



**DEBT AND MACROECONOMIC STABILITY IN KENYA; MANAGING  
DEBT**

BY

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## DECLARATION

This research paper is my unique document and has subsequently never been presented for the accolade of a degree in any other university.

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**Date: 06/12/2021**

This research paper has been put forward for assessment with my consent as university supervisor.

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**Date: 17/12/2021**



## **DEDICATION**

I dedicate this document to my household; partner Alex Kimani, son Luke Kimani, and daughter Lana Kimani. This paper would not have come to pass without their endless encouragement, humility, and patience, especially from my young children. Thank you. May God shower you with His grace.

## **ACKNOWLEDGEMENT**

I wish to articulate appreciativeness to the almighty God. By His grace, I got this far, and He bestowed me with knowledge, understanding, and vigor that has been of assistance to bring this document to life. I am and, for eternity, will be, to the highest degree, indebted to my lecturer/supervisor, Dr. Nyandemo, for his continuous support, constructive criticism, grit, and benevolent nature to dole out his vast wisdom and skill concerning this thesis. Devoid of his guidance and counsels, this proposal would not have come to pass. Thank you, and May God bless you in abundance.

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## **LIST OF ABBREVIATIONS AND ACRONYMS**

<b>CBK</b>	Central Bank of Kenya;
<b>PIGR</b>	Private Investment Growth rate;
<b>RGDP</b>	Real Gross Domestic Product;
<b>GNI</b>	Gross National Income;
<b>IMF</b>	International Monetary Fund;
<b>KNBS</b>	Kenya National Bureau of Statistics;
<b>KSHS</b>	Kenya Shillings;
<b>ROK</b>	Republic of Kenya;
<b>WB</b>	World Bank;
<b>ED</b>	External Debt;
<b>DD</b>	Domestic Debt;
<b>RER</b>	Real Exchange Rate;
<b>RIR</b>	Real Interest Rate;
<b>INFL</b>	Rate of Inflation;
<b>TPD</b>	Total Public Debt;
<b>EAC</b>	East African Countries;

## ABSTRACT

There persists to be an intensifying deliberation on the growing public debt on macro-economic variables in many nations of developing states, hence the need for a clear understanding of the role of public deficit to inform appropriate policy framework. This paper seeks to inspect the consequences of public debt/obligation on macroeconomic stability in Kenya from 1980-2019 sourced from the Kenya National Bureau of Statistics-KNBS, Central Bank, and the World Bank. Specifically, evaluate the consequences of foreign debt on macroeconomic stability in Kenya. The research paper took on board the Endogenous-growth theory, the Crowding-out effect, the Debt-overhang hypothesis, and the neo-classicalists theory and for the objectives. The study technique relied on financial data from the Central Bank and the Kenya National Bureau of Statistics (KNBS), while economic data was gathered from the World Bank for the period 1980-2019. To bring together time series secondary data, the scholar use a data-grouping schedule as an instrument. The purpose of this article is to determine the impact of public liability on Kenya's economic success from 1990 to 2019. In conclusion, external debt positively influence economic growth in the short-run but has negative implications on the Kenyan economy in the long-run. Equally, inflation, real interest rate and real interest rate have positive bearing on Kenya economic in the long-run albeit the effect is negative in the short-run. This study recommends that public borrowing from international lenders, as well as domestic borrowing, must be kept in check. Nonetheless, 'debt overhang' used to be a non-issue because it leads to increasing interest and 'crowding out' of private investment.

## **CHAPTER ONE**

### **INTRODUCTION**

#### **1.1 Background**

Kenya failed in attaining consistency in economic advancement for an extended period. The country has experienced fluctuations in economic growth since the 1960s. The economic growth began reducing in the mid-1970. Real GDP was reduced because bilateral and multilateral aid stopped due to resource mismanagement and decreased agricultural production (Osewe, 2013).

The apportionment of state budget funds apportioned for servicing a country's debt, and the interest payments and principal payments are referred to as debt servicing (the Republic of Kenya, 2014).

The high debt servicing cost significantly affects an economy's overall output, investment, and social and economic sectors. By and large, an economy's productivity/output can be apportioned into government spending, net exports, private consumption, and private investment (Njuguna, 2008).

An appraisal of how well a state is performing in attaining key government policy objectives in consumption, investment, inflation, employment, and economic growth constitutes macroeconomic performance (Kosimbei, 2009). This is assessed through the annual Gross Domestic Product (GDP) growth or a macroeconomic stability index. Levels of inflation echo stability of Macroeconomic, workable debt to GDP ratio, and reasonable exchange rates, which directs the private sector on the dependability of policies in economics and authority's reliability responsibility to overseeing the economy efficiently (Ghura and Hadjimichael, 1996).

Unindustrialized states suffering from inadequate household savings shall, to a large extent, acquire financial aid to bridge the resource gaps (Ihoya, 1999). In prior times, from the 1980s to the mid-2000s expanding liability levels raised concerns for many unindustrialized republics. This was made clear by the HIPCI-Highly Indebted Poor Countries Initiative, an image of the African nation that strived to deal with the debt obstacle (Awiti2015). By2003, nineteen out of twenty-three receivers of the HIPCS scheme lived in sub-Saharan Africa. This program pointed towards realizing the world's affluent states to pardon liability payable to them by exceptionally underprivileged conditions. In addition, it was inundated in its' reimbursement, which they may perhaps, keep up at inadmissibly high environmental and social overhead (Cunningham1993). The suitability of beneficiary nations under this particular initiative was centered on a good track record of reforms, the capability to convert the resources into improved possibilities for the poor despite its relatively high mark of external liability to GDP-ratio, in addition to the pursuance of sound policies. Kenya won't benefit from any of this initiative because of leverage ratios were lower and it was able to pay its liabilities without the need for debt relief (Njuguna, 2008).

These days, the growing debt level is a macro concern and is no longer an obstacle entirely linked with unindustrialized countries. Developed economies in the European Monetary Union were severely hit by the financial crisis of 2008, such as Italy, Ireland, Greece, Portugal, and Spain have been struggling with debts. These states have liability ratios of 121 percent, 135.2 percent, 177.2 percent, and 100.2 percent, respectively. The two giant economies, Germany and France, have debt ratios of 76 percent and 95.6 percent, respectively. On average, the European monetary union (EMU) republics have a liability ratio of 96%. Kenya's debt-to-GDP ratio stands at 46 percent (World Bank statistics, 2014).

Comparatively, Kenya looks modest; nonetheless, it does not mean that the country is better off. Joint IMF and World Bank debt sustainability assessment (DSA) in April 2013 established that Kenya's liability is maintainable compared to the overall volume and efficiency of the economy because the macroeconomic variables are quite formidable (World Bank, 2013). Despite this, fears are being expressed that the importunate rise in external debt could make vulnerable the sustainability state and stability in the debt markets. The current tendency of Kenya's debt has elicited diverse responses amongst professionals and policymakers. Even though some people believe that it is high time Kenya put an eye on borrowing, others believe that measured up to other developing economies in Europe, the country is moderately accomplishing satisfactorily and hence no need for panic so far.

The dire concern is the impact of escalating debt stock which requires servicing. Debt is, in general, trouble-free to accrue conversely, problematic to shrink in the long-run (Claessens et al, 1996). The question remains how much debt the economy can carry in the long term concerning the risks associated with large debt portfolios and their future repayment ability. A debt portfolio above 40 percent signifies fewer quality institutions and may pose a substantial risk to the national budget and the state's fiscal stability (Awiti, 2015). If not overseen wisely, it presents a threat to the budget. It may lead to the possibility of nonpayment and considerable economic losses besides disheartening financier sentiment and triggering financial insecurity, and intensifying a country's proneness to crisis (Sachs, 2002).

High public debt levels are not maintainable in the long term (Were, 2001). While the ideal status quo is to utilize what the country can raise in taxes, this may not be realistic. It is essential to calculate the end product of mounting debt levels on the government's spending soon. Growing

liability means that the government will, in the future, devote the majority of its proceeds, paying off the debt at the expense of eminent local capital spending. Before obtaining the much-needed aid, this transpired in the Heavily Indebted Poor Country (HIPC) (Were, 2001).

