THE EFFECT OF SELECTED MACROECONOMICS VARIABLES ON PUBLIC DEBT IN KENYA

REAGAN NYAMONGO

BUS-G-4-0228-17

BENARD OCHIENG

BUS-G-4-0346-17

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DECLARATION

We, the undersigned declare to the best of our knowledge that this is our original work and has not been submitted in any other university

Name: Reagan Nyamongo

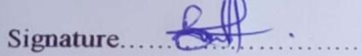
REG: BUS-G-4-0228-17

Signature

Date 08/12/2021

Name: Benard Ochieng

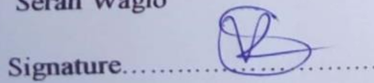
REG: BUS-G-4-0346-17

Signature 

Date 08/12/2021

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

Serah Wagio

Signature 

Date 8/12/2021

DEDICATION

We dedicate this research project to our parents, guardians and friends for their loving care and support in our university studies.

ACKNOWLEDGEMENT

We frankly appreciate Gods strength, blessings and good health which has been co-existent in us since the start of our university education.

We thank our supervisor for her diligent and relentless efforts and her supervision in overseeing our project.

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ABBREVIATIONS AND ACRONYS

GDP: Gross Domestic Product

GNP: Gross Net Product

CPI: Consumer Price Index

FDI: Foreign Domestic Investment

OPERATIONAL TERMS

Public debt: May be defined as the situational phenomenal whereby an Organization or any particular institute may be accountable towards various financial obligations.

Gross domestic product: Market value of all finished products produced within a country

Inflation; Increase in price of goods and services over a period of time due to demand and supply

Investment: Act of assigning resources mostly money with the belief of generating income

ABSTRACT

The research study was grounded on the fact that it intended to examine on the relationship between Macroeconomics variable on public debt in Kenya. The research study chose Kenyan government as the preferred case study due to the fact that the national government was observed to be endlessly borrowing money from internal and external sources. An increase in level of debts in Kenya has created a great challenge for the economy because a high share of incomes are devoted to servicing debts instead of putting them into investment thus reducing economic growth. Kenya still remains a country that does not endeavor that much towards economic progress. This study endorses the future scholars to research on qualitative variables that hinder economic growth mostly corruption. The general objective of the research study was to investigate if indeed there was any effect of the selected macroeconomics variables on public debt. The specific objectives of the research study were as follows; to investigate if indeed there was effect of inflation on public debt also to investigate the relationship between tax and public debt and also to access the effect of aggregate investment on public debt.

CHAPTER ONE: INTRODUCTION

1.1 Background of the study

Public debt may be defined as the situational phenomenal whereby an organization or any particular institution may be reliable towards various financial obligations (Paul, 2017). In this aspect the government in turn may not be able to possibly provide out the various products and services that should be provided by the government and thus in turn may result towards the aspect of public debt borrowing.

In a research carried out by Agnes (2019) taxes accumulated from the various public debts may at times become the common aspect that is used in the generation of government income, there has always been a likely effect whereby the government tends at some time to borrow from its adjacent domestic debt markets .At most times public debt is mostly used in the aspect whereby the government's financial duties may not indeed meet the necessary standards in order to be resourcefully utilized for the purpose of infrastructural development.

According to a research led by Ivy (2018) public debt may also have several serious allegations if not well handled with the comparing standards of economic development in the region. Debt has an important part in the economic outcome of any given county for instance in Kenya whereby it mostly absorbs much of the revenue gotten from the government, upon absorption the government is left with less or few of the remaining resources that is able to accrue from some of the taxes absorbed from its regions. This may in turn limit the potential economic development of the country and to a much larger extent limit their growth.

The public debt study influence still remains a controversial aspect whereby most of the researchers have conducted not much empirical studies on the aspect of and the influence of domestic public debt. Most researchers in Europe have adversely explained that public debt is one of the main challenges that is affecting most of the African countries. In a report carried out by Susan (2017) She indicates that out of a quantitative survey carried out of 10 national governments in Europe, 7 of the governments investigated were found out to be in an overwhelming economic situation whereby most of them were undergoing a financial crisis having been in a situation whereby they may not be able to financially pay their objectives having accrued huge debt.

1.2 Statement of the problem

According to various researchers public debt is the main macroeconomic aspect that shapes the aesthetic image of a countries economic sovereignty in the international markets,

countries with a huge and ironic debt in turn may indicate out an incidence of a low and empowering economic empowerment such as the likes of Zimbabwe. According to Sobonienie (2019) public debt is an unavoidable phenomenal for the sole purpose of economic empowerment therefore no economic country may viably not engage in its venture.

