

**GOVERNMENT EXPENDITURE, EXTERNAL DEBT AND ECONOMIC GROWTH
IN SUB-SAHARAN AFRICA**

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**A POST-FIELD THESIS SUBMITTED TO THE DEPARTMENT OF ECONOMICS,
FACULTY OF SOCIAL SCIENCES, UNIVERSITY OF BENIN, BENIN CITY,
NIGERIA IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE
AWARD OF DOCTOR OF PHILOSOPHY (Ph.D.) DEGREE IN ECONOMICS.**

December, 2025

DECLARATION

I, Gabriel Eromosele AKHIDUE, hereby declare that this dissertation titled **“GOVERNMENT EXPENDITURE, EXTERNAL DEBT AND ECONOMIC GROWTH IN SUB-SAHARAN AFRICA”** is my original work and has not been submitted in whole or in part for the award of any degree or diploma in any other institution. All sources of information used have been duly acknowledged in accordance with academic standards.



04/06/2025

Gabriel Eromosele AKHIDUE

Date

CERTIFICATION

This is to certify that the dissertation titled **“GOVERNMENT EXPENDITURE, EXTERNAL DEBT AND ECONOMIC GROWTH IN SUB-SAHARAN AFRICA”** was carried out by Gabriel Eromosele AKHIDUE: Matric No: PG/SSC/1512819 in partial fulfilment of the requirements for the award of a Doctorate degree in the Department of Economics, Faculty of Social Sciences, University of Benin, Benin City, Edo State. This work was completed under my supervision and is approved for submission.

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Date

DEDICATION

This dissertation is dedicated to the Glory of God. I also dedicate this work to my beloved wife and our new-born child, whose love, patience, and encouragement have been a source of strength throughout this academic journey. Lastly, I dedicate this work to my parents, whose values continue to guide my steps.

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ABSTRACT

The persistent macroeconomic challenges in Sub-Saharan Africa have drawn increasing attention to the dual roles of government expenditure and external debt in shaping the region's economic trajectory. While public spending is often expected to drive growth, its actual impact is frequently undermined by inefficiency, corruption, and fiscal mismanagement. Similarly, although, external debt can help finance development, excessive borrowing may hinder economic growth due to debt overhang. The aim of the study was to examine the effects of government expenditure and external debt on economic growth in Sub-Saharan Africa.

The study used a panel dataset of 30 Sub-Saharan African countries covering the period 2009 - 2023. A two-step System Generalized Method of Moments (System GMM) approach was used to account for potential endogeneity and dynamic effects, while a Panel Threshold Model (PTM) was applied to explore non-linear relationships between external debt and economic growth. Key institutional indicators, including control of corruption, were incorporated to capture their mediating role in shaping the impact of government expenditure on economic welfare.

The study found that government expenditure had a negative effect on economic growth but exerted a positive influence on economic welfare when moderated by institutional quality. Furthermore, external debt exhibited a threshold effect, with positive impacts on growth at levels below 51% of GDP and negative impacts beyond 75%, supporting the debt overhang hypothesis. The study recommended improving fiscal governance, strengthening anti-corruption measures, and adopting prudent debt management strategies to enhance the effectiveness of public spending and promote sustainable economic growth and development in Sub-Saharan Africa.

CHAPTER ONE

INTRODUCTION

1.1 Preamble

Early economists (most notably the Physiocrats) in the 18th century clamoured for the Laissez-faire economic system with the main idea being the absence of visible interference in economic activities like government intervention (Melé, 2024). Among such were Economists such as Vincent de Gournay, François Quesnay, J. S. Mill, as well as Adam Smith (Sharma, 2020), they believed that market forces would always lead the economy to equilibrium (Stahl, 2018). The great depression which started in 1929, however caused a rethink as the limitations of the market system were exposed (Arnon, 2022), this period witnessed the rise of the Keynesian school of economic thought, which advocated for the involvement of government in economic activities (Crotty, 2019).

Since then, various economies have witnessed the involvement of government in economic activities to varying degrees. Some countries practice the socialist economic system which is a system where the entire economy is arranged in such a way that there is a collective ownership of factors of production such as the defunct Union of Soviet Socialist Republics and China (Nutti, 2023). There is also the capitalist system, which, emphasizes private ownership of the means of production and the motive of profit as practiced by Hong Kong (Sullivan & Hickel, 2023). One of the most common economic systems being the mixed economic system, which is a blend of the planned and free market economic systems (Petr, 2019). Several Sub-Saharan African countries, including Nigeria, Ghana, Kenya, and Angola, practice mixed economies where the market system coexists with government involvement (Abdullahi, 2018). In these countries, the government plays a crucial role in sectors like health, education, and social services, which are seen as essential for economic growth while individuals are also encouraged to engage in economic activities.

Government expenditure can simply be defined as the expenses incurred by the government while carrying out its programmes and socio-economic activities (Poku et al., 2022), this refers to the money spent by the government on roads, education, health sector, payment of salaries and other activities. Government expenditure is generally divided into capital and recurrent expenditure (Onifade et al., 2020), capital expenditure is the money spent on infrastructure facilities such as education, machinery, buildings, roads (Ikubor et al., 2022), and other developmental purposes while recurrent expenditure is the amount spent by the government for day-to-day expenses such as payment of salaries, interests, subsidies, and other transfers (Amusa & Oyinlola, 2019).

The various governments in Sub-Saharan Africa have over the years become involved in different sectors of the economy, with the governments in this region spending 1.1% of GDP on the military expenditure, 3.4% of GDP on the education sector, 5.1% of GDP on the health sector, as well as in the provision of other essential services (World Development Indicators, 2024). The involvement of the government in economic activities is necessary as the market economy cannot achieve all economic goals, which necessitates government intervention (Stiglitz, 2021). There are also some sectors of these economy that are very vital, yet may not yield sufficient profit to attract the private sector, this includes the provision of public goods like roads, police protection, military expenditure, among others. The provision of such critical but not-for-profit services underscores therefore the reason why most governments in Sub-Saharan Africa have become heavily involved in the financing and execution of projects, as well as involvement in provision of similar crucial socio-economic activities.

In carrying out its economic activities, the government has to raise funds, which is mostly done through the collection of tax (Olaoye & Akinola, 2019), and when there are inadequate funds available, the government resorts to borrowing from domestic sources as well as external sources (Aluthge et al., 2021). Domestic sources of revenue like taxes and others have not been

able to match the expenditure needs in this region (Gupta et al., 2021). This has led such governments to source for extra funds from external bodies in its bid to meet up with their expenditure needs, which in turn has led to accumulation of debt in most SSA countries.

It must be noted that borrowing by SSA countries in order to finance some of their expenditure needs is not the bone of contention. After all, countries in other regions of the world do borrow at one point or the other in order to finance their budgets, with global public debt rising to US\$97 trillion as at 2023 (UNCTAD, 2023). Advanced economies such as the United States of America (USA) are known to have quite high stock of gross external debts with the USA having an external debt burden of 26 billion dollars and a national debt of 35 trillion dollars as at 2024 (Werschkul, 2024; Trading Economics, 2024). United Kingdom with about 7.8 billion dollars and France about 6.9 billion dollars equally has high external debt stocks (Trading Economics, 2024). According to Wikipedia Contributors (2019), countries like Angola are 71st position on the list of countries with the highest external debts, Ethiopia 83rd position, Kenya 84th position, Ghana 87th position, and Nigeria being at the 101st position on the list.

This goes to show that borrowing is not peculiar to governments in Sub-Saharan Africa alone. Borrowing is also not necessarily an uneconomic action; it can perhaps be said that it is a necessary part of the budgetary process. The problem however comes when such funds borrowed are not properly utilized for the purpose for which they were borrowed as is commonly seen in most SSA countries (Manasseh et al., 2022). In a situation like this, it becomes very difficult to achieve economic growth when a greater percentage of the yearly budget is spent on recurrent expenditure as well as on servicing the ever-increasing external debt in such a region (Yusuf & Mohd, 2023).

According to Fukase and Martin (2020), economic growth is the rate of change in national output or income, it is the increase overtime in the capacity of an economy to produce the goods

and services required to improve the welfare and wellbeing of the citizens (Kurniawan & Managi, 2018). Economic growth must not be confused with economic development which refers to more output as well as changes in the technical and institutional arrangements by which it is produced (Alenda-Demoutiez, 2022; Malizia et al., 2020).

To buttress the above assertion, consider the overall growth rate in Sub-Saharan Africa, which was 3% in 2023, Latin America was 2.1%, North America was 2.4%, Middle East and North Africa was 1.8%, South Asia was 6.4% while European Union was 0.5% (World Bank, 2024a). While the growth rate in Sub-Saharan Africa appears relatively high, especially when compared to some developed regions like Europe with a growth rate of 0.5% (World Bank, 2024a), it presents a misleading picture of economic well-being in the sub-region.

Despite these growth statistics, critical developmental indices tell a different story. For instance, the poverty headcount ratio at \$2.15 a day, which refers to the percentage of the population living on less than \$2.15 a day at 2017 international prices (World Bank, 2020), reveals a grim reality for Sub-Saharan Africa. As of 2018, the poverty headcount ratio in Sub-Saharan Africa was alarmingly high at 36.9% (World Bank, 2024b). This figure starkly contrasts with other regions such as South Asia, where the poverty headcount was 10.1%, the Middle East and North Africa at 4.7%, and Latin America at 4.2% (World Bank, 2024b).

It can be seen that most Sub-Saharan African countries have a very high percentage of their citizens living below the 2.15-dollar mark despite the supposed relatively acceptable growth rate in the sub-region (World Bank, 2024b). These statistics highlight the persistent and pervasive nature of poverty in Sub-Saharan Africa, despite the region's relatively high economic growth rates. The high poverty levels suggest that economic growth in Sub-Saharan Africa has not translated into broad-based improvements in living standards for a significant portion of the population in the region. This disparity between growth and poverty raises

important questions about the inclusivity and sustainability of the region's economic growth. It underscores the need for more equitable development strategies that not only focus on boosting GDP but also prioritize reducing poverty and improving overall human development outcomes.

The observation from the foregoing is that the high values of debt and economic growth that is naturally assumed to enhance economic growth do not fulfil their economic expectations in SSA. This clearly reveals that despite the steady growth rate in SSA, annual increase in the government expenditure, as well as increased borrowing in SSA, they are yet to truly reflect on the economic situation in the region, as well as the economic wellbeing of the citizens. Also, this discrepancy is partly attributed to the high proportion of recurrent spending (Yusuf & Mohd, 2023), which limits the funds available for productive, development-enhancing capital projects. This then creates a serious gap for investigation that this research attempts to cover.

1.2 Statement of the Research Problem

Over the years, there has been a continuous increase in government expenditure in Sub-Saharan Africa from \$73 billion in 2000 to \$319 billion in 2023 (The World Bank, 2024a), due to a number of factors such as population, insecurity, inflation, and industrialization (Manasseh et al., 2022). Despite the increase in government expenditure, there has been a limited impact on the citizens as seen in the high poverty level in SSA (Yameogo & Omojolaibi, 2020). This prompts the question, why has increased government spending had such a limited impact on the poverty level in the region?

The expenditure profile of SSA is also worth mentioning, where a greater percentage of government spending is on recurrent expenditure such as salaries of workers (Piatti-Fünfkirchen et al., 2018). This imbalance results in limited investment in infrastructure and other long-term development initiatives, which are essential for improving productivity and driving economic growth. Consequently, despite increased fiscal outlays, the misallocation of

funds may undermine the potential for economic transformation and poverty alleviation. This leads to economic vulnerabilities such as weak healthcare systems, high poverty levels, and limited fiscal space (Atim et al., 2019; Kinyondo & Pelizzo, 2021), all of which constrained the ability of governments to effectively respond.

With government revenue in the SSA region not being adequate to fund their expenditure (Ajeigbe et al., 2023), the governments in this region face several challenges in meeting their financial obligations. Inadequate revenue means the government may struggle to cover essential costs such as public sector wages, infrastructure development, and social services. As a result, the government is forced to borrow, both domestically and externally, to bridge the gap between revenue and spending (Nissanke, 2019; Calderón & Zeufack, 2020).

This has led to an alarming rise in the external debt profile in the region and potentially an economic disaster if proper steps are not taken. For example, as at December, 2020, SSA's total external debt stock exceeded 702 billion dollars (World Bank, 2021). High levels of external debt can strain a country's fiscal resources, as governments must allocate a significant portion of their revenue towards debt servicing (Dawood et al., 2021). This reduces the funds available for critical public investments in infrastructure, education, healthcare, and other sectors vital for long-term development. Moreover, when external debts are denominated in foreign currencies, exchange rate fluctuations can increase the real cost of repayments, further exacerbating the burden on the economy (Fisera et al., 2021). If a country defaults on its debt or is unable to meet its obligations, it could face a financial crisis, loss of investor confidence, and reduced access to international credit markets, ultimately stunting economic growth and development (Elkhishin & Mohieldin, 2021).

It is therefore imperative to investigate the underlying factors contributing to this issue and their impact on the economy in Sub-Saharan Africa. The conclusions from this study when

added to the existing body of literature provide useful guides especially to policy makers and a good source of reference for future academic research works.

1.3 Research Questions

- i. What is the impact of government expenditure on economic growth in Sub-Saharan Africa?
- ii. What role do institutional factors play in mediating the impact of government expenditure on economic welfare in Sub-Saharan Africa?
- iii. What is the threshold effect of external debt on economic growth in Sub-Saharan Africa?

1.4 Research Objectives

The aim of the study was to examine the effects of government expenditure and external debt on economic growth in Sub-Saharan Africa.

The objectives of the study were to:

- i. determine the impact of government expenditure on economic growth in Sub-Saharan Africa;
- ii. evaluate the role of institutional factors in mediating the impact of government expenditure on economic welfare in Sub-Saharan Africa; and
- iii. investigate the threshold effect of external debt on economic growth in Sub-Saharan Africa.

1.5 Research Hypotheses

In the course of this study, the following research hypotheses were tested:

- i. Government expenditure has no statistically significant impact on economic growth in Sub-Saharan Africa.
- ii. Institutional factors do not significantly mediate the impact of government expenditure on economic welfare in Sub-Saharan Africa.
- iii. There is no threshold effect of external debt on economic growth in Sub-Saharan Africa.

1.6 Significance of the Study

This study is of critical importance due to the multifaceted challenges confronting Sub-Saharan Africa, including rising unemployment, pervasive poverty, and the limited impact of

government expenditure on improving living standards. Although extensive global research exists on government expenditure and economic growth, there remains a notable gap in the literature on the unique challenges facing SSA, especially in the post-COVID-19 era, where the interplay of fiscal policies and developmental outcomes is poorly understood. To bridge this gap, this research investigates three key questions: first, how government expenditure affects economic growth in the region; second, what role institutional factors play in mediating the influence of government expenditure on the economic welfare of citizens; and third, what the threshold effect of external debt on economic growth is and at what debt-to-GDP ratio the impact shifts from being growth-enhancing to growth-inhibiting.

The study provides fresh insights into the complex dynamics among public spending, external debt, and institutional quality in SSA. Exploring the threshold effect of external debt helps identify critical debt levels beyond which additional borrowing becomes detrimental rather than beneficial to growth. Also, by analysing how institutional quality moderates the relationship between government expenditure and economic welfare, the study reveals whether poor governance and corruption undermine the potential benefits of public spending. The implications of this research are significant for both theory and practice. Academically, the findings contribute to a more nuanced understanding of fiscal policy and debt dynamics in developing economies, challenging the assumption that increased spending and borrowing automatically lead to improved economic outcomes.

For policymakers, the evidence generated is instrumental in designing strategies that not only stimulate growth but also enhance the distribution of its benefits to the citizens. By identifying the expenditure impact, critical debt thresholds, and by emphasizing the importance of robust institutional frameworks, the study provides a comprehensive framework for re-evaluating current fiscal strategies. Ultimately, the research seeks to inform policy debates on how to

reorient public spending and borrowing practices to foster sustainable, inclusive development and to improve the overall economic welfare of citizens in Sub-Saharan Africa.

1.7 Scope of the Study

This study focused on Sub-Saharan Africa (SSA), analyzing the relationships among government expenditure, external debt, and economic growth across thirty (30) selected SSA countries over a fifteen-year period, from 2009 to 2023. The scope covers both economic growth, proxied by GDP per capita growth, and economic welfare, proxied by the Human Development Index (HDI). The countries selected include a mix of low- and middle-income economies, resource-rich and non-resource-rich states, and represent diverse institutional and fiscal environments across the region.

Sub-Saharan Africa was chosen due to its unique fiscal and development dynamics. Many SSA countries face persistent macroeconomic challenges, including high public debt burdens, fluctuating government spending, weak institutional quality, and slow progress in human development. These factors make the region a compelling case for investigating how fiscal tools impact economic outcomes. The selection of the thirty countries was based on the availability of consistent annual data for the key variables of interest. Countries with substantial missing data during the study period were excluded to ensure the robustness and reliability of the panel estimation techniques employed. This scope allows for a comprehensive and data-driven evaluation of the fiscal-development nexus in SSA while accounting for regional diversity and data constraints.

1.8 Organization of the Study

This study is divided into six chapters.

Chapter two provided a conceptual overview of the study, examining various relevant trends, as well as relationships such as the relationship between government expenditure and economic

growth, external debt and economic growth, as well as the impact of external debt on economic growth.

In chapter three, the researcher reviewed literature, theoretical, and empirical issues relevant to this research study. Here, relevant opinions and ideas of various economists and researchers were examined, identifying gaps in the literature that this research aimed to fill.

A presentation of the research methodology was done in chapter four; this included the theoretical framework, method of data analysis, the sources of data, etc. The models tested in the research work were also explained properly here.

Chapter five revealed the empirical results derived from the models. Here, the data and regression results were interpreted appropriately. This chapter provided a detailed examination of the findings, interpreting the results in the context of the research questions and objectives. It also compared these findings with the existing literature to highlight areas of convergence or divergence.

Chapter six concluded the study by summarizing the findings and discussing their broader implications. It also provided recommendations for future research, identified the limitations of the study, and suggested potential areas for further research.

CHAPTER TWO

BACKGROUND TO THE STUDY

2.1 Economic Growth Trend in Sub-Saharan Africa

Economic growth according to Demir (2021) is the rate of change in national output. It is normally measured as the percent rate of increase in the real gross domestic product (Wang et al., 2021). It is an indicator of how well the economy is doing and whether there is any improvement in economic productivity of the affected economy (Demir, 2021). Table 2.1 and Figure 2.1 show the trend of real GDP in Sub-Saharan Africa from 1990 – 2023.

Table 2.1

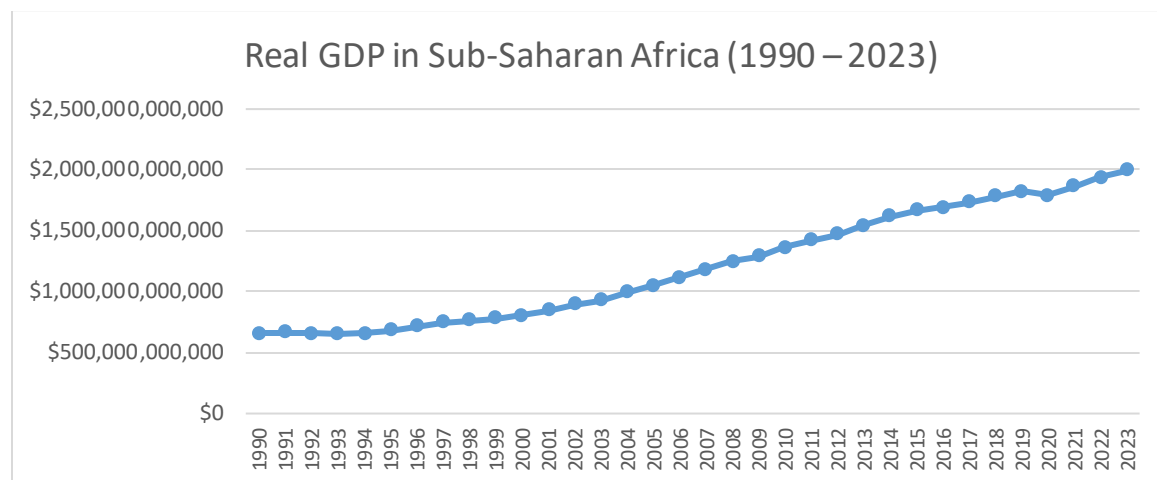
Real GDP in Sub-Saharan Africa (1990 - 2023)

Year	Real GDP	Year	Real GDP
1990	\$659,524,980,276	2007	\$1,186,061,093,106
1991	\$661,831,221,444	2008	\$1,247,611,030,059
1992	\$659,184,063,201	2009	\$1,287,291,060,098
1993	\$653,298,256,792	2010	\$1,364,471,531,296
1994	\$659,704,517,522	2011	\$1,424,704,829,896
1995	\$681,599,371,304	2012	\$1,471,125,252,794
1996	\$716,571,395,805	2013	\$1,546,012,009,179
1997	\$745,824,709,802	2014	\$1,621,314,547,114
1998	\$764,487,703,603	2015	\$1,668,662,993,705
1999	\$781,341,706,008	2016	\$1,689,388,408,434
2000	\$808,517,737,277	2017	\$1,731,357,602,339
2001	\$842,463,042,074	2018	\$1,779,055,933,937
2002	\$895,800,765,230	2019	\$1,826,374,286,082
2003	\$932,081,500,585	2020	\$1,790,451,424,728
2004	\$993,617,156,993	2021	\$1,866,813,048,084
2005	\$1,053,421,773,025	2022	\$1,935,148,905,025
2006	\$1,117,215,564,462	2023	\$1,992,334,403,857

Source: World Bank Database (2024)

Figure 2.1

Real GDP in Sub-Saharan Africa (1990 - 2023)



Source: World Bank Database (2024)

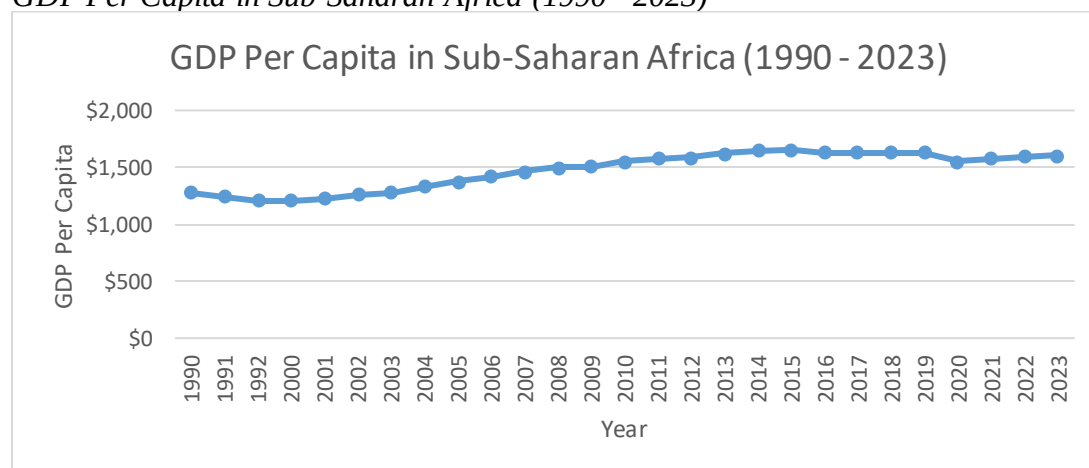
From figure 2.1, it can be seen that real GDP in Sub-Saharan Africa has generally risen in the period under review from just over 659 billion dollars in 2000 to over 1.9 trillion dollars in 2023 (World Bank, 2024b), the rise in real GDP can be attributed to the revenue generated from the oil sector and other economic activities in the region (Kalu et al., 2020). Despite the rise in the real GDP of Sub-Saharan African countries, the region is still plagued with a high rate of poverty (Olaoye et al., 2021), the World Bank revealed that about 462 million people in SSA are living in poverty (The World Bank, 2024b).