A critical analysis of the Kenyan economy's expenditure state of affairs divulges dismal progress in revenue collection and ever-growing budgetary needs (Awiti, 2018). This expansionary level in the fiscal policy is mirrored in the widening primary deficit. Kenya has undergone a fiscal increase over the last three financial years; 2016/2017, 2017/18, and 2018/19. Aggregate expenditure averaged 25% of GDP and revenue at 18% of GDP (the Republic of Kenya, 2019). For case in point, the aggregate budget for the year 2009 was Ksh 865.6 billion and the overall revenue collected was 569 billion (the Republic of Kenya, 2009).

The budget shortfall stood at Ksh 168.2 billion and was funded through borrowing. In the 2010 budget, Treasury disclosed an ambitious budget of Ksh 998.8 billion where revenues totaled Ksh 609.6 billion with Ksh 199 billion from development partners. So a deficit of Ksh 188 billion borrowings (the Republic of Kenya, 2010). In the fiscal year 2018/2019, the budget stood at Ksh. 1757.4 billion, total revenue anticipated amounted to 1180.5 billion. Kenya's fiscal arrears for the financial year 2018/2019 was at Sh342.4B billion, which was 8.03percent of GDP (the Republic of Kenya, 2018). Consequently, the government has to a large extent, had an alternative to borrowing to fill the budget shortfalls that give rise to inadequate income assemblage and the aspiration to grow the economy and infrastructure that demands many resources beyond the government's reach (Kamau, 2018).

Investment of the borrowed funds in productive sectors, coupled with a stable macroeconomic environment and backed by good quality institutions, through the multiplier effect, might produce great returns to pay the dues in the time to come, ensure debt sustainability, and therefore low risk. To achieve a multiplier effect that leads to a good infrastructure base, a large export market to improve the exchange rate, favorable exchange rate, and increased employment, the debt-financed investment must have proper management (Fosu, 2007). However, there is a need to assess whether Kenya has a considerably good macroeconomic environment and if strong quality institutions indeed back this. Germany and France, with much higher debt levels than Kenya, have more sustainable debt because of the quality of institutions (World Bank, 2015). The government has put forth a good mix of internal and external borrowing to safeguard against the danger of exposure to external shocks and crowding-out effects through the medium-term debt strategy. This is not adequate because the existing levels ought to match the present worth of future revenue (World Bank, 2013). In the Kenyan scenario, the volume of debt has been escalating contrary to an insufficient increase in revenue collection. This signals that in the future, the country could fall short of repaying its debt obligations. Inability to pay debt leads to the inability to borrow. This is yet another challenge that the Greece government faces because most lenders see it as a high-risk economy. In addition, where such governments can secure loans, it takes place at a very high cost (Ullah, 2011).

### **1.1.1 Public Liability Level and Macroeconomic Stability in Kenya**

According to the Internal Loans Act (Cap 420), there is well provided legal structure at the secretariat of the treasury to use the national assembly to acquire the benefit of the local market via buying of Treasury bills & securities. CBK administers the overdraft by the households by the use of the accounts restricted by law. The breakeven point through the locals was getting the treasury bills and bonds, and this is not equivalent to obtaining, where External Loans Act,



CAP.422 of the Kenyan law, which puts restrictions on all-out obligations in this regard, adds up to Kshs 500 billion or such greater whole as parliament possibly will by goals favor (Ochieng, 2013).

Proof of exceptionally expanding obligation degree in delivering negative effect on monetary improvement was witnessed the principal UNDP decade even however the creating countries accomplished the base objective of yearly development of 5 %percent of GDP effectively by 1970s, almost a portion of original remote trade receipt was utilized to reimburse obligation to commercial banks. The decrease in authentic government incomes made obligation overhauling troublesome, requiring obligation rescheduling for the administrations. The consistent reduction of real help and expanding level of multilateral assistance with the more unfortunate and creating countries, particularly in the SSA, along with a quick increment in the privates' segment cash flow on account of extension of the Eurodollars showcase in the course of the start of 1970 s came about into an expansion in privates segment obtaining thru various quickly creating nations (Osewe, 2013).

The 1990s saw a consistent decrease being development helped the country, coupled with an impression of poor administration and bungle of open assets and advancement help. Different elements incorporate the finish of the virus conflict as well as the breakdown of the Soviet Union. This prompted an obligation emergency in the nation during the mid-1990s transforming Kenya into a profoundly obligated country. The obligations issue was aggravated by macroeconomic fumble during the 1990s, such as the Goldenberg outrage, which swindled Kenyans billions and billions of shillings, prompting a decrease in funder inflows. The administration along these lines depended on infrequent obligation rescheduling and costly transient household obtaining to fund

its consumptions (Putunoi and Mutuku, 2013). Open obtaining is an inescapable and not an unforgivable marvel of economic development. It is an approach to invigorate financial development by infusing cash from remote speculators (external obligation) into it just as circulating resources (domestic debt) among the individuals who have beyond what they can use right now and the individuals who need help for creating economic activity or different needs (Osewe, 2013).

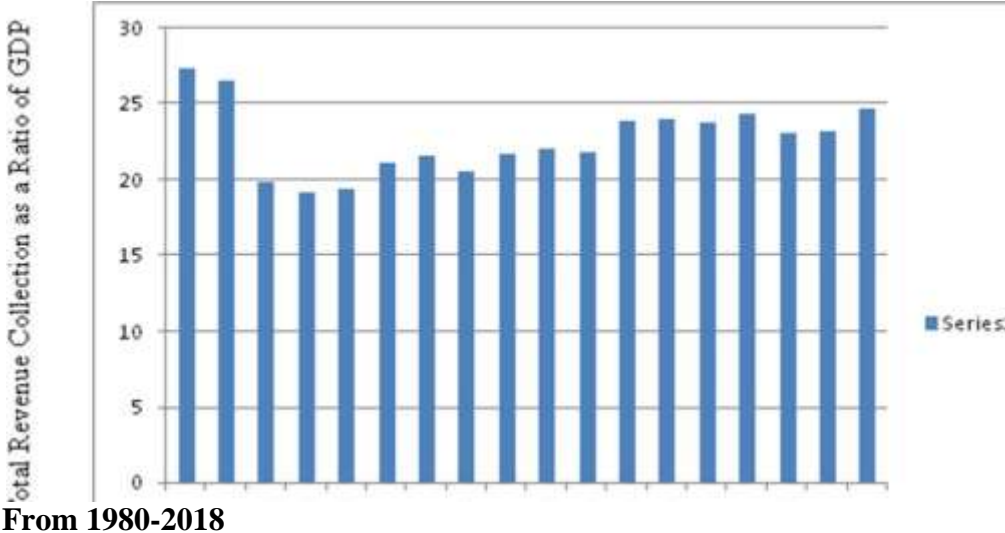
Nonetheless, the relentless increment in the supply of open obligation has contrarily affected private speculation levels locally. It diminishes the present and prospect opportunities by the use of the expense of capital increments. Additionally, it has influenced the recent progression of assets accessible in the economy once residential obligation remains utilized to support foreign liability (Karazijene and Saboniene, 2009). Foreign liability has twisted the economy and convoluted macro-economic administration leading to meager societal and monetary effectiveness for the Kenyan residents. This particular obligation issue has stood revamped through the expansion of the economic and equalization of installment deficiencies; slow fare development, over-dependence on essential fare; excessive trade rates and negative genuine loan fee, have likewise added to an ascent in open obligation assessed to be about 53% of GDP (RoK, 2007).

Kenya's obligation levels keep expanding all through the latter ten years. For example, the country's outer obligation level stretched from KES. 466,294Million to KES.789, 076Million is speaking to 67.8%and50.5% of GDP used for June 1996 and June 2006 separately (NjugunaKamau and Owino, 2008). The most outstanding obligation proportion was knowledgeable about 1993 while the least proportion was the year 2008 recording 131.9% then 25% separately. GDP development rates dove into quite a low degree of 0.6 % and 1.5% in 1993 and 2008 correspondingly. Unexpectedly, despite low execution in GDP development rate,

obligation administration remained generally high all through. Obligation administration stayed above 5% somewhere in the range of 1980s and 1999. Nonetheless, starting in 2000, the obligation administration started to decay even though GDP development degree stretched from 0.6% in 2000 to 7% in 2007. All out outside obligation administration on National Government obligation expanded up from KES. 23,611million in June 2010 to KES. 28,055million in June2011 (CBK, 2012).

