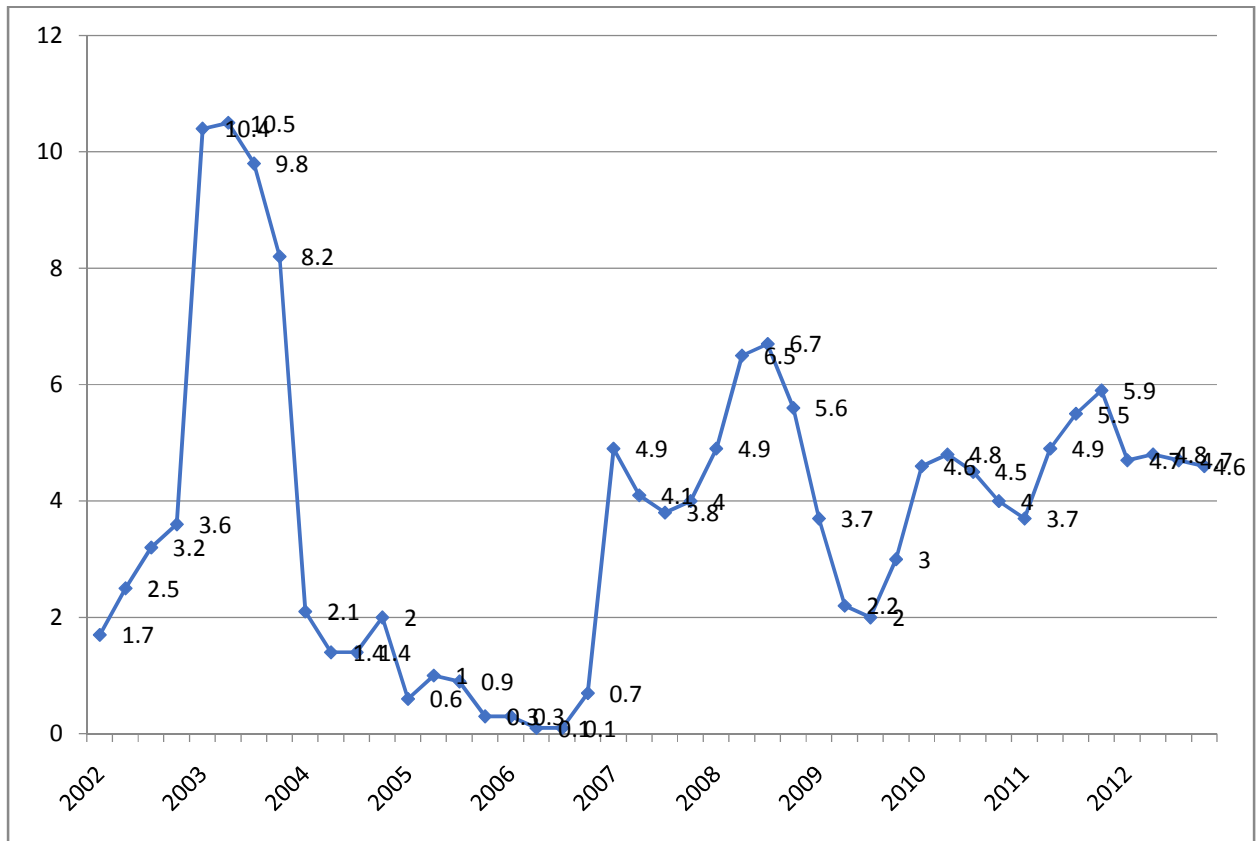
**Figure 4.2 Budget Deficits over the Years**



**Source: Research Findings**

The figure illustrates that, the government budget deficits over the period had an increasing trend in its index. This indicates that, the deficits had a negative influence to economic growth which increased with years. In the years 2002 and 2005, the budget deficit had a positive effect on growth of economy as these had negative indices indicating a surplus in the budget. The highest effect was recorded in the years 2010 with 5.8 index which slightly decreased in 2011 and 2012.