All these point to the fact that the GDP received in the SSA has not truly reflected in the lives of the citizens as a lot of the citizens still live in poverty. The situation in SSA has shown that, having a positive percentage value in terms of economic growth does not necessarily imply better living standards or a reduction in poverty (Mulok et al. 2012). Despite the positive economic growth value that has been reported in Sub-Saharan Africa over the years, there has been very little impact in the region in terms of poverty reduction and better standards of living due to corruption, terrorism, amongst other factors (Forest, 2019). The GDP per capita in SSA is also presented to provide more insight into the state of affairs in the sub-region.

Table 2.2*GDP Per Capita in Sub-Saharan Africa (1990 - 2023)*

Year	GDP per capita	Year	GDP per capita
1990	\$1,277	2007	\$1,464
1991	\$1,247	2008	\$1,498
1992	\$1,210	2009	\$1,504
1993	\$1,168	2010	\$1,551
1994	\$1,149	2011	\$1,576
1995	\$1,157	2012	\$1,583
1996	\$1,184	2013	\$1,619
1997	\$1,201	2014	\$1,652
1998	\$1,200	2015	\$1,654
1999	\$1,195	2016	\$1,630
2000	\$1,205	2017	\$1,627
2001	\$1,222	2018	\$1,629
2002	\$1,266	2019	\$1,628
2003	\$1,282	2020	\$1,555
2004	\$1,331	2021	\$1,580
2005	\$1,373	2022	\$1,598
2006	\$1,418	2023	\$1,604

Source: World Bank Database (2024)

Figure 2.2*GDP Per Capita in Sub-Saharan Africa (1990 - 2023)*

Source: World Bank Database (2024)

From figure 2.2, it is seen that GDP per capita has risen over the years with intermittent drops, with the most prominent being in 2020, most likely due to the Covid-19 pandemic as several persons lost their jobs during this period while several companies either folded up or generated lower revenue (Schneider et al., 2024). It was approximately 1300 dollars in 1990, and grew

steadily to about 1600 dollars in 2023. GDP per capita measures the economic contribution per individual in a country (Dědeček & Dudzich, 2022). It is normally used as a measure of the economic prosperity of a country as it shows what is earned by each citizen in the country (Awan & Azam, 2021). GDP per capita is derived by simply dividing the total GDP of a country by its population (Nolan et al., 2018).

This steady rise over the time period is due to the fact that GDP in Sub-Saharan Africa has been rising over the years at a much higher rate than population, with GDP growth rate in 2023 standing at 2.96% while population growth rate stood at 2.54% (The World Bank, 2024a), this could give a false belief that all is well in the country. However, it must be noted that GDP per capita does not account for income inequality (Cingano 2014), which means that the relatively high GDP per capita may not actually be reflecting the economic status of the poor and middle-class citizens in the region. The GDP per capita growth rate in the sub-region can also be seen below:

Table 2.3

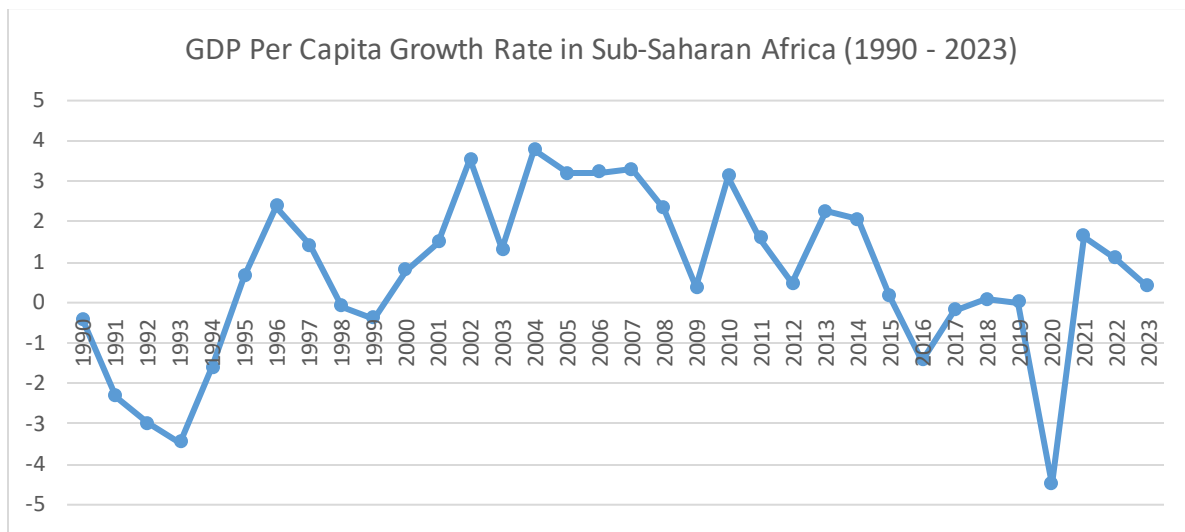
GDP Per Capita Growth Rate in Sub-Saharan Africa (1990 - 2023)

Year	GDP Per Capita Growth Rate		Year	GDP Per Capita Growth Rate
1990	-0.441871547		2007	3.290783806
1991	-2.313986897		2008	2.331371842
1992	-2.992365119		2009	0.378447711
1993	-3.46427715		2010	3.114754323
1994	-1.601585219		2011	1.587235313
1995	0.648126785		2012	0.475317334
1996	2.376082715		2013	2.255151079
1997	1.421244313		2014	2.048948429
1998	-0.092920874		2015	0.145878199
1999	-0.403279281		2016	-1.4407846
2000	0.806546953		2017	-0.186884336
2001	1.484571283		2018	0.07240818
2002	3.546807284		2019	-0.008017072
2003	1.316788469		2020	-4.500358601
2004	3.780167724		2021	1.629019448
2005	3.194598103		2022	1.090681097
2006	3.21222317		2023	0.409373989

Source: World Bank Database (2024)

Figure 2.3

GDP Per Capita Growth Rate in Sub-Saharan Africa (1990 - 2023)



Source: World Bank Database (2024)

As is seen in figure 2.3, GDP per capita growth rate has largely been positive but has fluctuated in the period under review with the highest negative growth rate once again observed in 2020 during the corona virus pandemic as supported by Ndiili (2020). The average GDP in the various Sub-Saharan African countries over a 33-year period is presented below:

Table 2.4

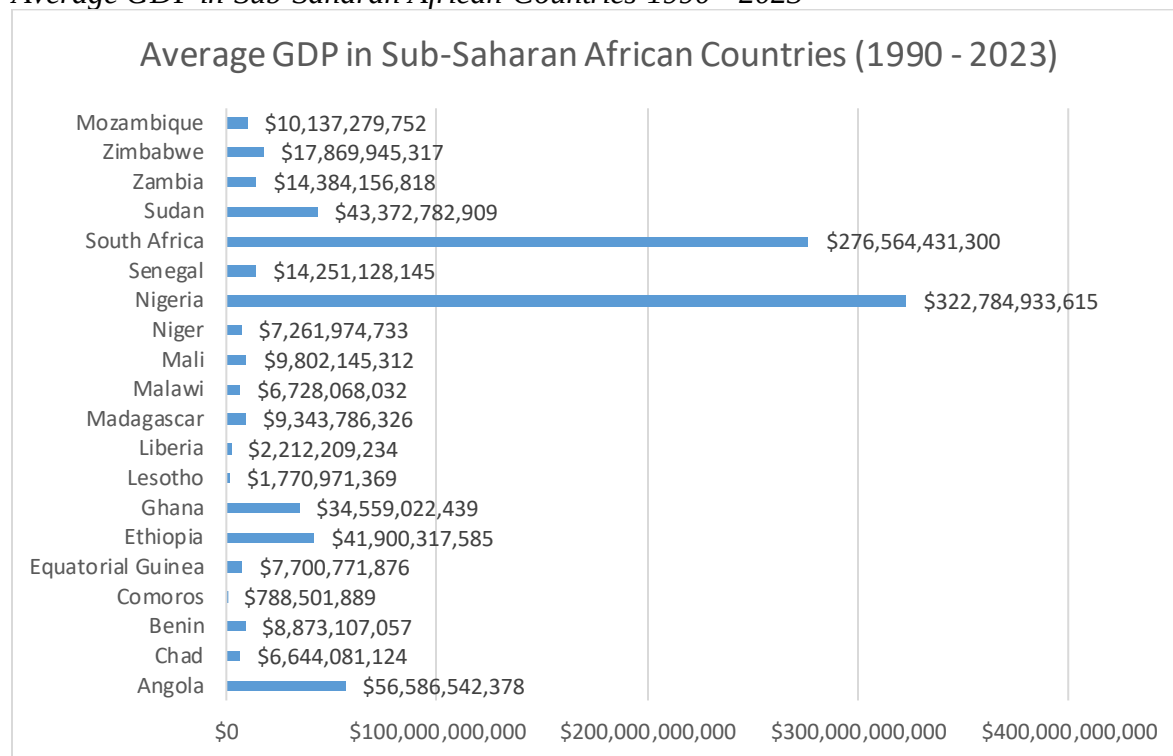
Average GDP in Sub-Saharan African Countries 1990 - 2023

Average GDP in Sub-Saharan African Countries (1990 - 2023)				
Angola	\$56,586,542,378		Malawi	\$6,728,068,032
Chad	\$6,644,081,124		Mali	\$9,802,145,312
Benin	\$8,873,107,057		Niger	\$7,261,974,733
Comoros	\$788,501,889		Nigeria	\$322,784,933,615
Equatorial Guinea	\$7,700,771,876		Senegal	\$14,251,128,145
Ethiopia	\$41,900,317,585		South Africa	\$276,564,431,300
Ghana	\$34,559,022,439		Sudan	\$43,372,782,909
Lesotho	\$1,770,971,369		Zambia	\$14,384,156,818
Liberia	\$2,212,209,234		Zimbabwe	\$17,869,945,317
Madagascar	\$9,343,786,326		Mozambique	\$10,137,279,752

Source: World Bank Database (2024)

Figure 2.4

Average GDP in Sub-Saharan African Countries 1990 - 2023



Source: World Bank Database (2024)

As can be seen in figure 2.4, Nigeria had the largest average GDP in the period under review while South Africa had the second largest GDP. Other nations are miles off these two nations, which shows the huge gulf in the economic might between the countries in the SSA region. Also, a comparison is made below between SSA and other regions of the world in terms of average GDP per capita.

Table 2.5

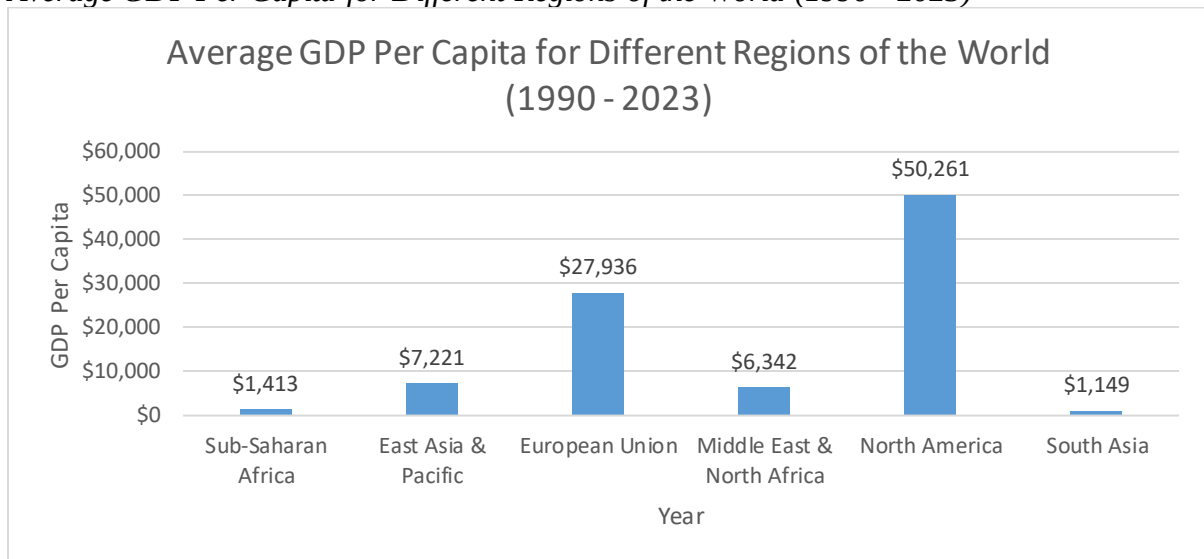
Average GDP Per Capita for Different Regions of the World (1990 - 2023)

Average GDP Per Capita (1990 - 2023)	
Country	GDP per capita (US\$)
Sub-Saharan Africa	\$1,413
East Asia & Pacific	\$7,221
European Union	\$27,936
Middle East & North Africa	\$6,342
North America	\$50,261
South Asia	\$1,149

Source: World Bank Database (2024)

Figure 2.5

Average GDP Per Capita for Different Regions of the World (1990 - 2023)



Source: World Bank Database (2024)

Figure 2.5 highlights significant disparities across different regions. Sub-Saharan Africa, with an average income of \$1,413, reflects one of the lowest levels of average GDP per capita. This emphasizes the widespread poverty and developmental challenges that the region faces, despite its relatively high growth rates in certain areas. Many Sub-Saharan African countries struggle with infrastructure, governance, and economic stability, which contributes to the low average income (Appiah et al., 2022).

On the other hand, East Asia and the Pacific have an average GDP per capita of \$7,221. This region, which includes emerging economies like China, has seen significant economic growth over the past few decades (Anwar et al., 2020). Although still developing, the average GDP per capita here is much higher than that of Sub-Saharan Africa or South Asia.

The European Union, with an average income of \$27,936, represents a cluster of developed nations with high living standards. The EU's strong economies are characterized by advanced industries, comprehensive social systems, and high-quality infrastructure, which contribute to their elevated income levels (Batrancea et al., 2023).

The Middle East and North Africa region has an average GDP per capita of \$6,342, which masks the significant economic disparities within the region. Wealthy oil-exporting countries like Saudi Arabia and the UAE raise the regional average, while many North African countries face much lower income levels due to political instability and underdeveloped economies (Mahdavi & Uddin, 2021).

North America, with an average income of \$50,261, stands at the top of the list. This figure is largely driven by the United States and Canada, two of the world's largest and most advanced economies (Shahbaz et al., 2018). Finally, South Asia, with an average income of \$1,149, has the lowest income level of all the regions listed. This shows the deep-rooted economic challenges facing countries like India, Pakistan, and Bangladesh (Bishwakarma & Hu, 2021).

The GDP growth rate in SSA is shown below:

Table 2.6

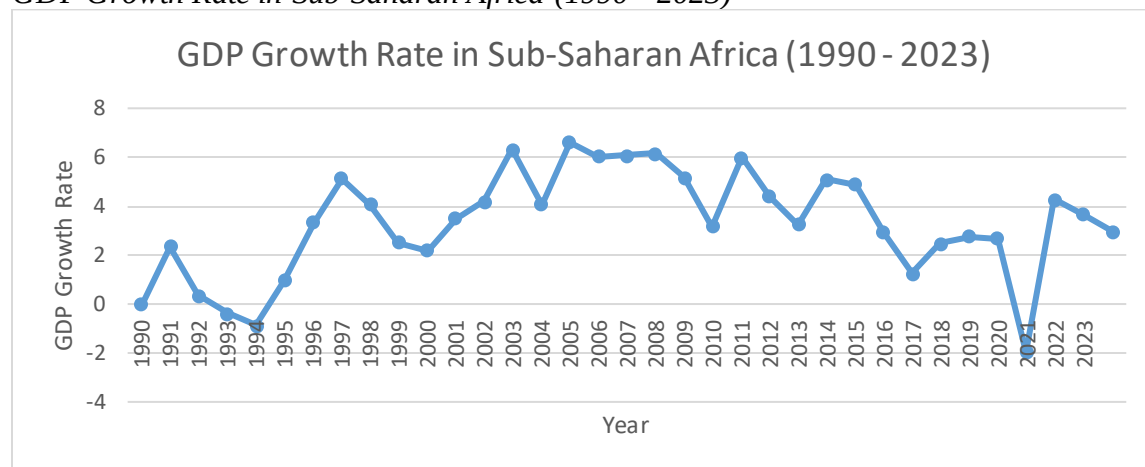
GDP Growth Rate in Sub-Saharan Africa (1990 - 2023)

GDP Growth Rate in Sub-Saharan Africa (1990 - 2023)			
Year	GDP Growth Rate	Year	GDP Growth Rate
1990	2.354102752	2007	6.16224217
1991	0.349682156	2008	5.189440688
1992	-0.399974821	2009	3.180480862
1993	-0.892892704	2010	5.995572687
1994	0.980602759	2011	4.414404934
1995	3.318887957	2012	3.25824844
1996	5.130876872	2013	5.090440548
1997	4.082400465	2014	4.87076022
1998	2.502329777	2015	2.920373883
1999	2.20461393	2016	1.242037176
2000	3.478123727	2017	2.484283288
2001	4.198461361	2018	2.754967058
2002	6.331164751	2019	2.65974505
2003	4.050089793	2020	-1.966894827
2004	6.60196092	2021	4.264936892
2005	6.018879164	2022	3.660562423
2006	6.055864144	2023	2.955095532

Source: World Bank Database (2024)

Figure 2.6

GDP Growth Rate in Sub-Saharan Africa (1990 - 2023)



Source: World Bank Database (2024)

It is seen that economic growth in Sub-Saharan Africa has been fluctuating over the years with years of increase as well as years of decrease. This oscillatory time path can be attributed to several factors such as the 2008 recession and the outbreak of the Corona Virus in 2020 (Bitanirwe & Ssewanyana, 2020; Nkemgha et al., 2021), which hampered a lot of economic activities and threw a lot of companies out of business. The Covid-19 pandemic had a dual effect on the region (demand-side effect and the supply-side effect). Demand-side effects refers to its impact on consumption, investment, and trade which dropped due to fear and uncertainty (Khan et al., 2022), while the supply-side effect refers to the impact on workforce, increasing cost of doing business, and well as business shutdowns (Anyanwu & Salami, 2021).

The outbreak of the Corona Virus not only affected government expenditure and external debt but also the economic growth in the subregion, this is due to the fact that various sources of revenue were either cut short totally or reduced which meant a reduction in GDP (Adam et al., 2020). In summary, despite the huge expenditure outlay of the various governments in Sub-Saharan Africa, the subregion has not experienced much in terms of economic growth and development. Another problem is the ever-growing debt stock in the subregion, with the government always turning to raising funds by borrowing.

2.2 External Debt Trend in Sub-Saharan Africa

External debt refers to the money borrowed by a government from external sources such as foreign organizations and foreign countries (Manasseh et al., 2022). The need to borrow usually arises as a result of a deficit between expenditure needs and available revenue (Yusuf & Mohd, 2021). In other words, a country normally borrows when the revenue available in that country is insufficient to fund the various expenditure needs of the country. The need to borrow may be a pre-planned arrangement but could also arise as a result of an emergency or sudden outbreak of a disease or war as has been seen in recent times.

Since 2010, external debt in Sub-Saharan Africa has more than tripled (World Bank, 2024b), external debt is one of the key areas of focus in this study as it is a very key issue in modern time. The study takes a look at the trend of external debt in Sub-Saharan Africa from 1990 to 2023 below:

Table 2.7

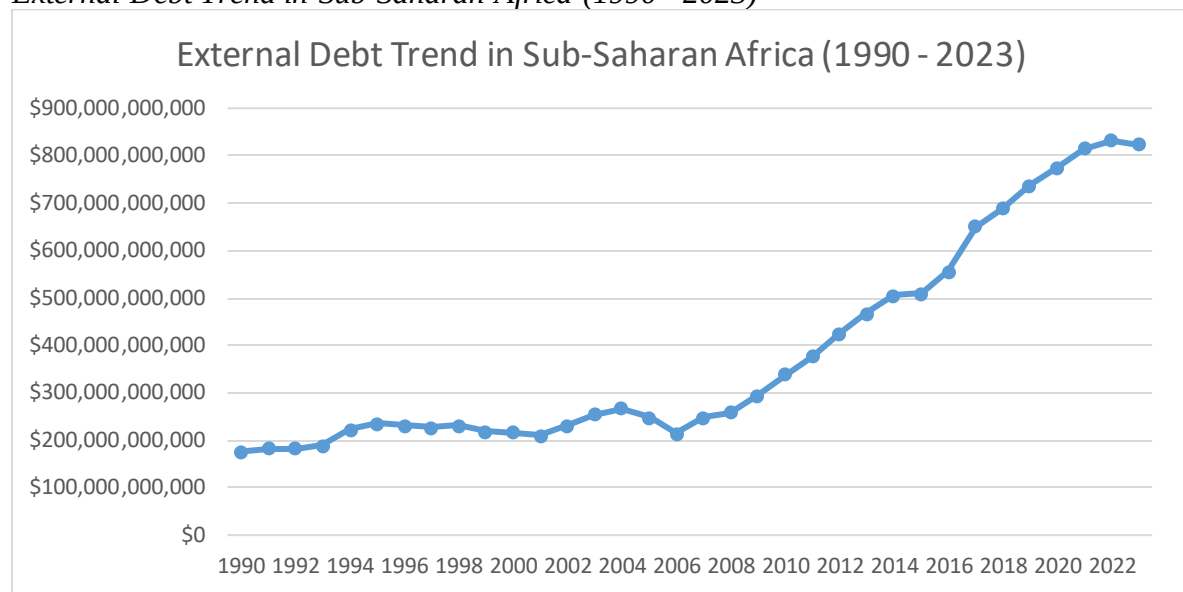
External Debt Trend in Sub-Saharan Africa (1990 - 2023)

External Debt Trend in Sub-Saharan Africa (1990 - 2023)				
Year	External Debt Trend		Year	External Debt Trend
1990	\$176,261,891,942		2007	\$249,021,125,063
1991	\$182,493,608,478		2008	\$258,147,572,523
1992	\$181,847,826,083		2009	\$294,495,360,106
1993	\$188,163,684,008		2010	\$339,508,960,415
1994	\$221,765,078,201		2011	\$377,291,352,885
1995	\$236,364,370,767		2012	\$425,896,404,021
1996	\$231,926,882,700		2013	\$466,443,351,057
1997	\$226,590,274,375		2014	\$505,087,150,664
1998	\$230,282,309,794		2015	\$510,365,565,953
1999	\$218,381,793,540		2016	\$556,366,270,870
2000	\$216,182,516,772		2017	\$650,514,220,716
2001	\$209,202,588,512		2018	\$689,071,386,089
2002	\$230,503,904,228		2019	\$737,972,859,003
2003	\$253,446,298,733		2020	\$775,929,514,130
2004	\$267,612,551,581		2021	\$814,648,028,065
2005	\$249,058,543,008		2022	\$831,561,818,192
2006	\$213,896,253,367		2023	\$823,104,923,128

Source: World Bank Database (2024)

Figure 2.7

External Debt Trend in Sub-Saharan Africa (1990 - 2023)



Source: World Bank Database (2024)

From figure 2.7, it can clearly be seen that external debt has constantly been on the increase in Sub-Saharan Africa in the period under review and has risen from under 200 billion US dollars in 1990 to over 800 billion US dollars in 2023. There was a sharp increase in debt starting from 2007, which continued through to 2023. This indicates a growing reliance on external borrowing by Sub-Saharan African countries, especially in the last decade. The trend suggests that countries in the region have increasingly turned to external sources of funding to meet their economic and developmental needs (Atingi-Ego et al., 2021).