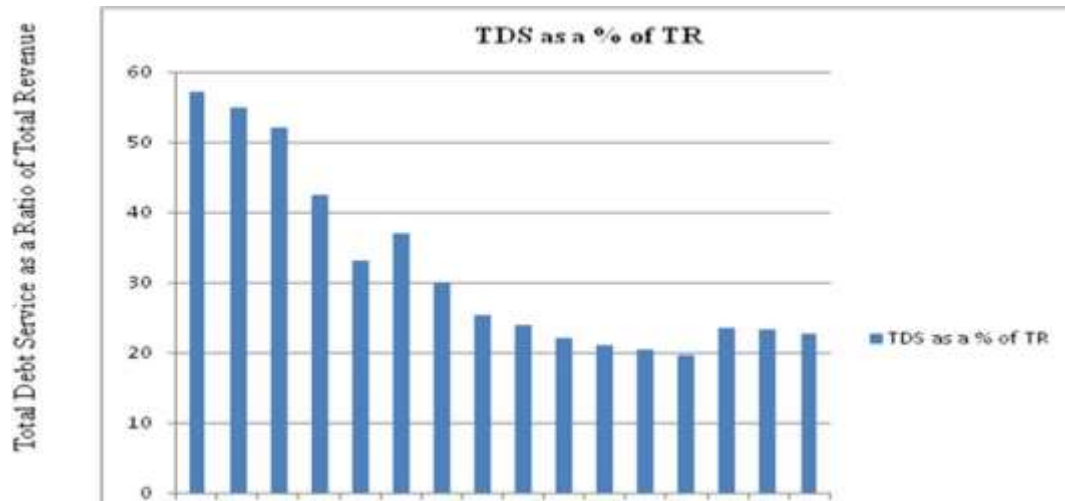
The remaining residential obligation for Kenya remained Kshs. 708billion (20 % of GDP) toward the close of 2012. (CBK, 2013). According to the treasury. Quarterly Economic and Budgetary. Review reports of 2013, the pace of increment in household obtaining outperformed outside acquiring. Indigenous banks continued being the greatest money lenders to the government, using reserves valued at 527 billion shillings by June 2013 with over 7% expansion. Net open obligation expanded to Kes. 1.894 trillion By June 2013, from KS. 1.633trillion by close of June 2012 to containing 44.5 percent outside and 55.5 percent household. Net open obligation amplified by a total of 249.6 billion shillings in this period. The net surges in both national and international borrowing instigated the upsurge (CBK, 2013).

**Fig 1.1 Movements in Revenue Collection a Percentage (%) of GDP**



Source: *The Central Bank of Kenya and the National Treasury*

**Figure 1.2 Trend of Debt Service as a Percentage of Total Revenue**



Source: **Central Bank of Kenya: Fiscal Results (1980-2018)**

### 1.2 Statement of the Problem

According to CBK (2012), Kenya's public debt has remained on an ascending tendency, especially for the past ten years. In 2010, the country's total public debt amounted to Kshs.1.2 trillion, with a significant shift towards domestic obligations (Maana, Owino&Mutai, 2008). High domestic debts affect both private investment and economic growth because they induce uncertainty and negatively affect investments through high-interest rates, reducing investments and consequently slowing down economic growth. Domestic borrowing in Kenya crowds out the private sector (Maana, Owino&Mutai, 2008). Escalated domestic debt also diminishes the country's creditworthiness, consequently startling would-be investors and foreign lenders (Maana, Owino&Mutai, 2008).

The link between public debts and their effect on the growth of economies has not been explicitly brought out in pieces of literature. Debates on this correlation flanked by deficits and economic growth have continued to yield inconsistent results. Several studies present an adverse effect of public debts on the development of economies, for example, findings by Ribeiro, Vaicekauskas, and lakštutiene (2012); Shah and pervin (2010); Kumar and Woos (2010); Reinhardt and Roggoff (2010); Chironga (2003). Additional findings portray a progressive end product of public debts on economic advancements, such as Degefe's (1992); Gikandu (2012). Other papers negated any connection amid public debts and the rise of economics—such-as studies by Were (2001) and Schclarek (2004). The recent increase in public debt thru developing states, including Kenya, throughout and later in the recently worldwide predicament has compelled a protuberant policy subject of whether elevated liability levels have an undesirable bearing on the growth.

In addition, studies conducted on public debts and economic progression have presented contextual, conceptual, and methodological research gaps. An analysis by Kumar and Woo (2010) with panel data regressed per capita GDP advancement in contrast to lagged -values of the liability – GDP ratio to bring about the interconnection concept. The research nevertheless presented a conceptual research gap by using lagged values of debt. Further, the study described contextual research gaps as it was conducted in a different context from the current study. In another study, Shah and Pervin (2010) used the Ordinary Least Squares (OLS) regression technique to investigate the outcomes of external public liability on the economic expansion of Bangladesh's economies. The research was carried out in Bangladesh economies, therefore, presenting a contextual gap. The study also concentrated on external public debt only, giving a conceptual research gap as the current study focused on both external and domestic obligations. In addition, the use of OLS presents a methodological research gap as the recent study used a VAR model.

Further, a study by Ullah (2011) using the co-integration technique to assess the impact of foreign aid on economic advancement in Pakistan presented a conceptual, contextual, and methodological research gap. In Kenya, Gikandu (2012) sort out a survey on the connection between domestic liability and economic growth in Kenya. In the same way, the paper presented a conceptual research gap as it focused on domestic debts only. These are the research gaps that motivated the current study to be conducted.

Many of the earlier studies were on up-and-coming and technologically advanced economies. This research study was carried out in a developing country, Kenya. It determined the relationship of internal and external liability levels on economic growth in the economy of Kenya because, as noted in the trends, the Kenyan Public debt trends have been rising at a rate different from economic growth.

### **1.3 .Objectives of the Study:**

#### **1.3.1 Key Objective:**

The main objective of the study was to investigate the effect of public debt on economic growth for Kenya

#### **1.3.2 Specific Objectives:**

- i. To estimate the effect of public debt on economic growth for Kenya
- ii. Draw policy recommendations drawn from the study findings

### **1.4 .Research Questions**

The reading was piloted thru the subsequent queries:

- i. What is the effect of public debt on economic growth for Kenya

- ii. What are some of the policy recommendations drawn from the study findings

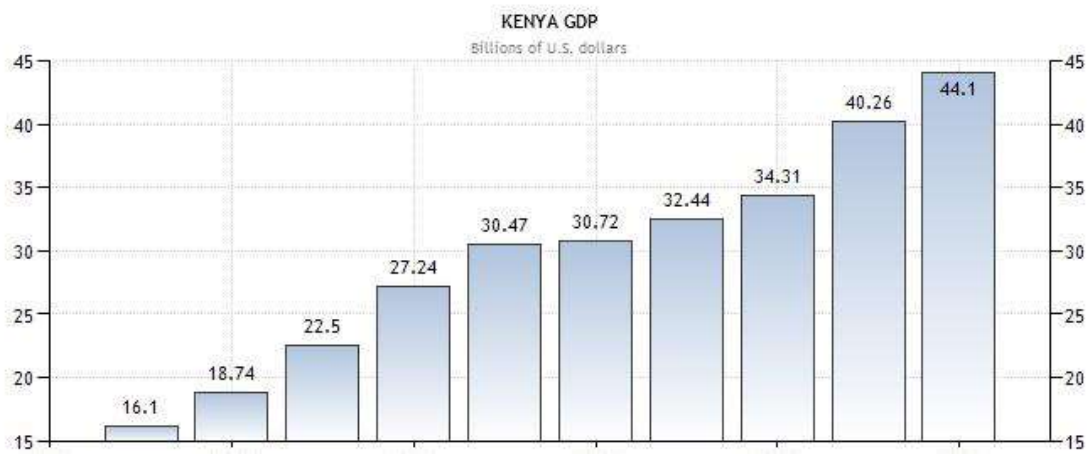
### **1.6 Importance of the Study;**

The verdicts of this reading are intended to provide a basis for policy strategy recommendations on macroeconomic stability, especially on prudence on public debt management. Secondly, the findings may be used by investors in shaping their investment verdicts because a percentage of the public debt of GDP helps inform the state's capacity towards prospect payments of its obligations, consequently affecting the state costs of taking loans and government securities earnings. The study findings shall add to the existing literature, and future studies shall refer to this document.