The researcher though concluded that regardless of the huge economic purpose of economic borrowing most countries should be taken into consideration since it may in turn result towards a degraded economic growth. Some African countries are suffering because unable to pay their economic debts that they were able to borrow for the purpose of development.

In Kenya there has been no published research carried for government that is able to state why despite the huge borrowing by the national government there still remains a challenge in the development and infrastructural standards remains so low despite the aspect of public debt financing. The research study intends to answer why in turn this phenomenal is occurring and thus forms the basic foundations of the research study.

1.3 Purpose of the Study

The study objective was to investigate the effect of macroeconomic variables on public debt of Kenya

1.4 Conceptual framework

The study was guided by the following conceptual framework.

Independent variables **Dependent Variable**

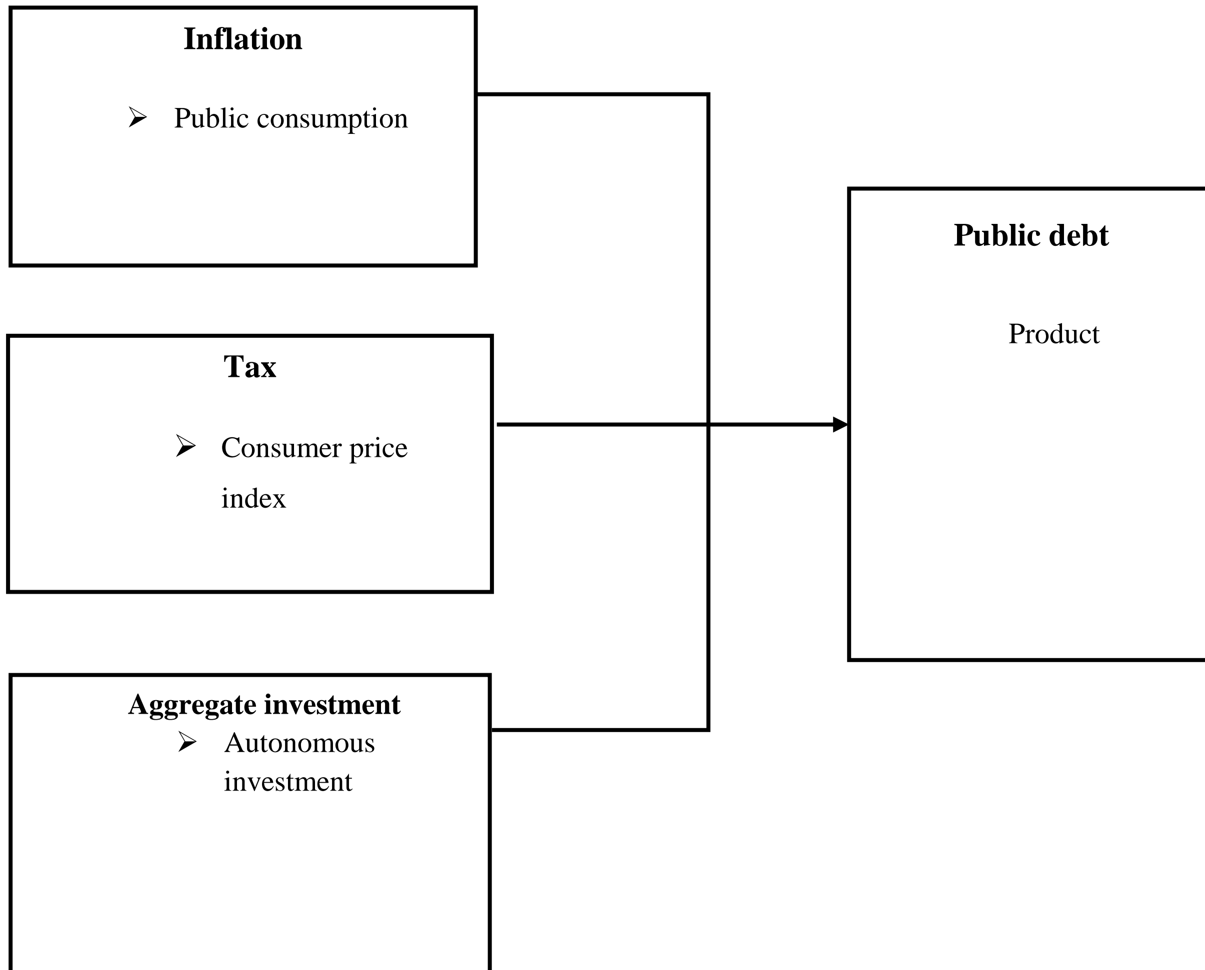


Figure 1.1 Conceptual Framework on effects of selected of selected macroeconomic variables on public debts of Kenya