The dramatic rise in external debt in Sub-Saharan Africa over this period raises important questions about debt sustainability. As debt levels continue to climb, concerns emerge about the ability of countries in the region to service this debt without significant economic growth or increased revenue generation. The rapid accumulation of debt could lead to a debt crisis, where countries may struggle to meet their repayment obligations (Mutai et al., 2024), potentially resulting in defaults or the need for further debt restructuring or international bailouts.

This gives serious cause for worry and poses certain pertinent questions such as:

- i. How does this huge debt and its burden impact on GDP growth?
- ii. How can the fiscal activities of the economy be enhanced in such a way to eventually facilitate productivity of the economy?

These are some of the questions the research focused on. The debt borrowed by some countries in Sub-Saharan Africa from 2007 to 2020 can be seen in table 2.8 and figure 2.8 below

Table 2.8

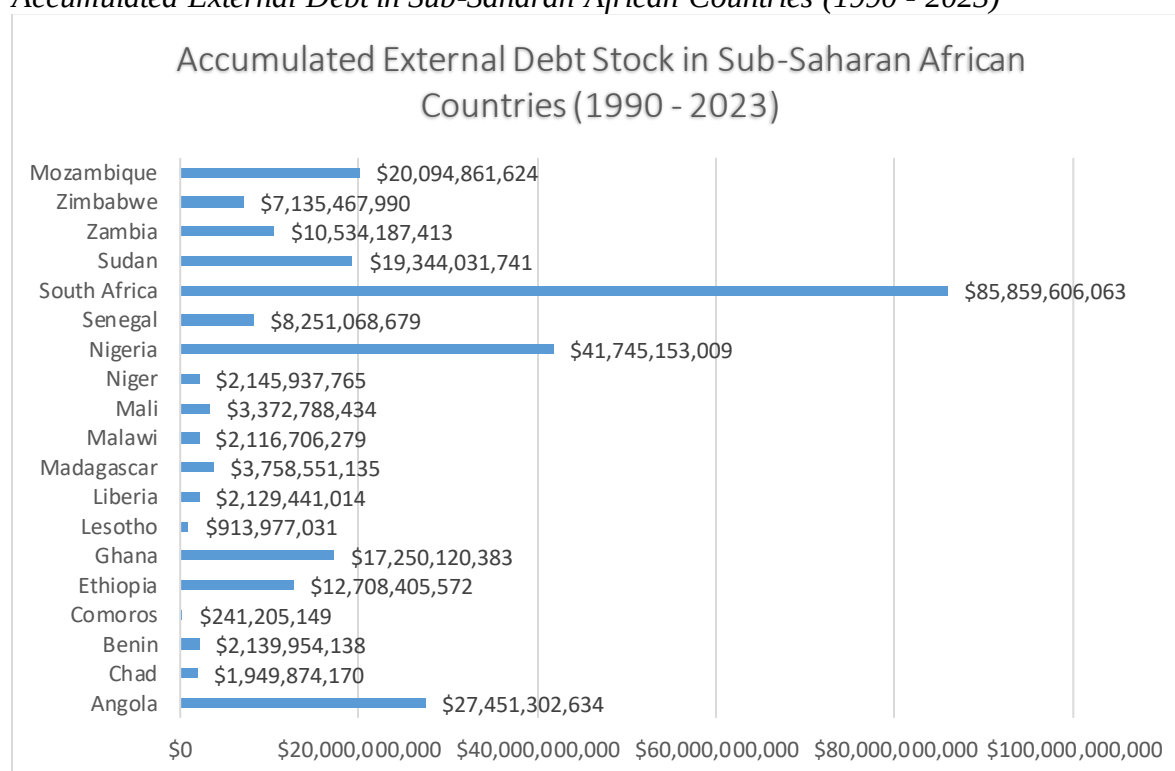
Accumulated External Debt in Sub-Saharan African Countries (1990 - 2023)

Country Name	External Debt	Country Name	External Debt
Angola	\$27,451,302,634	Mali	\$3,372,788,434
Chad	\$1,949,874,170	Niger	\$2,145,937,765
Benin	\$2,139,954,138	Nigeria	\$41,745,153,009
Comoros	\$241,205,149	Senegal	\$8,251,068,679
Ethiopia	\$12,708,405,572	South Africa	\$85,859,606,063
Ghana	\$17,250,120,383	Sudan	\$19,344,031,741
Lesotho	\$913,977,031	Zambia	\$10,534,187,413
Liberia	\$2,129,441,014	Zimbabwe	\$7,135,467,990
Madagascar	\$3,758,551,135	Mozambique	\$20,094,861,624
Malawi	\$2,116,706,279		

Source: World Bank Database (2024)

Figure 2.8

Accumulated External Debt in Sub-Saharan African Countries (1990 - 2023)



Source: World Bank Database (2024)

Figure 2.8 shows the accumulated debt in Sub-Saharan African countries in the period between 1990 and 2023. As can be seen, South Africa has borrowed far more money in the sub-region (86 billion dollars) in the period under review when compared with the debt in other Sub-Saharan African countries in the period under review, with Nigeria coming next (42 billion dollars), followed by Angola (27 billion dollars), Mozambique (20 billion dollars), and Sudan (19 billion dollars) while the nation, Comoros borrowed the least amount of money in the period under review (241 million dollars).

The higher accumulated debt in some of these countries can be attributed to the large population in Nigeria, South Africa, and Angola (Kaba, 2020), as there is a need to cater for the citizens as well as provide social amenities and infrastructure for the proper functioning of the state in line with Wagner's law (Arestis et al., 2020). The external debt accumulated is also a factor that accounts for the huge strides that are being taken in South Africa and Nigeria in terms of infrastructural development. Comoros as can be seen has the lowest accumulated debt in the period under review which could also be due to the low population in the country which invariably means less infrastructural demands from the populace (Ibouroi et al., 2021). It must be noted that external debt is not only incurred by Sub-Saharan countries but also by countries in other regions, including European countries. External debt in SSA is compared with that in other regions in the trend of external debt in various regions of the world below:

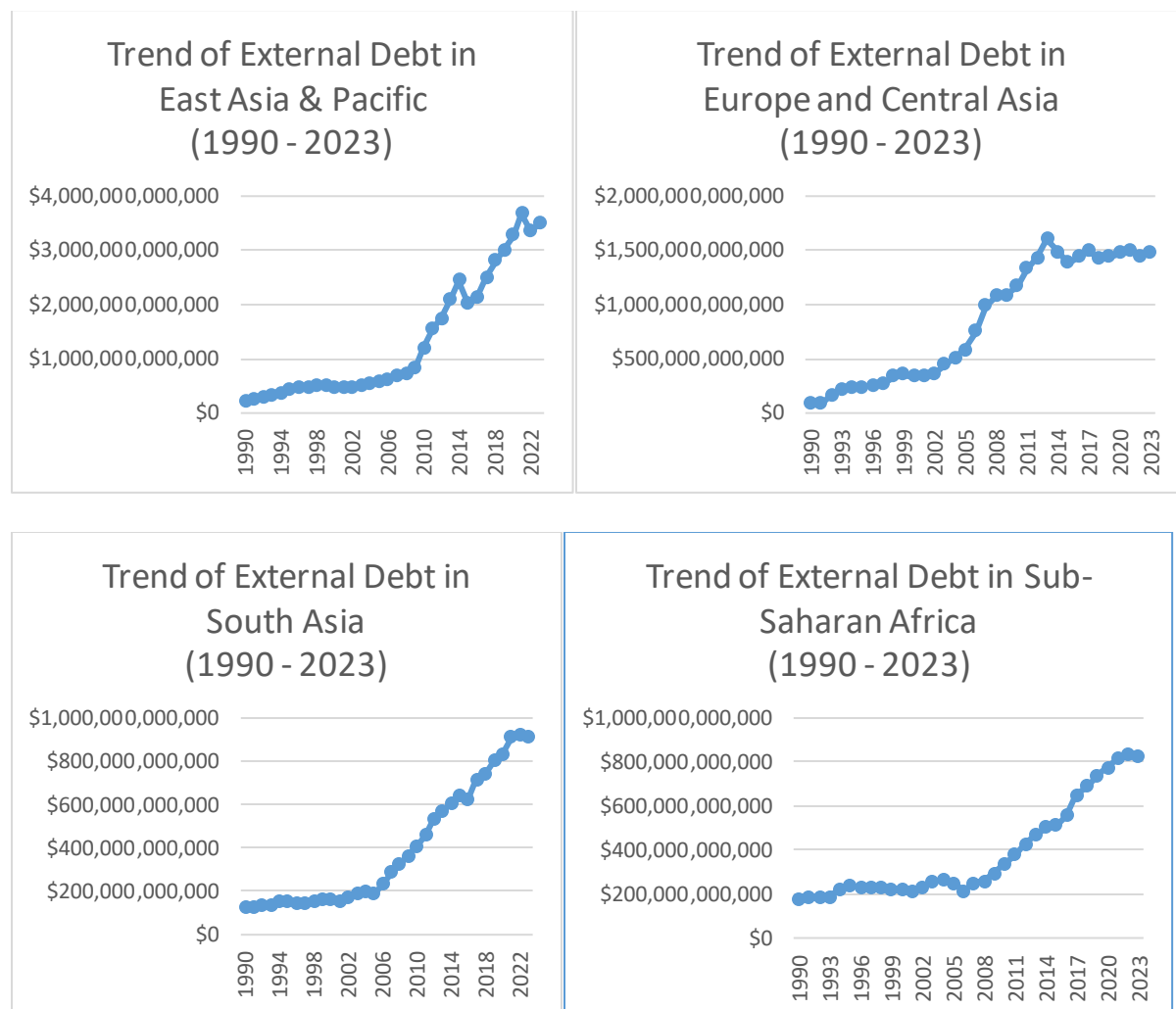
Table 2.9*External Debt Trend by Regions (1990 - 2023)*

	External Debt Trend by Regions (1990 - 2023)			
Year	East Asia & Pacific	Europe & Central Asia	Sub-Saharan Africa	South Asia
1990	\$217,742,660,870	\$78,106,590,250	\$176,261,891,942	\$124,082,387,384
1991	\$245,882,849,161	\$79,598,702,651	\$182,493,608,478	\$129,726,783,507
1992	\$273,820,967,536	\$165,957,899,165	\$181,847,826,083	\$134,581,282,183
1993	\$302,092,104,026	\$217,322,639,376	\$188,163,684,008	\$139,121,795,594
1994	\$353,288,921,577	\$226,235,169,582	\$221,765,078,201	\$151,288,935,509
1995	\$421,587,138,919	\$238,699,573,613	\$236,364,370,767	\$150,850,695,815
1996	\$454,842,432,155	\$252,304,168,304	\$231,926,882,700	\$149,964,051,267
1997	\$479,396,338,314	\$264,505,665,951	\$226,590,274,375	\$149,222,818,089
1998	\$491,326,526,872	\$331,356,890,018	\$230,282,309,794	\$158,241,738,436
1999	\$494,728,268,615	\$350,969,475,427	\$218,381,793,540	\$163,801,377,809
2000	\$456,151,253,752	\$338,861,741,259	\$216,182,516,772	\$162,380,815,650
2001	\$469,868,130,031	\$340,656,462,629	\$209,202,588,512	\$159,045,459,341
2002	\$466,233,044,794	\$363,252,778,090	\$230,503,904,228	\$170,526,446,534
2003	\$495,244,410,799	\$442,541,732,700	\$253,446,298,733	\$189,088,003,269
2004	\$540,365,613,965	\$510,323,151,754	\$267,612,551,581	\$196,200,425,796
2005	\$581,278,008,239	\$576,980,709,232	\$249,058,543,008	\$189,784,702,984
2006	\$619,968,243,068	\$746,693,346,994	\$213,896,253,367	\$234,920,127,547
2007	\$690,601,118,178	\$988,302,699,961	\$249,021,125,063	\$289,556,190,793
2008	\$717,995,655,216	\$1,074,242,224,893	\$258,147,572,523	\$324,645,486,020
2009	\$829,277,685,792	\$1,083,802,164,367	\$294,495,360,106	\$366,621,411,392
2010	\$1,193,013,621,767	\$1,165,531,362,730	\$339,508,960,415	\$410,238,106,208
2011	\$1,559,066,465,011	\$1,325,409,577,464	\$377,291,352,885	\$460,591,828,197
2012	\$1,741,615,295,462	\$1,431,569,819,996	\$425,896,404,021	\$530,201,302,519
2013	\$2,099,323,001,405	\$1,601,710,710,329	\$466,443,351,057	\$568,465,597,080
2014	\$2,441,880,043,967	\$1,483,176,425,228	\$505,087,150,664	\$608,854,968,232
2015	\$2,008,181,152,232	\$1,384,756,965,355	\$510,365,565,953	\$639,966,111,262
2016	\$2,117,864,562,140	\$1,439,794,507,547	\$556,366,270,870	\$629,299,669,512
2017	\$2,495,788,547,674	\$1,489,949,831,225	\$650,514,220,716	\$718,356,534,655
2018	\$2,805,108,566,454	\$1,425,321,998,567	\$689,071,386,089	\$744,483,390,668
2019	\$2,999,349,250,285	\$1,437,969,124,788	\$737,972,859,003	\$804,339,009,830
2020	\$3,273,845,718,183	\$1,470,156,056,721	\$775,929,514,130	\$831,099,279,938
2021	\$3,676,728,164,215	\$1,503,542,833,540	\$814,648,028,065	\$912,615,025,919
2022	\$3,345,565,300,711	\$1,447,970,396,532	\$831,561,818,192	\$919,016,250,354
2023	\$3,511,146,732,463	\$1,475,756,615,036	\$823,104,923,128	\$915,815,638,136

Source: World Bank Database (2024)

Figure 2.9

External Debt Trend by Regions (1990 - 2023)



Source: World Bank Database (2024)

When the external debt level in Sub-Saharan Africa is compared with other regions, it can be seen that the level of external debt in Sub-Saharan Africa has steadily been on the rise in the period under review while external debt in Europe and Central Asia initially increased before falling in 2014 and subsequently rising again in 2018. External debt in South Asia has steadily been on the rise which is the same as East Asia. It can be seen that external debt in Sub-Saharan Africa is relatively low when compared with other regions, which is in line with the previous argument of this study that the problem in the region is not necessarily the fact that money is

borrowed, rather, the problem lies in the use of the borrowed funds as most times, these funds are misappropriated by the government.

The average external debt for the period under review in the various regions is also shown below:

Table 2.10

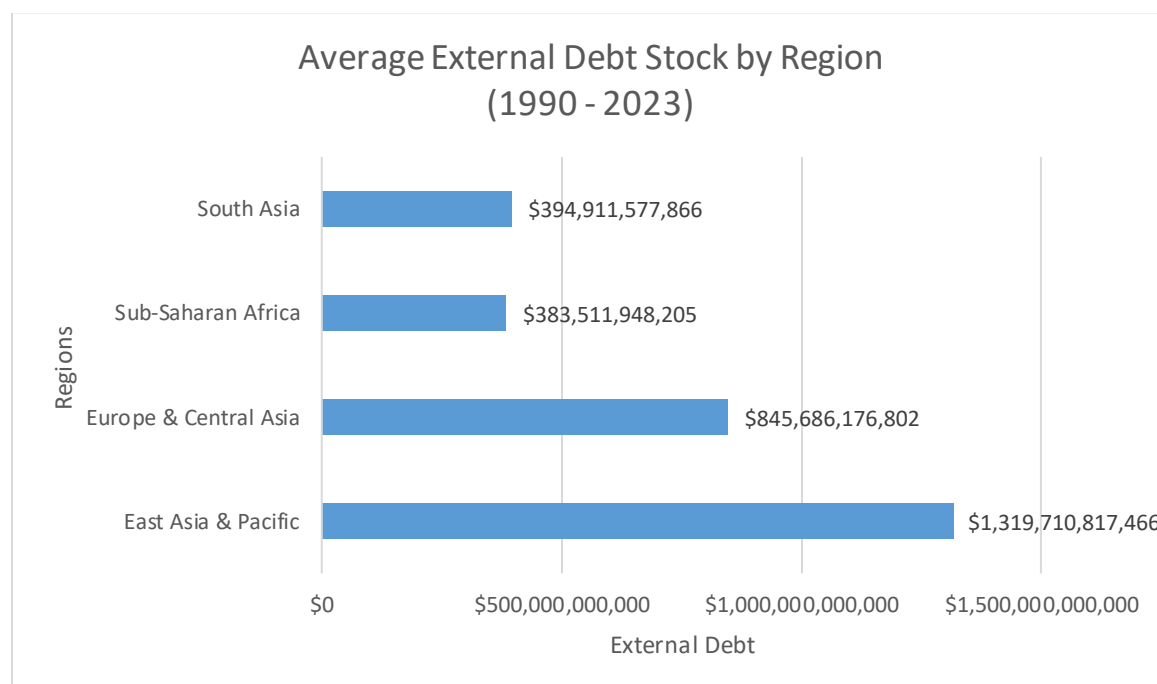
Average External Debt Stock by Region (1990 - 2023)

Average External Debt Stock by Region (1990 - 2023)	
Country	External debt stocks
East Asia & Pacific	\$1,319,710,817,466
Europe & Central Asia	\$845,686,176,802
Sub-Saharan Africa	\$383,511,948,205
South Asia	\$394,911,577,866

Source: World Bank Database (2024)

Figure 2.10

Average External Debt Stock by Region (1990 - 2023)



Source: World Bank Database (2024)

As seen in figure 2.10, East Asia has accumulated more debt than the other regions, followed by Europe and Central Asia, with Sub-Saharan Africa accumulating the least amount of debt

in the study period which shows that Sub-Saharan Africa has not been the largest recipient of external debt overtime. Other regions have borrowed more than the SSA region but these regions do not have as much problems as are being seen in the SSA region.

2.3 Trend of Debt Servicing in Sub-Saharan Africa

Debt servicing is the total amount of money spent by the government in paying for their debt (Tuovila, 2022). Debt servicing tends to have a significant impact on the economy as the countries have to pay the loan taken as well as the interest on the loans. Debt servicing in Sub-Saharan Africa has been on the rise as the government continues to borrow both internally and externally. The trend of debt servicing in Sub-Saharan Africa can be seen below:

Table 2.11

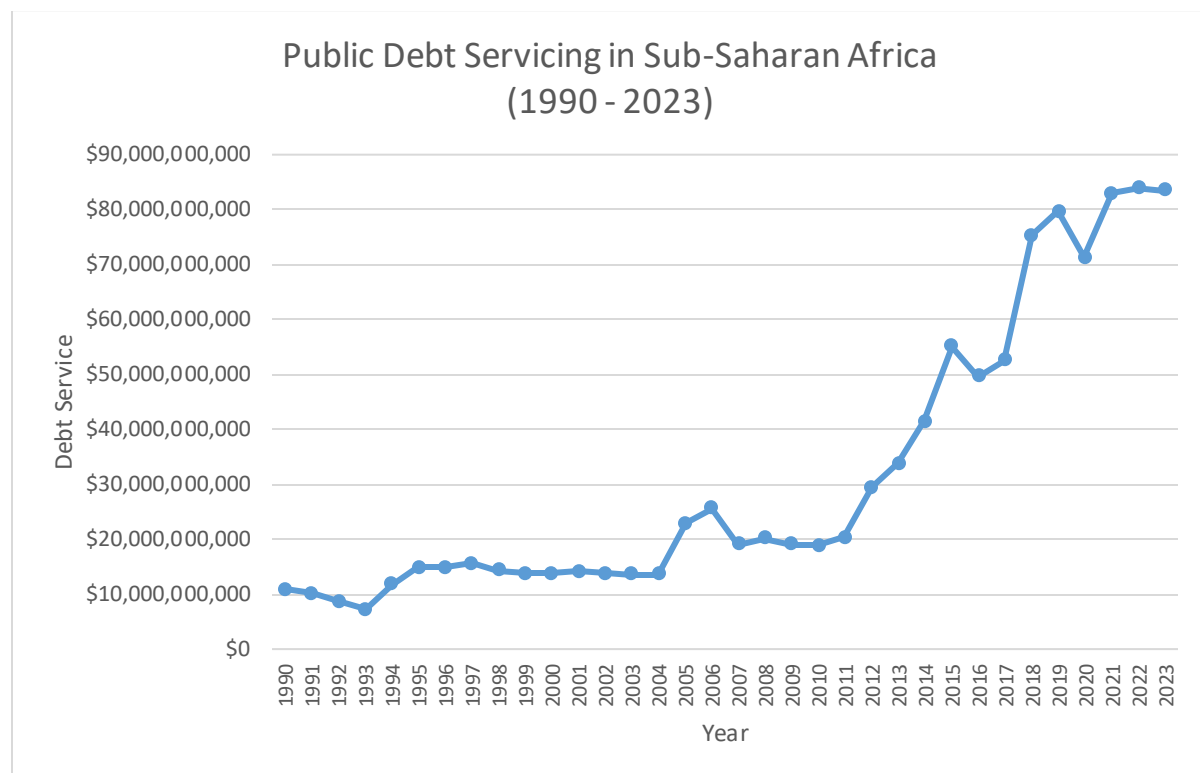
Public Debt Servicing in Sub-Saharan Africa (1990 - 2023)

Public Debt Servicing in Sub-Saharan Africa (1990 - 2023)				
Year	Debt Service		Year	Debt Service
1990	\$10,841,569,172		2007	\$19,131,701,898
1991	\$10,137,744,973		2008	\$20,170,059,117
1992	\$8,722,098,946		2009	\$18,991,009,326
1993	\$7,277,266,136		2010	\$18,926,412,981
1994	\$11,752,471,999		2011	\$20,305,793,788
1995	\$14,766,927,154		2012	\$29,334,316,529
1996	\$14,944,002,990		2013	\$33,868,048,915
1997	\$15,630,471,241		2014	\$41,437,428,626
1998	\$14,280,964,845		2015	\$55,168,845,671
1999	\$13,814,192,245		2016	\$49,639,075,611
2000	\$13,782,055,827		2017	\$52,465,881,730
2001	\$14,101,390,342		2018	\$75,215,089,256
2002	\$13,702,929,823		2019	\$79,603,900,002
2003	\$13,592,534,824		2020	\$71,305,198,603
2004	\$13,573,107,636		2021	\$82,931,098,324
2005	\$22,866,578,501		2022	\$83,879,152,605
2006	\$25,543,233,539		2023	\$83,405,125,464

Source: World Bank Database (2024)

Figure 2.11

Public Debt Servicing in Sub-Saharan Africa (1990 - 2023)



Source: World Bank Database (2024)

The trend of debt servicing in Sub-Saharan Africa from 1990 to 2023 shows an initial decline in the early 1990s, followed by stabilization in the late 1990s and early 2000s. Debt servicing dropped from \$10.8 billion in 1990 to \$7.3 billion in 1993, but rose sharply afterward, reaching around \$13 - \$15 billion by the mid-1990s. This period of fluctuation was likely influenced by debt relief efforts and shifts in borrowing patterns. From 2005 onwards, debt servicing surged significantly, hitting \$22.8 billion in 2005 and continuing to rise through the late 2000s.