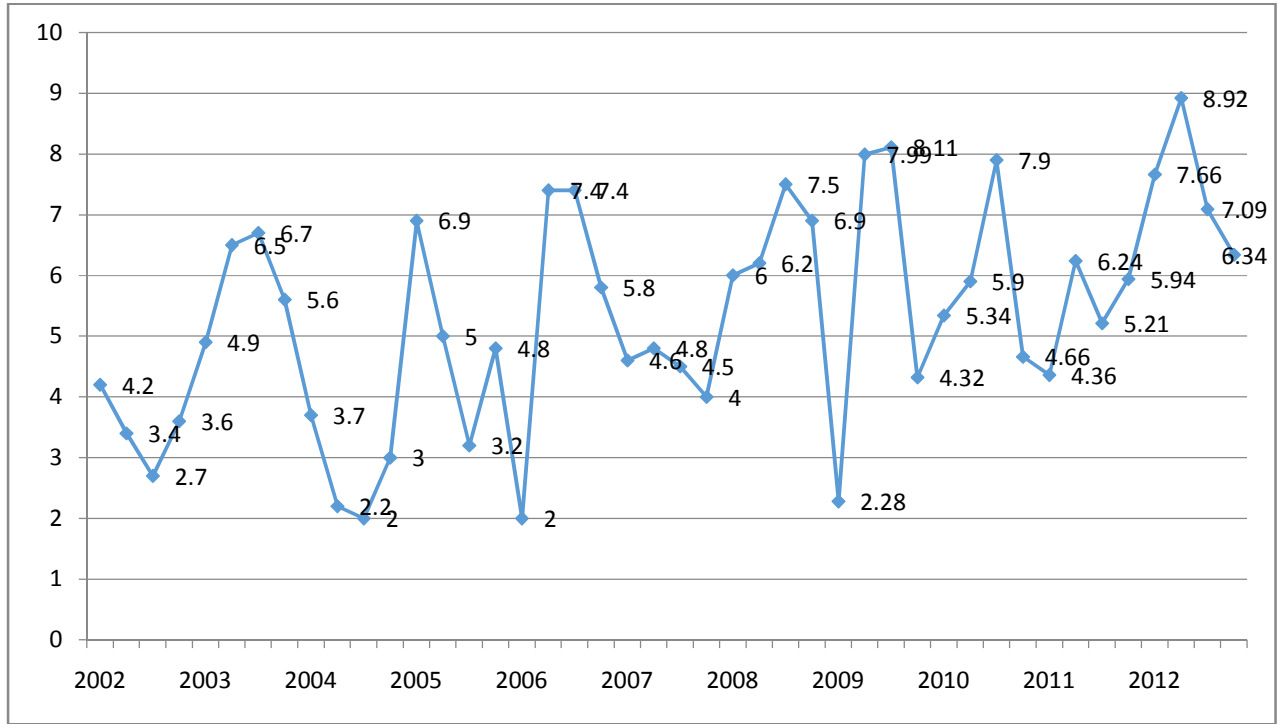
**Figure 4.3 Capital Creation**



**Source: Research Findings**

As presented in figure 4.3, the human capital creation through education (enrollment rate) was high in the year 2003 which increased significantly from the last quarter of 2002. This however dropped steeply to the year 2004 and the trend continued to the second quarter of 2006. The figure also shows that, the human capital creation from the year 2007 has had a positive trend although with major fluctuations in some quarters which may be attributed to the patterns of enrollments.

**Figure 4.4 Growth in Investments**



**Source: Research Findings**

Generally, investments in the country have had an increasing trend for the entire period studied. However, as characterized by many business fluctuations due to periods in the market for various products and seasonal goods.

#### **4.7 Interpretation of the Findings**

The analysis revealed that, deficit financing, total investment and human capital creation account for 89.2% of the variability in the economic growth of the country. This therefore shows that, other variables which were not considered in this study accounts for 10.8% of the variability in the country's economic growth. It is therefore clear that there is a significant influence of the independent variables studied to the growth of the country's economy.

From the model developed, findings indicated that budget deficit financing has a positive relationship with economic growth which has a significant effect tested at 5% level. Total investments and the human capital creation through education enrollment rates were also evaluated to have a positive impact on growth which was also significantly creating effects in growth as the relationship was found to be statistically significant.

