Effect of Taxation on Economic Growth in Kenya

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***Abstract*: The study was motivated by the increasing levels of taxation in Kenya as a result of the Increasing size of the Public Budget between over the years. The Study Period was between the years 2011 and 2020. The choice for the period was guided by the availability of Data and the increasing size of Kenya's public budget which has made it necessary to increase the level of Taxation to counter the Budget deficit. The government of Kenya uses taxes as a means to generate revenue for its development objectives and provision of public goods like security and education. The main problem was that while the government uses taxes as a means to generate revenue they in turn generate both positive and negative impacts to the economy. In addition, money collected as a result of charging taxes always fall short of government expenditure necessitating the need for the government to borrow money. Various reforms have been made on tax policies in Kenya such as the recent Finance act 2021that was gazetted on 1st July 2021 which has broadened the coverage VAT tax increasing the prices of commodities therefore raising the standard of living. The general objective of the study was to investigate the effect of taxation on economic growth in Kenya while the specific objectives were to investigate the effect of income tax on economic growth in Kenya, to investigate the effect of VAT on economic growth in Kenya, To establish the effect of import duty on economic growth in Kenya and to investigate the effect of Excise duty on Economic growth as they are the four main forms of taxes the government of Kenya charges. The research aimed at answering the following research questions: Does income tax affect Economic growth in kenya? What is the effect of VAT on economic growth in Kenya and what is the effect of import duty on economic growth in Kenya? The study adopted the benefit theory, diffusion theory of tax incidence and endogenous growth theory and various previous researches like Nguluu (2017), Maingi (2010) and Murithii (2013) to show how economic growth in Kenya is impacted when Income tax, VAT, import duty and Excise duty are levied. Quantitative research design was applied with secondary data collected from C.B.K, K.N.B.S and K.R.A from the period 2011-2020 u. A Time series ARIMA regression model was then used to identify the relationship between the dependent and the independent variable and how the variables relate among themselves using STATA and SPSS. The estimated results showed that a 1% increase in Income tax leads to an increase in GDP by 0.678% holding all the other variables constant. A 1% increase in VAT leads to an increase in GDP by 1.480% holding all the other variables constant. A 1% increase in import duty leads to a decrease in GDP by 0.663% holding all the other variables constant and a 1% increase in Excise Duty leads to an increase in GDP by 2.783% holding all the other variables constant.The study concluded that that total Tax has a statisticaly significant relationship with economic growth with a P-value of 0.00. The study recommended that policy makers in the country should induce optimal and enabling tax policies that promote Economic growth and at the same time reduce leakages that happen in the tax system through evasions and avoidance by enacting tough laws against evaders and embracing an Online tax system for all tax payers.**

I. INTRODUCTION

This chapter covers the background of the study. Problem statement, general research objective, specific research objectives, research questions, significance of the study, scope of the study and limitation of the study.

1.1 Background of the study

Anyanwu (1997) defines tax as a mandatory payment made to the government by individuals and corporations to generate revenue for its operations and its fiscal policy objective of redistribution of income and wealth. According to Nguluu (2017), the major objective of any nation is to improve the welfare of her citizens by providing social goods. To finance the government spending, the government needs revenue, which is primarily collected through taxes. According to Duncan (2019), the revenue generation role of taxes for both developing and developed countries has been given much attention than the fiscal role of income and wealth redistribution due to the increasing fiscal budget deficits. Marina et al (2002) argues that the only practical way the government can collect revenue to finance its expenditure is through taxation. Musgrave and Musgrave (1989), taxation leads to growth retardation due to the disincentive effects it generates to the economy. Although taxation is the most preferred tool of government revenue collection as it is easily assessed in terms of equity, fairness and simplicity, taxation as a method of revenue collection creates disincentives in the economy by generating contractionary effects. Taxation reduces consumption by households by reducing their disposable income and motivation to invest in physical or human capital and innovation. Taxation also crowds out the private sector. A higher tax burden on businesses and corporations increases the cost of doing business and reduces profits creating distributional consequences' like increase in unemployment levels (Maingi 2010). There are a variety of ways that the government can use to levy taxes on its citizens and this can either be through direct or indirect taxes. Direct and indirect taxes further fall into three classes and these are: the tax base, tax incidence and tax rate. Taxes classified based on the tax base include income tax and corporation tax while taxes classified based on tax rate include progressive tax, regressive tax, digressive tax and proportional tax. Income

tax is a direct tax while VAT, import duty and Excise duty are indirect taxes. Directs tax affect the income of individuals. An example of a direct tax in Kenya is P.A.Y.E. Indirect taxes affect activities which an individual engages in such as purchase of goods and services. Example of indirect taxes include VAT, Import duty and Excise duty. According to Ahmed (2010) the fiscal policy of government expenditure is of great importance because it promotes sustainable growth and price stability in employment, output and income which are significant indicators of Economic growth. This expenditure by the government can only be met through revenue collection which is primarily done through taxes. The central question is whether or not Taxation impacts economic growth positively or negatively. The general view is that Taxation affects economic grow positively by providing revenue which meets governmental needs and finances (Mugo 2007). A report by the World Bank in 2018 stated that the developing countries that need revenues the most to finance their spending often face the steepest challenge in collecting taxes. According to Naim (2007) government obtain its revenue through different sources such as from taxation, royalties, seigniorage, Investment income, surplus from public corporation and interest from loan repayments among others. However, of all this taxation is the most preferred source of government revenue. Taxes differ from other sources of government revenue because they are compulsory payments and do not provide direct benefits to the tax payer. According to OECD (2020) the government collects Taxes mainly for two reasons and those are to achieve its fiscal policy of redistributing income and wealth and to provide public goods, In Kenya, the first income tax legislation was enacted in 1937 and this remained effective until 1952 when the income tax management was enacted. The act has over the years undergone restructuring in response to changes in the economy such as the recent finance act, 2021. Kenya's tax revenue is updated monthly and averages about 2.585 billion USD from the year 1999 to March 2021 from a report by the census and economic information centre . KRA authority is the agency of the government that is mandated with collection of Taxes. The CBK is the banker while the treasury is the entity that is authorized to draw plans for its spending. Isaac et al (2015) stated that the biggest challenge facing the collection of taxes in kenya is evasion and avoidance.

1.1.2 Economic growth

Economic growth implies the rise of real GDP or GNP typically measured as the rate of change in GDP or GNP while sustainable. It represents a rise in the ability of an economy to produce services and goods compared between different periods but the increase in capacity should not be too rapid to cause bring about any economic problems. An economy may have a positive or negative growth. According to Matiti (2009) A positive growth implies an expanding economy and is linked to an economic boom and economic recovery while negative growth will be referred to as a dwindling economy and is related to economic depression and recession. Abbas (2005) defines economic growth as the cumulative output that the countries resources can produce over a given period, generally one year and the quantitative changes that comes within the country's economic development. Economic growth is a prerequisite for economic development in any country. Economic growth can be measured either in nominal terms that have not been adjusted toreflect the current prices or in real terms, which have been modifiedto th reflect the current prices with the dollar as the most common denomination. Organizations such as OECD and BLS also keep relative productivity metrics to gauge economic growth such as through inmprovenment in standard of living. Countries try to hasten the intensity of economic growth thanks to the craving to alleviate poverty, Control inflation and unemployment among others. According to a report by the united Nations (2016) Developing nations strive most to beat bound the barricades to growth of the economy, interject the vicious cycle of poverty and thus bridge the gap between developing countries and developed countries. If income tax is increased, the government will collect more revenue for its expenditure goals while at the same timeincrease in income tax decreases the available disposable income for the individuals decreasing the willingness to work, save and invest. Kenya's economy has been growing steadily over the years which has been shown by the increase in GDP over the years.