In the 2010s, the increase became more pronounced, with debt servicing reaching \$55 billion in 2015 and skyrocketing to over \$79 billion by 2019. Despite a brief dip in 2020, likely due to the COVID-19 pandemic, debt servicing continued to rise, peaking at \$83.8 billion in 2022. This rapid growth reflects the region's increased borrowing to fund development and manage

economic challenges, placing a heavier burden on national budgets and limiting resources for other crucial needs like infrastructure and social services.

2.4 Government Expenditure Trend in Sub-Saharan Africa

Government expenditure, as noted by Poku et al. (2022), refers to the financial disbursements made by a nation's government at various levels, including local, state, and federal bodies. Government expenditure covers a wide range of activities and is necessary for ensuring that public services and infrastructure are maintained and expanded to meet the needs of the population. This spending plays a pivotal role in national development and is divided into two main categories: capital expenditure and recurrent expenditure (Dudzevičiūtė et al., 2018).

Capital expenditure involves long-term investments in physical or fixed assets that contribute to the nation's infrastructure and economic growth (Gough, 2020). This includes the construction of roads, hospitals, schools, and other key public infrastructure projects that provide lasting benefits. Additionally, capital expenditure covers the acquisition of machinery, land, and other investments that are critical for increasing the nation's productive capacity (Habib et al., 2019). Such investments have a lasting value, enhancing the economic potential of the country and supporting sustainable growth by laying the foundation for future prosperity. In contrast, recurrent expenditure refers to the regular, ongoing expenses necessary for the daily functioning of government services (Fisher, 2022). This category includes payments for wages and salaries of public sector employees, pensions, subsidies, interest on public debt, and other goods and services consumed by the government (Gough, 2020).

Both types of expenditure play crucial roles in fulfilling government responsibilities and driving national development. However, maintaining a balance between capital and recurrent expenditure is essential for sustainable economic growth. Overemphasis on recurrent spending without adequate capital investment may limit a nation's potential for long-term development,

leading to infrastructure deficits and economic stagnation. On the other hand, prioritizing capital expenditure at the expense of recurrent needs can undermine the effective delivery of essential public services, creating short-term challenges.

Government expenditure encompasses various forms of government activity, including consumption, investment, and transfers (Chu et al., 2018), which play a significant role in shaping the overall economic landscape. The level and composition of government expenditure vary from country to country and across different time periods. This variation is influenced by a multitude of factors including economic structure, government priorities, fiscal capacity, and political dynamics. Similarly, government expenditure within a single country is unlikely to remain constant from year to year as economic conditions, policy changes, and global events can all influence the size and scope of public spending (John, 2017). During economic downturns or crises, governments often increase spending to stimulate the economy, whereas periods of growth may allow for more measured or reduced spending.

Government expenditure is also one of the key instruments of fiscal policy, which governments use to regulate and control the economy (Yuelan et al., 2019). By adjusting spending levels, governments can either stimulate economic growth or rein in inflation. The way a government manages its expenditure has a direct impact on public services, infrastructure development, social welfare, and overall economic stability. Therefore, policymakers must carefully consider the balance between public spending and the broader economic objectives to ensure long-term fiscal sustainability and economic growth.

There are two types of fiscal policies; contractionary fiscal policy and expansionary fiscal policy (Vergés-Jaime, 2023). Contractionary fiscal policy is used by increasing taxes or reducing government expenditure while expansionary fiscal policy involves reducing taxes or increasing government expenditure (Olaoye et al., 2020). According to Sombie (2023),

Government expenditure can be functionally classified into four, which include: Administration (general administration, internal security, defence), Economic Services (construction, transport, agriculture, etc.), Social and Community Services (health sector and the education sector, etc.), and Transfers (pension and gratuity payment, subsidies, interest on debt, etc.).

Government expenditure in Sub-Saharan Africa has been on the rise over the years and stood at 250 billion dollars in 2023 (The World Bank, 2024a). The level of government expenditure can be affected by the population of such a country, increased government involvement in the economic activities in the country, as well as pandemics and wars. This goes in line with the various theories of government expenditure such as the Wagner's law as well as the Peacock-Wiseman hypothesis which predict an increase in government expenditure over time as the nation continues to grow (Paparas et al., 2018). The need to provide the various administrative setups as well as the need to provide adequate social and infrastructural amenities that will be enough to cater for the needs of the citizens can be seen as one of the major reasons for this sustained increase. Presented below is a table and a graph showing the trend of government expenditure over the years

Table 2.12

Government Expenditure Trend in Sub-Saharan Africa (1990 - 2023)

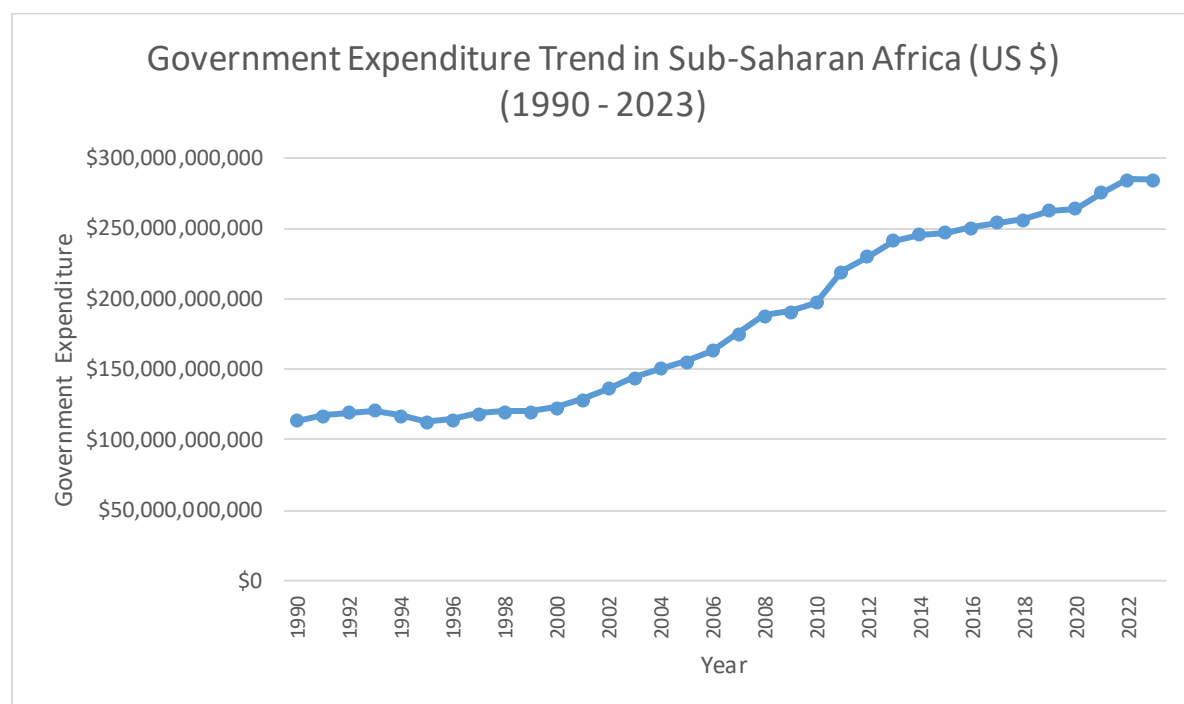
Government Expenditure Trend in Sub-Saharan Africa (1990 - 2023)			
1990	\$113,560,802,978	2007	\$175,683,590,537
1991	\$117,343,013,049	2008	\$188,447,209,563
1992	\$119,055,082,529	2009	\$191,009,132,640
1993	\$120,467,055,810	2010	\$197,706,674,242
1994	\$117,074,457,963	2011	\$219,352,006,038
1995	\$112,927,780,075	2012	\$230,248,862,350
1996	\$114,624,688,351	2013	\$241,335,338,779
1997	\$118,903,233,617	2014	\$245,454,329,868
1998	\$120,280,485,840	2015	\$247,209,669,016
1999	\$120,077,435,983	2016	\$250,796,823,108
2000	\$123,164,875,723	2017	\$253,908,040,140

2001	\$128,477,677,312	2018	\$256,538,101,111
2002	\$136,297,140,006	2019	\$262,606,237,015
2003	\$144,095,668,326	2020	\$264,005,487,538
2004	\$150,884,688,786	2021	\$275,447,984,210
2005	\$155,349,881,687	2022	\$284,537,025,317
2006	\$163,122,195,060	2023	\$284,729,831,354

Source: World Bank Database (2024)

Figure 2.12

Government Expenditure Trend in Sub-Saharan Africa (1990 - 2023)



Source: World Bank Database (2024)

From Figure 2.12, the government expenditure trend in Sub-Saharan Africa from 1990 to 2023 shows a steady overall increase, with spending rising from \$113.6 billion in 1990 to \$284.7 billion in 2023. In the early 1990s, there was modest growth and occasional declines, particularly between 1994 and 1996. However, starting in the 2000s, expenditure grew more consistently, especially after 2010. The trend reflects a growing reliance on public spending to address developmental challenges, with significant growth particularly in the last decade.

As a country's population grows, the government's spending inevitably increases to accommodate the rising needs of its citizens. This includes the provision of essential services

such as healthcare, education, infrastructure, and social security. A larger population necessitates greater investment in public goods and services (Hansen, 2018), which places a strain on government resources. However, the impact of population growth on a country's economy and expenditure depends largely on the composition of that growth.

2.5 Economic Growth and External Debt in Sub-Saharan Africa

The relationship between economic growth and external debt in Sub-Saharan Africa has been widely debated, with mixed empirical findings. While moderate levels of external borrowing can finance productive investment and stimulate growth, excessive debt burdens have often led to unsustainable repayment obligations (Akinola & Ohonba, 2024). In many Sub-Saharan African countries, rising debt levels, particularly since the 2000s, have sparked renewed concerns over debt sustainability and their implications for long-term growth. To explore this relationship further, the following table and chart showing the trend of Real GDP and external debt over time are examined.

Table 2.13

Real GDP and External Debt in Sub-Saharan Africa (1990 - 2023)

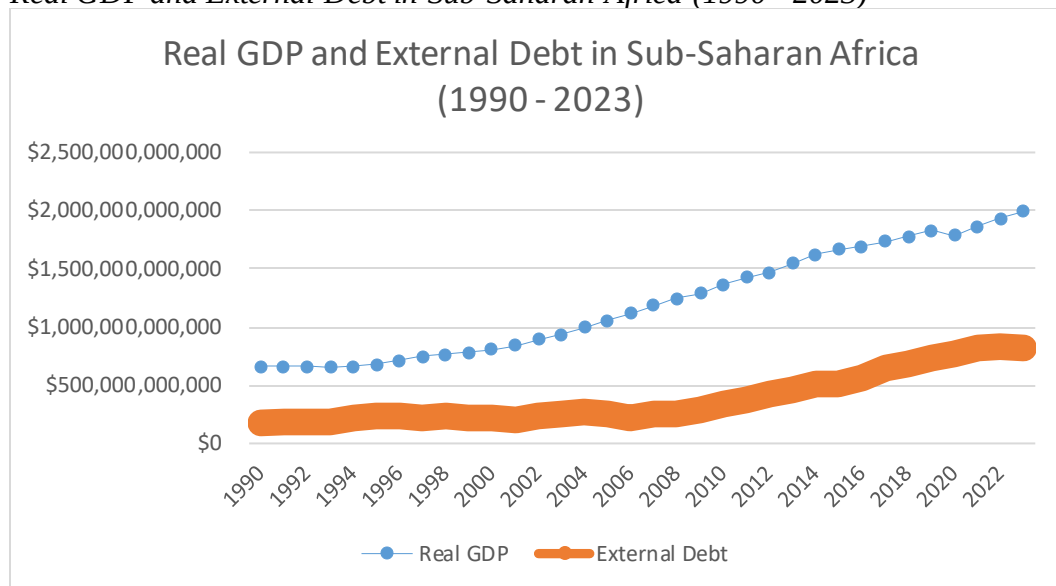
Year	Real GDP	External Debt Trend	Year	Real GDP	External Debt Trend
1990	\$659,524,980,276	\$176,261,891,942	2007	\$1,186,061,093,106	\$249,021,125,063
1991	\$661,831,221,444	\$182,493,608,478	2008	\$1,247,611,030,059	\$258,147,572,523
1992	\$659,184,063,201	\$181,847,826,083	2009	\$1,287,291,060,098	\$294,495,360,106
1993	\$653,298,256,792	\$188,163,684,008	2010	\$1,364,471,531,296	\$339,508,960,415
1994	\$659,704,517,522	\$221,765,078,201	2011	\$1,424,704,829,896	\$377,291,352,885
1995	\$681,599,371,304	\$236,364,370,767	2012	\$1,471,125,252,794	\$425,896,404,021
1996	\$716,571,395,805	\$231,926,882,700	2013	\$1,546,012,009,179	\$466,443,351,057
1997	\$745,824,709,802	\$226,590,274,375	2014	\$1,621,314,547,114	\$505,087,150,664
1998	\$764,487,703,603	\$230,282,309,794	2015	\$1,668,662,993,705	\$510,365,565,953
1999	\$781,341,706,008	\$218,381,793,540	2016	\$1,689,388,408,434	\$556,366,270,870
2000	\$808,517,737,277	\$216,182,516,772	2017	\$1,731,357,602,339	\$650,514,220,716
2001	\$842,463,042,074	\$209,202,588,512	2018	\$1,779,055,933,937	\$689,071,386,089

2002	\$895,800,765,230	\$230,503,904,228	2019	\$1,826,374,286,082	\$737,972,859,003
2003	\$932,081,500,585	\$253,446,298,733	2020	\$1,790,451,424,728	\$775,929,514,130
2004	\$993,617,156,993	\$267,612,551,581	2021	\$1,866,813,048,084	\$814,648,028,065
2005	\$1,053,421,773,025	\$249,058,543,008	2022	\$1,935,148,905,025	\$831,561,818,192
2006	\$1,117,215,564,462	\$213,896,253,367	2023	\$1,992,334,403,857	\$823,104,923,128

Source: World Bank Database (2024)

Figure 2.13

Real GDP and External Debt in Sub-Saharan Africa (1990 - 2023)



Source: World Bank Database (2024)

As seen in figure 2.13, from 1990 to 2023, real GDP and external debt in Sub-Saharan Africa both increased significantly, though their growth trajectories differed in consistency. Real GDP rose steadily from about \$660 billion in 1990 to nearly \$2 trillion in 2023, indicating sustained economic growth. In contrast, external debt fluctuated more in the early years, rising sharply from \$176 billion in 1990 to over \$823 billion by 2023, with notable accelerations from the mid-2000s onward. While economic growth was relatively stable, the upward trend in external debt was more pronounced after 2010, which suggest a growing reliance on external borrowing.

2.6 Economic Growth and Government Expenditure in Sub-Saharan Africa

Government expenditure plays a crucial role in driving economic growth across Sub-Saharan Africa by financing public goods such as infrastructure, education, and health. However, the

effectiveness of this spending largely depends on its composition, efficiency, and governance context. While some studies report a positive correlation between well-targeted public spending and growth (Poku et al., 2022), others highlight the risks of fiscal mismanagement and inefficiencies, which may limit the growth-enhancing effects of government expenditure in the region (Okunlola et al., 2024). To explore this relationship further, the following chart showing the trend of Real GDP and government expenditure over time is examined.

Table 2.14

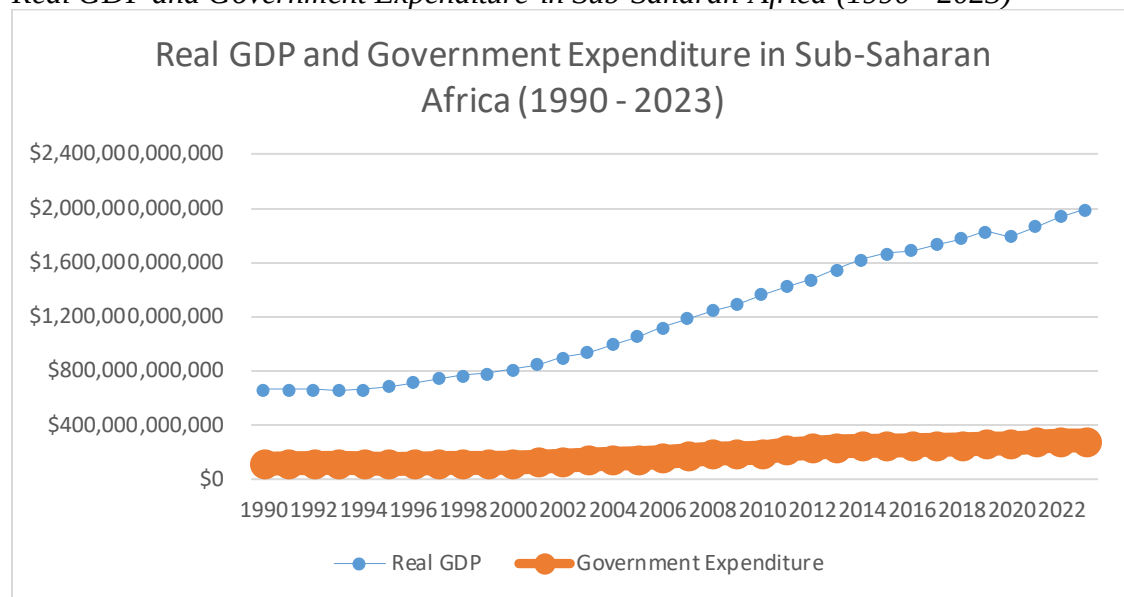
Real GDP and Government Expenditure in Sub-Saharan Africa (1990 - 2023)

Year	Real GDP	Government Expenditure	Year	Real GDP	Government Expenditure
1990	\$659,524,980,276	\$113,560,802,978	2007	\$1,186,061,093,106	\$175,683,590,537
1991	\$661,831,221,444	\$117,343,013,049	2008	\$1,247,611,030,059	\$188,447,209,563
1992	\$659,184,063,201	\$119,055,082,529	2009	\$1,287,291,060,098	\$191,009,132,640
1993	\$653,298,256,792	\$120,467,055,810	2010	\$1,364,471,531,296	\$197,706,674,242
1994	\$659,704,517,522	\$117,074,457,963	2011	\$1,424,704,829,896	\$219,352,006,038
1995	\$681,599,371,304	\$112,927,780,075	2012	\$1,471,125,252,794	\$230,248,862,350
1996	\$716,571,395,805	\$114,624,688,351	2013	\$1,546,012,009,179	\$241,335,338,779
1997	\$745,824,709,802	\$118,903,233,617	2014	\$1,621,314,547,114	\$245,454,329,868
1998	\$764,487,703,603	\$120,280,485,840	2015	\$1,668,662,993,705	\$247,209,669,016
1999	\$781,341,706,008	\$120,077,435,983	2016	\$1,689,388,408,434	\$250,796,823,108
2000	\$808,517,737,277	\$123,164,875,723	2017	\$1,731,357,602,339	\$253,908,040,140
2001	\$842,463,042,074	\$128,477,677,312	2018	\$1,779,055,933,937	\$256,538,101,111
2002	\$895,800,765,230	\$136,297,140,006	2019	\$1,826,374,286,082	\$262,606,237,015
2003	\$932,081,500,585	\$144,095,668,326	2020	\$1,790,451,424,728	\$264,005,487,538
2004	\$993,617,156,993	\$150,884,688,786	2021	\$1,866,813,048,084	\$275,447,984,210
2005	\$1,053,421,773,025	\$155,349,881,687	2022	\$1,935,148,905,025	\$284,537,025,317
2006	\$1,117,215,564,462	\$163,122,195,060	2023	\$1,992,334,403,857	\$284,729,831,354

Source: World Bank Database (2024)

Figure 2.14

Real GDP and Government Expenditure in Sub-Saharan Africa (1990 - 2023)



Source: World Bank Database (2024)

As seen in figure 2.14, between 1990 and 2023, both real GDP and government expenditure in Sub-Saharan Africa exhibited a steady upward trend, reflecting long-term economic expansion and increased public sector activity. Real GDP rose from approximately \$660 billion in 1990 to nearly \$2 trillion in 2023, indicating consistent growth over the three decades, despite slight fluctuations in the early 1990s and around 2020. Government expenditure followed a similar trajectory, increasing from around \$114 billion in 1990 to over \$284 billion by 2023, suggesting a parallel rise in public investment and spending. The data suggest a strong long-term co-movement between economic output and government spending.

2.7 Government Expenditure and External Debt in Sub-Saharan Africa

The interaction between government expenditure and external debt in Sub-Saharan Africa reflects a complex fiscal dynamic. External borrowing often serves as a key source of funding for public spending, particularly in economies with limited domestic revenue (Aluthge et al., 2021). However, high debt servicing costs can reduce the fiscal space available for development expenditure, forcing governments to either cut spending or increase reliance on

concessional aid (Dawood et al., 2021). This tension underscores the importance of debt management strategies that align borrowing with productive investment and long-term fiscal sustainability. To explore this relationship further, the following chart showing the trend of government expenditure and external debt over time is examined.