### **1.7 Scope of the Study**

This investigation incorporates financial and money-related information gathered from the Central Bank of Kenya (CBK), World Bank and Kenya National Bureau of Statistics; Information identified with outer obligation, residential obligation, all-out obligation administration, private venture, genuine loan fee, genuine swapping scale, expansion, and actual GDP figures was be gathered on a yearly premise. The examination was restricted to 1980 to 2018 since the money-related emergency started in 1980 and has been heightening after some time. At long last, time arrangement information is accessible for this timeframe.

From 1980 –2018 Central Bank, 2018



**Figure 1. 3: Public Obligation and Economic Growth in Kenya,**

### **1.8 Limitations of the Study**

The significant confinement of the investigation is that it centers around chosen factors, as it were. The information gathered from different sources was contrasted with the guaranteed exactness of the data.

### **1.9 Organization of the study**

This research is organized as follows: The first chapter covers the research background, research aims, study significance, scope and limitations. The second chapter includes a theoretical overview, literature studies, and a conceptual framework on the impact of public debt on macroeconomic stability in Kenya. The methodology is covered in the third chapter. The findings are given in Chapter 4, and the summary, recommendations, conclusion, and areas for additional research are covered in Chapter 5.



## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

The section reviews empirical and theoretical information on the end product of public obligation on macroeconomic stability in Kenya and presents the conceptual framework. This section put forward the literature review. It is distributed into three fragments, theoretical literature, empirical literature and an overview of the literature.

#### **2.2 Theoretical Review**

Three relevant models form the basis of the effect of public obligation on the macroeconomic stability in Kenya. These models include;

##### **2.2.1 Theories on debt burden**

###### **2.2.1.1 Debt-Overhang Hypothesis**

This hypothesis argues that a load of open obligation and its administration influence development by demoralizing private speculation and adjusting arrangements on public spending. Advanced outer intrigue installments might build a nation's spending shortfall, subsequently lessening open reserve funds if private investment funds do not increment to balance the distinction. This, thus, can increase loan fees or do away with the credit accessible for private ventures, discouraging financial development. Obligation administration may dishearten development by pressing the open assets accessible for interest in the framework and human capital development (Clements et al, 2005).

The other recommendation by this hypothesis is that open obligation may have non-straight impacts on development. This can be through capital collection or profitability development. The indication is that in the obligation overhang theory, the chance of at a later date when obligated the country's capacity to reimburse shall be greater, there is likely to be demoralization of the residential and remote venture due to the administration costs. Potential financial specialists will expect that the more there is creation, the more they will be burdened by lenders to support the external obligation. Hence, they will be less ready to bring about speculation costs today for expanded yield later on (Krugman, 1988). The above hypothesis incites the principal research theory and all-out obligation administration variable that expanded acquiring obligates overhang impact and thus the administration incapable of paying obligation on maturity.

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#### **2.2.1.2 The Crowding out effect neo-classicalists theory**

The beliefs, as mentioned earlier, people to design their utilization choice across the whole life-cycle; by moving taxation rate to the people in the future, acquiring builds utilization. This way of

thinking expects comprehensive business, inferring that expansion in utilization diminishes reserve funds, causing capital markets to increase loan costs to reestablish the balance. , the higher financing costs bring about a decrease in a private venture, more increased swelling, and an expanded genuine swapping scale. This is swarming out impact blocks the viability in the administration to impact, which is transmitted through the financial arrangements (Biale1971; Buiter, 1977). The hypothesis bolsters the second and third goals.

## **2.2.2 Growth Theories,**

### **2.2.2.1 Endogenous Growth Models,**

This model points out that monetary arrangement affects since a long time ago run financial development and speculation. Different things held steady; a more enormous spending shortfall swarms out private area in light of lower bank credit access, higher genuine paces of premium, swelling, and a progressively refreshing natural swapping scale (Barro,1989and1990).

## **2.3 Theoretical Model**

### **2.3.1 Endogenous growth Model**

It expresses that economic development and speculation principally rely on endogenous or inside variables rather than outer elements. In this case, the main interest in human capital and work are vast supporters of economic development. Since quite a while ago run, the financial development pace of a nation is expected to rely upon government strategy measures. This examination obtained the underlying model from Akram (2010), which expects a Cobb-Douglas creation work with non-diminishing comes back to scales.

Cunningham (1993) brought obligation trouble into the creative work (Akram, 2010). This is because obligation trouble has significant ramifications for capital and work efficiency. Countries that worry about a colossal obligation require spending part of their assets to support their obligation liabilities having huge ramifications on choices regarding work and capital in the creative work. Consequently, an obligation total creation capacity may well be inscribed in the accompanying structure.

$$Y=A (K, L \text{ and Debt})\dots\dots (3.1)$$

Whereby, K, L, Debt represent the proportion of GDP capital stock, work power, open obligation, and other consistent factors separately. This marks an ordinary notion condition that contribution versatility's of yield remain steady besides specialized modification is nonpartisan.

Significance of speculation as indicated by Presbitero (2005), it is more intelligent to unravel the examination of open obligation and financial development in a two-advance relationship, right off the bat, the immediate connections between general obligation and financial development are investigated then the connection between open obligation and Investment is likewise broke down. The development condition in the decreased vector structure can be composed as

$$y_t = \alpha + \sum_{j=1}^k \delta x_{tj} + \sum_{m=1}^p \pi Debt_{tm} + \varepsilon_t \dots\dots\dots (3.2)$$

Where is yearly GDP at time-t, and  $x_{tj}$  is a vector of controls factors,  $XTM$  is the vector of different open obligation pointers, and  $\varepsilon_t$  is the traditional blunder period.

This model can be additionally reached out on the way to catch impacts of obligation on the venture since it is the essential passage through which obligation influences financial development.

$$Inv_t = \alpha + \sum_{j=1}^k \delta x_{tj} + \sum_{m=1}^p \pi Debt_{tm} + \varepsilon_t \dots\dots\dots (3.3)$$

Where in  $v_t$  is speculation at the time;  $t$  and  $x_{tj}$  is a vector of control factors,  $x_{tm}$  is the vector of different open obligation markers, and  $\varepsilon_t$  is the old-style mistake term.

To observationally test the impact of open obligation on financial development, time arrangement information of Kenya for the time of 1980-2013 was utilized

## 2.4 Empirical Literature Review

Using Solows' development model, Osawe (2013) examined the impact of international obligation and upsurge on financial expansion in Kenya and concluded that there was no long-term causation relationship between the two.

Ochieng (2013) investigated the relationship between foreign debt and financial system development using the Harrod Domar Growth-model and concluded that Kenyan household debt was sustainable. The Harrod Domar Growth models were used to break out the influence of external and domestic debt, while the current study used an Endogenous development model.

Njuru (2012) study examined the end product of the monetary approach on privates' interest in Kenya utilizing the VAR model. The outcomes indicated that; monetary strategy structure & usage counts to private-venture degrees. The examination concentrated on the financial arrangements on private speculation. Further, Ali and Qureshi (2010) explored the end product of great open

debt/obligation trouble on the Pakistan Economy. An example of the investigation was the years 1981 to 2008. The creators established the tremendous undesirable effect of open obligation on Pakistan's economy as per their examination. The examination was situated in Pakistan. The current investigation has been acquired vigorously from the study.

Sheik, Faridi, and Tariq (2010) examined the consequences of local obligation on monetary advancement, watched the result of national-debt adjusting on economic progress in Pakistan, and employed the OLS strategy from 1972 to 2009. The investigation showed that national debt correcting affected financial advancement negatively than the progressive consequence of household debt on monetary expansion.