1.1.3 Nexus between taxation and economic growth

According to Muriithi (2013) and Siddiqi and lllyas (2010) a tax impacts economic growth by generating revenue to meet its various governmental needs. The aim of the Kenyan government is to stimulate and guide her economic and social development goals through its public revenue (Duncab 2019). Although Government expenditure influences economic growth directly, these expenditures cannot be met without the government collecting revenue. Taxation is the most preferred form of revenue collection. Taxation generates contractionary effects to the economy by reducing the amount of disposable income decreasing the ability and willingness to save and invest by households. Raising taxes to finance expenditure affects the capacity to create jobs and invest. Taxation increases the cost of doing business for both local and international investors. Taxes can influence economic growth either positively by generating revenue for its expenditure and negatively by creating disincentive in the economy. GDP to tax ratio in Kenya was recorded highest in 2014 and it was at 19.3% while the lowest was recorded in 2002 and it was at 6.1%. Taxation hinders the growth of SMEs in Kenya. Economic growth cannot occur without collection of revenue through taxation. Consequently, the use of taxes to generate revenue will affect the rate of economic growth by either boosting or slowing the rate.

1.2 Statement of the problem

Taxation is the most preferred form of government revenue collection and has the highest contribution to total government

revenue compared to Non-tax sources. While government revenue finances public expenditure and is essential for growth, A Tax becomes harmful to the economy if it is not formulated based on sound macroeconomic policies. Tax policies affect prices of commodities and income of individuals and this further affects their savings, consumption and investment behavior. The change in consumption, saving and investment habits of household and firms has an impact in the economy and this impact can either be positive or negative. While there are positive effects that taxation generates such as redistribution of income and wealth and maintenance of price stability, the negative effects such creation of disincentives to save and invest far outweigh the benefit. There has been a consistent increase in collection of revenue in Kenya through various tax structure reforms such as the recent Finance Act, 2021 which has broadened the coverage of VAT by including commodities which were not taxed before such as cooking gas. This is a result in an increase in the size of public budget which has been steadily growing over the years example in the financial year 2010/2011 the budget was 998.8 billion, 2015/2016 was 1.5 trillion and 2019/2020 was 3.08 trillion (The Budget speeches of 2010/2011, 2015/2016, 2019,2020) The large public budget has led to an increase in tax wages leading to a relatively slow growth rate in the Economy relative to its GDP. The recent reforms have greatly affected the consumption an investments habits of Kenyan citizens and firms by raising the cost of doing business and the standard of living increasing unemployment levels due to decreased profits leading to closure of several industries. Although there has been an increase in revenue collection in Kenya through taxation, there is hardly any marked progress in the economic growth as government expenditure usually outstrips the revenue collected Jepkemboi (2008)creating the necessicity to borrow loans to supplement the budget. A general observation is that a large public debt implies high taxes in collection of revenue for debt redemption. From the above noted trend of increase in amount collected from taxation in Kenya which was as a result of increase in public spending caused by a large public budget and the growing public debt, the study therefore seeks to investigate the effect of taxation on economic growth in Kenya.

1.3 General Objective

To investigate the effects of Taxation on economic growth in Kenya.

1.4 specific objectives

i. To determine the effect of income tax on economic growth in Kenya.
ii. To investigate the effect of value added tax on economic growth in Kenya
iii. To establish the effect of import duty on economic growth in Kenya
iv. To investigate the effect of Excise duty on economic growth in kenya.

1.5 Research questions

i. Does income tax affect economic growth in Kenya?
ii. What is the effect of value added tax on economic growth in Kenya?
iii. What is the effect of import duty on economic growth in Kenya?
iv. What is the effect of Excise duty on Economic growth in Kenya?

1.6 Significance of the study

The analysis of the effect of taxation on economic growth in Kenya will be of great significance to future researchers and scholars who will do further research on this topic as it will contribute to the general pool of knowledge as reference material. The results of this study will provide a fundamental base for policy formulation by policy makers for informed tax policy decisions and prescriptions aimed at ensuring maximum and efficient revenue collection from taxation at levels and rates that influence the economy positively. The findings of this study will further be of importance to multilateral and bilateral institutions such as IMF and World Bank since they use such information to measure a country's credit worthiness on accessing loans and servicing them and the same time using their expertise to guide them and support them accordingly.

1.7 Scope of the study

The study made use of secondary data on Economic growth and Taxation collected from the Central Bank of Kenya, Kenya Revenue Authority and Kenya National bureau of Statistics. The data specifically related to excise duties, income tax, Gross Domestic Product and value added tax from the period 2011 to 2020.

1.8 Limitations of the study

The study only investigated the effects of taxation on economic growth in Kenya yet in reality there are more than the above used variables that affect economic growth in Kenya. The study tried to mitigate the problem by applying the Ceteris Paribus concept of holding all the other variables constant and only using the four mentioned variables. In addition, lack of experience in writing research papers unlike scholars with extensive research expertise may have compromised the depth and scope of the discussion at different levels but constant consultation and guidance from our Project supervisors made us go through the limitation.

II. LITERATURE REVIEW

2.1 Introduction

This chapter reviews the relevant literature on taxation and economic growth in Kenya. It outlines the theoretical review, Empirical literature review, conceptual framework for the research and the research gap.

2.2 Theoretical review

This section looks at various theories that relate to government revenue collection and economic growth which include benefit theory, ability to pay, diffusion theory of tax incidence and Endogenous growth model.

2.2.1 Benefit theory

The benefit theory is a theory of tax fairness that was developed by Wicksell in 1896 and Lindahl in 1919 and is based on the idea that there should be some equivalence between what the individuals pays as tax and the benefit he subsequently receives from the government expenditure activity. According to this principle, those who receive great fairness from the government either directly or indirectly should pay the most taxes in the principal fairness. In analyzing the benefit principle approach Bowen model and Lindahl model have been used. Blume and varian (1986), Comes et. al (1966) the lindahl solution on simple equity problem is the most common approach of the benefit theory. Following its classical implication, everyone should pay for public goods inform of taxes according to his willingness to pay. According to the benefit principle taxes should be used as payments by the state for services rendered to the citizens. People should pay for what they get whether it is in the the public sector or the private sector. The appropriate tax formula basing on the ability the pay should depend upon the preference pattern and therefore price elasticity and income elasticity on the demand for public goods. The appropriate tax structure should therefore be progressive, regressive, proportional or digressive. The major limitation of this theory is that it requires the benefit derived by a citizen from the consumption of a social good be known but due to indivisibility of public provided goods, the benefits cannot be known. The benefit approach to taxation allows individuals to enjoy the benefits of public provided goods independent of whether they pay for them or not. According to Nguluu (2017) if a state maintains tax payment based on equivalence between services it conferres and the benefits an individual receive, then it will be against the principle of tax as a compulsory payment made to the government to provide public goods and therefore taxes will not have any advantage to the economy. The relevance of this theory to our research study is that it helps us appreciate the different approaches the government can employ to to collect taxes with the incidence falling on a specific kind of people and how this can differently influence different sectors of the economy.

2.2.2. Diffusion theory of tax incidence

Diffusion theory is a theory of tax incidence that was developed by F canard. The theory was developed to criticize the concentration theory of tax incidence. This theory is of the argument that when a tax is levied in a perfectly competitive market, it is automatically and equitably absorbed or difussed in the economy. This theory states that taxes diffuse and equate themselves. It favors indirect taxation trusting the burden of taxation over the whole population. Canard (1801) argues that the government can levy such taxes because they are easily collected, accessed and they least affect Economic growth. For instance, if a tax is charged on say bread, manufacturers will raise the price of the bread by the amount of tax. Consumers will then buy this bread by their capacity and thus share this burden. This will therefore not affect savings and investments by households as the burden will be shared wholly by the society. Unlike the ability to pay theory and the benefit principle where the individuals can enjoy the benefits of government provided goods without paying for them in this theory, everyone bears the tax burden. This theory is relevant to our research topic on the idea that it discourages direct taxes such as income tax on the argument that they affect the economy more negatively than VAT and Import duty does. Diffusion theory of tax incidence does favor indirect taxes such as VAT, Import duty and excise duty. This theory therefore seeks to answer the following research question: What is the effect of VAT on Economic growth in Kenya, What is the effect of Excise duty on Economic growth in Kenya and what is the effect of import duty on Economic growth in Kenya.