Table 2.15

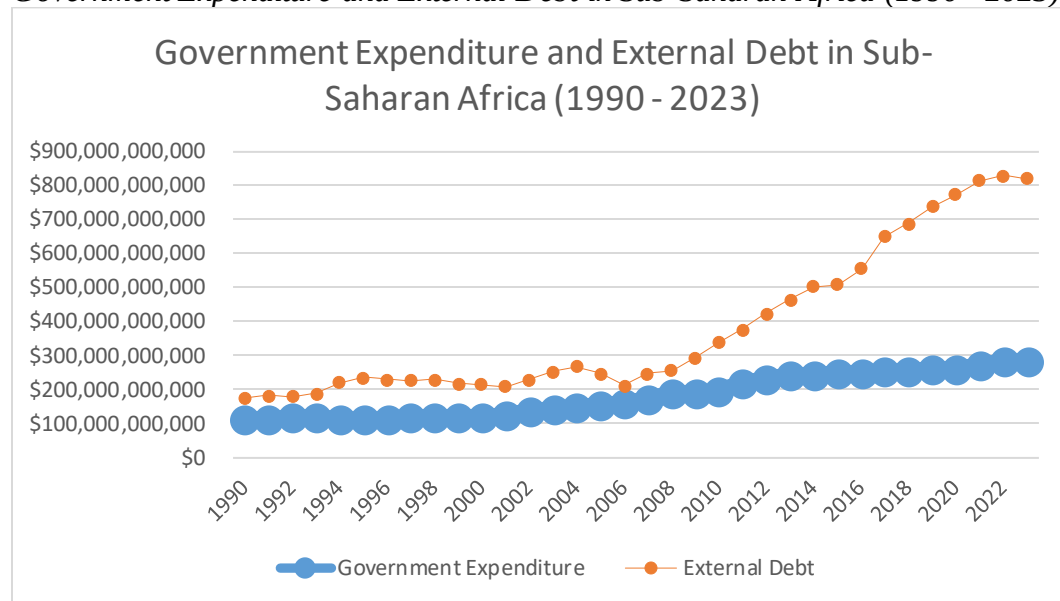
Government Expenditure and External Debt in Sub-Saharan Africa (1990 - 2023)

Year	Government Expenditure	External Debt Trend	Year	Government Expenditure	External Debt Trend
1990	\$113,560,802,978	\$176,261,891,942	2007	\$175,683,590,537	\$249,021,125,063
1991	\$117,343,013,049	\$182,493,608,478	2008	\$188,447,209,563	\$258,147,572,523
1992	\$119,055,082,529	\$181,847,826,083	2009	\$191,009,132,640	\$294,495,360,106
1993	\$120,467,055,810	\$188,163,684,008	2010	\$197,706,674,242	\$339,508,960,415
1994	\$117,074,457,963	\$221,765,078,201	2011	\$219,352,006,038	\$377,291,352,885
1995	\$112,927,780,075	\$236,364,370,767	2012	\$230,248,862,350	\$425,896,404,021
1996	\$114,624,688,351	\$231,926,882,700	2013	\$241,335,338,779	\$466,443,351,057
1997	\$118,903,233,617	\$226,590,274,375	2014	\$245,454,329,868	\$505,087,150,664
1998	\$120,280,485,840	\$230,282,309,794	2015	\$247,209,669,016	\$510,365,565,953
1999	\$120,077,435,983	\$218,381,793,540	2016	\$250,796,823,108	\$556,366,270,870
2000	\$123,164,875,723	\$216,182,516,772	2017	\$253,908,040,140	\$650,514,220,716
2001	\$128,477,677,312	\$209,202,588,512	2018	\$256,538,101,111	\$689,071,386,089
2002	\$136,297,140,006	\$230,503,904,228	2019	\$262,606,237,015	\$737,972,859,003
2003	\$144,095,668,326	\$253,446,298,733	2020	\$264,005,487,538	\$775,929,514,130
2004	\$150,884,688,786	\$267,612,551,581	2021	\$275,447,984,210	\$814,648,028,065
2005	\$155,349,881,687	\$249,058,543,008	2022	\$284,537,025,317	\$831,561,818,192
2006	\$163,122,195,060	\$213,896,253,367	2023	\$284,729,831,354	\$823,104,923,128

Source: World Bank Database (2024)

Figure 2.15

Government Expenditure and External Debt in Sub-Saharan Africa (1990 - 2023)



Source: World Bank Database (2024)

As seen in figure 2.15, between 1990 and 2023, government expenditure and external debt in Sub-Saharan Africa both followed an upward trend, although the magnitude and pace of their growth varied over time. Government spending rose steadily from approximately \$114 billion in 1990 to about \$285 billion in 2023, reflecting increased public investment and service provision. Meanwhile, external debt grew from around \$176 billion to over \$823 billion in the same period, with more rapid increases particularly after 2010. The general co-movement of these variables suggests that rising external debt may have played a role in financing government expenditure, though the relationship is not uniformly proportional across the years.

CHAPTER THREE

LITERATURE REVIEW

3.1 Conceptual Review

This section clarifies the key concepts of this study; government expenditure, external debt, economic growth, economic welfare, institutional factors, inflation, and foreign direct investment (FDI), which are central to the research questions examining the impact of government expenditure on economic growth (RQ1), the mediating role of institutional factors on the expenditure-welfare relationship (RQ2), and the threshold effect of external debt on growth (RQ3) in Sub-Saharan Africa (SSA). Inflation and FDI are included as control variables in the empirical models.

Government expenditure refers to government spending on goods, services, transfers, and investments to support economic activities and development goals, it plays a great role in resource allocation, redistribution, and stabilization (Poku et al., 2022). In SSA, it often funds health, education, and debt servicing, impacting growth and welfare. This study measures government expenditure using ‘GEX’ as a percentage of real GDP. External debt encompasses a country’s financial obligations to foreign creditors, repayable in foreign currency (The World Bank, 2021). This study uses the external debt-to-GDP ratio, which reflects sustainability. In SSA, reliance on foreign borrowing raises debt overhang concerns, where high debt stifles growth (Krugman, 1988), this study examines its threshold effect on growth (RQ3).

Economic growth is the sustained increase in a country’s aggregate output over time, IMF (2024) defines it as the rise in real GDP, adjusted for inflation, while GDP per capita (real GDP divided by population) captures per-person output. This study uses the annual percentage change in real GDP per capita to measure economic growth, consistent with the Endogenous Growth AK Model, because GDP per capita provides a more accurate reflection of changes in individual economic wellbeing than aggregate GDP. Unlike total output, which may rise

simply due to population growth, GDP per capita isolates productivity-driven expansion and therefore aligns better with growth theories that focus on improvements in efficiency, human capital accumulation, and technological progress. Its use is particularly relevant for Sub-Saharan Africa, where population dynamics vary widely across countries and could distort growth comparisons if total GDP were used.

Economic welfare denotes societal well-being, including quality of life and human development (Estes & Sirgy, 2018), measured by Human Development Index (HDI), combining life expectancy, education, and income per capita (Lind, 2019). In SSA, HDI captures the impact of expenditure on health and education amidst poverty. This study uses 'HDI' for RQ2, aligning with Endogenous Growth Theory's focus on human capital (Lucas, 1988).

Institutional factors are governance structures shaping economic outcomes, also known as, institutions as societal "rules," including laws and norms (Urbano et al., 2018). This study uses 'Control of Corruption' (COC) and 'Government Effectiveness' (GEF), ranging from -2.5 (weak) to 2.5 (strong). In SSA, weak governance often hampers expenditure effectiveness. The interaction 'EXP.COC' ($GEX \times COC$) assesses mediation in RQ2. Inflation is the sustained rise in the general price level, measured as the annual percentage change in the Consumer Price Index (CPI) (Reinsdorf & Schreyer, 2020). This study uses 'Inflation' as a control in RQ1 and RQ3, capturing its macroeconomic impact on growth. In SSA, FDI is measured as net inflows ('Foreign Direct Investment') as a percentage of GDP (World Bank, 2023), FDI is a control in RQ1 and RQ3.

The concepts are intricately linked within the study's framework. Government expenditure ('GEX') influences economic growth by enhancing capital accumulation, as posited by the Endogenous Growth AK Model (RQ1), but its effectiveness is mediated by institutional factors

(‘COC’), which determine how efficiently expenditure translates into economic welfare (‘HDI’) by minimizing corruption and ensuring quality service delivery (RQ2). External debt affects growth through a threshold effect, as per the Debt Overhang Theory, where high debt levels may crowd out investment and reduce growth (RQ3). Inflation (‘Inflation’) and FDI (‘Foreign Direct investment’) act as macroeconomic controls, influencing growth dynamics by affecting purchasing power and capital inflows, respectively. These interrelationships underscore the importance of a holistic approach to fiscal policy, debt management, and institutional reform in SSA, providing a conceptual foundation for the empirical analysis.

3.2 Theoretical Literature Review

Several theories are examined in this section. This is shown below:

3.2.1 Government expenditure and Economic Growth

Several theories have been put forward by various economists, with a view to examining government expenditure and its relationship with economic growth. Some of them include:

3.2.1.1 Wagner’s Law

Adolph Wagner, a 19th-century German economist (Curi, 2019), in his seminal work *Grundlegung der politischen Ökonomie* (1892), established a foundational theory linking public expenditure to economic growth (Wagner, 1892). Wagner’s analysis highlighted a noticeable trend: as economies develop, government expenditure tends to grow both in absolute terms and relative to national income (Wagner, 1892). His observations led to what is now widely recognized as Wagner’s Law, which posits that as a nation’s economy expands, there will be a proportionate or even greater increase in government expenditure (Sisay et al., 2024). This theory was further elaborated in later studies, particularly Wagner and Weber’s work in 1977, which established the core proposition that the level of public spending rises with an increase in national income (Wagner & Weber, 1977). Essentially, Wagner argued that

economic growth drives public sector expansion, and industrialized economies, in particular, would see a greater role for government spending as a key driver of development (Jalles, 2019).

One of the central tenets of Wagner's Law is the growing complexity of economies over time and how this necessitates increased public spending (Wagner, 2020). As nations develop, their economies become more intricate and sophisticated, with increased demand for government services. Wagner noted that as economies industrialize, there is a need to expand and improve social infrastructure such as health services, education, transportation systems, and legal frameworks (Okoh, 2008). These public services are essential to support the more complex and urbanized nature of advanced economies. For instance, in modern societies, healthcare systems need to grow to meet the demands of larger, more densely populated cities, while educational facilities must adapt to a more diverse and specialized workforce (Mian et al., 2020). Similarly, transportation infrastructure requires continuous expansion to facilitate increased trade and the movement of goods and people, which are key drivers of economic activity (Babajide et al., 2020). Wagner argued that all these activities necessitate higher levels of government spending, reinforcing the connection between public expenditure and economic growth.

Moreover, Wagner's Law underscores the vital role of an enhanced legal and administrative framework as economies grow (Wagner, 1892). As markets become more complex, governments are required to establish robust institutions to enforce contracts, protect property rights, and regulate economic activities (Wagner, 2020). This increase in legal and administrative responsibilities results in higher public expenditure on governance, law enforcement, and the judicial system (Nyasha & Odhiambo, 2019). Wagner believed that such expenditures were not merely a consequence of economic growth but an essential foundation for it. To him, for an economy to sustain long-term growth, the government must play an active role in maintaining order and ensuring that market mechanisms function efficiently (Paparas et

al., 2018). Therefore, expenditures on law and order, governance, and administration are seen as crucial investments that create a conducive environment for economic development.

Historically, Wagner's Law has been validated by the experiences of many developed economies. For instance, countries with advanced economies such as the United States, Germany, and the United Kingdom have all seen a steady increase in government spending over time (Gough, 2020). This expansion is particularly noticeable in areas such as social welfare, public services, and infrastructure development. In these countries, government spending accounts for a significant portion of GDP, reflecting the central role that public investment plays in supporting both economic growth and social well-being (Arestis et al., 2020). In fact, many economists argue that without substantial government involvement, these economies would not have been able to achieve the levels of prosperity and stability they enjoy today. Public expenditure on social services like healthcare, education, and welfare has played a critical role in reducing inequality and ensuring that the benefits of economic growth are broadly shared (Halaskova et al., 2018).

In developing economies, the application of Wagner's Law suggests that as nations experience economic growth, they too should expect to see a corresponding increase in public expenditure (Gatsi et al., 2019; Olayiwola et al., 2021). However, the relationship between public spending and economic growth in these regions is often more complex, particularly in countries where institutional weaknesses or inefficiencies in public spending may limit the positive effects of government expenditure. Nonetheless, the general principle that economic development leads to an expansion of public services holds, as governments in developing countries are required to address growing infrastructure needs, expand social services, and improve legal and administrative systems to support economic progress.

In summary, Wagner's Law proposes a bidirectional relationship between economic growth and public expenditure (Wagner, 1892). On the one hand, as economies grow, they necessitate greater public spending to sustain further development, while on the other hand, increased government expenditure, particularly in infrastructure, social services, and governance, can stimulate economic growth by creating the conditions for continued economic expansion. In modern economies, both developed and developing, Wagner's Law continues to be a relevant framework for understanding the evolving role of government in economic growth.

3.2.1.2 Keynesian Theory to Public Expenditure

Keynesian theory was proposed in 1936 by John Maynard Keynes in his seminal work, *The General Theory of Employment, Interest, and Money* (Keynes, 1936). The Keynesian theory of public expenditure emerged as a response to the economic challenges of the early 20th century, particularly the failure of the laissez-faire ideology during the Great Depression (Marchionatti, 2021). Before Keynesian economics, the prevailing school of thought was rooted in the classical economic theory of laissez-faire, which emphasized minimal government intervention (Zafirovski, 2019). Proponents of this theory believed that free markets, driven by the invisible hand of demand and supply, would naturally lead to optimal outcomes, maintaining equilibrium and ensuring efficiency in the allocation of resources (Chaloupek, 2023). The idea was that any economic imbalance would be corrected by market forces over time, making government intervention unnecessary (Klitgaard, 2021).

However, this belief was profoundly challenged by the onset of the Great Depression in the 1930s, a period characterized by severe economic contraction, mass unemployment, and a breakdown of the supposed market self-correction mechanism (Keynes, 1936). Even in advanced economies like the United States, unemployment rates soared, and the economy stagnated, revealing the limitations of laissez-faire economics and prompting a search for new economic solutions (Frank & Bernanke, 2007).

In response to these challenges, John Maynard Keynes introduced a revolutionary perspective on the role of government in the economy (Keynes, 1936), his ideas formed the basis of what is now known as Keynesian economics (Gerrard, 2020). Keynes argued that market economies are inherently unstable and, without government intervention, are unlikely to achieve full employment or efficient outcomes (Chandra, 2024). He rejected the classical notion that markets are self-regulating and proposed that government intervention is essential to manage economic fluctuations and stabilize the economy, particularly during periods of recession or economic boom (Sicsú, 2020). Keynes asserted that governments should actively use fiscal policies - changes in government spending and taxation, thereby regulating economic activity (Armstrong, 2018). This represented a significant departure from earlier economic thought, placing government at the center of economic management (Blinder, 2017).

A key component of Keynesian theory is the belief in price and wage rigidity (Marglin, 2018). Unlike classical economists who assumed that prices and wages are flexible and would adjust to clear markets (Mankiw, 2019), Keynesians argued that prices and wages can be “sticky” and do not always adjust quickly to changes in supply and demand (Marglin, 2018). As a result, economies can remain stuck in prolonged periods of high unemployment and low output without corrective government intervention. According to Keynes, when private sector demand is insufficient, as during a recession, the government can step in and increase spending to stimulate the economy. This increase in public expenditure boosts aggregate demand, leading to higher output and employment levels (Popescu & Diaconu, 2021).

Central to Keynesian economics is the concept of the Keynesian multiplier, which explains how changes in government spending can have a magnified impact on the overall economy (Bouakez et al., 2022). The multiplier effect suggests that an increase or decrease in public expenditure will result in a multiple change in total output. For example, if the government increases its spending, it directly raises demand for goods and services, which, in turn,

increases income and consumption in the economy, thereby generating further increases in demand and output (Ray & Pal, 2022). This concept was ground-breaking, as it demonstrated that government intervention could have a powerful impact on economic recovery, particularly during periods of low private sector investment.

Keynes also provided specific policy recommendations based on his theory. During economic downturns or recessions, he advocated for fiscal expansion; government measures to increase spending or cut taxes to boost demand (Vergés-Jaime, 2023). Keynes argued that such measures would inject much-needed liquidity into the economy, stimulate demand, and reduce unemployment. To finance these initiatives, governments could engage in deficit spending, borrowing the additional funds required to stimulate the economy. By doing so, Keynes believed governments could mitigate the effects of recessions and prevent prolonged economic stagnation (Dweck et al., 2020). On the other hand, during periods of economic expansion, when inflationary pressures build up, Keynes suggested that governments should adopt contractionary fiscal policies to cool the economy (Sicsú et al., 2020). This could involve reducing public expenditure or increasing taxes to curb inflation and prevent the economy from overheating.

In summary, the Keynesian theory of public expenditure revolutionized economic thought by challenging the classical notion of self-regulating markets and highlighting the crucial role of government intervention. By advocating for active fiscal and monetary policies, Keynes provided a framework for managing economic cycles and ensuring greater stability. His ideas laid the foundation for modern macroeconomic policy, influencing governments worldwide in their approach to public spending and economic management, particularly during times of economic crisis.

3.2.1.3 Peacock and Wiseman's Theory of Public Expenditure

Peacock and Wiseman's Theory of Public Expenditure, introduced in 1961 (Peacock & Wiseman, 1961), questioned the generality of Wagner's Law and introduced the displacement effect hypothesis to explain the time path of the growth of government in a democratic setting (Peacock & Wiseman, 1961). Peacock and Wiseman posited that governments prefer to spend more, while citizens resist higher taxes (Jaén-García, 2021), and that governments are still compelled to consider the preferences of their citizens (Peacock & Wiseman, 1961). They believed that decisions can be influenced through the ballot box (Oriakhi, 2002).

According to Peacock and Wiseman, public expenditure does not increase in a straightforward or smooth pattern, they believed that it increased in a stepwise/jump-like manner, coinciding with social disturbances, particularly wars (Gallegati & Tamberi, 2022). The economy before the social disturbance was faced with a lot of limitations and constraints as regards revenue generation as the people were unwilling to incur more tax liabilities, thus it was difficult for the government to raise funds (Kabayel & Doğan, 2022). The emergence of social disturbances makes it clear for all to see the inadequacy of present government expenditure levels as well as the need for increased government expenditure

They put forward three concepts in a means to explain their hypothesis, they include: Displacement effect, Inspection effect and the Concentration effect

- Displacement Effect

According to them, the occurrence of a social disturbance means that the government has to increase expenditure levels, which is done by raising revenue through increased taxes in order to take care of the added expenses due to the social disturbance (Kabayel & Doğan, 2022). This led to what they termed the displacement effect, as lower rates of taxes as well as lower levels of government expenditure are replaced with higher tax and expenditure levels (Cosimo et al.,

2015). Before such disturbances, governments were constrained by the unwillingness of citizens to pay higher taxes, limiting revenue and expenditure levels (Oriakhi, 2002). However, during crises, such as wars, the inadequacies of current expenditure become apparent, necessitating higher levels of public spending (Cosimo et al., 2015). According to them, after the period of the disturbance is over, the citizens having gotten acclimatized to the new tax levels are now willing to accept and support higher levels of government expenditure (Peacock & Wiseman, 1961). A new disturbance according to them will still be experienced in the economy which will in turn lead to higher tax and expenditure levels and this cycle continues.

- Inspection Effect:

The inspection effect emerges from the gap between revenue and expenditure (Mustapha et al., 2024), prompting dialogue between the government and the citizens. In this situation, a discussion is held between the government and the citizens with a view to arriving at a solution, after which agreements are reached as regards the new tax levels and necessary expenditure levels necessary in the economy. The government is now able to achieve levels of expenditure it could not achieve before the occurrence of the social disturbance

- Concentration Effect:

Here, it is seen that due to a country experiencing economic growth, the economic activities carried out by the central government tend to increase and grow faster, which is what they termed the “concentration effect” (Khan, 2019). The proportion of economic activities embarked upon by the government tends to increase as the economy continues to experience subsequent social disturbances. These periods of displacement were seen by Peacock and Wiseman as periods which led to concentration of power in the hands of the central authorities (Rowley & Tollison, 1994).

In summary, Peacock and Wiseman's theory offers an explanation for the non-linear growth of government expenditure, particularly in democratic societies. It highlights how crises and social disturbances play a crucial role in justifying higher taxes and greater public spending, which in turn alters the expectations and acceptance levels of citizens regarding government expenditure.

3.2.1.4 Public Choice Theory

Public Choice Theory extends economic reasoning to the realm of political decision-making and provides a critical framework for understanding how government expenditure patterns emerge in practice (Petach, 2023). Rather than presuming that public officials consistently act to maximise social welfare, the theory contends that politicians, bureaucrats, and organised interest groups often pursue objectives that reflect their own preferences and incentives (Chohan, 2024). These may include electoral advantage, the expansion of departmental budgets, rent-seeking behaviour, or preferential allocation of public resources to politically connected groups.

As a result, fiscal decisions do not always align with efficiency-oriented or growth-enhancing policy prescriptions. Instead, public expenditure may become shaped by political bargaining, patronage, and institutional constraints, leading to outcomes that deviate from what traditional welfare economics would predict. This theoretical lens is especially relevant in settings where accountability structures are weak, information asymmetries are high, and governance systems are prone to corruption or clientelism, as these conditions intensify the gap between public interest and actual fiscal behaviour. Public Choice Theory therefore highlights the possibility that increases in government expenditure may not translate into productive investment or economic growth, but instead reflect political incentives that prioritise short-term gains or the preservation of political power (Petach, 2023).

Within the Sub-Saharan African context, the insights of Public Choice Theory carry particular weight, as many countries in the region grapple with persistent governance shortcomings, including fragile accountability systems, entrenched patronage networks, limited bureaucratic transparency, and heightened exposure to corruption (Sobrinho & Thakoor, 2019). These structural constraints mean that public expenditure does not always reflect developmental priorities but can instead become an avenue for political consolidation, or rent extraction. Consequently, increases in government spending may not translate into enhanced productive capacity or sustained economic growth. Funds intended for infrastructure, innovation, or private-sector support may be diverted towards recurrent administrative costs, politically motivated employment, or projects that yield high visibility but limited economic returns.

Yet, despite these governance limitations, public spending can still generate meaningful improvements in human welfare when channelled towards essential social sectors such as health, education, and social protection. These areas are less dependent on immediate productivity gains and more directly associated with long-term human development outcomes. Thus, Public Choice Theory offers a nuanced interpretation of fiscal behaviour in Sub-Saharan Africa: while government expenditure may fail to stimulate growth when shaped by political rather than economic incentives, it can nevertheless contribute positively to welfare where resources are effectively allocated. The theory therefore helps reconcile seemingly contradictory empirical findings and underscores the importance of institutional quality in determining whether public spending supports development or hinders it.

3.2.1.5 Leviathan Model

The Leviathan Model, advanced by Brennan and Buchanan, offers a contrasting view of government behaviour by depicting the state as an entity that naturally seeks to maximise its control, revenue, and influence unless disciplined by institutional constraints (Możdżeń, 2013).