1.5 Research questions

I. To what extend does inflation affect public debt?

II. Is there any relationship between autonomous tax on public debt?

III. How does investment influence public debt?

1.6 Objectives of the study

1.6.1 General objective

To investigate and justify the effect of inflation, tax and investment on public debt

1.6.2 Specific objectives

a) To determine the effect of inflation on public debt

b) To explore the relationship between tax and public debt

c) To access the effect of aggregate investment on public debt

1.7 Hypothesis of the study

H_{O1}; There was significant relationship between inflation and public debt

H_{O2}; There was significant relationship between tax and public debt

H_{O3}; There was significant relationship between aggregate investment and public debt

1.8 Significance of the Study

Useful towards future research students who in turn may access the information pertained in the research for guidance. This in turn may assist the researchers in accessing information that may be necessary about public domestic debt and its impact in the government of Kenya.

Help the finance ministry in making policy decisions with the overall objective to improve on economic stability and manage public debt.

Increase the body of knowledge to scholars and academicians on issues pertaining public debts and its impacts to Kenyan economy

Help investors in bond market and the findings will inform them on the factors leading to the floatation of government bonds and how that affects economic development of the country.

1.9 Scope of the study

The research was mainly carried out in Nairobi Kenya, whereby the researcher will actively take part in making sure that the research study was well organized and successful. we researchers ensured that we had research permit from the government agencies.

CHAPTER TWO: LITERATURE REVIEW

2.1 INTRODUCTION

This chapter conducts a review of the literature on the relationship among inflation, tax and investment on gross domestic product in Kenya.

2.2 Inflation

It is an increase of the general level of prices of products and services in an economy within a certain period of time. When the general price level increases the gross domestic product increases too. Inflation can lead to doubt about the future profitability of investment projects. This will lead to more investment strategies. When inflation rate is high it discourages investment. Inflation may also reduce a country's global competition, by making its exports more expensive in terms of prices, thus impacting on the balance of payments. Inflation can alter borrowing and lending decisions by interacting with the tax system (Abbas & Christensen, 2017). Organizations may have to offer more resources to dealing with the effects of inflation.

2.3 Tax

It is any charge that is compulsory and it's imposed by the government without any expectation of direct return benefit. A country has to come up with ways on how people cannot evade tax so that it can fund the public debt. It is challenging for government to implement fast increases tax revenues as new taxes require costly infrastructure and knowledge that can be built over time ,(Fabrizio & hallet,2020).Tax is the main source of revenue which can help reduce the burden public debt. It is used to determine how well a nation's government directs its economic resources. Higher tax revenues mean a country is able to spend more on improving education health and infrastructure which are key for a country's economy (Ayres & Warr, 2018).

2.4 Investment

Investment is the most essential factor of economic growth identified by both neoclassical and endogenous growth theories[Gujarati, 2017].However, the neoclassical investment model has impact on the transitional period, while the endogenous growth models argue for more permanent effect [Achieng,2019]. The importance attached to investment has led to an massive amount of empirical studies examining the relationship between investment and economic growth yet the results are not decisive. Foreign Direct Investment (FDI) has recently played a vital role of internationalizing economic activity which is the main source of technology transfer and economic growth. This major role is stressed in several models of endogenous growth theories

2.5 Theoretical Literature Review

Over the years, the theory of public debt has evolved from simplest models to complex economic modelling techniques. Many countries, regardless of their social and political systems have pursued public debt by applying different strategies - based on theories that are suitable to their economic conditions. These theories include the following

2.5.1 Keynesian Theory

The Keynesian principle indicates that microeconomic issues are completed collectively through huge sections of individuals and firms can contribute to low macroeconomic implications, where the financial system operates below its finest structure. Most Keynesians advocate an activist agendum to lessen the amplitude of the business sequence, which are not forgettable among the most serious of economic troubles Baron & Ferejohn, (2019). Keynes critiqued that the solution to the Great Depression turned to accelerate the financial system through some addition of two factors: a cut off in hobby rates and government funding in infrastructure. Investment by authorities gets rid of profits, which ends up in more expenditure in financial system, which in turn stimulates greater production and funding related to still greater income and spending .

The beginning acceleration results to a cascade of occasions, whose additional upward thrust in financial moves is a couple of the authentic investment. Keynesian economics concluded that, in some things, no big computerized method brings output and employment into employment margins (Mankiw, 1992). This issue reviews with financial components that anticipate a robust popular tendency toward equilibrium.