2.2.3 Endogenous growth model

The endogenous growth theory was postulated by Romer in 1980s it argues that economic growth is caused by factors that are internal to the economy and not those that external to the economy. According to this theory, economic growth is generated from internal sources like increase in investment in human capital that will result to efficient means of production and new technology. There more the country invests in human capital, the faster it grows. As such, proponents of the endogenous growth model advocate for government to nurture innovations, provide incentive and increase its investment in human capital. The theory further suggests that policy measures affect the rate of growth of an economy in the long run. The policy measures can either be fiscal or monetary. In relation to our topic of study the fiscal policy measure include taxation. Taxation is also an endogenous force. For instance if the government wishes to enhance it technology and infrastructure, it will increase its spending by generating more revenue primarily through taxation. Endogenous growth model attempts to answer our general research objective of what is the effect of taxation on economic growth in Kenya.

2.3 Empirical literature review

Many researchers have discussed the impact of taxation on economic growth in both developed and developing countries. Among the research done are as follows:

2.3.1 Value added tax

According to Ebril et al (2000), the concept of value added tax was developed in 1920 by Wihel von siemens who was a German. Majority of countries charge taxes on both consumption and income. According to Njogu (2015), taxes that are imposed on consumption serve as a levy on purchase of goods and services and are charged at the time of

transaction. The application of VAT is relatively selective, easy and difficult to evade. Njogu (2015) defines VAT as a tax charged at each point of the consumption chain where the incidence falls on the final consumer.VAT was first introduced in the country in 1990 in order to replace sales tax, which was operating since 1973. The VAT act 2013 indicates that VAT is charge on the supply of taxable goods or services made or provided in Kenya where taxable person in the cause of or in furtherance of any transaction carried on by that person and the importation of goods and services into Kenya (VAT ACT section 2). Ngulu (2017) in his study on the impact of taxation on economic growth in Kenya concluded that VAT on imports of goods and services and gross domestic savings were found to be insignificant in determining current years GDP. Michael and Ben (2007) investigated VAT, its causes and consequences across a sample of 143 countries for 25 years. The results showed that countries that imposed VAT gained more than those that did not impose VAT. Generally, the introduction of VAT led to a 4.5% increase in GDP ratio in the long run. Njogu (2015) attempts to analyze how economic growth is affected by VAT in order to increase overall GDP. His findings are that a percentage change in the incident rate of GDP is an increase in 7% for every unit decrease in VAT. He concluded that there is a significant negative relationship between VAT rate and GDP. He recommended that the Kenyan government should aim at maintaining a low VAT. According to Akitoby (2018), VAT has proven to be an efficient revenue booster. He further argues that countries that levy VAT tax tend to raise more revenue than those countries that do not levy.

2.3.2 Income tax

Income tax is a direct tax that is imposed on individuals and profits of entities by a compulsory government order to finance government spending., In respect of the profits realized usually a 30% income tax is levied on entities and income earned by individuals. It is calculated from taxable income (after subtracting exemptions and deductions). Income tax contributes the highest share on total tax revenue mainly collected by the KRA. It is collected monthly mainly for individuals and yearly for entities. Income tax can either be increased or decreased by the government policies depending on the needs of the economy. Empirical results suggest that income tax and economic growth have a statistically significant positive relationship such that a 1% increase in income come increases GDP by 0.19% According to Ngulu (2017) in his study on the impact of taxation on economic growth in Kenya using a vector error model and concluded a 1% increase in previous years and 2 previous income tax increases current year's GDP by 0.19% and 0.35% Government revenue from income tax is received either from a government job, self employment, portfolio which is money received mainly from investment, dividends, interests and capital gains and passive income which is income from another source other than that of the employer or contractor. When there is a tax cut it may increase economic growth by persuading individuals to invest more, work harder and save more which will increase the productive capacity of the economy, it also increases individuals income, making people to relax therefore working less, investing less and saving less. Macek(2015) in his study on impact of taxation on economic growth. He uses a regression model and suggests that for stimulated growth countries should lower corporate tax and personal income tax. Neog (2020) suggests there is a direct effect of income tax on individuals and their investment behavior and saving. According to Stoilova (2017) in his study on tax structure and economic growth he concludes that higher taxes cause negative impact and distorts economic growth greatly. Masika (2014) in his study on economic growth and direct taxes in Kenya investigate the relationship between personal income taxes and cooperate taxes on economic growth in Kenya between the years 1970-2012 and concluded that a unit increase in corporate tax an personal tax would increase economic growth by 0.93 and 0.14 Kenyan million pound. OECD (2008), According to some researches, personal,income and corporate tax are the most harmful to growth, while property, environment and consumption taxes are less harmful.

2.3.4 Import duty

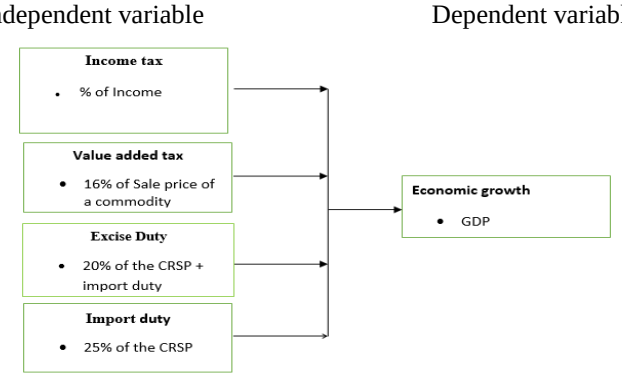
Import duty is a trade tax imposed on products which are imported into the country or exported out of the counry incuding there freight and insurance in relation to predetermined tariffs stated in the tariffs stated in the tariff manual book. Custom duties were first introduced in Kenya in around 1923. The east Africa community (EAC) commands a common external tariff. In Kenya, an import duty is levied between 0% to 100% depending on the products to be imported or exported. Sensitive items attract a higher import duty in relation to other products. Kenyan tariffs are imposed based on International Harmonize system. World bank collection of developed indicator presents import in Kenya as decreasing consequently between the years 2015 and 2020. Elsheikh et al (2015) in his research on economic impacts of changes of wheat import tariffs on sudanese economy state that import duty alters demand elasticity of the products in a country through domestic prices. Amity et al (2019) and Elsheish et al (2015) argue that import duties increase prices of goods imported so that consumers would opt for cheaper domestic. In trying to maintain B.O.P equilibrium a country can use the import duty as a tool to influence the amount of goods to be imported or exported ut of the country. Nguluu (2017) in his study on the impact of taxation on economic growth suggests that trade taxes are not only used to generate revenue for the country but to also protect domestic manufacturing companies. According to Muriithi (2013) on the relationship between Government revenue and economic growth in Kenya, He concluded that there is an inverse relationship between import duty and economic growth and that is if import duty increases, Economic growth decreases. Widodo et al (2018) concluded that imposing strict import duty affects the economy negatively.

2.3.5 Excise duty

Excise duty is a tax charged selectively on services and goods produced in a country or imported into a country, and in the first specific timeline of the excise duty. According to Okello (2001) excise duty is a tax that is charged selectively on particular products like drugs such as cigarettes, tobacco and alcohol in order to dicourage the users of excisable commodities in order to avoid the externalities associated with the consumption of these commodities. Owino (2019) argues that it is the manufacturer who directly pays the excisable taxes but the burden is shifted to the consumers by increasing the prices of the commodities. Owino (2019) in his study to determine the effects of excise duties on economic growth in Kenya found out that excise duty has a statistically significant positive effecton economic growth in kenya using regression analysis. He found out that a 1% increase in excise duty revenue increases economic growth by 0.3709% .Okello (2001) conducted analysis on excise taxation in kenya the study found out that there were additional revenue from excise taxes on cigarettes and beer.excise duty amounts to 4.5% of GDP and has a income elasticity close to 1. Okello (2001) advised to exclude perfumes, mineral water and soft drinks from excises will expanding collections to cover SMES. Kairanya (2016) conducted a study on the impact of taxation on economic growth in kenya between 1957-2014 and established that indirect taxes such as excise duty affect economic growth negatively but positively affects FDI and net exports. Njuru et al (2013) did a study on taxation and private investment in Kenya and established that VAT, income tax had a negative impact on private investment while excise duty and import tax impacted positively on investment and economic growth. Omondi (2016) conducted the study on empirical analysis of the contribution of indirect tax on economic growth in kenya for the period 1963-1972 the results of the study indicated that indirect taxes have a positive correlation with economic growth in kenya in his conclusion he recommended that government shuld rely more on custom and excise duty for revenue collection and reform VAT system to increase the significance for economic growth.