In this model, governments may expand expenditure not because of clear developmental priorities, but due to bureaucratic self-interest, the pursuit of political dominance, or the exploitation of citizens through excessive taxation and debt accumulation (Liu, 2024).

This perspective is highly relevant to Sub-Saharan Africa, where fiscal oversight mechanisms are often weak and public accountability remains uneven across countries (Abanikanda et al., 2023). Without strong institutional checks, governments may borrow excessively, allocate resources inefficiently, or expand recurrent spending beyond productive levels, ultimately crowding out private investment and depressing economic growth. The non-linear effects of external debt found in some studies, where debt becomes harmful beyond certain thresholds, align with the idea that unconstrained government expansion can jeopardise economic performance. The Leviathan model thus reinforces the need for effective institutional controls to ensure that public expenditure and borrowing are aligned with developmental objectives rather than government self-interest.

3.2.2 External Debt and Economic Growth

Theories which examine external debt and its impact on economic growth are examined in this section.

3.2.2.1 Dual Gap Theory

The Dual Gap Theory, formulated by Chenery and Strout in 1966 (Chenery & Strout, 1966), is particularly significant for developing and underdeveloped countries, as it highlights two critical constraints: the savings gap and the foreign exchange gap (Chenery & Strout, 1966). The savings gap refers to the shortfall between the level of investment required to drive economic growth and the actual domestic savings available in an economy (Ijirshar et al., 2019). In developing nations, this gap is often wide, meaning that the level of savings within the economy is insufficient to finance the investments needed to foster growth and development

(Chenery & Strout, 1966). This savings deficit has serious implications, as it limits the amount of capital that can be invested by both the public and private sectors (Ribaj & Mexhuani, 2021).

The foreign exchange gap, on the other hand, reflects the imbalance in a country's external sector (Augustine & Kumar, 2020), where income and revenues from foreign exchange earnings, such as exports, are not sufficient to meet the foreign exchange demands of the economy, including imports and external obligations (Augustine & Kumar, 2020). This deficit in foreign exchange puts pressure on the balance of payments and can lead to debt dependency as nations are forced to borrow externally to bridge the gap.

The theory attributes the slow growth rates in many underdeveloped nations to these dual constraints. According to the theory, one of the major reasons for low growth and underdevelopment in these economies is the insufficient level of savings (Adegboye et al., 2020). This shortfall in domestic savings constrains both private and public investment, reducing the capacity to drive significant economic growth. Therefore, for developing countries, especially those in Sub-Saharan Africa, addressing the savings gap is crucial to unlocking higher levels of growth. The theory underscores the importance of savings and investment as key drivers of economic growth, a factor often lacking in less developed economies (Steinert et al., 2018).

To overcome these constraints, developing nations often resort to borrowing as a means to finance their investment needs (Agyeman et al., 2022). Borrowing provides the necessary capital to bridge the savings gap and fund essential investments in infrastructure, education, healthcare, and other critical sectors (Tan & Zhao, 2019). It must however be emphasised that it is highly important to make efficient use of borrowed funds. If borrowed resources are directed toward productive sectors, they can spur economic growth and generate the revenues necessary to repay the loans (Combes et al., 2019). Conversely, misallocation of borrowed

funds could lead to a cycle of debt without corresponding growth (Zyl, 2024). As Obadan (1999) pointed out, the amount a country needs to borrow is largely determined by the relationship between its total expenditure and domestic production. Countries with relatively low expenditure levels are less reliant on external borrowing, whereas those with high expenditure demands and limited domestic production often turn to borrowing to cover their financial shortfalls.

In summary, the Dual Gap Theory provides a framework for understanding why developing economies struggle with growth. It emphasizes that the lack of domestic savings and foreign exchange earnings presents a dual challenge to economic development, and borrowing is often a necessary but risky tool for overcoming these limitations. Proper financial management and strategic allocation of resources are vital to ensuring that external borrowing translates into meaningful and sustainable economic progress.

3.2.2.2 Debt Overhang Theory

The Debt Overhang Theory, originally proposed by Krugman in 1988 (Krugman, 1988; Joy & Panda, 2019), highlights a critical economic relationship between foreign debt and investment, particularly in developing and heavily indebted countries (Krugman, 1988). The theory suggests that once a nation accumulates excessive levels of debt, it reaches a threshold where the negative impact of this debt outweighs the potential benefits of further borrowing (Mhlaba & Phiri, 2019). In such cases, large and continuous borrowings lead to a state of high indebtedness, which hinders economic growth by creating a disincentive for both domestic and foreign investment (Ncanywa & Masoga, 2018). The rationale behind this is that the overwhelming debt obligations effectively act as a tax on the future output of the economy. Investors, foreseeing that much of the revenue generated in the future will be funnelled into debt repayments, become discouraged from investing, as they fear that returns on their investments will be compromised by the government's priority to service its debt.

One of the key consequences of debt overhang is the crowding out of private investment (Dawood et al., 2024). As debt levels rise, private investors perceive higher risks because the government's financial resources are increasingly tied up in debt servicing, leaving less room for public investment in infrastructure, social services, and other areas that would otherwise stimulate private sector activity. The high debt burden also creates uncertainty about future fiscal policies, which could include tax hikes or other austerity measures aimed at reducing the debt (Hodula & Melecký, 2020). This uncertainty further discourages investment, as businesses and individuals delay or cancel investment plans due to fears of future instability and unfavourable economic conditions (Ghecham, 2020).

Countries with excessive debt burdens often find it more difficult to attract foreign direct investment (FDI) as well as investors are reluctant to commit capital to economies where future earnings are likely to be eroded by debt servicing (Azolibe, 2022). This loss of investment opportunities further hampers the country's ability to generate growth, create jobs, and improve living standards. In many cases, international lenders also become wary of providing additional credit to highly indebted nations (Brautigam et al., 2020). Without the ability to borrow at affordable rates, countries find it increasingly challenging to finance development projects, compounding the economic difficulties brought on by the debt overhang.

In developing economies, which often rely on external borrowing to finance growth and development, the debt overhang effect can be particularly damaging. These countries typically borrow to finance infrastructure projects, social services, and other developmental needs that cannot be met with domestic savings alone (Tan & Zhao, 2019). However, when debt becomes unsustainable, borrowing undermines economic growth, as investors pull back, the economy stagnates, and the government's ability to generate revenue is diminished. This leads to a vicious cycle where the country must borrow even more to service existing debt, but each new

loan exacerbates the debt burden, pushing the country deeper into economic distress (Serieux, 2018).

Furthermore, the theory underscores the opportunity cost associated with servicing large debts (Abotsi, 2021). When a significant portion of a country's budget is allocated to debt repayments, fewer resources are available for public investment in critical sectors such as education, healthcare, and infrastructure. These sectors are vital for long-term economic development, as they contribute to a more skilled workforce, improved health outcomes, and enhanced productivity (Cerf, 2023). However, under conditions of debt overhang, the government's ability to invest in these areas is severely constrained, leading to a cycle of underdevelopment and limiting the country's potential for economic growth (Ayhan et al., 2020).

Moreover, debt overhang can arise not only from high levels of borrowing but also from sudden and unforeseen economic shocks. For example, a sharp decline in commodity prices, political instability, or natural disasters can drastically alter a country's economic outlook, making it difficult to meet its debt obligations. In such scenarios, a country may find itself unable to generate sufficient revenue to service its debts, leading to a default or the need for debt restructuring. This situation exacerbates the country's economic troubles and further discourages investment, as the risk of financial instability grows (Obadan, 1999). In extreme cases, countries may experience prolonged periods of stagnation or even regression, as they are unable to escape the cycle of high debt and low growth.

The Debt Overhang Theory also highlights the political and social implications of excessive borrowing (Kabemba & Kabwe, 2024). Governments facing unsustainable debt levels are often forced to implement austerity measures, such as cutting public spending, increasing taxes, or reducing subsidies, in an attempt to balance their budgets (Kabemba & Kabwe, 2024). These

measures can be deeply unpopular, leading to social unrest and political instability. In some cases, governments may prioritize short-term political gains over long-term economic stability, opting to borrow more to maintain social programs or avoid unpopular tax increases, further deepening the debt crisis. This political dynamic can create a feedback loop where the government's inability to implement effective reforms leads to greater economic instability, making it even harder to attract investment and achieve sustainable growth.

In conclusion, while external debt can be a useful tool for financing development, when it reaches unsustainable levels, it can have serious negative consequences for economic growth and development. The theory emphasizes the importance of managing debt levels carefully and ensuring that borrowed funds are used productively to avoid falling into the debt overhang trap. Once a country becomes heavily indebted, the resulting uncertainty, reduced investment, and diversion of resources toward debt servicing can significantly hamper its ability to achieve long-term economic growth. Therefore, policymakers must balance the need for borrowing with the risks of over-indebtedness to ensure that debt remains a tool for growth rather than a barrier to it.

3.2.3 Theories of Economic Growth

In this sub-section, some theories of economic growth are examined, which include:

3.2.3.1 Harrod-Domar Model of Economic Growth

The Harrod-Domar Model of Economic Growth is an influential theory that emphasizes the critical role of savings and investment in driving economic growth, particularly in developing countries (Soylu, 2019). According to the model, the growth rate of an economy is determined by two key factors: the level of national savings and the productivity of capital investment, which is often measured by the capital-output ratio (Harrod, 1939; Domar, 1946). The capital-output ratio is essentially the amount of capital required to produce a given amount of output (De La Escosura, 2021).

A lower capital-output ratio indicates that investment is being used more efficiently, leading to a higher growth rate (Berg et al., 2018). Conversely, a higher capital-output ratio signifies inefficient investment, resulting in slower economic growth (Berg et al., 2018). The model posits that capital accumulation is central to the growth process (Bustinza, 2024), as it serves a dual function: it not only increases the productive capacity of the economy but also stimulates further investment, which in turn fuels more growth (Caldentey, 2019). In essence, the more a country invests in its economy - whether in infrastructure, industry, or technology - the more it can grow.

Harrod presented three concepts of growth rates in discussing the issue of economic growth, which include the actual growth rate (G), the warranted growth rate (G_w), and the natural growth rate (G_n) (León et al., 2024).

- ❖ Actual growth is the real rate increase in a country's GDP per year and can be defined as the ratio of change in income (ΔY) to the total income (Y) in the given period (Orlando et al., 2021). Mathematically, this can be expressed as:

$$G = \Delta Y / Y$$

Where, actual growth rate is denoted by G

- ❖ Warranted growth rate is the rate at which the economy must grow to fully utilize its capital resources (Garegnani, 2024). This is also known as the “full-capacity growth rate” because it represents the growth necessary to ensure that all capital is used efficiently, without any surplus or deficit in investment (Nikolaos et al., 2022). If an economy grows at the warranted rate, it will achieve a balance between savings, investment, and productive capacity.
- ❖ Natural growth refers to the rate of growth that an economy needs to maintain full employment over a certain period and depends on factors like population growth, technological progress, and labour force participation (Bustinza, 2024). If the economy

grows at this rate, it will ensure that all available labour is employed without creating inflationary pressures (Bustinza, 2024).

There is an argument that the low rate of economic growth in developing countries can be linked to the low rate of savings in such countries (Ibrahim & Alagidede, 2018). This implies that economic growth can be achieved by the government setting up policies with the aim of increasing investment by increasing saving, and ensuring more efficient use of such investment through technological advances. The implication for developing countries which mostly lack physical assets and capital is that this shortage of physical capital slows down their economic progress (Koopman & Wacker, 2023).

Due to the inability to generate sufficient physical capital, such economies end up being faced with a vicious cycle of low investment, output as well as low savings. It therefore becomes necessary to increase the level of savings in the country if such countries have hopes of attaining and maintaining economic growth. Investment by the government in education as well as infrastructural development, such as roads, bridges, and public transportation will help improve the productivity of capital investment as well as overall efficiency of the economy (Pereira & Pereira, 2019). Increased public expenditure in these areas can lead to an increase in the economy's productive capacity, which, in turn, can result in higher output in the economy.

Also, external debt can assist developing countries accumulate capital much faster than their domestic savings alone would allow which will lead to higher productivity and growth in such a country (Edo et al., 2020). This is true because Sub-Saharan African countries usually have a low level of savings and so may find it difficult in generating sufficient level of savings. The model was however criticized due to the oversimplification of the model and the numerous

assumptions made by the model. Also, there are examples of nations which have attained high levels of growth in the presence of low savings.

3.2.3.2 Endogenous Growth Theory

Endogenous Growth Theory, developed primarily by economists Paul Romer and Robert Lucas (Lucas, 1988; Romer, 1990), offers an alternative explanation for the factors driving economic growth. Unlike the neoclassical growth model, which attributes economic growth to exogenous or external forces such as technological progress that occurs independently of the economy's internal dynamics (Yuan & Zhang, 2024), the endogenous growth theory argues that economic growth is generated from within the economy itself (Jones, 2019). In other words, economic growth in an economy does not come through exogenous forces, rather, it is generated through endogenous forces such as human capital, innovation, and knowledge (Petrakis, 2020). These endogenous factors are seen as central to the growth process, and the theory suggests that economies can achieve sustained growth by continually investing in these areas.

The theory advocated for focus on improving and developing human capital in the economy as this was seen as a major factor in achieving economic growth (Chirwa & Odhiambo, 2018). The theory holds that increased knowledge, training, and education will on the long run lead to increased technological advancement. As the workers grow in knowledge and skill, it leads to an increase in the productivity and efficiency of such workers, which will subsequently lead to economic growth in the country. The theory also posits that increases in labour productivity has increasing returns, rather than diminishing returns (Chirwa & Odhiambo, 2018). The theory also placed emphasis on making efforts to increase the capital productivity in the economy (Barro & Sala-I-Martin, 2004) due to the expected effect of capital productivity.

The role of human capital in this theory cannot be overstated. According to the theory, economies that invest in their human capital by improving education and training programs are likely to experience faster growth. This is because a more educated workforce is better

equipped to innovate, adapt to new technologies, and improve productivity across sectors. In this sense, human capital development serves as both a direct and indirect driver of economic growth. Directly, it improves the productivity of individual workers, and indirectly, it fosters the conditions necessary for innovation and technological advancement, both of which are crucial for sustained growth.

In addition to human capital, endogenous growth theory also emphasizes the importance of knowledge and innovation as key factors driving growth (Acs & Sanders, 2021). Knowledge is seen as a non-rival and partially excludable good, meaning that it can be shared and used by many people without being depleted (Goodman & Lehto, 2023). This characteristic of knowledge enables it to generate spill-over effects, where innovations in one sector or firm can lead to improvements in other areas of the economy. As new ideas and technologies spread, they contribute to overall economic efficiency, leading to higher levels of output and growth (Barro & Sala-i-Martin, 2004).

Government policies play a crucial role in the endogenous growth framework (Jones, 2019). The theory suggests that governments can influence growth by creating an environment that fosters competition, openness, and innovation (Jones, 2019). Public investment in education, research, and infrastructure is particularly important, as these investments enhance the economy's capacity to innovate and grow. For instance, government spending on education helps improve human capital, while investments in R&D can spur technological advancements that benefit the broader economy (Ziesemer, 2024). Government expenditure is therefore seen as a key driver of growth, as it contributes to the development of the knowledge base and the overall productivity of the economy. However, many developing countries face challenges in generating sufficient funds to invest in these areas. As a result, they often have to borrow from both domestic and international sources to finance the necessary investments in human capital and infrastructure. While external borrowing can provide the funds needed for growth, it also

raises concerns about debt sustainability, as excessive borrowing can lead to debt overhang and hinder long-term growth prospects.

In summary, the theory states that government policies should be focused on creating an enabling environment that encourages market competition and openness, as well as policies that will lead to innovation in the economy, which will on the long run promote growth in the economy, this will require investment of funds by the government and when such funds are not available, such governments have to resort to borrowing funds.

3.2.3.3 Augmented Solow Growth Model

The Augmented Solow Growth Model is an extension of the traditional Solow-Swan model of economic growth by Mankiw, Romer, and Weil in 1992, developed to address some of the limitations of the original framework (Mankiw et al., 1992). While the original Solow model primarily focused on physical capital and labour as the core drivers of economic growth, the augmented version incorporates human capital, recognizing its pivotal role in explaining long-term growth dynamics (Conrad, 2017). The addition of human capital allows for a more comprehensive understanding of the factors that influence economic development, including education, skills, and health (Oshchepkov et al., 2023).

In the augmented model, the production function includes three main factors: physical capital, human capital, and labour, all of which contribute to output (Ding et al., 2021). Physical capital refers to assets like machinery and infrastructure, which are necessary for production (Mohanty & Bhanumurthy, 2019). Labour represents the workforce, assumed to grow at a constant rate over time (Kalleberg, 2018). However, in this model, labour is not treated as a homogenous input; its quality, enhanced by human capital, is critical (Mankiw et al., 1992). Human capital refers to the education, skills, and overall health of the labour force (Goldin, 2024), which directly impacts productivity. This makes the investment in human capital, such as education and training, as important as investments in physical capital for fostering economic growth.

The augmented Solow model uses a production function of the form:

$$Y(t) = K(t)^\alpha H(t)^\beta [A(t)L(t)]^{1-\alpha-\beta}$$

Where:

$Y(t)$ is total output or GDP at time t ,

$K(t)$ is physical capital,

$H(t)$ is human capital,

$A(t)$ represents technology (also called the total factor productivity),

$L(t)$ is labour,

α and β are the output elasticities of capital and human capital, respectively.

This production function demonstrates how human capital functions alongside physical capital and labour to drive output. It also emphasizes the critical role of technological progress; while it remains exogenous, technological advancements significantly contribute to long-term economic growth by increasing productivity (Mankiw et al., 1992).

One of the primary contributions of the augmented Solow model is its insight into conditional convergence (Bernardelli et al., 2021). According to the model, countries with similar structural characteristics, such as savings rates, population growth, and levels of human capital, will converge towards similar levels of per capita income (Bernardelli et al., 2021). This implies that countries with lower initial income levels can catch up to wealthier nations if they make sufficient investments in human capital and adopt the right economic policies (Ding & Knight, 2009). However, unlike the traditional Solow model, which predicted absolute convergence - where all countries eventually converge to the same income level (Barbosa, 2018), the augmented model highlights that convergence depends on these structural similarities.

The inclusion of human capital has important policy implications. The model suggests that long-term growth is not only influenced by technological progress but also by investments in

education and training (Oshchepkov et al., 2023). Countries aiming to boost their growth rates should focus on policies that enhance both physical capital and human capital accumulation. This is particularly relevant for developing nations, where deficits in education and health often act as barriers to sustained economic growth. By improving human capital, these nations can increase their productivity and raise living standards over time.

Investing in human capital offers numerous benefits. By improving education and training, countries can boost labour productivity and foster innovation (Surya et al., 2021), which are critical for economic development. Additionally, investments in health lead to a healthier workforce, reducing absenteeism and increasing the overall efficiency of labour (Goldin, 2024). These improvements in human capital result in higher levels of economic output and better living standards over time. For developing nations, particularly those in Sub-Saharan Africa or other low-income regions, addressing gaps in human capital can have a transformative effect on their long-term growth trajectories. Moreover, the model implies that public policy should focus on creating environments conducive to both physical and human capital accumulation. This includes promoting policies that encourage private sector investment, enhancing access to quality education, and improving healthcare systems. By creating a balanced growth strategy that prioritizes both human and physical capital, countries can achieve sustained economic growth.

3.3 Empirical Literature Review

This empirical literature review explored the impact of public debt and government expenditure on economic growth, highlighted findings from various studies which analyse the effects of external debt and public spending on economic performance.

3.3.1 Country-Specific Studies

Asafo and Matuka (2019) examined the relationship between external debt and economic growth in Ghana using a co-integration and vector error correction analysis using annual time

series for the period 1970-2017. The study revealed that external debt inflows spur growth in Ghana both in the long-run and short-run. It was also discovered that external debt has a crowding out effect in the long run and short-run. However, Debt overhang was only confirmed in the short-run. The findings underscore the dual nature of external debt, highlighting its potential to both stimulate and constrain economic growth. This duality is a critical consideration for policymakers in managing debt and fostering sustainable development. This study provides a nuanced view of how external debt can simultaneously promote and hinder economic growth. However, its focus on a single country limits the generalizability of its findings to other Sub-Saharan African contexts. Further research could investigate these dynamics across multiple countries to provide a broader understanding of how external debt influences growth in the region.

Kalu and Boniface (2023) carried out an empirical analysis of the effect of public debt on the economic growth of Nigeria. They made use of ex-post facto design and utilized secondary method of data collection. They also made use of Multiple regression model. They discovered that external debt has a significant negative effect on GDP while domestic GDP on the other hand had significant positive effect on GDP. They recommended that the government should make proper use of borrowed funds. The study highlights the critical issue of debt management, emphasizing the need for effective utilization of borrowed funds to avoid negative impacts on economic growth. While the study provides valuable insights into the contrasting impacts of external and domestic debt on Nigeria's economy, it does not explore the underlying reasons for these differences. Additionally, the study is limited by its focus on Nigeria, making it challenging to generalize the findings to other Sub-Saharan African countries with different economic structures and debt profiles. Future research could benefit from a comparative analysis of multiple countries to understand how different types of debt influence economic growth across various contexts.

Chukwu et al. (2021) examined the effect of Nigeria public debt on public investment from 1985-2018. The study made use of the auto-regressive distributed lag model. The cointegration test found the existence of long-run relationship among the variables. The short run result revealed an insignificant positive effect of public debt on public investment in Nigeria. The study recommended among others that Federal government should channel borrowed funds to investments that will bring growth in the economy. There should also be transparency as this will reduce wastage and corruption. Funds should also be borrowed only when necessary and should be for investment and not for recurrent expenditure. The study highlights the limited short-term impact of debt on public investment, aligning with concerns about the effectiveness of debt-funded investments. The recommendation to focus on growth-enhancing investments and improve transparency is practical, but the study could benefit from a more detailed analysis of the specific types of investments that are most effective.

Hlongwane (2023) examined the relationship between real economic growth, domestic debt, external debt, budget deficit, inflation rate and investment in South Africa. They made use of ARDL and ECM models. They discovered a short and long run equilibrium relationship between foreign debt, domestic debt, budget deficit, inflation rate and economic growth. They also discovered a negative relationship between external debt and real GDP growth in South Africa, both in the short and long-run. They also recommended that the government make use of debt-to-equity swaps as it would increase efficiency and competition. Understanding the relationship between different types of debt and economic growth can help policymakers implement strategies that balance fiscal stability and economic development. However, its focus on a single country limits the generalizability of its findings to other Sub-Saharan African nations with different economic structures and fiscal policies. Future research could examine the impact of such financial instruments in different contexts and over extended periods.

Uchenna et al. (2019) examined the relationship between government expenditure and economic growth to determine the extent to which output growth in Nigeria is affected by government spending. The scope of the study is from 1981 and 2017. The findings of the study revealed a significant short-run negative effect of lagged current expenditure on economic growth. It also shows strong positive effect of lagged capital expenditure on growth. However, the study found no evidence of a long-run effect of government expenditure on economic growth. The study recommended for more funds be allocated to capital expenditure in order to enhance capacity for sustainable growth. The study highlights the differential impacts of current and capital expenditures on growth. While the short-run negative effect of current expenditure is insightful, the lack of long-run effect might suggest issues with the timing and composition of expenditures. The study could benefit from examining how different types of government spending impact growth over longer periods and considering the role of fiscal policy effectiveness in driving sustainable growth.