From the results, it is also clear that a unit increase in deficit financing would result to a 1.56 times increase in economic growth, while a unit change in the total investments would lead to a 23.46 times changes in economic growth in the same direction. The findings as well indicate that, given a unit increase in the human capital creation, economic growth would increase consequently by 4.69 times. The findings therefore illustrate that the country's investments has the greatest effect on its economic growth followed by the effect due to capital creation through education while deficit financing has the least effect on economic growth.

## **CHAPTER FIVE**

### **SUMMARY, CONCLUSION AND RECOMMENDATIONS**

#### **5.1 Introduction**

This chapter presents the summary of the study findings, conclusions and the recommendations made based on the results. It also presents the areas for further research as pointed out during the study.

#### **5.2 Summary**

The study then conducted the Granger causality test between GDP growth rate and the various components of government expenditure. Bidirectional causality between categories of government expenditure and economic growth was detected.

The findings indicated that all the variables (budget deficits, human capital creation and investments) are stationary after their first differencing. Investigating their cointegration status through the Engle-Granger cointegration test, the study found out that the variables' linear combination is stationary. The cointegration test following the approach of Johansen and Juselius (1990) two likelihood ratio test statistics were utilized to determine the number of cointegrating equation in the model under the assumption of no deterministic trend in the data. The findings of the maximum Eigen value and trace test indicated that there is a single cointegrating equation in the model as the test rejected the null hypothesis of no cointegrating equation and accepted that of at least 1 cointegrating equation.

The findings revealed that there exists a strong bidirectional causal links between budget deficit financing and economic growth. A significant improvement in the result was obtained in relation

to the causal link between Government expenditure on Infrastructure and GDP growth. The findings reveal that there is a strong two way causal relationship between Government investment on infrastructure and economic growth (GDP).

Conducting a regression analysis, the results indicated that the budget deficit financing has a positive and significant impact on growth of the Economy. Also, the findings indicated that human capital creation through enrollment rate is positively related with economic growth. Investments in the country were also found to have a positive and significant effect to the growth of economy.

### **5.3 Conclusion**

This study obtained significant and relevant results which are summarized in the above section. Based on these findings therefore, the researcher makes conclusions as follows:

AS deficit financing is critical to the economy in that money is needed for business to function in society, so it greatly affects the economy because finance is one of the factors to be considered in determining the level of investment and Government spending. Thus it is therefore actuality a reality that, deficit financing have a great consequence (effect) on the economic growth of a nation. This is because, for the government to finance a budget deficit, it will have to borrow from the private sector. A budget deficit implies lower taxes and increased government spending which will increase aggregate demand and this may cause higher Real GDP and inflation.

The government's efforts towards creation of human capital through education and professional trainings as well as the nationals' efforts towards achievement of the highly qualified personnel

equipped with knowledge and skills to execute different assignments in the economy affects the level of the country's performance economically. This is because the so created knowledge and skills are there after utilized in undertaking vital assignments and activities which in turn are essential in addressing government and national issues of management and human personnel resource thus making administration ease and resourceful.

Increased investments on resourceful activities like industrial production are vital in determining the ability of a nation to achieve economic growth. This comes as a result of the returns (profits) of the investment which are consumed locally, leading to increased aggregate demand and consequently, increased consumption and economic growth. Thus, the government's concern on public investments as well as the private investments is a vital role in empowering growth of the nation.

#### **5.4 Recommendations for Policy**

With the findings and conclusions made in this study, the researcher therefore recommends for policy implementations that;

Generally, fiscal stimulations play an important role in the economic growth and development of the country, especially if the monetary policy of the country is restrictive and doesn't help with creating better economic conditions for the firms in order to improve their productivity. Thus, greater budgeting discipline that will reduce wastage in government expenditure should be encouraged.

Deficit financing and high external debt burden explain low investment profile in a nation. This therefore calls for the government to redirect its fiscal policy that would favor the private investor by discouraging high government expenditure and maintaining low fiscal deficit.