2.3Conceptual framework

Figure 2.1: Conceptual Framework



Source: Authors (2021)

2.4 Research gap

Various research studies have been done relating to our topic of study such as Anyanwu (1987), Nguluu (2017), Maingi (2010) and Murithii (2013) , Duncan (2019). From this literature reviewed majority of the researchers focus on general implications of Taxes on economic performance of Kenya as well as outside kenya. Some of the researchers have propagated taxation as an economic vice while others have propagated it a remedy for economic growth. Our study on the other has narrowed down to three types of taxes: Income tax, VAT and import duty and seeks to determine how they all affect economic growth when combined and how each will individually affect economic growth.

III. RESEARCH METHODOLODY

3.1 Introduction

Kothari (2003) defines research methodology as procedures, details and approaches used in carrying out research. This chapter highlights the research design, population of study, sampling and sampling techniques, data collection methods, validity of data and data analysis.

3.2 Research design

Dooley (2007) defines a research design as the plan, outline or scheme that is used to find answers to research problems or the conceptual structure that gives the plan according to which research is conducted. The study used quantitative research design. We used quantitative research design because our data was quantifiable. The quantitave research design offered a better understanding of the research problem at hand.

3.3 Target population

Population of study is the entire group of elements, events, people or objects of interest that the researcher seeks to investigate. In this study, our population of study was Kenya National Government.

3.4 Sampling and sampling techniques

This study is a census study of all Kenya National government GDP and tax between the year 2011 and 2020.

3.5 Data collection method

The study made use of secondary data because according to Newton and Rudestan (2017) Secondary data is likely to be of good quality compared to primary data generated by students. Data on Income tax, excise duty, Gross Domestic Product, value added tax and import duty and was collected from Kenya Revenue Authority, K.N.B.S and C.B.K. The study period included fiscal year periods from 2010 to 2020. The data was edited, cleaned and coded.

3.6 Validity of Data

Validity of data is the extent to which inferences made on the basis of numerical scores are meaningful, apropriate and useful. According to Kothari (2004) validity is the most

useful criterion that indicates the extent to which the survey provides information needed to meet the study response. Our sources of data included, K.N.B.S, C.B.K, and K.R.A which are acceptable and recognized institutions that provide a relatively large database of good quality data collected and compiled by experts which may not be feasible for any individual to collect.

3.7 Data analysis techniques

The data used SPSS version 32. The study used a multiple regression analysis technique to identify if any significant relationship exists between excise duty, import duty, VAT, income tax and economic growth in Kenya at a significance level of 0.05 and a confidence level of 0.95. The significance of the variables under the study on the regression model was tested using the P-value approach while the relationship was determined by a multiple regression model.

3.8 Trend Analysis

Trend analysis involves detecting the trend of a variable over a known period of time and then coming up with valuable insights of the variable in both the present and the future. Tend analysis can also help identify traits, behavior and patterns of a variable over the years. The study used line graphs to represent the Change the variables over time and to identify the patterns our variables have been taking and the possible economic, social and political events behind the patterns.

3.9 Empirical model

An empirical model was obtained by introducing Income tax, Value added Tax and Import duties as part of the X-vector explanatory variables and introducing economic growth and its method of measure (GDP) as the Y-vector explanatory variables. Our empirical model wasl therefore Economic growth= F (Income tax, Value Added Tax , import duty and excise duty) holding all the other variables that affect gross domestic product constant.

The basic regression model was in the form:

$$Y= \alpha+\beta_1x_1+\beta_2x_2+\beta_3x_3+\ldots+\beta_nx_n+\varepsilon$$

Where;

Y is the vectors of ratios of Economic Growth and $x_1 \ldots x_n$ are vectors of independent variables and $\beta_1 \ldots \beta_n$ are the regression coefficients of correlation between economic growth and taxation and ε is the error term.

OurTime series regression model of the effect of taxation on economic growth was therefore in the form of

$$Y= \alpha+\beta_1x_1+\beta_2x_2+\beta_3x_3+ \beta_4x_4$$

Where:

Y= Economic growth (measured as GDP in Ksh.)

x_1=income tax (measured in Ksh)

x_2=value added tax (measured in Ksh)

x_3= import duty (measured in Ksh)

x_4= Excise duty (Measured in Ksh)

β_1, β_2, β_3 and β_4 are regression coefficients.

And therefore Economic growth (GDP) $=\alpha+\text{incometax}\beta_1+\text{VAT }\beta_2+\text{importduty}\beta_3+\text{exciseduty }\beta_4$

The significance of the regression model was tested using ANOVA using the P-value of the F-statistic of the regression model in the ANOVA table of SPSS output and a significance level of 5% the conclusion is that if the significance level is greater than the P-value of the F-statistic then the regression model would be significant and the model fitted the data very well.

3.9.1 Diagnostic tests

Diagnostic tests are tests carried out to investigate how adequacy of a fitted regression model is in explaining the relationship between the response and the predictor variable. Since we dealt with a multiple regression model we carried out a linearity test, Heteroskedasticity test and Normality tests

3.9.2. Linearity test

A multiple regression model aims at providing a linear relationship between the response and the predictor variable by minimizing the sum of the square of the deviations between the predicted variable and an actual observation. Linearity test is examined using probability plots, scatter plots and a histogram. We examined the standardized residuals and the observation using the plots.

3.9.3. Heteroskedasticity test

A Heteroskedasticity test is carried out to identify if the variance error term is constant. A regression model is based on the assumption that the variance of the errors is constant. Heteroskedasticity problem arises if the variance is not constant and it is tested using the scatter plots in SPSS. The test for Heteroskedasticity was done using the scatter plots of standardized residuals. The assumption is done if the standardized residuals show no particular pattern then the errors are homoscedastic and the variance is Constant.

3.9.4. Correlation analysis

Correlation analysis was done to determine the strength of the relationship between the variables used in the model. The correlation coefficient should lie between -1 and +1. The higher the correlation coefficient between the variables regardless of the sign the stronger the relationship between the variables. High correlation coefficient imply that the variables are multicollinear. Presence of multicollinearity in variables makes it difficult to constructt a regression model.

3.9.5 Normality test

It involves determining if the data does not contain outlines. Analysis using data which is not normal leads to nonsense

results (Guarati 1964). Normality test can be data for the data and for the residuals of a regression model. The assumption of a regression model is that the error term is normally distributed for the regression model to be valid. The normality test for the data was done using Kolmogorov-Smirnov and Shapiro-Wilki test statistic to determine if the data is normal. If their P-value is greater than the significance level then the data is normal.Normality test for theresiduals was represented by the other diagnostic tests.

3.10 Ethical considerations

The study used actual and real data prepared and compiled by recognized institutions in Kenya which included KNBS, CBK and KRA. There will be no falsifications of results and adjustment of the findings in the event that they do not correspond with the general common observations that have been from previous thorough researches for instance, we expect a positive relationship betweenVAT and economic growth and a negative relationship between import duty and economic growth. In the event that our findings do not correspond with them, our findings will not been altered

IV. FINDINGS, INTERPRETATION AND DISCUSSION

4.1 Introduction

This chapter provides the findings as well as their interpretation. These findings are presented in tables and figures.

4.2 Normality test

Normality test was done to determine if the data was normal or not. Our study used Shapiro-Wilktest and Kolmogorov-Smirnov test because they more appropriate for our sample size.