2.5.2 Dynamic Theory of Public Spending, Taxation, and Debt

The concept constructs on a viable tax smoothing version to financial policy deviated by way of Barro (2019). This version foresees that governments will utilize budget additions and deficits as an additional device to prevent tax quotes from converting too quickly (Battaglini & Coate, 2018). Thus, governments shall run deficits in instances of escalating authorities spending needs and surpluses while desires are low. Underlying the version are the concerns that governments are bureaucratic, that government expenditure wishes a decrease over time, and that the expenses of earnings taxes are a sloppy manner of the tax price (Battaglini and Sargent, 2016). The economic environment making this idea are just like that inside the tax contexts. However, the coverage guidelines are finished by

means of a regulation maker alternatively than a benevolent planner. However, this theory brings handy the friction that lawmakers can distribute cash lower back to their districts through pork-barrel utilization (Bohn, 2018).The hypothesis recalls a political jurisdiction beneath which coverage choices are conducted by a law maker with representatives democratically elected via sole-member, location-described regions. The lawmaker can enhance money in two methods: through tax on hard work earnings and by means of taking a loan inside the capital marketplace. Taking a loan takes the shape of giving one duration bonds. The lawmakers can also reap bonds and utilize the interest earnings to assist spencer destiny public spending on selected.

2.5.3 Debt Overhang Theory

Public debt overhang has been located because of the improvement of a database concerning financial crises in recent years. Before the improvement of data by way of Reinhart (2017), it changed into no longer acknowledged that the balance of public debt influences financial increase. For instance, Barro & Sala Martin (2019) empirically confirmed that the ratio of government intake to GDP has a bad impact on per-capita GDP. However, it became now not confirmed whether the quantity of public debt has a giant effect. Meanwhile, empirically showed that an economic deficit has a bad impact on consistent with-capita GDP however did not confirm whether or no longer the amount of public debt impacts according to-capita GDP (Kobayashi, 2016).

Krugman (1988) coins the term of “debt overhang” as a state of affairs wherein a rustic’s expected reimbursement potential on exterior debt reduces below the contractual fee of debt. Cohen’s (2017) theoretical model posits a non-linear impact of overseas borrowing on funding as suggested by way of Clements (2003) who suggests that this dating may be arguably prolonged to increase. Thus, up to a certain threshold, foreign debt accumulation can promote investment, even as beyond such a factor the debt overhang will begin including poor stress on buyers" willingness to offer capital. In the same manner, the increase model proposed via Aschauer (2000), wherein public capital has a nonlinear impact on economic growth may be prolonged to cover the effect of public debt. Assuming that authorities’ debt is used at the least in part to finance efficient public capital, an increase in debt would have nice outcomes up to a certain threshold and terrible effect past.

2.6 Summary of literature review

In empirical review, different studies have given consistent results of inverse relationship on effects of public debt on economic development; others have also shown positive relationship on same phenomenon. However, instances of no relationship were also noted. Public debt and investment are negatively related, because most of people prefer to deposit savings in banks which further are used for non-production purposes. Hence, if deposits in banks increase, they will further increase non-production borrowing of loans, which will be used for consumption mainly. If investment in production and industrial sector increases, then capital in banks will reduce which will reduce borrowing power of banks and this will decrease domestic debt level.

2.7Research gap

The various researchers have been able to do extensive research on public debts in African countries but there hasn't been any researcher so far who has investigated the effects of public debt in Kenya.

Variable	Research objective	Findings	Research gap	Author
Economic growth [GDP]	Relationship between economic growth and public debts	External resources has a non-linear relationship on the dynamics of GDP in emerging economies	How to manage public debt to boost the economy	Viktoriia koilo
Inflation	Relationship between inflation on public debts	Inflation rises sharply as public debt increases	Strategies on how to control inflation with increase of public debt	Kenneth Rogoff
Taxation	Relationship between tax on public debt	Increase public debts result to increase on tax through fiscal policy	is public borrowing good for tax payers	Thomas Sargent
Aggregate investment	Relationship between aggregate investment on public debts	There is a non-linear relationship between public debt and aggregate investment	How external debt financing can promote investments	Ilias Kostarakos

Figure 1.2 research gaps on effect of selected macroeconomics variables on public debt of Kenya

CHAPTER THREE: RESEARCH METHODOLOGY

This study aimed at evaluating the influence of selected macro-economic variables on public debts in Kenya

3.1 Research Design

The study adopted a descriptive research design. Mugenda and Mugenda (2003) defines descriptive research design as a systematic, empirical inquiring into which the researcher does not have a direct control of independent variable as their manifestation has already occurred or because the inherently cannot be manipulated. Descriptive studies are concerned with the what, where and how of a phenomenon hence more placed to build a profile on that phenomenon.

3.2 Study Area

The study area was the national government public debt and its implication on the current economy crisis.