The empirical study by Checherita and Rothar (2010) explored the effects of government obligation on per-capital GDP development for 12) European Union regions for 40 years (1970-2009). The inquiry results indicated that there was no direct damaging effect of fiscal obligation on economic development. The study was an improvement of the previous research that looked at the discoveries.

Kumar and Woo (2010) sought to investigate the consequence of elevated open obligation on financial advancement within the study period 1970-2007. This study was carried out within the Euro nations, and it was a premise to take a gander at a model in African creating nations to show the effect the open obligation has on their economic development. The factors were populace, speculation, and govern in the study.

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In an additional examination, Abbas and Christensen (2010) studied the domestic obligations in the developing countries in which 40 sub-Saharan Africa countries were considered for the period 1975 -2004, and their study findings showed a moderate degree of attractive since loan repayment as a proportion of GDP negatively affects the financial development. Specifically, the study showed that loan obligation above 35% of absolute bank stores negatively affects economic growth.

Achieng (2010) investigated the aftermath of household obligation on private investment using the Johansen Counteraction tactic. This study concentrated on the local obligation variable on private speculation. Previously, Kibui's (2009) survey scrutinized the role of external obligation on financial advancement in Kenya around 1970-2007. The findings showed that foreign obligation plays an important on economic expansion. The results indicated that foreign obligation behaves as a stimulus for project recovery and monetary advancement in Kenya. This study focused on outer obligation on open speculation and economic development and overlooked the local debt.

Makau (2008) research investigated the outside open obligation overhauling and financial development in Kenya for the study period 1970-2003 using OLS. Outcomes of the research concluded that Kenya's outer obligation remains allowed, and it is of the greater extent to the multilateral sources. These external obligation has been increasing throughout the years consistently since the mid-1990s. Thus the increasing servicing of external debt raises the alarm

due to the resources taken away from development activities. The study also used the ECM, which was an evaluated model as solitary relapse condition with the development pace of GDP which depends on logical factors such as reserve reserves as a proportion of GDP, supply of foreign-debt as a fraction of GDP, intrigue installment as a proportion of GDP as well as the yearly pace of development of the workforce. However, this is not the case in the short run where the foreign debt, funds kept in reserve, and administration GDP positively and significantly affect the GDP while labor power was irrelevant. In the long run, the co-efficient of obligation to GDP, obligation administration to growth, and investment amounts of money to GDP were slightly greater on development in labor power while on GDP were inconsequential.

Maana, Owino, and Mutai (2008) dissected the effect of residential obligation on the economy using common OLS and changed Barro's development relapse model. The discoveries showed that even though the connection between the local debt and economic development is sure, it is inconsequential. The investigation didn't join the remote obligation variable.

Cholifihani (2008) broke down long haul and transient connections between open obligation administration and Indonesia GDP by means of putting co combination examination for 1980 - 2005 period. These connections utilized an all-encompassing creation work model in which GDP is a component of obligation administration, capital stock, work, and human capital. The study results show that Indonesia deals with an obligation overhang issue over the long haul since expanding the external obligation administration eases economic development. This particular research took place in Kenya, and Indonesia's viewpoint is required to be broken down.



The study by Christensen (2005) using cross-study data for 27 nations for the study period 1980-2000 established that local markets in the said nations are generally tiny, exceptionally present moment and many times usually smaller speculator base. Further, the study found that residential financing cost installments lead to increased spending plans characterized by swarming out impacts. The two examinations were achieved through the Sub Saharan Countries and particularly Kenya.

M'Amanja and Morrissey (2003) looked at Kenya's monetary approach and financial development utilizing the multivariate reconciliation and vector mistake suitable models. These outcomes establish that the outer obligation has had a substantial undesirable effect on run development and open speculation since a while ago. Run development and open speculation and Imports have solid, valuable consequences for per capital pay in Kenya. The investigation focused on the results of local consumption on financial development in Kenya. Their study was done on a created nation on the effect of public consumption. The investigation utilized this examination to think about the impact of Government nationwide use of the creating region in contradiction of that of created area. The factors used in this investigation wares', speculation, and moves contrasted with the scholars.

## **2.5 Research Gap and Summary of Literature Review**

The finance hypothesis model presented different ways of thinking, having various ideal models on the impact of open obligation on economic development. The model contends that by moving the assessment weight to the people in the future, current acquiring swarms out private speculation. Makua (2008) furthermore, M'Amanja and Morissey (2003) demonstrated blended outcomes on consequences of open obligation on fiscal expansion. A few examinations claim that outside and household obligation impedes monetary advancement; however, some state that they influence financial development. Unlike the more significant part of the examinations that have harped on

the causality connection between open obligation and financial growth, the current investigation strays from previous studies on the impacts of open obligation on economic growth. A point-by-point writing synopsis on the consequences of open obligation on the monetary expansion in Kenya has stood delineated in this area.

**Table 2. 1 Literature Review Summary and Research Gaps**

Study	Variable	Methodology and Findings	Research gap
Public liability in Pakistan Authors: Qurishi & Ali (2010)	Consumption; Investment; tax Revenue, subsidies, net export, reserve, Manufacturing, domestic and Foreign obligations on Growth-model.	Public-liability model, as well as Growth-model. There's a substantial positive affiliation between The overall public obligation, in addition to the investment, as well as over public debt, Reserves. Conversely, there exists an adverse correlation between public-debt and manufacturing sector besides Subsidy.  However, fragile statistical relationship on the negative bearing of domestic and external obligation on the growth-rate	Variables employed are dissimilar compared to this survey
Effect of Domestic liability	Domestic liability servicing	Applied OLS model.	Never considered

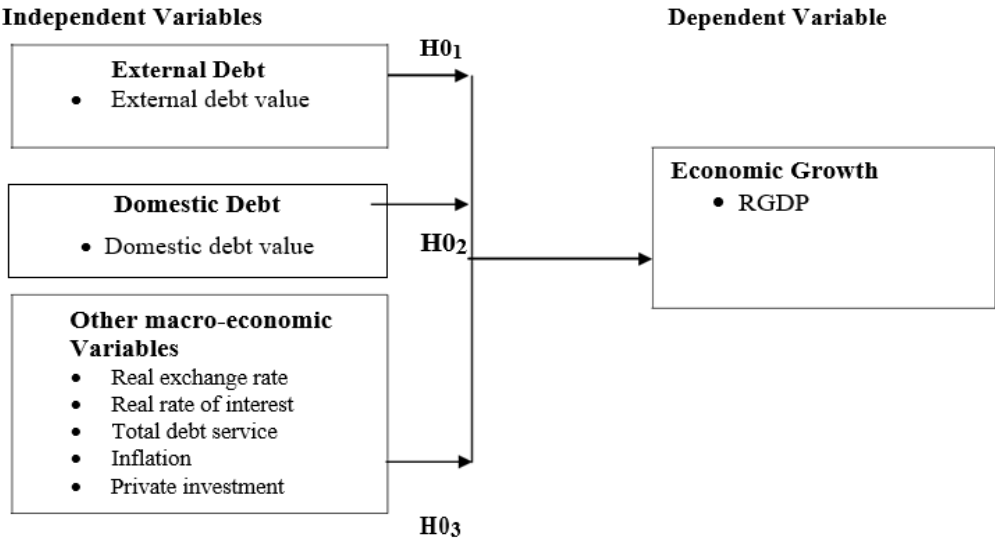
<p>on Economic expansion in Pakistan</p> <p>Author: Sheik et al(2010)</p>	<p>Domestic debt</p>	<p>It pointed out an undesirable bearing of domestic liability servicing on economic progression and a positive direction on domestic-liability on Economic-growth</p>	<p>external debt</p>
<p>End product of government obligation on per capita GDP for Euro states</p> <p>Author: Checherita &amp; Rothar (2010)</p>	<p>Factors such as private savings by the individuals, Public investments, Total factor productivity (TFP) in addition to self-governing long term nominal and Real interest rates</p>	<p>Used multiple regression model Exhibited a nonlinear negative bearing of government obligation on Economic expansion</p>	<p>It scrutinized the public debt, Savings, government investment, TFP Autonomous nominal, and actual interest rates affect economic expansion</p>
<p>Public liability and economic advancement by the use of panel data in advanced economies in the Long run.</p> <p>Author: Kumar &amp; Woo (2010)</p>	<p>Population, investment, and government size</p>	<p>Used ordinary least square Model An adverse correlation preliminary obligation subsequent growth while holding the development at 10 percent Raise in the essential obligation to GDP fraction is linked by way of a lull in annual per-capita GDP expansion of roughly 0.2% every year, with the Influence being impartially slighter in developed economies.</p>	<p>The variables included population, investment and government Size</p>