Table 4.1	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
INCOMETAX	.139	10	.200*	.933	10	.477
VAT	.126	10	.200*	.934	10	.490
IMPORTDUTY	.146	10	.200*	.939	10	.544
EXCISE DUTY	.149	10	.200*	.916	10	.328
GDP	.132	10	.200*	.929	10	.440

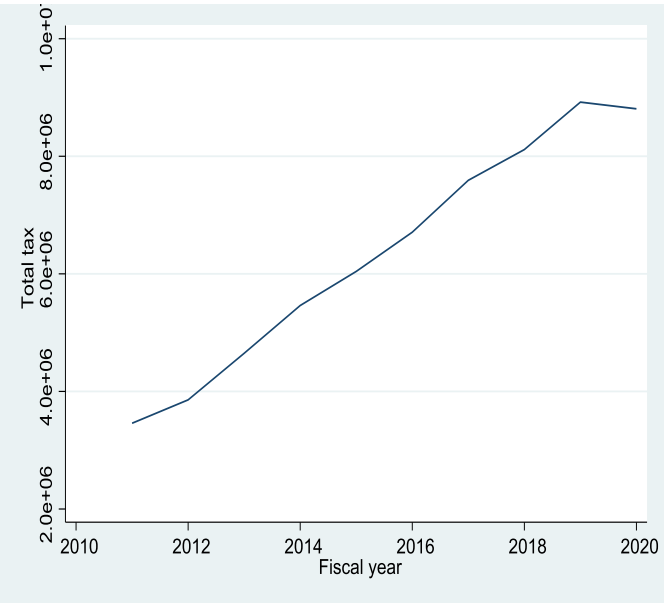
Both the P-value for Kolmogorov-smirnov test (0.200) and the Shapiro-wilktest (0.477) for income tax data are greater than our significance level of 0.05 implying that income tax data is normal. The same applies for VAT, Import duty, excise duty and GDP with a similar Kolmogorov-Smirnov test with a P-value of (0.200) and Shapiro-Wilk significance level of 0.490, 0.544, 0.328 and 0.440 respectively. Hence our whole data is normal and can be modeled by a multiple linear regression model.

4.2 Trend analysis

Trend analysis seeks to investigate the trend pattern and behavior of the variables over the selected years. The study used line graphs to explain the trends, patterns and behavior of the variables over time

4.2.1 Total tax

Figure 4.1 shows a line graph of the trend in Total Tax from the year 2011 to the year 2020. The graph shows that Income tax was increasing over the years until 2019 where it hit an all time high and then slumped in 2020.This was as a result of the introduction of tax havens and holiday as one of the Key elements of economic stimulus program addressed by President Uhuru Kenyatta to revive the Economy from the Recession Caused by Corona Virus. These subsequently lead to decrease in total tax collected. Also, the closure of several businesses, companies and industries due to the economic recession caused by the Corona virus and government guidelines against provision of certain services decreased the total tax collected by the government Kenya. Fig 4.1



4.2.2 Gross Domestic product

Figure 4.2 shows a line graph of the trend GDP has taken from the year 2011 to 2020 that GDP. The line graph shows that GDP has been rising from the year 2011 to 2012. While GDP rose in 2020, the rate of increase was small relative to that of 2019 which was shown by a small dent in the year 2020. This could be associated with the economic recession caused by the global corona virus pandemic which had sent the economy crumbling. From the increase in GDP, we can deduce that Kenyas Economy has tremendously grown when we compare the GDP that it had in 2011 and that of 2020.

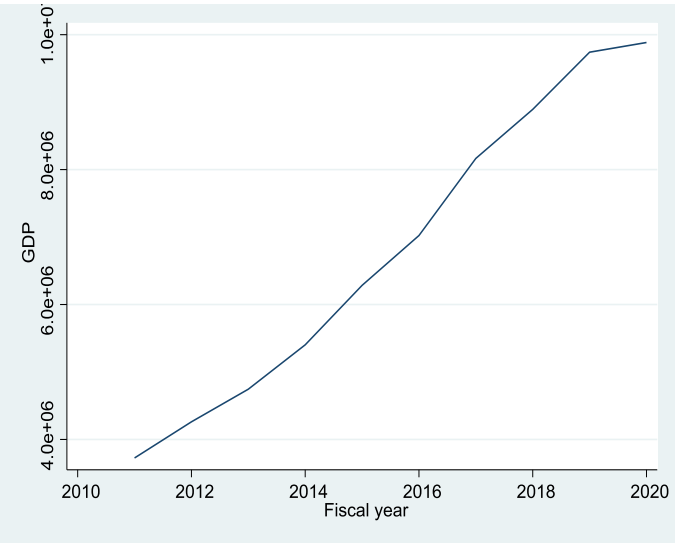


Figure 4.2

4.2.3 Income Tax

Figure 4.3 shows a line graph of the trend in Income tax collected over the years. Income tax has been on a steady increase over the years including the year 2020 when the economy was in recession. Income tax has been the greatest contributor to total tax revenue over the years.

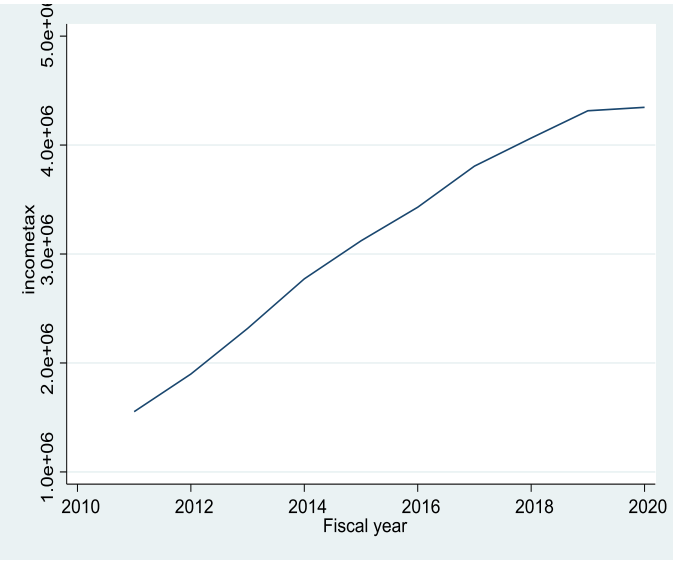


Figure 4.3

4. 2. 4 VAT

Figure 4.4 shows a line graph of the trend in VAT from the year 2011 to the year 2020. There graph shows that There has been a positive rising trend from the year 2011 to the 2019 and then slumped in 2020. Amount collected from VAT decreased sharply in 2020 due to decrease in amount of sales due to both decreasing production and consumption greatly attribute to the 2020 recession caused by the pandemic. VAT is the second greatest contributor to the total tax revenue after Income tax.

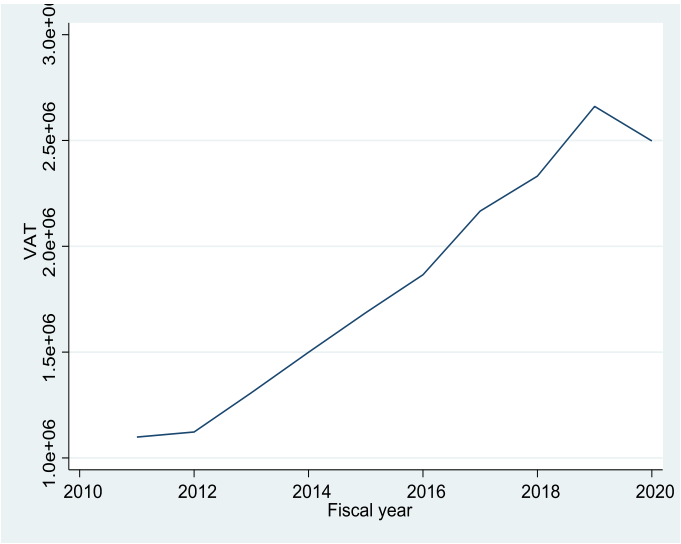


Figure 4.4

4.2.5 Import duty

Figure 4.5 shows trends in Import duty using a line graph. The graph shows that revenue from Import duty increased from the year 2012 to 2014 and then slumped in 2015. This may be attributed to the move by the governmentin 2015 to decrease the import duty from 25% to 0% for gazetted manufactures in 2015 to encourage manufacturing, create employment and also attract investment in various sectors. In 2016 to 2019 import duty rose again due to an ideal business environment but again slumped in 2020 due to restrictions on imports the government had imposed to fight against the corona virus pandemic.