Limiting government spending, accelerating the increase in the Social security retirement age, reshaping Medicare, providing intensive early intervention programs for the youngest school children, encouraging more students to finish their secondary school education and enabling more to attend and finish college, restructuring primary and secondary public education to provide more choice among schools are all hard choices for public policy which are in some cases radical choices. The government should therefore focus on its efficiency on these activities for increased macro economic performance.

### **5.5 Limitations of the Study**

One of the limitations to the study is that, the data used in analysis was secondary data which was collected from secondary sources. The use of secondary data in a study limits its findings in reliability as generalizing the results might not give accurate picture of the phenomenon under study.

The research was also limited only to the effects of deficit financing to economic growth while there are other economic factors that significantly affects economic growth. This limited the results as without studying the other factors; the findings assume that this is the only factor (determinant) of economic growth.

## **5.6 Suggestion for Further Research**

The researcher, having successfully carried out the study and fruitfully met the objectives of the study points out some areas for further studies with regard to the gaps identified in reviewing literature as well on the findings of the study. Therefore the following areas would need more review to provide adequate information on economic growth of the country; the impact of pressure from external shocks and political uncertainty to foreign investments which are sources of revenue and stimulates of economic growth. The extent of the country's investment in education and base for encouragement of the private investors to invest in education for creation of human capital in the country; Also, more research should be done on the government budget deficits at the county levels in Kenya to study the effect of these budgets on the social economic development of the citizens in each county and the country as well.

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## Appendices

### Appendix I: Quarterly GDP Data for the period 2002 to 2012

QUARTER/YEAR	1	2	3	4
2002	4.8	-1.2	-2.5	1.2
2003	-0.5	0.8	6.9	5.5
2004	6.9	5	3.2	4.8
2005	2	7.4	7.4	5.8
2006	6	6.2	7.5	6.9
2007	7	8.3	6.3	6.4
2008	1.1	2.2	2.5	0.3
2009	6.4	2	1.9	0.8
2010	4.8	4.6	6	7.2
2011	5.1	4.1	4	4.8
2012	3.5	4.6	4.7	5.1

Source: World Bank, 2014

### Appendix II: Budget Deficits in Kenya

QUARTER/YEAR	1	2	3	4
2002	2	2	2	2
2003	-2.2	-2.2	-2.2	-2.2
2004	-1.5	-1.5	-1.5	-1.5
2005	1.5	1.5	1.5	1.5
2006	-2.3	-2.3	-2.3	-2.3
2007	-3	-3	-3	-3
2008	-4.1	-4.1	-4.1	-4.1
2009	-5.3	-5.3	-5.3	-5.3
2010	-5.8	-5.8	-5.8	-5.8
2011	-4.5	-4.5	-4.5	-4.5
2012	-4.8	-4.8	-4.8	-4.8

**Source: KNBS (2013)**

### Appendix III: Human Capital Creation in Kenya

QUARTER/YEAR	1	2	3	4
2002	1.7	2.5	3.2	3.6
2003	10.4	10.5	9.8	8.2
2004	2.1	1.4	1.4	2
2005	0.6	1	0.9	0.3
2006	0.3	0.1	0.1	0.7
2007	4.9	4.1	3.8	4
2008	4.9	6.5	6.7	5.6
2009	3.7	2.2	2	3
2010	4.6	4.8	4.5	4
2011	3.7	4.9	5.5	5.9
2012	4.7	4.8	4.7	4.6

**Source: World Bank, 2014**

#### Appendix IV: Investments in Kenya

QUARTER/YEAR	1	2	3	4
2002	4.2	3.4	2.7	3.6
2003	4.9	6.5	6.7	5.6
2004	3.7	2.2	2	3
2005	6.9	5	3.2	4.8
2006	2	7.4	7.4	5.8
2007	4.6	4.8	4.5	4
2008	6	6.2	7.5	6.9
2009	2.3	7.9	8.1	4.3
2010	5.3	5.9	7.9	4.7
2011	4.4	6.2	5.2	5.9
2012	7.7	8.9	7.1	6.3

Source: World Bank, 2014