		<p>There exist little proof of non-linearity with greater levels of beginning debts having a fairly More undesirable bearing on Later improvement.</p>	
<p>Effects of the public liability on economic advancement In Pakistan</p> <p>Author: Akram (2010)</p>	<p>Investments, Foreign-debt, Local- debt, debt servicing, exports, imports and openness</p>	<p>This particular study applied the Solow growth model, which showed that public debt affects economic growth negatively. This is because they affect the investment negatively. Used Solow's growth Model</p>	<p>The research was Carried out in Pakistan and Kenyan Viewpoint is Indispensable.</p>
<p>The review endeavors to discover the short-run and long-run connection between the paying of public commitment and economic progression Indonesia Cholifihani (2008)</p>	<p>Obligation administration, capital stock, labor, human capital</p>	<p>Using the co-integration test established that public debt led to an overhang, in the long run, thus slowing economic expansion.</p>	<p>Focused on Public-debt Service alone.</p>

Domestic-debt levels of low-income countries against the GDP Author: Abas & Christansin (2010)	Levels of public debt	This study applied the Granger test to test for causal relationships. The study findings showed that 35 percent of the public debt as a proportion of GDP affects economic expansion negatively.	Concentrated on debt levels only
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**2.6 Conceptual Framework**

The conception outline shows dependent and independent variables linkage. This research, therefore, seeks to examine effects rather than bearings of independent variables on the dependent variable. The conceptual context of this survey provides a connection between the foreign and domestic liability to GDP, real exchange rate as a percentage to GDP, the real interest rate to GDP, Inflation to GDP and Private investment to Gross National income in percentage and total debt-service to GDP (independent variables), Real GDP growth in Kenya (dependent variable). Consequently, the paper pursues to ascertain the end product of independent variables on the dependent variable.



**Figure 2.3 Conceptual Framework**

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This segment sets out the approach adopted to be applied in this research. It comprises the succeeding subcategories; research design, Research philosophy, data gathering tool, model description, and data analysis methods or methods that are applied.

#### **3.2 Research Design**

This research aimed at uncovering the firsthand end product of public liability on macroeconomic stability in Kenya. The paper employed a non-experimental inquiry design that used economic models for analysis. Annual time-series data were assembled for these variables; total -debt service, government expenditure and private investment, the external balance of goods and services, real exchange rate, inflation rate, real interest rate, and GDP for 1980-2018. The stats were pulled together from several secondary sources: government documents such as Kenya Economic Surveys, Sessional papers, Statistical Abstract, and Policy documents. The collected information was analyzed via classical linear regression.

##### **3.2.1 Research Philosophy**

According to Saunders and Lewis (2000). Optimism or positivism depends on the stability of the reality derived from the point of view. It includes controlling the reality by slightly departing from a single autonomous variable, which allows differentiating what exists between the components in the social world. This study is built on objectivity by testing the effect of open obligation on macroeconomic security in Kenya. To this effect, the study collected information freely and investigated with factual apparatuses.

### 3.4 Empirical model

Since there exist models that the study variables with economic growth, the model functionally depended on the control variables. Additionally, as these variables are in time-series regression-model was tailored to investigate the variables as shown;

$$RGDP_t = \beta_0 + \beta_1 PIGR_t + \beta_2 ED_t + \beta_3 DD_t + \beta_4 TDS_t + \beta_5 RER_t + \beta_6 INFL_t + \beta_7 RIR_t + \epsilon_t \dots 3.5$$

$$PIGR = \beta_0 + \beta_1 RGDP_t + \beta_2 RER_t + \beta_3 DD_t + \beta_4 TDS_t + \beta_5 RIR_t + \epsilon_t \dots 3.6$$

Where;

$\_RGDP_t$  = Real output-growth at time t

$PIGR_t$  = represent Private investment which is measured as the fraction of GDP at time t

$ED_t$  = represent current External liability as to the proportion of GDP over the study period t

$DD_t$  = rep current domestic liability as a fraction of GDP at time t

$TDS_t$  = current total public -debt service as a fraction of GNI at time t

$RER_t$  = Nominal real exchange rate as a fraction of GDP at time t

$INFL_t$  = represent Inflation, measured as the GDP deflator over time t, which helps measure stability

$RIR_t$  = represents Real interest rate as a fraction at time t

$\epsilon_t$  = error term at time t

### 3.5 Operationalization and Measure of Variables

Table 3.1 illustrates the variable .operationalization matrix, which sums up pointers, amounts, and scales of dependent (economic growth ) variables, independent variables, viz. external and domestic liability and other macro-economic variables comprising; private investment and inflation, public debt service, real interest rate, real exchange rate,





**Table 3. 1 Operationalization and measurement of study variables**

Category	Variables	Operationalization and Proxy of measure	Measurement	Direction of Hypothesis
Dependent Variable	Economic Growth	GDP Growth rate	%	
Independent Variables	External Debt	External debt GDP	%	Positive/negative
	Inflation rate	Inflation rate in percentage	%	Positive/negative
	Public debt service	Debt service as a fraction of GNI	%	Positive/negative
	Real exchange rate	Exchange rate in percentage	%	Positive/negative
	Real Interest rate	Interest rate in percentage	%	Positive/negative

### 3.6 Data Collection Instrument

The investigation utilized time-series secondary statistics in the research. A data assortment guide gave information, type, sources, and course on the points of interest of information applicable for the investigation. The yearly money-related information time is 39 years (1980-2019). The information that was acquired identified with all-out open obligation, outside obligation, household obligation, available obligation administration, genuine conversion

standard, genuine loan fee, swelling, private venture, and genuine GDP aggregates was gathered from KNBS financial information, , World Bank, and distributions of The central bank of Kenya, measurable announcements, financial and budgetary audits.

The information gathered was in delicate duplicate and as such, the exactness of data was high.

This assortment method was utilized because it was financially savvy, dependable, and substantial. ~~Will give information, type, source, and secondary statistics points of interest. A data assortment guide~~

### **3.7 Data Analysis and Presentation**

The investigation utilized the Eview8 measurable bundle for information examination and introduction of thesis discoveries. Quantifiable information was broken down using graphic insights which incorporate; proportions of inclinations proportions of scattering (standard deviation and range). Measurements included estimation, which incorporates connection, relapse, and examination of difference. The yield of information investigation through perspectives will be introduced in an even structure. For a clear introduction, the yield information was be cleaned for better understanding.

The investigation utilized the Time Series-Regression model in building up the connection between the factors. The general target targets deciding the impact of open obligation on macroeconomic steadiness in Kenya. Public debt involves household obligation and external obligation and its boundaries and this educated explicit destinations. The targets conducted an informal investigation where the impact was caught through external liability, household obligation, and private venture. This assists with setting up the presence of obligation overhang, swarming out impact, and the nation's weakness to the worldwide monetary arrangements; this uncovered the validity of the local strategies and the quality of the Country's policy organizations.

### 3.8 Diagnostic Tests

**1. Test for Stationarity;** Times-Series statistics was thought to be fixed. Subsequently, unit root analysis shall be implemented to set up the stationarity of the factors. This remains because utilization of non-fixed information prompts deceptive outcomes where test insights display a critical connection between elements in any event; as soon as it is realized, no such effects occur (Riman and Eyo, 2008). Examination utilized the Augmented, Dickey-Fuller (ADF) and Kwiatkowski Phillips Schmidt-Shin, (KPSS) analysis system.