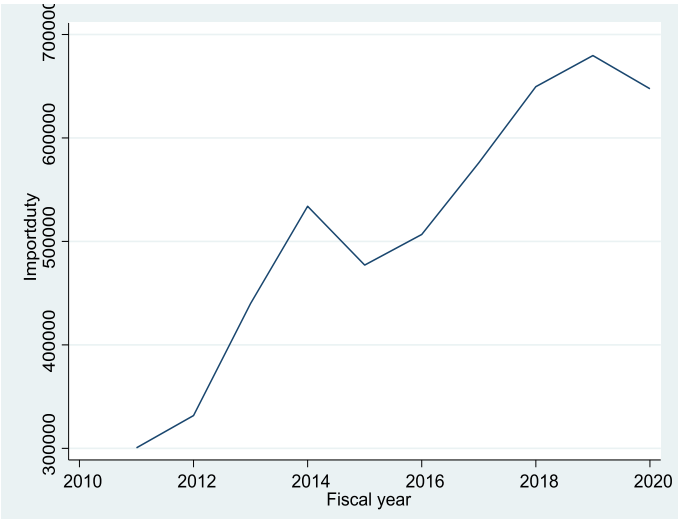


Figure 4.5

4.2.6 Excise Duty

Figure 4.6 shows the trend in Excise duty from the years 2011 to 2020. The was a decrease in Excise duty in 2012 which may be attributed to removal of Excise duty on Crude oil

Products such asdiesel and kerosene and the price wars among the telecommunication companies in Kenya. From the year 2013 to 2020, the amount collected from Excise Duty levied rose. The increase in amount collected from excise duty excise duty may be atributed to increase in consumption of excisable goods such as cigarettes, tobacco and alcohol over the years.

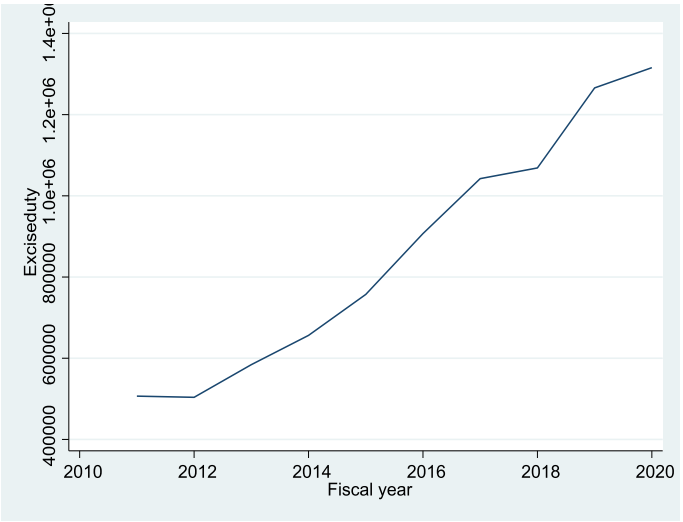


Figure 4.6

4.3 Descriptive Statistics

Descriptive statistics employed to summarize the quantitative data includes mean,standard deviation, minimum, , range, skewness and kurtosis.

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
INCOMETAX	10	1553321	4346365	3162401.25	1004757.767	-.361	.687	-1.264	1.334
VAT	10	1098653.580	2661045.379	1823772.1293	571564.57760	.123	.687	-1.520	1.334
IMPORTDUTY	10	300518	679621	514280.91	130630.824	-.418	.687	-.859	1.334
EXCISEDUTY	10	503755	1315659	860771.62	303900.895	.272	.687	-1.464	1.334
GDP	10	3725918	9884000	6812448.60	2279944.605	.091	.687	-1.593	1.334

Table 4.2

Gross domestic product had a mean of 681248.6000 with a maximum and minimum value of 9884000.00 and 3725918.00 in 2020 and 2011 respectively

Income tax had a mean of 3162401.2496 with a maximum and minimum value of 4346364.68 and 1553320.82 in 2020 and 2011 respectively

VAT had a mean of 1823772.1293 with a maximum and minimum value of 2661045.38 and 1098653.58 in 2019 and 2011 respectively

Import duty had a mean of 514280.9099 with a maximum and minimum value of 679620.69 and 300518.46 in 2019 and 2011 respectively

Excise duty had a mean of 860771.6212 with a maximum and minimum value of 1315659.18 and 503754.56 in 20019 and 2012 respectively

Skewness is a measure of how far the distribution deviates from the normal distribution curve. From the descriptive analysis its evident that all the distributions except income tax are negatively skewed meaning majority of the observations lie to the right of their mean (the data has very many large values compared to small values). Positively skewed observations have majority of the data values concentrated on the left side of the mean.

Kurtosisis a measure of the Peakness of a distribution and it ranges from -3 and +3 for data that is normally distributed. It measures if the data is flat or peaked in comparison to a normal distribution. Kurtosis also measures how prone a distribution is to outliers. From the table, all the variables have their kurtosis ranging between -3.and +3 meaning that our data is normally distributed

4.4 Correlation results

Table 4.3 provides the Pearson correlation coefficient results.

		INCOMETAX	VAT	IMPORTDUTY	EXCISEDUTY	GDP
INCOMETAX	Pearson Correlation	1	.982	.965	.968	.986
	Sig. (2-tailed)		.000	.000	.000	.000
	N	10	10	10	10	10
VAT	Pearson Correlation	.982	1	.949	.989	.995
	Sig. (2-tailed)	.000		.000	.000	.000
	N	10	10	10	10	10
IMPORTDUTY	Pearson Correlation	.965	.949	1	.918	.943
	Sig. (2-tailed)	.000	.000		.000	.000
	N	10	10	10	10	10
EXCISEDUTY	Pearson Correlation	.968	.989	.918	1	.993
	Sig. (2-tailed)	.000	.000	.000		.000
	N	10	10	10	10	10
GDP	Pearson Correlation	.986	.995	.943	.993	1
	Sig. (2-tailed)	.000	.000	.000	.000	
	N	10	10	10	10	10

The results show that the variables are strongly positively correlated with their Pearson correlation coefficient (r) greater than absolute 0.7. The Pearson correlation coefficient is of the assumption that variables whose Pearson correlation coefficient has a magnitude above 0.7 are highly correlated**.** Presence of high correlation implies Multicollinearity and this may make computation of a unique regression model hard. Correlation analysis is simply done to realize the presence of Multicollinearity, be aware of its consequences and ignore them.

4.5 Empirical model

This study used a multiple regression model to model the data and then diagnostic tests were carried on the model output to test the goodness of fit of the model and its significance in explaining the data.

Table 4.4

ARIMA regression model

Sample: 2011 thru 2020 Number of obs = 10

Wald chi2(4) = 2789.63

Log likelihood = -131.8 Prob > chi2 = 0.0000

gdp | Coefficient std. err. z P>|z| [95% conf. interval] |

incometax | .6784125 .3794748 1.79 0.074 -.0653444 1.422169

vat | 1.48017 1.10501 1.34 0.180 -.6856088 3.645949

importduty | -.6630577 2.286131 -0.29 0.772 -5.143792 3.817677

Exciseduty | 2.783098 1.707754 1.63 0.103 -.5640385 6.130234

_cons | -87070.98 180678.8 -0.48 0.630 -441194.9 267052.9

/sigma | 128164 76571.98 1.67 0.047 0 278242.3

ARIMA regression model of Total tax on GDP

Sample: 2011 thru 2020 Number of obs = 10 Wald chi2(1) = 911.73

Log likelihood = -136.8729 Prob > chi2 = 0.0000 | OPG

gdp | Coefficient std. err. z P>|z| [95% conf. interval] Gdp |

totaltax | 1.137849 .0376836 30.19 0.000 1.06399 1.211707

_cons | -425665.7 225949.7 -1.88 0.060 -868519.1 17187.66

/sigma | 212852.8 67177.96 3.17 0.001 81186.37 344519.2

The coefficient of multiple regression R Square was given by 0.996 which implies that 99.6 % of the variability in GDP is explained by Income tax, VAT, Import duty and Excise duty. R square measures the goodness of fit of the model. A model is said to be good fit for the data if its R squared is closer to 1 R-square ranges between 0 to 1. Our regression model was found to be a good fit for data. Its R squared was closer to 1. The Small negative log-likelihood from the ARIMA regression model indicate that the time series ARIMA regression mode(-131.8)l fitted the data very wel and the model is significant.