Yusuf and Mohd (2023) examined the asymmetric impact of public debt on economic growth in Nigeria from 1980 to 2020. They made use of Nonlinear Autoregressive Distributed Lag method. They discovered in their study that external debt has a significant positive impact on economic growth in the long and short run. Domestic debt also affected growth negatively. The study recommended the need for fiscal reforms in order to reduce deficit financing, improve domestic revenue generation and infrastructure spending, and strengthen governance practices and institutions. The study's findings on the positive impact of external debt offer a counterpoint to the conventional view of debt as harmful, providing a basis for discussions on fiscal reforms and debt management in Nigeria. However, the study's focus on Nigeria might limit its generalizability to other contexts with different debt profiles. Future research could explore how these asymmetric effects play out in different economic environments.

In their paper, Iiyambo and Kaulihowa (2020) investigated the relationship between government expenditure, government revenue and public debt in Namibia (1980 – 2018). The study made use of an error correction model (ECM). The study revealed that an increase in public debt will stimulate government expenditure. The study recommended that government expenditure should be reviewed to bring about efficiency, which will also help reduce dependence on external borrowing. Their findings align with the notion that high public debt can lead to increased government spending. However, the study's focus on Namibia limits its generalizability. Future research could investigate how expenditure efficiency varies across different sectors and its impact on debt sustainability.

Igbinedion and Ighodaro (2019) examined migrants' remittances, public expenditure on education and their implications for educational development in Nigeria for the period 1981 to 2017. The study made use of the utilized Cointegration and error correction modelling approach. The findings of the study revealed that Migrants' remittances received, public expenditures on Education and Per Capita Income growth rate exert statistically significant positive impacts on educational development in the country while the association was negative in the case of population growth rate. The study therefore recommended that strategic measures should be taken which will help increase the rate of school enrolment in the country by encouraging migrants' remittances by consistently engaging with Nigerians in the Diaspora as well as enhancing the per capita income of the country through investments in key sectors of the nation's economy. The study provides insightful evidence on the positive role of remittances and education spending on educational outcomes. The recommendations for engaging the diaspora and enhancing per capita income are practical for improving educational outcomes and offer actionable insights for policymakers. Future research could explore how different types of remittances and public expenditures affect various educational indicators, as well as the interaction between remittances and domestic economic policies.

Onifade et al. (2020) in their article examined the impact of public expenditures on economic growth with focus on capital expenditure and recurrent expenditure in Nigeria. They made use of Pesaran's ARDL approach, using annual time-series data from 1981 to 2017. They discovered the existence of a level relationship between public spending and economic growth in Nigeria. Recurrent expenditure was found to be significantly impacting on economic growth in a negative way while the positive impacts of public capital expenditures were not significant to economic growth over the period of the study. They recommended that the share of recurrent expenditure in total expenditures be kept within a reasonable proportion. The findings highlight the inefficacy of recurrent expenditures in promoting growth, aligning with the broader literature on the importance of capital investments. The emphasis on limiting recurrent expenditures and focusing on capital projects provides valuable guidance for optimizing public spending to support economic growth. However, the study could benefit from a more detailed exploration of how recurrent and capital expenditures interact with other economic factors.

Okpabi et al. (2021) examined the impact of government expenditure on economic growth in Nigeria (1984 – 2015). They tried to investigate the Keynesian and Endogenous Growth Model propositions that public expenditure stimulates economic growth. They employed the Johansen co-integration and Error Correction Model. The results of their research showed that public (recurrent and capital) expenditure has significant positive impact on the growth of the economy in the long run and an insignificant negative impact on the Nigerian economy in the short run. The study therefore recommended that Nigerian government should prioritize capital expenditure and should also channel increased expenditure to the critical sectors of the economy such as health, power, and education. The study supports the notion that public spending is beneficial for long-term growth, which is in line with theoretical models. The study's recommendations for prioritizing capital expenditure and critical sectors offer a strategic framework for enhancing economic growth through public spending. The short-term

negative effect could be an indication of misallocation or inefficiencies in spending. Future research could explore the causes of short-term negative effects and assess the effectiveness of spending in specific sectors.

Samuel and Oruta (2021) examined the effect of various components of Government Expenditures on Economic Growth in Nigeria (1981 – 2020). The study adopted the Error Correction model and Granger Causality Test. It was discovered that in the short run, recurrent expenditure had an insignificant negative impact on economic growth while capital expenditure had a positive and insignificant impact on economic growth. In the long run, all the components of government expenditures showed a significant effect on economic growth. The study recommended that the government should place priority on sectors like health, education, agriculture and infrastructures. The study underscores the differing short-term and long-term impacts of expenditure components. The focus on improving efficiency and transparency aligns with broader concerns about governance and public financial management. The recommendations for prioritizing key sectors and enhancing efficiency provide a practical approach to improving the impact of government spending on growth. Further research could investigate the factors influencing the varying impacts of different expenditure types and the effectiveness of transparency measures.

Obi (2020) investigated into the effect of some selected government recurrent expenditure on economic growth in Nigeria, the study focused on social services, economic services, as well as transfers. The study adopted Vector Error Correction Model technique. Results of the study revealed that economic services and social services are not major drivers of growth in Nigeria which according to the researcher revealed the reason why government efforts on improving the lives of its citizens have not translated into growth. The study recommended that government should allocate more funds to capital expenditure as this would improve the lives of the citizens. The findings highlight the need for better alignment between government

spending and growth objectives, the lack of significant impact from recurrent expenditures suggests potential inefficiencies in spending. The recommendation to shift focus to capital expenditure provides a targeted approach for enhancing growth and welfare through more effective spending. Future research could explore how different types of capital expenditures influence growth and welfare outcomes.

Sede and Osarumwense (2016) in their study investigated the impact of external debt on economic growth in Nigeria. The study tested for unit root using the Augmented Dickey-Fuller (ADF) test, which revealed first order level of integration for all the variables. A long-run equilibrium relationship between GDP and the explanatory variables was established using the Johansen Co-integration test. After which, the ECM result showed that external debt has a negative and significant relationship with economic growth in Nigeria. The study supports the well-documented negative relationship between external debt and growth, the study's emphasis on managing external debt provides crucial guidance for mitigating its negative impact on economic growth. The use of robust statistical tests strengthens the findings, but further research could explore the mechanisms through which debt affects growth and the effectiveness of debt management strategies.

Yusuf and Mohd (2021) investigated the effect of government debt on Nigeria's economic growth using annual data from 1980 to 2018. The study made use of the Autoregressive Distributed Lag technique. The empirical results revealed that external debt on the short run helped enhance growth but is a hindrance to long-term growth. Debt service payments led to growth retardation in the long term and short term, which confirms the debt overhang effect. It was recommended that funds borrowed by the government should be directed towards the diversification of the productive base of the economy. The study reinforces the well-documented concept of debt overhang, where high levels of debt hamper long-term growth. The recommendation to focus on diversifying the economy aligns with broader policy

suggestions aimed at mitigating debt-related growth constraints. However, the study could be strengthened by exploring sector-specific impacts of debt and how different types of borrowing influence growth.

Ekor et al. (2021) assesses the impact of foreign debt on the Nigerian economy. The study made use of the auto-regressive distributed lag model, the study concluded that in the long run, external debt accumulation is negatively related with economic growth in Nigeria. They recommended that the government ensure that external debt accumulation is sustainable and used for infrastructure development. The findings are consistent with the literature indicating that external debt can be detrimental to growth if not managed properly. The recommendation for sustainable debt management and infrastructure investment offers a strategic approach to mitigating the negative effects of foreign debt on economic growth. However, the study could benefit from a deeper analysis of how different types of external debt impact growth and the role of debt management practices.

Ohiomu (2020) looks at the nexus between external debt and economic growth for policy analysis in Nigeria. The work uses the methodology of group unit root test, autoregressive distributed lag (ARDL) bounds testing, and co-integrating long-run tests for robust policy recommendations. The results revealed that debt overhang adversely affects economic growth in Nigeria. The study recommended that Nigeria should embark on strict debt management policy, pursue effective debt reduction strategies, and improve investment drives for economic expansion and sustainable development. The study highlights the adverse effects of debt overhang, aligning with broader findings in the literature. The call for strict debt management and improved investment strategies is appropriate, but the study could provide more detailed recommendations on specific debt reduction strategies and investment priorities.

Odo et al. (2019) investigated the causal relationship between total public debt and public expenditure in Nigeria from 1980 to 2015. The study made use of vector error correction model

and Wald test in its economic analysis. The findings revealed that government capital and recurrent expenditure are positively related with public debt. The Wald test result indicated a unidirectional causality from government expenditure to public debt. This means that government borrowing in Nigeria is as a result of government deficit budgeting. This study recommended the introduction of planning-programming-budgeting systems (PPBS) and Zero-based budgeting (ZBB) in preference to the practice of incremental budgeting (IB) as regards budgeting. The findings underscore the link between government expenditure and public debt, reinforcing the need for improved budgeting practices, the recommendation to move away from incremental budgeting is insightful. The proposed budgeting reforms provide practical suggestions for improving fiscal management and reducing the growth of public debt, though the study could benefit from exploring the implementation challenges of PPBS and ZBB in the Nigerian context.

3.3.2 Panel Studies

Arema and Abiodun (2020) investigated the causality among fiscal policy, economic growth and income inequality, using twenty-six selected Sub-Saharan African countries in an attempt to identify the direction of causation among these variables. The study made use of the multivariate Granger causality methodology in investigating the causality among fiscal policy, economic growth and income inequality variables. From their findings, no causality was established among the three variables. The study's indication of weak policy coordination aligns with the challenges faced by many Sub-Saharan African countries in achieving sustainable economic growth. The absence of causality in this study raises important questions about the effectiveness of fiscal policies in the region. Future research could explore alternative methodologies or incorporate additional variables, such as institutional quality, to provide a more comprehensive analysis.

Azolibe (2022) in his study “External Debt Accumulation and Foreign Direct Investment Inflows in Sub-Saharan Africa” analysed the relationship between external debt accumulation and foreign direct investment inflows in Sub-Saharan Africa. A sample of 25 countries was taken, spanning from 1990 - 2017. The study made use of the Panel fixed effects and the Generalized Method of Moments estimation technique. The result also shows a positive interaction effect between external debt and infrastructure development on FDI which suggest that external debt can positively influence FDI if channelled into the provision of critical infrastructures. This study’s finding of a negative impact of debt on FDI highlights a potential risk for Sub-Saharan African economies, where attracting foreign investment is vital for growth. However, the study does not sufficiently explore the conditions under which debt can have positive effects, such as the specific types of infrastructure investment that most effectively attract FDI.

Baral (2023) investigated the Interactions of Gross Domestic Product, External Debt and Government Expenditure in International Development Association countries. The study made use of a Panel Vector Autoregressive (PVAR) model to examine the relationships among three macroeconomic variables - Gross Domestic Product, Total External Debt Stocks, and Gross National Expenditure. The scope of the study was from 1991-2019. The study employed the Generalized Method of Moments (GMM). The study found a positive relationship between External Debt Stocks growth and Gross Domestic Product growth. The study’s findings contribute to understanding the conditions under which external debt can support economic growth, which is a key consideration for policymakers aiming to harness debt for development while avoiding unsustainable debt levels. The study provides an optimistic view of the relationship between debt and economic growth, suggesting that external debt can positively impact GDP growth. However, this finding raises concerns about the sustainability of growth

driven by debt accumulation, especially in the context of rising debt levels and potential debt crises.

Croi and Diaw (2020) examined Debt and Growth in West African Economic and Monetary Union Countries (WAEMU) over the period 1980-2019. The findings of the study reveal that below the threshold, debt has a positive effect on growth, but, above that threshold, the effect is negative. The results also show that taking into account the quality of institutions in the relationship between debt and growth has a positive and significant net effect on growth. This result shows the vital role of the quality of institutions in debt management in the West African Economic and Monetary Union Countries. This study's findings are significant for understanding the importance of institutional quality in managing debt to foster economic growth. These insights are highly relevant to policymakers aiming to balance debt levels and economic growth, which is a key concern in Sub-Saharan Africa. While the study provides valuable insights into the threshold effect of debt on growth and the role of institutions, it lacks an in-depth analysis of what constitutes "quality institutions" and how these can be effectively implemented or measured.

Ehikioya et al. (2020) examined the dynamic relations between external debt and economic growth in 43 African countries over the period 2001 - 2018. They made use of the Johansen Cointegration test and system Generalised Method of Moments (sysGMM) in their analysis. They made use of data from World Development Indicators (WDI). Their result showed a long-run negative relationship between external debt and economic growth in Africa. They recommended that policymakers should ensure that funds borrowed are properly used on economic activities which would lead to long-term economic growth. The emphasis on proper debt utilization and monitoring aligns with the broader theme of efficient public expenditure management. This study contributes to understanding the conditions necessary for debt to support rather than hinder economic development. However, the study does not explore the

factors that contribute to effective monitoring or how these practices can be implemented in diverse economic contexts.

Gachunga and Kuso (2018) investigated the impact of external debt on economic growth in Sub-Saharan Africa. They employed the panel data econometric techniques of Generalized Method of Moments for the period 1990 to 2016 in 38 selected Sub-Saharan countries. The study revealed that external debt has a negative relationship with economic growth. It was also found that external debt has a greater effect on middle income economies compared to their counterpart low-income economies. The study's findings are relevant for understanding how external debt affects different segments of Sub-Saharan Africa's economy. Recognizing the varied impact of debt across income levels can help policymakers design more targeted debt management strategies. However, the study does not explore why middle-income economies are more affected by external debt than low-income ones. It also lacks an analysis of the specific economic conditions or policies that might mitigate the negative impact of debt. Further research could investigate the underlying reasons for these differences and explore how debt management strategies could be tailored to different income groups.

In their study, Wandeda et al. (2021) investigated the Efficiency of Public Spending in Sub-Saharan Africa using a panel data for 23 Sub-Saharan Africa countries covering the period 2006-2018. This paper employs two-stage bootstrap output-oriented DEA approach. The study discovered that Institutional quality and domestic saving significantly influence the efficiency of public spending. They therefore recommended that Sub-Saharan African governments should maintain fiscal discipline by strengthening of monitoring unit of government expenditure. This study highlights the critical role of institutional quality in enhancing the efficiency of public spending, a crucial factor for economic development in Sub-Saharan Africa. However, the study does not address how different types of institutions or specific institutional reforms can improve spending efficiency.

Lartey et al. (2018) investigated the relationship between public debt and economic growth in Africa. The study made use of 50 African countries from 1980 to 2015. The study made use of the ordinary least square estimation technique for a static panel regression model as well as the generalized method of moment estimation technique for a dynamic panel regression model for the analysis. The study discovered a statistically significant negative relationship between public debt and economic growth and recommended that appropriate measures to reduce the need to borrow should be taken. The study's findings underscore the challenges of high public debt levels in Africa, reinforcing the importance of sustainable borrowing practices. These insights are critical for policymakers seeking to foster economic growth while maintaining fiscal stability. However, the study does not differentiate between types of debt (e.g., external vs. domestic), which could have different implications for economic growth.

Manasseh et al. (2022) examined the impact of external debt on economic growth in Sub-Saharan Africa. The study made use of annual time series data with a focus on thirty selected SSA countries for the period 1997 to 2020. The study used the Dynamic System Generalized Method of Moments estimation technique. The findings reveal a negative relationship between external debt and economic growth in SSA. The study suggested that governments in SSA should make efforts to promote the regions' capacity to invest in her financial prospects. The governments should also make efforts to ensure that borrowed funds are properly supervised and utilized for its purposes to facilitate economic growth. By linking external debt to governance and financial management, the study provides a comprehensive view of the factors that influence debt sustainability. This study provides valuable insights into the impact of external debt in the Sub-Saharan African context, highlighting the importance of effective governance and financial management. The study could benefit from a more in-depth analysis of the mechanisms through which governance quality affects debt outcomes.

Mumba and Li (2020) investigated the Impact of External Debt on Economic Growth with evidence from Southern Africa from 2000 - 2018. The study employed an ARDL panel model, using 9 Southern African countries. It was found that external debt negatively affects economic growth on the short and long run. Policymakers in Southern Africa were advised to not solely depend on external debt as a means to stimulate economic growth but should make use of aggressive techniques to improve and advance their economies. The findings highlight the potential risks of over-reliance on external debt and the importance of diversified economic strategies. These insights are particularly relevant for Southern African countries seeking sustainable growth paths amidst high debt levels. However, the limited focus on nine countries within Southern Africa may not capture the full diversity of economic conditions in the region. Future research could therefore expand the geographical scope of the study.

Mupunga and Ngundu (2020) in their study, “Escalating Public Debt Levels and Fiscal Responses in Sub-Saharan African Countries” from 2000 to 2016 examined the relationship between rising debt levels and the fiscal responses to the rising debt. The study made use of the General Methods of Moments (GMM) technique. The findings reveal that SSA countries have reacted to increases in public debt to GDP ratio by fiscal consolidation to maintain debt sustainability. The study suggested the need to strengthen fiscal consolidation as a way of limiting potential risk of debt distress. The focus on fiscal consolidation as a tool for managing debt levels is highly relevant for Sub-Saharan African countries facing rising debt burdens. Understanding the balance between fiscal discipline and economic growth is crucial. However, the study could explore how different fiscal policies impact debt sustainability across various economic contexts. Future research should investigate the effectiveness of different fiscal strategies and their impact on economic growth and social welfare.

Nabieu et al. (2021) examined the effects of fiscal rules on fiscal performance and economic growth using a dataset of 43 countries in Sub-Saharan Africa over 27 years. The study

employed simultaneous equation models to determine the relationship between performance and growth in the public sector. The findings of the study showed that expenditure rules and government spending efficiency are necessary for promoting fiscal outcomes and economic growth. The study recommended the implementation of more revenue rules, debt rules and balance budget rules to ameliorate the negative effects of government spending on economic growth. The study underscores the importance of fiscal discipline in promoting economic growth. However, the study's recommendations are broad and may not account for country-specific contexts or variations in fiscal capacity. Future research could benefit from a more nuanced approach, examining how different types of fiscal rules affect various economic sectors and considering the unique fiscal challenges faced by individual countries.

Ndiaye (2018) investigated the relationship between Public Spending and Growth in the Countries of the Economic Community of West African States. The study utilized an ARDL model for each of the countries which have cointegration relationships while the VAR estimate was used for situations where cointegration relationship does not exist. The findings revealed that government expenditure does not have a positive influence on the economic growth in the short run and long run. The study provides an important perspective on the limited impact of public spending on growth in ECOWAS countries. The study highlights the need for a more strategic approach to government spending in ECOWAS countries. Understanding the conditions under which public expenditure can positively impact growth is crucial for designing effective fiscal policies.

Ndoricimpa (2020) investigated the threshold effects of public debt on economic growth in Africa. The study applied panel smooth transition regression approach advanced which allows for both heterogeneity as well as a smooth change of regression coefficients from one regime to another. The findings of this study show that high debt is detrimental to growth. Low public debt was discovered to be neutral to growth or also enhance growth, high public debt was found

to be detrimental to growth. The study's insights into optimal debt levels are valuable for policymakers seeking to balance debt management with growth objectives. These findings are particularly relevant for African countries grappling with high debt burdens and aiming to achieve sustainable growth. However, the study could benefit from a deeper exploration of how different types of debt (external vs. domestic) interact with growth at various thresholds.

Nega (2021) examined Debt Sustainability and Economic Growth with evidence from Low-Income Sub-Saharan Africa Countries. The study made use of twenty-four SSA countries over the period 2000-2017 using descriptive trend analysis and panel data analysis. The study discovered that external public debt has a negative and significant effect on the economic growth of low income SSA countries. It was recommended that SSA countries should adopt a balance between external and domestic debt to ensure sustainable economic growth. The study offers practical recommendations for improving debt management and fostering economic growth in low-income Sub-Saharan African countries. The recommendations for balancing debt and enhancing investment are practical but may not fully address the structural challenges faced by these economies. Future research could explore the impact of specific debt management strategies and investment policies on growth.

Nguyen and Bui (2022) analysed the role of corruption control in the impact of government expenditure on economic growth. The data were collected from 16 Emerging Markets and Developing Economies (EMDEs) in Asia over the period 2002–2019. The study made use of the Generalized method of moments (GMM) and threshold models. The findings of the study reveal that government expenditure and corruption control have a negative impact on economic growth. Therefore, efforts should be made to keep the corruption level at its minimum. The study underscores the importance of corruption control in maximizing the benefits of government expenditure for economic growth. These insights are valuable for policymakers in both Asia and Sub-Saharan Africa. However, the study's focus on a specific threshold for

corruption control may oversimplify the complex relationship between corruption and economic outcomes. Additionally, the findings may not be directly applicable to Sub-Saharan Africa due to different corruption dynamics and economic contexts.

Sandow et al. (2022) examined the effect of external debt and economic growth in Sub-Saharan Africa across 31 selected sub-Sahara African (SSA) countries from 2005 to 2017. The study made use of the system-generalized method of moment (system-GMM) and the panel smooth transition regression (PSTR) methods in their analysis. Their results without differences in PSM quality reveal that external debt has a significant negative effect on economic growth in SSA. They also discovered a positive relationship between external debt and economic growth with strong PSM quality when external debt interacts with PSM quality. They recommended that the governments in SSA should take steps to strengthen the quality of public sector management, tax reforms and strengthening debt management capacity to ensure positive growth effects of external debt. The study's emphasis on institutional quality provides a critical perspective on managing external debt, offering practical recommendations for improving public sector management to harness positive growth effects. However, the findings may not be directly applicable to countries with varying levels of institutional quality.

Senadza et al. (2017) examined the effect of external debt on economic growth in Sub-Saharan Africa. The study employed the System Generalized Methods of Moments (GMM) estimation technique with annual data for 39 SSA countries from 1990 to 2013. The study discovered that external debt negatively affects economic growth in SSA. It was recommended that governments in SSA should ensure that the foreign funds taken are invested in profitable projects. The study underscores the importance of strategic investment in mitigating the adverse effects of external debt, offering actionable recommendations for policymakers in Sub-Saharan Africa. The findings align with the broader literature highlighting the negative impact of external debt on growth. However, the study's focus on investment in profitable projects

may overlook other critical factors such as governance, debt management, and macroeconomic stability.