ADF analysis is the standard method led to examine whether an arrangement has a unit root. Be that as it may, the ADF measure is a test with low intensity. On the other hand, the KPSS stationarity root reveals the low force against fixed close to unit root forms, associated with the ADF and the Phillip Peron (PP) analysis (Greene, 1989). It is a predominant basis since it allows for an impression of being fixed. This arrangement seems to allow unit-root and performance for which the assessments stand not valid on whether the format stays set or incorporated (Gujarati, 2003).

The ADF-test is conveyed as:

- (i) ADF without intercept and trend;

$$\Delta Y_t = \rho Y_{t-1} + \sum_{i=1}^k \delta_i \Delta Y_{t-1} + \mu_t$$

- (ii) ADF with intercept, however no trend;

$$\Delta Y_t = \alpha + \rho Y_{t-1} + \sum_{i=1}^k \delta_i \Delta Y_{t-1} + \mu_t$$

(iii) ADF with both, trend and intercept;

$$\Delta Y_t = \alpha + \beta_t + \rho Y_{t-1} + \sum_{i=1}^k \delta_i \Delta Y_{t-1} + \mu_t$$

The ADF-analysis the  $H_0$ -null hypothesis;  $|\rho| = 0$  Vis a Vis the alternative;  $|\rho| < 0$  in the,

Auto-regressive equations.

KPSS criterion, the hypothesis tests for the series were;

$$Y_t = \beta D_t + \varepsilon_t$$

$$H_0: \sigma_\varepsilon^2 = 0 \Rightarrow Y_t I(0) \dots \text{Stationary};$$

$$H_\alpha: \sigma_\varepsilon^2 > 0 \Rightarrow Y_t I(1) \dots \text{Non-stationary};$$

**A normality test;** the thesis explores if the factors obeyed the typical dispersion. This investigation depends on the Jargue-Berra (JB) analysis that was used in this study. The following hypotheses was tested:

H0: JB= 0 (normally distributed).

H1: JB= 0 (not normally distributed).

Rejection of the null hypothesis for any factors inferred that factors were not typically conveyed even if a logarithmic change remained essential.

**2. Heteroscedasticity test:** This examination explores if the fluctuation of inaccuracy duration was consistent. It is established by applying white-trial insights, expressing the total inaccuracies as an element of autonomous factors in the model, and relapse utilizing the least-standard square-

technique. On the off chance that there is zero heteroscedasticity in the model, we expect all coefficients to be equivalent to zero.

**3. Auto-correlation test:** To assess auto-correlation, the analysis intends to utilize the Breusch-Godfrey test, a dual assessment for auto-correlation, and permits testing the auto-correlation of the mistake using a few lags.

## CHAPTER FOUR

### RESEARCH FINDINGS AND DISCUSSIONS

#### 4.1 Introduction

The section introduced discoveries of the investigation, the assessment results, and their translations.

#### 4.2 Data Characteristics

The study employed time-series statistics for the period 1990-2019. The descriptive statistics captured the mean, standard deviation, minimum and maximum values of the variables used in the modeling of the study. Table 4.1 provides the descriptive statistics.

**Table 4. 1 Descriptive Statistics for Variables used in the research**

VARIABLES	(1) N	(2) mean	(3) sd	(4) min	(5) max
Gdp growth rate	30	3.886	2.369	-0.799	8.406
External debt	30	48.26	28.40	21.39	131.9
inflation	30	10.47	8.475	0.933	41.99
Public debt service	30	3.319	2.498	0.827	10.49
Exchange rate	30	72.59	21.06	22.91	103.4
Real interest rate	30	8.447	7.048	-8.010	21.10

As of the statistics displayed in Table above, the means for real GDP-growth rate all across the time encompassed by the figures averaged 3.88 % with standard deviation of 2.369, and values oscillating from a min of -0.799 to a max of 8.406. The average external debt stood at 48.26% of GNI with a maximum of 131.9% of GNI across the study period. Public debt service as a proportion of GDP averaged 3.319% with a standard deviation of 2.498%. For the period 1990-2019, inflation for Kenya averaged 10.47% with lower inflation rate of 0.933% and at higher value

of 41.99%. Real exchange rate of Kenya averaged 72.59 to USD with a standard deviation of 21.06. The average real interest rate was 8.447% with a standard deviation of 7.048 with a maximum value of 21.10% and at a lower value of negative 8.010%.

### 4.3 Diagnostic Tests for the Time Series Regression Model

To avoid spurious regression results, the data was subjected to a number of diagnostic tests that includes unit root test. Unit root test was performed to determine whether the variables are integrated of order zero or not. Unit root test was performed under the assumptions of ADF and Phillip-Peron test. Other diagnostic tests included: multicollinearity, heteroscedasticity, autocorrelation test and

#### 4.3.1 Unit root test

Table 4.2 presents the unit root test statistics.

**Table 4.2 Unit root test**

Variable	Calculated test statistic	Critical values			P-value	Stationarity status
		1%	5%	10%		
GDP growth rate	-3.103	-3.723	-2.989	-2.625	0.0263	I (0)
External debt	-1.521	-3.723	-2.989	-2.625	0.05230	I (1)
Inflation	-4.011	-3.5594	-2.936	-2.602	0.0014	I (0)
Public debt service	-1.576	-3.5594	-2.936	-2.602	0.49560	I(1)
Exchange rate	-2.142	-3.5594	-2.936	-2.602	0.2280	I(1)



Real interest rate	-3.964	-	-2.936	-2.602	0.0016	I(0)
		3.5594				

It is evident from Table 4.1 that GDP growth rate, inflation and real interest rate are stationary while external debt, public debt service and exchange rate are non-stationary. The unit root test results reveal that some of the variables are of integrated of zero while others are of integrated of order one. Therefore ARDL model was fitted to answer the study objectives.

#### 4.3.2 Other Diagnostic Tests Results

Classical linear regression makes a number of assumptions that if violated could result to biased econometric estimates. Therefore we conducted diagnostic tests to ensure these assumptions are not violated.

##### Multicollinearity

Variance Inflation Factor (VIF) test was conducted to test for multicollinearity and results presented in Table 4.2. The study concluded that multicollinearity is not a problem since the mean VIF of all the explanatory variables was less than 10.

**Table 4.3: VIF multicollinearity test**

Variable	VIF	1/VIF
Public debt service	8.05	0.124148
External debt	7.45	0.134198
inflation	3.42	0.292818
Real interest rate	3.09	0.323721
Exchange rate	2.07	0.482302
Mean VIF	4.82	

**Table 4.4 Autocorrelation test**

Breusch-Godfrey (BG) LM test for autocorrelation was conducted and test result presented in Table 4.4. The test was conducted to test for autocorrelation.

**Table 1: Breusch-Godfrey LM test for autocorrelation**

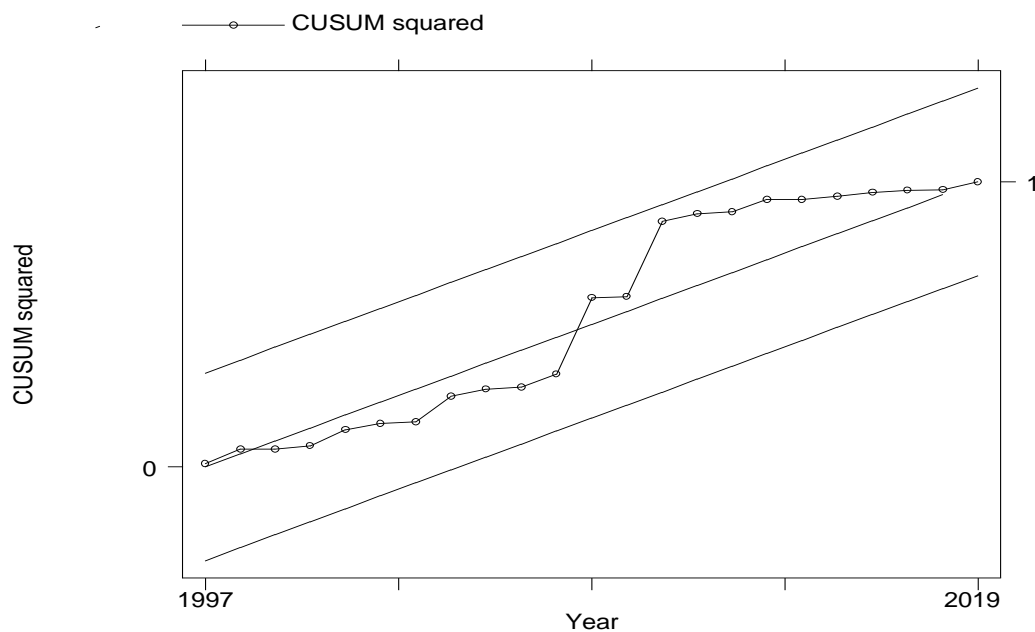
Breusch-Godfrey	LM	test	for autocorrelation
lags(p)		chi2 df	Prob> chi2
1		0.006 1	0.9387
H0: no serial correlation			

Since the probability value of chi-squared is greater than 5% we do not reject then the null hypothesis of no serial correlation.