Our regression model was then given by:

GDP= -87068.548+0.678 Income tax+1.480 VAT-0.663importduty+2.783 exercise duty

The results of our regression model are discussed as follows:

4.6 Findings and Discussion

4.6.1 Income tax and economic growth in Kenya

Income tax is a direct tax that is imposed on individuals and profits of entities by a compulsory government order to finance government spending. The regression results showed that income tax and Economic growth have positive relationships. A 1% increase in Income tax increased GDP by 0.678% holding all the other variables (VAT, Import Duty and Excise duty) Constant. The findings were consistent with previous researches from our empirical literature review such as Ngulu (2017) who concluded that Income tax and VAT have a statistically significant positive relationship and Masika (2014) who on his study on direct taxes and economic growth in Kenya using an estimable econometric model for data analysis for investigated the relationship between personal income taxes and cooperate taxes on economic growth in Kenya for the period 1970-2012 and concluded that increase in corporate tax and personal tax would increase economic growth. Our findings also showed that P-value of income tax was 0.140 which as great than our significance level of 5% and therefore Income tax did not contribute significantly on the model. These showed that while the relationship was positive, it was not statistically significant.

4.6.2 VAT and Economic growth in Kenya

VAT is a tax on comsumpttion that is imposed in each level of the consumption chain where the incidence falls on the final consumer. Our regression findings showed that VAT and Economic growth have a significant positive relationship. The results showed that a 1% increase in VAT holding all the other variables constant increases economic growth by 1.480%. These results were not consistent with some previous research findings from the literature reviewed such as Njogu (2015) who attempted to analyze the effect of value added tax on economic growth in VAT rate in order to increase overall GDP and found that a percentage change in the incident rate of GDP is an increase in 7% for every unit decrease in VAT. From our findings VAT increases economic growth. The P-value of VAT was 0.212 which was greater than 0.05 and hence showed that VAT did not contribute siginificantly to the regression model used. That is, the relationship was positive but not statistically significant.

4.6.3 Import Duty and Economic growth in Kenya.

Import duty is a trade tax imposed on products which are imported into the country or exported out of the country including there freight and insurance. Our results showed that there is a negative relationship between Import duty and GDP. According to this results, a 1% increase in Import duty, holding other variables constant decrease GDP by 0.663%. The results showed therefore import duty is harmful to economic growth. A higher P Value of Import duty of 0.754 of import duty showed that import duty did not contribute significantly to the regression model and therefore although it had a negative relationship with GDP, the relationship was not statistically significant. The results were consistent with some results findings from our empirical literature review such asMurithi (2013) who on his study on the effect of Government revenue on Economic growth in Kenya using Ordinary leastsquare method concluded that import duty has an inverse relationship with Economic growth. The findings were further consistent with the findings of a study than done by Widodo et al (2018) who concluded that a strict import duty will lead to negative resultsin the economy.

4.6.4 Excise duty and Economic growth in kenya.

Excise duty is a tax imposed selectively on goods and services that are produced in Kenya or imported into the country,specified in the first timeline of the excise duty. The results showed that Import duty and GDP have a significant positive relationship with GDP. The results showed that a 1% increase in Excise duty increases GDP by 2.783% holding all the other variables constant. The findings were consistent with Owino (2019) who in his study on the effects of excise duties on economic growth in Kenya using regression analysis concluded that excise duty had a significant positiverelationship with economic growth in Kenya.

4.7 Linearity test

A multiple regression model aims at providing a linear relationship between the dependent and the independent variable by minimizing the sum of the square of the deviations between the predicted variable and an actual observation. Figure 4.7 shows that our residuals fall along a straight line which shows that the relation between the dependant and independent variable is linear and therefore sum of the squares of the deviations has been minimized.

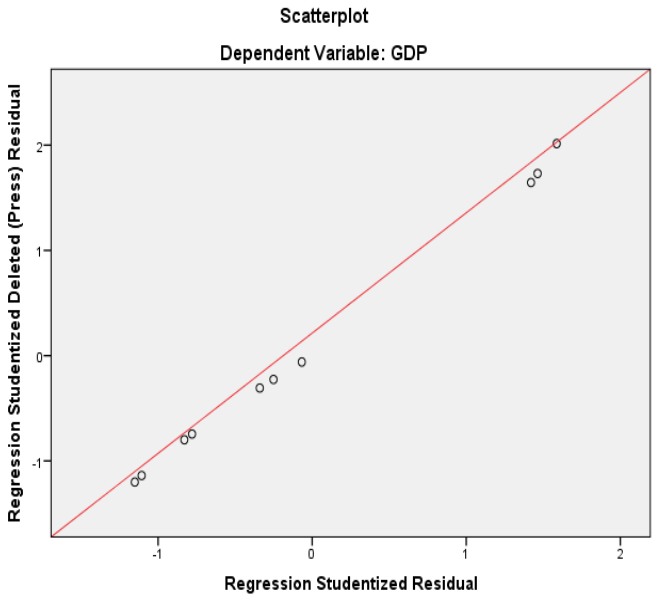


Figure 4.7

4.8 Heteroskedasticity test

Heteroskedasticity test aims at showing if the variance of the error term is constant. For a regression model to be significant it should meet its assumption of a constant error term. From figure 4.8 the distribution of the error term showed no particular pattern showing that the points are equally distributed above and below 0 on the X- axis. This therefore shows homosceedasticity (constant) variance of the error term and therefore the regression model fitted the data well and the results are actual presentations.

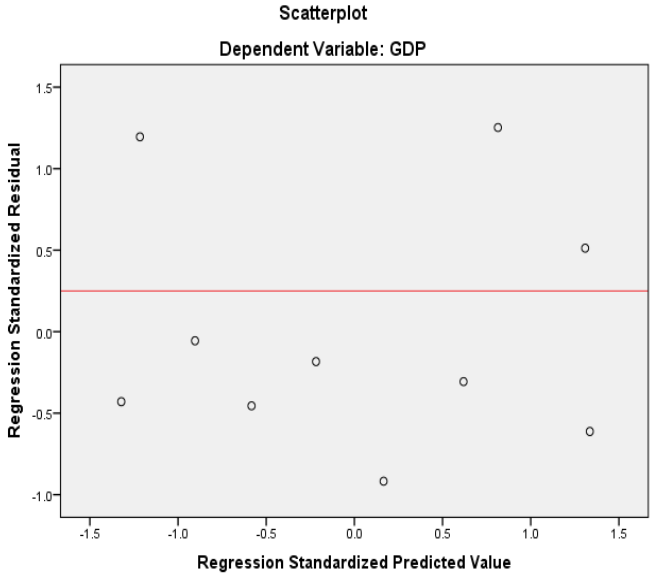


Figure 4.8

V. CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, Conclusion and Recommendation based on interpretations of findings and results in data analysis. The results were discussed in line with the four objectives of the study.

5.2 Summary of the findings

The research data was found to be normal using Kolmogorov-Smirnov and Shapiro-Wilki Test. In trend analysis, the line graph of Total tax was found to be increasing until 2019 and then slumped in 2020. The line graph of GDP showed that it was increasing although not steadily and at a slower rate. The graph showed that the rate of increased in GDP in 2020 was small relative to that of 2019. The regression model was found to be useful and significant with a p-value of 0.00 of the F-statistic from the ANOVA table and diagnostic tests which proved a linear relationship and a constant variance. The model explained 99.6% of the variability in GDP caused by the predictor variables.Total tax was found to have a statistically significant positiverelation with GDP. A 1% increase in Total tax would lead to an increase in GDP by 0.870

5.2.1 Income tax and economic growth in Kenya

Income tax had a steady increase between 2011- 2020 which was shown by a straight line graph. Income tax was found to have a positive relationship with GDP and this relationship was not statistically significant due to a higher P- value (0.140) that the significance level (0.05). The regression model showed that a 1% increase in income tax increases economic growth by 0.678%.

5.2.2 VAT and economic growth

The line graph of VAT showed that it was increasing until 2020 and then slumped. VAT was found to have a positive albeit statistically insignificant relationship with GDP due to a higher p-value of 0.212 than our significance level of 0.05.The regression Model findings showed that a 1% increase in VAT increases economic growth by 1.480%.

5.2.3 Import duty and Economic growth

A line graph of Import duty showed that the Import duty rose from 2011 to 2014 decreased in 2015 picked up and rose again and the slumped in 2020. It was found to have a negative albeit statistically insignificant relationship with GDP due to a higher P-value of 0.754 than the significance level of 0.05. a 1% increase in import was found to decrease economic growth by 0.663%.