3.3 Target Population

Target population is the population researcher may want to take a broad view of the results of a study. Mugenda and Mugenda (2003) describe a population as a set of individuals, cases or objects with some mutual observable characteristics. It is that which conforms to a given selected specification. A population can also be defined as a complete set of people, services, elements, and events, groups of things or households that are being investigated.

3.4 Sampling Techniques

We preferred a Purposive sampling procedure since it is wherein the researcher makes a planned judgment on where to accumulate his or her facts. Also, Purposive sampling is referred as judgmental, selective or subjective sampling and also is a form of non-probability sampling technique. Non-probability sampling makes a specialty of sampling techniques in which the gadgets which are investigated are based totally at the researcher's judgement.

3.5 Sample size

The statistical of data points recorded were 28.

3.6 Measurement of Variables

Variable	Type	Indicators	Measurement scale
Economic growth	Dependent	GDP	Percentage
Inflation	Independent	Interest rates	Percentage
Tax	Independent	Induced tax	Ratio
Investment	Independent	Induced investment	Ratio

3.7 Validity and Reliability

Validity is the degree to which an instrument measures what it purports to measure. Content validity focuses on the mark to which the instrument fully assesses or measures the construct of interest. Reliability is a measure of the extent to which a data measuring instrument relays consistent results over several trials

3.8 Data Collection

The study used secondary data that was collected from the Kenya National Bureau of Statistics and the National treasury to analyze public debt. Data on economic development was collected from the Kenya National Bureau of Statistics. We used clear, specific and accurate data. The period (2016-2020) was chosen because of the many changes in government policies that occurred within the economy that had far reaching implications on the macroeconomic variables in Kenya. The study used annual data because Government Budgets are drawn annually and the deficits and surplus which are key determinants of borrowing are then developed.

3.9 Data analysis

The study used SPSS analysis tool pack to help in data analysis. Outcomes of the regression analysis in SPSS include indicators that helped to determine the significance of the variables in the prediction of the dependent variable. The coefficients showed that the independent variables positively or negatively influence the dependent variable or there was no relation at all. Furthermore, one indicator showed for how many percent the model explained the variation in the dependent variable. The paired t-test, a non-parametric test of differences developed by Sir William Gosset (Mugenda and Mugenda, 2003) was used as a test of significance.

Regression Model

$Y = a + ß_i X_i + ß_{ii} X_{ii} + ß_{iii} X_{iii}$ …………….. (i)

Where,

Public debt.

$Y =$

A Constant term

ß Sensitivity of to variable X_1, X_2, X_3,

X_i Inflation

X_{ii} Taxation

X_{iii} Investment

The T-test at 95 % confidence level will be used to test the statistical significance of the regression constants.

CHAPTER FOUR: DATA ANALYSIS, FINDINGS AND INTERPRETATIONS

4.0 Introduction

This chapter presents the bond between public debt and economic growth in Kenya and the interpretation of data findings between 2016-2020 economic years. Data that was used here was derived from the statistical statement archives of The National Treasury and the Kenya National Bureau of Statistics. Section 4.2 presents the Descriptive Statistics on inflation, tax and aggregate investment and other variables. Section 4.3 tables the Inferential Statistics and section 4.4 gives interpretations of the findings.

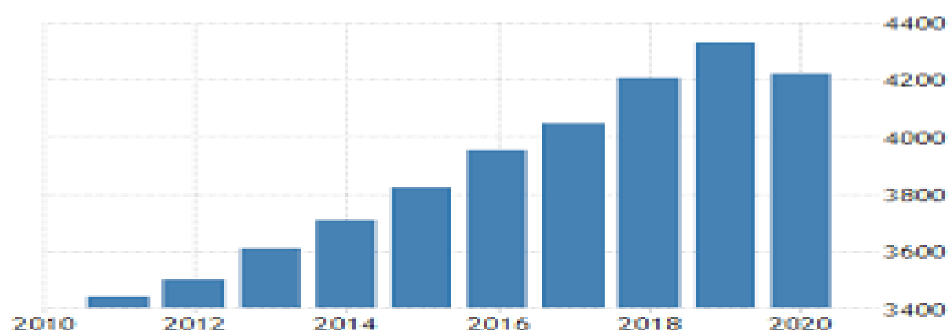
4.1 Descriptive Statistics

This section presents Descriptive Statistics on the Public debt in Kenya. Furthermore, it shows data on Inflation, Tax and aggregate investment as they are variables to the Public Debt model.

4.1.1 Economic Growth

Kenya's economy was hobbled by the pandemic, as restrictions to curb the spread of coronavirus reduced revenues and stifled growth. Kenya's economic growth rate is averaged at 5.7% making it one of the fastest growing economies in Africa though the pandemic became a major blow to the economic growth where GDP was expected to decelerate to 1.4% from 5.4 in 2019. However, the economy is expected to recover and gradually return the growth rate to where it was before. The study wanted to determine the Economic Growth rate of our country Kenya within the study period 2016-2020 articulated as a percentage of the GDP. The percentage GDP was calculated using the preceding year as the base year. The trend of GDP is illustrated below.