**Model stability test**

The CUSUM squared test was conducted to assess whether the fitted ARDL model was stable. Under this test, a model is considered stable if it lies within the 0.05 level of significance. The results were presented in figure 1.

**Figure 1: Test for model stability**



**Figure 3 indicates that the model is within the 5% significance level and was thus stable.**

### 4.3.3 ARDL result

ARDL model was conducted within the framework of ECM and the estimates presented in Table 4.5 comprise of both long run and short run with error correction model (ADJ).

**Table 4.5: The ECM regression results**

VARIABLES	(1) ADJ	(2) LR	(3) SR
LD.gdpgrowthrate			9.322*** (0.305)
L2D.gdpgrowthrate			5.948*** (0.216)
L3D.gdpgrowthrate			1.715*** (0.0755)
D.externaldebt			1.612*** (0.0781)
LD.externaldebt			1.664*** (0.0552)
L2D.externaldebt			1.505*** (0.0555)
L3D.externaldebt			0.881*** (0.0382)
D.inflation			-6.344*** (0.230)
LD.inflation			-3.420*** (0.124)
L2D.inflation			-2.887*** (0.115)
L3D.inflation			-1.033*** (0.0405)
D.exchangerate			-1.489*** (0.0498)
LD. Exchangerate			-1.836*** (0.0571)
L2D.exchangerate			-1.197*** (0.0517)
D.realinterestrates			-2.664*** (0.106)
LD.realinterestrates			-1.485*** (0.0595)
L2D.realinterestrates			-2.720*** (0.112)
L3D.realinterestrates			-1.137*** (0.0426)
Externaldebt		-0.106*** (0.000714)	
inflation		0.656*** (0.00521)	
Exchangerate		0.0578*** (0.000776)	
Realinterestrates		0.280***	

L.gdpgrowthrate	-12.00***	(0.00302)	
	(0.357)		
Constant			-43.88***
			(1.432)
Observations	26	26	26
R-squared	1.000	1.000	1.000

---

Standard errors in parentheses  
 \*\*\* p<0.01, \*\* p<0.05, \* p<0.1

The coefficient of the speed of adjustment parameter is -0.754 and statistically significant at 5 per cent level. This implied that 1200% of the disequilibrium was corrected within a year. The short run coefficients of lagged values of economic growth are positive and significant. The finding implies that the previous values of economic growth have significant effect on the current economic growth for Kenya. For example, 1% increase in economic growth in the last one period lead to 9.322% increase in economic growth for Kenya. Equally, external debt has positive and significant effect on economic growth for Kenya in the short run. The result implies that 1% increase in external debt in the short lead to 1.612% increase in economic growth for Kenya.

The long-run coefficient for agricultural output is positive though non-significant. Inflation in the long-run has significant but negative effect on economic growth for Kenya. The result implies that one unit increase in inflation lead to 0.0879 unit decrease in economic growth for Kenya.

Foreign direct investment significantly enhances economic growth for Kenya at 5 per cent level of significance. In particular, an increase in foreign direct investment of one unit lead to 1.084 unit increase in economic growth. Gross domestic savings in the long-run has non-significant effect on economic growth for Kenya. However, in the short-run, gross domestic savings positively and significantly impact economic growth. One unit increase in gross domestic saving lead to 0.263 unit increase in economic growth. In the short, gross capital formation significantly and positively influence economic growth. An increase of gross capital formation of one unit lead to 0.267 unit increase in economic growth for Kenya albeit in the short-run. However, inflation has negative and significant effect on economic growth for Kenya in the short-run. A 1% increase in inflation lead to 6.344% decrease in economic growth for Kenya in the short-run. Exchange rate

negatively and significantly influences economic growth for Kenya in the short-run. The econometric result demonstrates that a 1% increase in exchange rate lead to 1.489% decrease in economic growth for Kenya in the short-run. Real interest rate has a significant and negative impact on economic growth for Kenya. The result shows that a 1% increase in real interest rate in will because 2.664% decrease in economic growth for Kenya in the short-run.

The long-run estimates indicate that external debt has significant and negative effect on economic growth for Kenya in the long-run. The finding implies that a 1% increase in external debt cause a 0.106% decrease in economic growth in the long-run. However, inflation, real interest rate and exchange rate have significant and positive influence on economic growth in the long-run.

## CHAPTER FIVE

### SUMMARY CONCLUSION AND RECOMMENDATION.

#### 5.1 Introduction

This section postulated the summary and inference of the research, centered on the outcomes acquired in chapter four.

#### 5.2 Summary

The objective of this study was to investigate the effect of debt on economic growth in Kenya. The data came from the Kenya National Bureau of Statistics (KNBS), the Kenyan Central Bank, and the World Bank's register. The study adopted ARDL model within the framework of ECM. The result showed that external debt has positive and significant effect on economic growth in the short-run but the effect is negative on economic growth in the long-run.

#### 5.3 Conclusions

The purpose of this article is to determine the impact of public liability on Kenya's economic success from 1990 to 2019. In conclusion, external debt positively influence economic growth in the short-run but has negative implications on the Kenyan economy in the long-run. Equally, inflation, real interest rate and real interest rate have positive bearing on Kenya economic in the long-run albeit the effect is negative in the short-run. Domestic liability had a long-run positive negligence relationship with GDP in the short run. The research findings agree with the research results by Chironga (2003) and Schclarek (2004), whose conclusion was an adverse connection between domestic debts and economic progression. The verdicts also agree with Patillo, Romer, and Weil (2004), who concluded that low domestic debt levels affect economic advancement constructively, while this correlation becomes destructive at elevated levels.

## **5.4 Recommendations and Policy Implications**

Following the research findings, the key implications arising from this survey are as follows: there is a negative relationship between public responsibility and GDP growth in Kenya, and this should be a major concern for the government. This study argues that public borrowing from international lenders, as well as domestic borrowing, must be kept in check. Nonetheless, 'debt overhang' used to be a non-issue because it leads to increasing interest and 'crowding out' of private investment. The importance of constant scrutiny of government borrowing cannot be overstated. Domestic real interest rate discounts are also necessary to encourage personal area funding and, more importantly, to contribute to genuine growth. There is a requirement for overall financial system wealth monitoring since it supervises the capacity and repayment of external/domestic responsibility, as well as credit score rating. Public financing preparation must be in sync with an insurance framework that can be credibly enforced (inflation policy, alternate charge policy, hobby fee policy, pricing policy, etc.). This study concludes that an excessive level of public liability hinders Kenya's economic growth, and that the government should utilize it as a last resort to fund the country's economic development, given that it is creating crowding-out. If the level of borrowing is not kept in check, a debt-overhang problem may arise in the long run. This is because domestic liability is negatively impacting GDP, which means that external liability would be utilized to provide domestic liability if the level of borrowing is not kept in check.

## **5.5 Recommendation for further research**

Further to those in this research, there is a prerequisite to explore additional consequences of public liability on private investment in Kenya crucial for economic advancement. Consequently, to this effect, there is a prerequisite to embarking on further studies in various underdeveloped countries



to benchmark the outcomes of this research. Such discoveries may inform public finance supervision in the country.

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