5.2.4 Excise duty andEconomic growth

A line graph of excise duty showed that it decreased in 2012 and rose steadily up to 2020. The findings showed that excise duty had a positive relationship with GDP and the relationship was not statistically significant because it had a higher P-value

of 0.129 than the significant level of 0.05. A 1% increase in excise duty Total led to an increase GDP by 2.783%.

5.3 Conclusion

The study concludes that taxation has a significant effect that is notable on the growth of the economy which was in line with the research findings in the emperical literature review such as the findings of Nguluu(2017) and Duncan (2019). The study futther concluded that different forms of taxes affect economic growth in Kenya differently. The study also concluded that VAT, Income tax and Excise duty are beneficial to the economy as they increase the level of economic growth while Import duty is detrimental to Kenya's rate of economic growth as its increase decreases the rate of growth.Kenya should collect adequate tax revenue for its expenditure and developement needs in order to reduce the deficit in it's budget by reducing both domestic and external borrowing as they further bring more harm to the economy. Therefore Kenya should rely more on taxes as they boosts economic growth.

5.4 Recommendations of the study

The following recommendations were made; Policy makers from the government should determine a suitable and optimal income tax rate and income tax bracket and avoid distortionary taxes that might influence savings and investment negatively, create disincentives in the economy and at the same time generate maximum revenue for the government. Kenya's revenue portfolio is significantly driven by tax revenue which is primarily contributed by income tax hence the income tax base should be diversified and increased. It is recommended that VAT, Excise duty be increased but at levels that are fair and equitable to taxpayers so as to accelerate the rate of growth of Kenya's economy. It is recommended that Import duty be reduced because it is detrimental to Kenya's economy. It is also recommended that tough laws should be enacted against tax evaders and embracing an Online tax system for all tax payers to reduce leakages and therefore decrease the deficit from the budget.

5.5 Recommendations for further research

Further researchers should investigate on the omitted variables that also affect economic growth, for example, there is need to investigate the impact of tax avoidance and evasion on Economic growth in Kenya and Effect of Non-tax revenues such as Sale of real assets, privatization proceeds, Seigniorage and Investment incomes.

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APPENDICES

Appendix 1

Fiscal year	Income tax in Million (Ksh)	VAT in million (KSh)	Import duty in Million (KSh)	Excise duty in Million (KSh)	Total tax in Million (Ksh)	GDP in million (KSh)
2011						
2012						
2013						
2014						
2015						
2016						
2017						
2018						
2019						
2020						

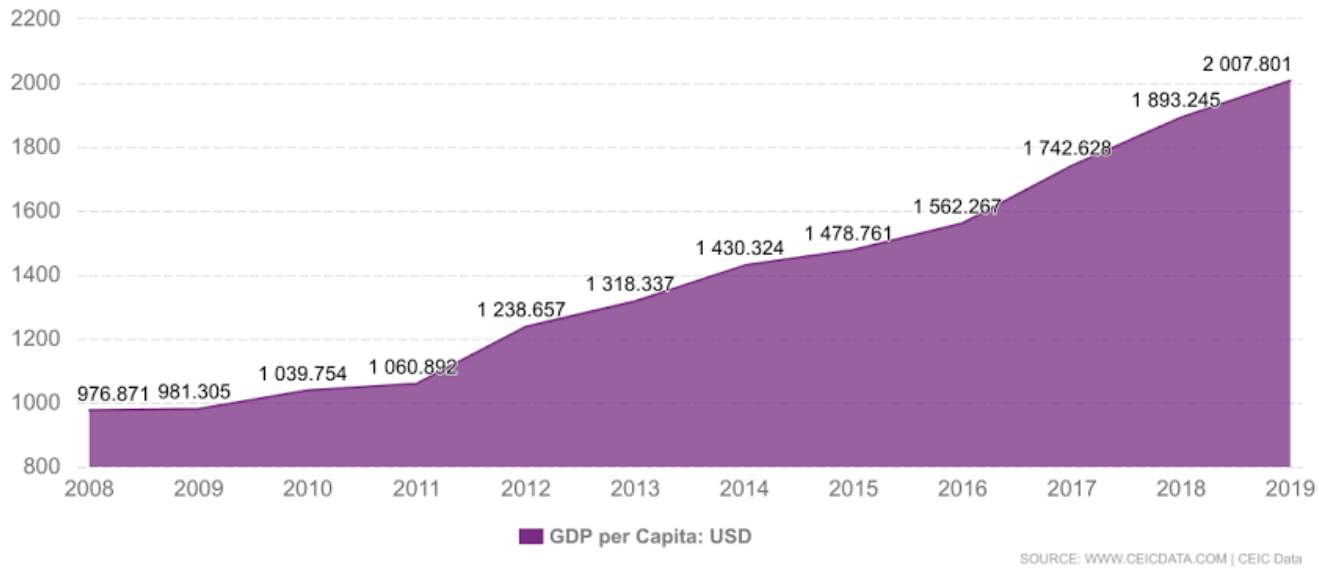
Appendix 2

Research Data

FISCAL YEAR	INCOME TAX	VAT	IMPORT DUTY	EXCISE DUTY	TOTAL TAX	GDP
2011	1553320.82	1098653.58	300518.46	506667.85	3459161	3725918
2012	1898545.64	1122620.89	331709.92	503754.56	3856631	4261370
2013	2316936.59	1308054.09	439998.53	584244.11	4649233	4745090
2014	2771928.43	1499342.05	533990.18	656283.6	5461544	5402647
2015	3121243.93	1686360.91	477143.16	757181.42	6041929	6284185
2016	3429539.68	1865577.61	506728.86	907022.74	6708869	7022963
2017	3806722.08	2166489.16	575959.47	1042383.33	7591554	8165842
2018	4064385.18	2331625.67	649576.14	1068713.25	8114300	8892111
2019	4315025.47	2661045.379	679620.686	1265806.177	8921498	9740360
2020	4346364.676	2497951.954	647563.6933	1315659.176	8807539	9884000

Appendix 3

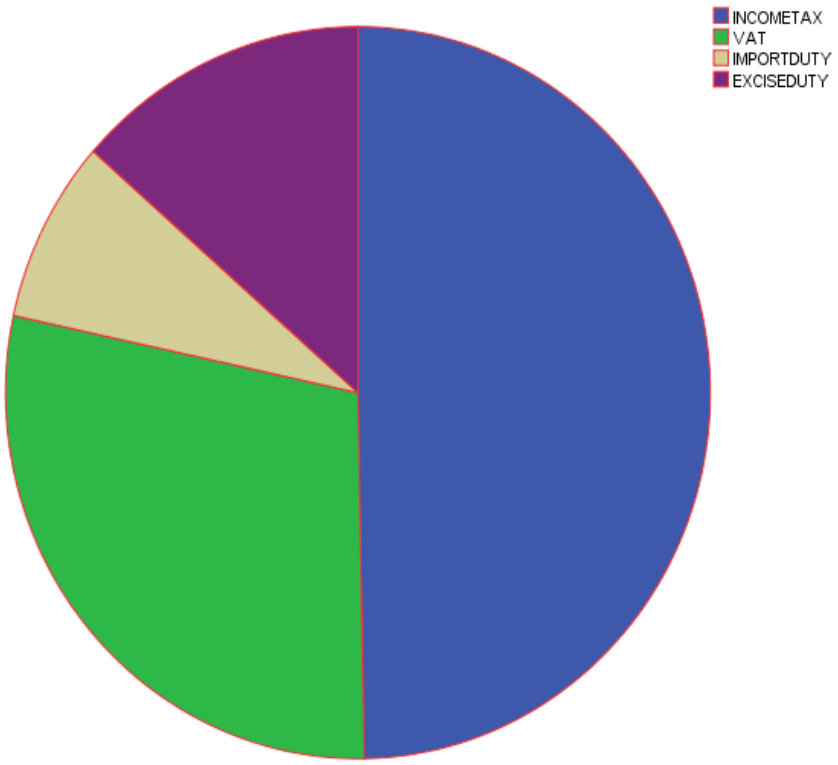
A graph showing GDP per capita in USD in Kenya between the years 2008-2019



Source: CEIC data

Appendix 4

A pie chart of showing each individual tax contribution to total tax revenue in kenya



Source: Author (2021)