Figure 4.1: Economic Growth



From figure 4.1 above it is evident that the economic growth of the country shows a pattern growing and flowing at different times of the study period. At the beginning, 2010 economic year, the country recorded 8.70 % economic growth, one of the highest values. Up to the 2020 financial year economic growth decreased by 6.96 compared to the previous year. Before 2020, the economic growth rate was averaged to be 4.62%.

Table 4.1: Economic Growth

YEAR	ANNUAL GDP GROWTH (%)
2020	0.30
2019	5.00
2018	5.60
2017	3.80
2016	4.20

The above table 4.1. Shows the calculated values of the Economic Growth during the study period.

4.1.2 Public Debt

Kenya's overall public debt increased from 48.6% of GDP at the end of 2015 to an estimated 69% of GDP at the end of 2020.

Table 4.2 portrays the steady increase in the public debt of the country from beginning till the end of the study period. In financial year 2015/2016 Ksh. 3.8 trillion was recorded. Public debt has grown tremendously in the subsequent years. At the end of the study period, 2019/2020 financial year, the debt was two times higher, Ksh 7.2 trillion. The below table 4.2 shows the yearly calculated values of the Total public debt during the study period.

Table 4.2: Public Debt in Ksh (Millions)

YEAR	DOMESTIC	EXTERNAL	TOTAL
2020	3,488,541.18	3,793,285.24	7,281,826.42
2019	2,942,103.54	3,106,822.96	6,048,926.50
2018	2,548,768.78	2,723,734.27	5,272,503.04
2017	2,220,345.35	2,349,284.44	4,569,629.79
2016	1,930,855.01	1,896,443.05	3,827,298.06

4.1.3 Inflation

The study collected data to establish the trend of the Inflation rate in the country over the study period. The findings are cascaded in table 4.4

Table 4.4: Inflation rate

YEAR	INFLATION RATE (%) COMPARED TO PREVIOUS YEAR
2020	5.17
2019	5.20
2018	4.69
2017	7.99
2016	6.32

It is observed that we had the highest inflation rate in 2017 compared to other years of study. This was mostly due to general elections.

4.1.4 Tax

The highest tax to GDP ratio in Kenya was 19.3% in 2014 with the lowest being 16.1% in 2002. 1.6 trillion was collected in 2019/2020 .we av experience increase in tax in the study period especially in value added tax mostly during the election period due to increase in price on most commodities this is due to increase borrowing that add burden to the citizens.

4.1.5 Aggregate investment

Vision 2030 is the driving tool for investment in the country and the government has use public debt as a financial tool to achieve the 2030 vision .increased in public debt has a positive significant to aggregate investment as increased in public debt resulted to increase in aggregate investment. There was increase in investment from 2016 to 2020 by ratio 1.9 .

Table 4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.745	.74	.323	.672
Predictors: (Constant) Inflation, tax and Aggregate investment				

The coefficient of determination R^2, was .74 explaining the variation in the effect of inflation, tax and aggregate investment on public debt. This indicates that the independent variable contributes 74% on public debt. Other factors that were not included in the study contributes to 26% on public debt. Further research should therefore be conducted to determine the other factors that contribute on the public debt.

Table 4.6: ANOVA Summary

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	63.114	5	25.408	61.214	.001[b]
	Residual	24.213	46	.442		
	Total	87.327	51			
a. Dependent Variable: public debt.						
b. Predictors: (Constant), Inflation, tax and Aggregate investment						

The ANOVA results suggested that the regression had a level of significance of 0.001, which helped to conclude that the model was significant value at 95% level of significance was 61.214. Thus, there is significant relationship between public debt and Inflation, tax and Aggregate investment.

4.2 Correlation Analysis

In this subsection a summary of the correlation and regression analyses is presented. It seeks to first determine the degree of interdependence of the independent variables and also show the degree of their association with the dependent variable separately. These results are

summarized in Table 4.7

Table 4.7: Coefficient of Correlation

Coefficient of Correlation

	Un-standardized		**Standardized**	**T**	**Sig.**
	Coefficients		**Coefficients**		
	B	**Std. Error**	**Beta**		
(Constant)	3.77	0.451		8.359202	0.004
Inflation		0.121	0.146	6.46281	
	0.782				0.003
Tax		0.079	0.126	5.860759	
	0.463				0.001
Aggregate investment	0.473	0.073	0.045	6.479452	0.002
a. Dependent Variable: public debt					

Public debt = **3.77** + **0.782*** Inflation + **0.463*** Tax + **0.473*** Aggregate investment

From the finding in Table 4.7, the study found that Inflation, tax and Aggregate investment, at zero public debt will be 3.77. It was established that a unit increase in alignment of Inflation with public debt, while holding other factors (Tax and Aggregate investment) constant, will lead to an increase in public debt by 0.782 (p = 0.003). Further, unit increase in change of Tax, while holding other factors(Inflation and Aggregate investment) constant, will lead to an increase in public debt by 0.463 (p = 0.001). A unit increase in Aggregate investment, while holding other factors (Tax and Inflation) constant, will lead to an increase in public debt by 0.473 (p =0.005). At 5% level of significance and 95% level of confidence, Inflation, tax and Aggregate investment are significant to public debt.

4.3 Interpretation of the Findings

The result of Table 4.5 explains the measure of goodness of fit. In the regression model R square is 0.324 and the Adjusted R square is 0.211 implying that 32.4 % of variation in Economic Growth is explained by variation in Public Debt, Unemployment rate and Inflation rate. From the regression result, it is evident that all variables are statistically insignificant in determining the GDP growth rate.

ANOVA results of Table 4.6 tells whether the regression coefficients were statistically different than 0.065. In order to be statistically significant, the significance level must be less than the conventional level of statistical significance (i.e. 0.05). F= 2.873 which was statistically insignificant at 0.065 in the model indicated that the independent variables regression equation, Public Debt, Unemployment rate and Inflation rate were insignificantly related to the value of the GPD growth. Therefore, any predictions of future Economic Growth cannot be done using these independent variables.

The regression model indicates that Public Debt has a negative effect on Economic Growth as indicated by the negative value of its coefficient in table 4.7. Therefore, increasing Public Debt leads to a decrease of Economic Growth. An increase of one percent in Public Debt is linked to a decrease of 1.276 percent in GDP growth rate in Kenya. Similarly, the coefficients in table 4.7 show that the Unemployment rate and the Inflation rate are negatively linked to Economic Growth. One percent increase in Unemployment rate or Inflation rate is linked to a decrease of 6.1 and 0.008 percent in Economic Growth respectively.

CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

The chapter details the summary, conclusions and the recommendations made from the study findings. Section 5.2 presents the summary of findings, section 5.3 presents conclusions made from the study findings while 5.4 presents recommendations of the study findings. Finally, section 5.5 presents suggestions for further studies that may be done in relation to the effects of Public Debt on Economic growth in Kenya.

5.1 Summary

In a bid to establish the relationship between selected macroeconomic variables on Public debt, three independent variables which include; tax, Inflation rate and aggregate investment employed in a multi linear regression analysis. The results of the analysis showed that these three variables are insignificantly related to the GDP growth rate. Table 4.7 shows that the p-values for Inflation (0.003), tax (0.001) and aggregate investment(0.002) are higher than the significance F (0.001) generated in table 4.6. This indicates that the independent variables are all statistically insignificant in predicting variations on public debt.

The coefficients generated by the regression model indicate a negative value for all independent variables. This means that selected macroeconomic variables have negative effects on Public Debt. Therefore, increasing in the selected macroeconomic variables lead to a decrease of public debt. An increase of one percent in Public Debt is linked to a decrease of 1.28 % in GDP growth rate in Kenya. Similarly, the coefficients show that Inflation are negatively linked to public debt.

These results confirm to the theoretical assertion that when the government is faced with the problem of heavy debt burden it will have to increase taxes in the future to finance the high debt service payments. (Sliman, 2016). The findings were also consistent with the empirical literature by Ali and Mustafa (2010) who found a negative relationship between debt and growth on astudy of the long run and short run impacts of external debt on economic growth in Pakistan. Furthermore, the results support the empirical findings of Were (2001) on a study of the debt overhang problem in Kenya. However, the results are contrary with the findings of Adofu (2018) whose empirical results indicates that external debt hasa positive effect on economic growth. His findings suggest that increase in External Debt leads to increase in GDP.

5.2 Conclusion

This study has used a linear model to analyse the effect of selected macroeconomic variables on Public Debt in Kenya over the period 2016-2020, considering GDP growth rate as a function of Public Debt, aggregate investment and Inflation rate. The empirical results revealed that Public Debt exerts a negative impact on Economic Growth; clearly indicating that higher Public Debt discourages Economic Growth. However, the regression model also shows that Public Debt, as independent variable is insignificantly linked to variations in Economic Growth in Kenya.

The correlation coefficient for Inflation rate in this study showed only a week negative link with Economic Growth. However, also Dewan and Hussein (2001) found in a sample of 41 middle-income developing countries that inflation was negatively correlated to growth. This finding provide some guidance for Kenyan policymakers on the importance of maintaining low inflation, in order to foster higher Economic Growth.

The study indicates a negative link between changes in Economic Growth rate and Inflation rate. This negative relationship is supported by Okun's Law, stating that when Inflation rate rises by 1%, GDP falls by 2 %. Although the regression results show a strong negative coefficient Inflation rate, still the relationship proved to be not significant in predicting Economic Growth.

5.3 Recommendations

The regression results indicated that Public Debt, aggregate investment and Inflation rate have no significant effect in determining Economic Growth in Kenya. Therefore, other independent variables should be used in determining variations in Economic Growth. Therefore, other scholars should research the effects of other variables such as: corruption, political instability, insecurity and government expenditure.

It would also be interesting to specifically research why in the financial years 2017/2018 economic growth was extremely low. Maybe it is partly explained by elections that have a significant impact on Kenyan economic growth; the year after elections no public funds are left to aid the economy.

5.4 Limitations of the Study

A study of this nature is wide and involves a number of stakeholders to consult for accurate data. It proved to be quite cumbersome to acquire data from the National Treasury, The Central Bank of Kenya and the Kenya National Bureau of Statistics, especially from the years from 2015. Furthermore, relevant data on components of Public Debt, like Government

Advances and Government Overdraft were not made available. They were considered confidential, very sensitive and not fit for use in research. Finally, the study relied on data provided by the National Treasury and Kenya Bureau of Statistics on soft copy excel sheets. This data is never published and therefore its accuracy may not be guaranteed.

5.5 Areas for Further Research

The study of factors affecting public debt is broad, complicated and involves all the areas in the scope of Government Finance, but also Government politics. Some of the areas that should be considered for further research are the impact of corruption on economic growth, the effects of political instability on economic growth, theimpact of government expenditure on economic growth, the impact of private debt on economic growth and the impact of Global issues, like the Global financial crisis on economic growth.

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APPENDICE: LETTER OF CONCENT

GRETSA UNIVERSITY

P.O. Box 03- 01000

THIKA, KENYA

2nd July 2021

Dear respondent,

<u>RE: DATA COLLECTION REQUEST</u>

We are students at Gretsa University studying Bachelor's Degree in commerce , school of business. As part of the academic requirement, am currently conducting a research on Selected Macroeconomics variables on public debt.

I kindly request you to provide the required information to the best of your knowledge by filling out the attached interview guide. The information is strictly for academic purposes only and will be treated in the strictest confidence. A copy of the research project will be made available to you on request. Your kind assistance will be highly appreciated.

Yours faithfully,

Reagan Nyamongo

Benard Ochieng

APPENDICES 2: TRADING AND BALANCE ACCOUNT

	2016	2017	2018	2019
Current Account Balance	(136,598)	(124,140)	(187,677)	(296,024)
Balance on goods	(390,235)	(384,017)	(498,563)	(746,052)
Balance on services	95,499	85,478	138,190	173,912
Net income flow	(3,127)	(3,454)	(11,697)	620
Net flow in current transfers	161,265	177,853	184,393	275,497
Capital and Financial Account Balance	**83,197**	**190,485**	**186,001**	**349,701**
Net flow in capital transfers	6,535	20,178	19,030	20,861
Net change in financial non-reserve assets	-	-		
Direct investment	3,585	5,336	13,984	28,936
Portfolio investment	(1,805)	(1,616)	(2,294)	(5,094)
Financial derivatives	-	-		
Other investments	74,882	166,587	155,282	244,937
Net change in reserve assets	33,161	**(75,180)**	**(12,225)**	**(21,841)**
Net errors and ommissions	**20,240**	**8,835**	**13,901**	**28,225**

BALANCE OF TRADE ACCOUNT

KENYAN GOVERNMENT

	2019	2020
Output		
Real GDP growth (%)	5.4	-0.1
Prices		
Inflation - average (%)	5.2	5.3
Central Government Finances (fiscal year)[1]		
Revenue (% GDP)	18.0	17.2
Expenditure (% GDP)	25.7	25.0
Primary balance (% GDP)	-3.7	-3.5
Fiscal balance (% GDP)	-7.7	-7.8
Public debt (% GDP)	62.0	65.8
Money and Credit		
Broad money (% change)	5.6	13.2
Credit to private sector (% change)	7.1	8.4
Policy rate, end of period (%)	8.5	7.0
Balance of Payments		
Current account (% GDP)	-5.8	-4.6
Reserves (in months of imports)	6.1	4.7
External debt (% GDP)	31.5	35.6
Exchange Rate		
REER (% change)	4.8	-1.5