Ubi-Abai and Ekere (2018) in their paper “Fiscal Policy, Monetary Policy and Economic Growth in Sub-Saharan Africa” analysed the effects of fiscal and monetary policies on economic growth in a panel of 47 sub-Saharan African economies from 1996 to 2016. They made use of dynamic panel General Method of Moment and the Dumitrescu-Hurlin causality. The findings showed that fiscal and monetary policies affected economic growth positively in the sub-region. The study concluded that fiscal policy has a greater influence on growth than monetary policy. The study recommended that governments of countries in the sub-Saharan region should place more focus on formulating and implementing programmes that support productive investments; and foster favourable trade. The study provides useful insights into the relative effectiveness of fiscal and monetary policies, it highlights the positive impact of both fiscal and monetary policies on growth, emphasizing the importance of fiscal policy. However, the study’s broad focus on policy impacts might properly explain the effects of specific policy measures and their interactions.

Arodoye (2020) investigated the impact of external debt and FDI inflows on economic growth in 29 selected African countries from 1990 to 2017. The study employed the Panel Fully Modified Ordinary Least Squares (FMOLS) estimation technique. The findings of the study revealed that external debt and FDI inflows both have positive impacts on economic growth. However, a negative significant relationship was found between foreign aid and economic growth. Based on the estimation results, the study recommended that African countries should implement policies and programmes that will attract more FDI into the Africa continent which will also help enhance economic growth. The study’s recommendations on balancing external borrowing and attracting FDI provide practical guidance for enhancing economic growth, particularly in the context of African economies.

Nguyen and Luong (2021) carried out a research on the economic implications of fiscal policy and institutional quality by modelling empirically the impact of these factors on public debt in 27 transition countries over the period 2000 - 2018. The study made use of Ordinary Least Squares (OLS), Random effects, and two-step GMM methods. The findings of the study reveal that institutional quality contributes to making an impact on public debt. Inability to control corruption leads to accumulation of public debt while financing to improve the institutional quality as regards government effectiveness, and regulatory quality increases the size of public debt. This shows that fiscal policy and institutional quality are crucial in managing public debt in an economy. The study emphasizes the critical role of institutional quality in public debt management, offering practical recommendations for enhancing fiscal policy and governance. The use of multiple estimation techniques strengthens the robustness of the findings, but the study could benefit from a deeper analysis of how different aspects of institutional quality influence public debt in varying economic contexts. Further research might explore the mechanisms through which institutional improvements impact debt dynamics.

Using ARDL panel model and appropriate estimation techniques, Edo et al. (2020) examined the impact of external debt and export on economic growth of Sub-Saharan African countries using ARDL panel model and appropriate estimation techniques. The results revealed that both external debt and export have insignificant positive impact on economic growth, in the short run which turns negative in the long run. The study recommended the restricting of external borrowing until the present stock of debt is repaid. They also recommended that in order to avoid inefficient allocation of money borrowed, external loans should be tied to specific projects as well as turning to the domestic capital market for funds as an alternative to external borrowing which would subsequently improve economic growth in the countries. The study provides a nuanced view of the short-term and long-term effects of external debt and exports. The recommendation to restrict external borrowing aligns with concerns about long-term debt

sustainability. The study's recommendations offer practical strategies for managing external debt and enhancing growth, particularly in the context of Sub-Saharan Africa.

Also, Edo (2023) in his study examined the interactive effects of trade openness and sovereign debt on economic growth in Sub-Saharan African countries from 1980 - 2020. The study made use of the generalised method of moment methodology. It was discovered that trade openness and sovereign debt are joint drivers of economic growth in sub-Saharan African countries. The study recognized the need to make efforts to manage the direct negative impact of foreign public debt on economic growth in the subregion. The study's insights into the interplay between trade openness and sovereign debt provide useful guidance for policymakers aiming to balance debt management with trade policies. The findings suggest that while trade openness can mitigate some negative effects of foreign debt, managing debt remains crucial. The study could benefit from a more detailed examination of how different types of debt (domestic vs. foreign) interact with trade policies across various Sub-Saharan countries.

Edo and Ashakah (2022) investigated external debt accumulation in four dominant African countries the first quarter of 2000 to the fourth quarter of 2018, and made use of the generalized method of moments (GMM), auto-regressive distributed lag (ARDL) and vector error correction mechanism (VECM) techniques in estimating the relative impact of fiscal imbalance and financial development on external debt. The results revealed that fiscal imbalance and financial development both have a significant positive impact. Based on their findings, they recommended that fiscal imbalance should be reduced through rational budgeting which will encourage the financial sector to provide domestic funds rather than facilitating external borrowing. They also recommended lowering the domestic lending rate in order to discourage external borrowing. While the findings are robust due to the use of multiple estimation techniques, the focus on just four countries may limit generalizability. Future research could explore how financial development impacts debt dynamics in a broader range of countries and

contexts. The study's recommendations for fiscal and financial reforms offer practical strategies for managing external debt and fostering economic stability.

Arodoye (2024) in his study investigated the dynamic impacts as well as the threshold effects of external debt burden measures on economic growth of 25 SSA countries from 2000 to 2018. The study made use of the panel autoregressive, panel fully modified ordinary least squares as well as other panel estimation techniques. The results revealed a significant short-run and long-run impact of external debt on economic growth. External debt burden indicators were discovered to have a significant and negative relationship with economic growth. The study discovered that 50% - 90% was the turning point for external debt to switch from having a positive effect to having a negative effect. The study recommended that SSA countries experiencing excessively high external debt stocks should adopt reliable and dependable strategies in order to reduce the rising external debt stock and debt service payments. The study provides a thorough analysis of the impact of external debt on economic growth, highlighting the importance of managing debt levels. The use of various panel estimation techniques strengthens the robustness of the findings. The study's recommendations for managing external debt are crucial for improving economic growth in Sub-Saharan Africa, offering actionable strategies for policymakers.

3.4. Summary of Empirical Literature Review

The review of the extant literature indicates a variance in the results and outcomes arrived at by the different researchers. As regards studies done on the impact of government expenditure on economic growth in Sub-Saharan Africa, some studies discovered that government expenditure does not have any impact on economic growth which is not in line with a priori expectations. Obi (2020) discovered that economic growth is not driven by government expenditure. In other words, the amount spent by the government has no impact on economic growth in Sub-Saharan Africa. The empirical literature review on the impact of public debt and

government expenditure on economic growth reveals a complex and context-specific relationship, drawing from diverse country-specific and panel studies, particularly in Sub-Saharan Africa (SSA) and other developing regions.

Country-specific analyses, such as Asafo and Matuka (2019) in Ghana and Kalu and Boniface (2023) in Nigeria, highlight the dual role of external debt in stimulating growth at low levels while causing crowding-out or debt overhang at higher levels, though their single-country focus limits generalizability. Studies like Uchenna et al. (2019) and Onifade et al. (2020) in Nigeria differentiate between positive effects of capital expenditure and negative effects of recurrent expenditure, advocating for efficient allocation, while Hlongwane (2023) in South Africa and Yusuf and Mohd (2023) in Nigeria underscore the need for fiscal reforms and debt management. Panel studies, including Ehikioya et al. (2020) across 43 African countries and Ndoricimpa (2020) in Africa, confirm a long-run negative debt-growth relationship with thresholds where debt turns detrimental, supported by institutional quality as a mediator (Croi & Diaw, 2020; Wandeda et al., 2021).

3.5. Gaps in the Literature

The empirical literature provided valuable insights into the dynamics of fiscal policy and debt management in Sub-Saharan Africa (SSA) and other developing regions; however, several critical gaps remain. These gaps, identified through a synthesis of country-specific and panel studies, highlight areas where further research is needed to address methodological, contextual, and theoretical shortcomings.

While some studies, such as Croi and Diaw (2020) in WAEMU countries and Ndoricimpa (2020) in Africa, identify debt thresholds where the debt-growth relationship shifts from positive to negative, there is however limited literature on these non-linear dynamics across SSA. Many studies, including Ehikioya et al. (2020) and Senadza et al. (2017), assume a linear relationship, which oversimplifies the Debt Overhang Hypothesis's prediction of a tipping

point beyond which debt becomes detrimental. Moreover, the thresholds identified (e.g., Croi & Diaw, 2020) are often region-specific and lack precision for broader SSA applicability. This study addressed this gap by employing a Panel threshold regression model to identify specific debt-to-GDP thresholds where the effect of external debt on GDP per capita shifts, providing actionable benchmarks for SSA policymakers.

Many studies fail to adequately differentiate between the effects of external and domestic debt on economic growth, limiting their policy relevance. For instance, Kalu and Boniface (2023) and Yusuf and Mohd (2023) in Nigeria identify contrasting impacts of external (negative) and domestic (positive or negative) debt, but most studies, such as Lartey et al. (2018) and Sandow et al. (2022), treat public debt as a monolithic variable, overlooking the distinct mechanisms through which these debt types affect growth. External debt may lead to debt overhang and currency risks, while domestic debt can crowd out private investment or support local financial markets (Baral, 2023). This study filled this gap by focusing specifically on the external debt-to-GDP ratio, providing clarity on how external debt, a dominant concern in SSA, influences growth through non-linear threshold effects.

Also, institutional quality is frequently identified as a mediator in the debt-growth and expenditure-growth relationships (e.g., Croi & Diaw, 2020; Wandeda et al., 2021; Sandow et al., 2022), but the literature lacks depth in defining and measuring “quality institutions.” For example, Croi and Diaw (2020) note the positive role of institutional quality in WAEMU countries but do not specify which aspects (e.g., rule of law, regulatory quality) are most impactful. Similarly, Nguyen and Bui (2022) highlight corruption control’s role in Asian EMDEs, but its applicability to SSA’s unique governance challenges is unclear. This study bridged this gap by explicitly demonstrating how governance and institutional factors mediate the welfare impact of public spending in SSA.

Methodological gaps include the frequent use of linear models (e.g., Lartey et al., 2018) that fail to capture non-linearities, and reliance on single-country data that limits generalizability (e.g., Asafo & Matuka, 2019). Additionally, data quality issues, such as inconsistent debt reporting or missing sectoral expenditure data, are rarely addressed, potentially biasing results. This study overcame some of these limitations by using a balanced panel dataset, System GMM to handle endogeneity, and a PTM to model non-linearities. The use of the Panel Threshold Model is relatively novel as very few studies have made use of this estimation technique in trying to obtain external debt thresholds in SSA. This study thus contributed to the literature by examining debt thresholds from a different methodological view.

A significant gap in the literature is the predominance of single-country studies, which restricts the generalizability of findings across the diverse economic landscapes of SSA. Studies such as Asafo and Matuka (2019) in Ghana, Kalu and Boniface (2023) in Nigeria, Hlongwane (2023) in South Africa, and Iiyambo and Kaulihowa (2020) in Namibia provide detailed insights into country-specific debt and expenditure dynamics but fail to capture regional variations. While panel studies like Ehikioya et al. (2020) (43 African countries) and Manasseh et al. (2022) (30 SSA countries) offer broader perspectives, they often lack depth in exploring country-specific heterogeneity within SSA. This study addressed this gap by employing a balanced panel of 30 SSA countries, enabling a comparative analysis that captures regional diversity while maintaining sufficient sample size for robust econometric modelling.

These gaps highlight the need for a comprehensive, multi-country analysis in SSA that examines non-linear debt effects and integrates institutional factors. By employing System GMM and PTM, this study addresses these deficiencies, providing precise debt thresholds, governance insights, and a broader regional perspective, thereby contributing to the literature on fiscal policy and economic growth in SSA.

CHAPTER FOUR

THEORETICAL FRAMEWORK AND METHODOLOGY

4.1 Theoretical Framework

This study employed two theoretical frameworks to address the three research questions: the Endogenous Growth AK Model and the Debt Overhang Theory. The Endogenous AK Growth Model is particularly relevant for understanding the impact of government expenditure on economic growth in Sub-Saharan Africa, as well as how institutional factors mediate this relationship (Omane-Adjekum et al., 2024). Meanwhile, the Debt Overhang Theory provides a basis for analysing the threshold effect of external debt (Akanbi et al., 2022), positing that while moderate debt levels can support growth by financing investment, excessive debt burdens may lead to negative economic consequences due to high repayment obligations and reduced investor confidence. By integrating these two theories, this study provided a comprehensive framework for examining the complex interplay between government expenditure, institutional factors, and external debt in shaping economic outcomes in Sub-Saharan Africa.

4.1.1 Augmented Endogenous Growth AK Model

The AK model, a simplified version of Endogenous Growth Theory proposed by Rebelo (1991), assumes that economic growth is driven by the accumulation of a broad capital stock (including physical and human capital) with constant returns to scale, and this study incorporates government expenditure and institutional factors as determinants of growth and welfare. The AK model posits that growth is a linear function of a broad capital stock (K), where the production function exhibits constant returns to scale, and growth is endogenous due to capital accumulation driven by investment, including government expenditure (Li, 2002). Unlike the neoclassical model, it does not assume diminishing returns to capital, allowing sustained growth through government policies and institutional quality. This makes it suitable

for analysing how government expenditure influences economic growth and how institutional factors mediate its effect on welfare, especially in the SSA context where human capital and governance vary widely.

The AK model starts with a simplified production function where output (Y_{it}) depends linearly on a broad capital stock (K_{it}):

$$Y_{it} = AK_{it} \quad (1)$$

Where:

Y_{it} : Real output (proxied by GDP per capita).

K_{it} : Broad capital stock, including physical capital, human capital, and infrastructure.

A : Total factor productivity, influenced by technology, institutions, and policy efficiency.

Growth rate of output (g_{it}) is derived as the rate of capital accumulation:

$$g_{it} = \frac{\dot{Y}_{it}}{Y_{it}} = \frac{\dot{K}_{it}}{K_{it}} = sA \quad (2)$$

Where:

$\dot{K}_{it}$: Change in capital stock over time.

s : Savings or investment rate (including public and private investment).

In the AK model, g_{it} is constant if s and A are stable, but government expenditure and institutional quality can alter s and A .

Incorporating Government Expenditure

Government expenditure (GEX_{it}) can enhance capital accumulation by funding productive investments (e.g., infrastructure, education). Assume a fraction of GEX_{it} contributes to K_{it} , and the rest may be unproductive (e.g., recurrent spending). The capital accumulation equation becomes:

$$\dot{k}_{it} = s_{it}Y_{it} + \phi GEX_{it} - \delta K_{it} \quad (3)$$

Where:

$s_{it}Y_{it}$: Private savings/investment.

ϕGEX_{it} : Contribution of government expenditure to capital stock ($0 \leq \phi \leq 1$, reflecting efficiency).

δK_{it} : Capital depreciation.

ϕ depends on how effectively GEX_{it} is allocated (e.g., reduced by corruption or inefficiency).

The growth rate, adjusting for depreciation, is:

$$g_{it} = \frac{\dot{k}_{it}}{K_{it}} = s_{it}\frac{Y_{it}}{K_{it}} + \phi \frac{GEX_{it}}{K_{it}} - \delta \quad (4)$$

Since $Y_{it}/K_{it} = A$, this simplifies to:

$$g_{it} = As_{it} + \phi \frac{GEX_{it}}{K_{it}} - \delta \quad (5)$$

Here, $\phi \frac{GEX_{it}}{K_{it}}$ represents the growth contribution of government expenditure, but ϕ may be low if expenditure is inefficient.

Incorporating Institutional Factors

Institutional quality (IQ_{it}) influences the efficiency of GEX_{it} . Assume ϕ is a function of IQ_{it} , where higher institutional quality increases the productivity of expenditure:

$$\phi_{it} = \phi_0 + \phi_1 IQ_{it} \quad (6)$$

Where:

ϕ_0 : Baseline efficiency (positive but potentially small in weak governance contexts).

ϕ_1 : Marginal increase in efficiency due to institutional quality (expected $\phi_1 > 0$).

Substituting into the growth equation:

$$g_{it} = A_{sit} + (\phi_0 + \phi_1 IQ_{it}) \frac{GEX_{it}}{K_{it}} - \delta \quad (7)$$

This suggests that the effect of GEX_{it} on growth depends on IQ_{it} . For welfare (e.g., ‘HDI’), assume it is a function of growth and direct expenditure on human development, mediated by institutions:

$$W_{it} = \psi_0 + \psi_1 g_{it} + \psi_2 GEX_{it} + \psi_3 IQ_{it} \cdot GEX_{it} + \epsilon_{it} \quad (8)$$

Where:

W_{it} : Economic welfare (proxied by ‘HDI’).

ψ_1, ψ_2 : Direct effects of growth and expenditure.

Ψ_3 : Interaction effect, where IQ_{it} enhances GEX_{it} ’s welfare impact.

To account for persistence (e.g., lagged HDI) and endogeneity (e.g., GEX_{it} affecting and being affected by growth), the study includes a lagged dependent variable, suitable for System GMM:

For Research Objective 1: To determine the impact of government expenditure on economic growth in Sub-Saharan Africa.

$$g_{it} = \alpha_0 + \alpha_1 g_{i,t-1} + \beta_1 GEX_{it} + \gamma X_{it} + \mu_i + \lambda_t + \epsilon_{it} \quad (9)$$

Where:

- g_{it} and $g_{i,t-1}$ represent the dependent variable and the lagged dependent variable
- GEX_{it} represents Government expenditure
- X_{it} : Control variables (Inflation, Foreign Direct Investment for RQ1; additional welfare determinants for RQ2).
- μ_i, λ_t : Country and time fixed effects.

For Research Objective 2: Evaluate the role of institutional factors in mediating the impact of government expenditure on economic welfare in Sub-Saharan Africa.

$$W_{it} = \alpha_0 + \alpha_1 W_{i,t-1} + \beta_1 GEX_{it} + \beta_2 IQ_{it} + \beta_3 GEX_{it} \cdot IQ_{it} + \gamma X_{it} + \mu_i + \lambda_t + \epsilon_{it} \quad (10)$$

Where:

- X_{it} : Control variables (Inflation, Foreign Direct Investment for RQ1; additional welfare determinants for RQ2).
- $GEX_{it} \cdot IQ_{it}$ represents the interaction term
- μ_i, λ_t : Country and time fixed effects.

4.1.2 Debt Overhang Theory

Debt Overhang Theory suggests that when a country's external debt-to-GDP ratio is too high, it discourages investment and reduces economic growth (Elkhalfi et al., 2024). The reasoning is that if future revenues are expected to be used for debt servicing, private and public investments decline, leading to stagnation or contraction in GDP growth.

Mathematically, economic growth (GDP growth rate, g_t) can be modelled as a function of capital investment I_t , external debt D_t , and other control variables X_t :

$$g_t = f(I_t, D_t, X_t) \quad (11)$$

According to the Debt Overhang Theory, the relationship between debt and growth is non-linear:

- At low levels of debt, external borrowing can stimulate growth by financing productive investments.
- Beyond a certain threshold (D^*), debt service burdens reduce investment, leading to negative effects on growth.

Deriving the Growth Equation with Threshold Effects

A common empirical form of the growth equation under the Debt Overhang Hypothesis is:

$$g_{it} = \alpha + \beta_1 I_{it} + \beta_2 D_{it} + \beta_3 D_{it}^2 + \gamma X_{it} + \epsilon_{it} \quad (12)$$

where:

g_{it} = GDP per capita growth rate for country i at time t.

I_{it} = Investment as a share of GDP.

D_{it} = External Debt-to-GDP Ratio.

D_{it}^2 = Squared debt term to capture the non-linearity (i.e., debt has a positive effect up to a threshold, then turns negative).

X_{it} = Control variables (inflation, FDI, etc.).

ϵ_{it} = Error term.

If $\beta_2 > 0$ and $\beta_3 < 0$, it confirms the Debt Overhang effect, meaning there is a turning point D^* where debt starts reducing growth:

$$D^* = -\frac{\beta_2}{2\beta_3} \quad (13)$$

Connecting to the Panel Threshold Model (PTM)

In the Panel Threshold Model (PTM), the study is testing for a specific threshold where the debt-growth relationship changes. This is modelled as:

$$g_{it} = \begin{cases} \alpha_1 + \beta_1 D_{it} + \gamma_1 X_{it} + \epsilon_{it}, & \text{if } D_{it} \leq D^* \\ \alpha_2 + \beta_2 D_{it} + \gamma_2 X_{it} + \epsilon_{it}, & \text{if } D_{it} > D^* \end{cases} \quad (14)$$

where D^* is the estimated threshold external debt-to-GDP ratio.

This structure ensures that below D^* , debt has one effect (possibly positive or weakly negative), but beyond D^* , debt strongly hinders growth, confirming the Debt Overhang Theory.

Final Equation for Estimation in R

The regression model can be rewritten in threshold regression form as:

$$g_{it} = \alpha + \beta_1 D_{it} 1(D_{it} \leq D^*) + \beta_2 D_{it} 1(D_{it} > D^*) + \gamma X_{it} + \epsilon_{it} \quad (15)$$

where $1(\cdot)$ is an indicator function that switches between regimes based on whether D_{it} is below or above the estimated threshold.

4.2 Model Specification

From equations 9, 10, and 15, the following models for this study are specified:

Model 1 - Research Objective 1: To determine the impact of government expenditure on economic growth in Sub-Saharan Africa.

$$GDPR_{it} = \lambda_0 + \lambda_1 GDPR_{it-1} + \lambda_2 GEX_{it-1} + \lambda_3 INF_{it-1} + \lambda_4 FDI_{it-1} + \varpi_{it}$$

Where,

$GDPR_{it}$ = GDP Per Capita growth rate,

$GDPR_{it-1}$ = lagged GDP Per Capita growth rate,

GEX_{it-1} = lagged government expenditure,

INF_{it-1} = lagged inflation rate

FDI_{it-1} = lagged foreign direct investment

ϖ_{it} = error term.

This equation represents the final model for research question 1 that was estimated using the system GMM method, taking into account both individual country-specific effects and time-specific effects.

Model 2 - Research Objective 2: Evaluate the role of institutional factors in mediating the impact of government expenditure on economic welfare in Sub-Saharan Africa.

$$HDI_{it} = \lambda_0 + \lambda_1 HDI_{it-1} + \lambda_2 GEX_{it-1} + \lambda_3 COC_{it-1} + \lambda_4 (GEX.COC)_{it-1} + u_{it}$$

Where,

HDI_{it} = Human Development Index,

HDI_{it-1} = lagged Human Development Index,

GEX_{it-1} = lagged government expenditure,

COC_{it-1} = lagged Control of Corruption

$(GEX.COC)_{it-1}$ = lagged interaction term of government expenditure and control of corruption

u_{it} = error term.

Model 3 – Research Objective 3: Investigate the threshold effect of external debt on economic growth in Sub-Saharan Africa

$$GDP_{it} = \mu_i + \beta_1 EDGR_{it} I(q_{it} \leq \gamma) + \beta_2 EDGR_{it} I(q_{it} > \gamma) + DI_{it} + INF_{it} + GEF_{it} + \varepsilon_{it}$$

Where,

GEF = Government Effectiveness,

$EDGR$ = External Debt-to-GDP Ratio,

GDP = GDP Per Capita,

INF = Inflation,

FDI = Foreign Direct Investment

4.3 Variables of the Study

4.3.1 Dependent Variables

GDP Per Capita constant

GDP per capita at constant prices is a measure of a country's average income, adjusted for inflation (Callen 2025). By using constant prices, this variable accounts for changes in the price level over time, providing a clearer picture of real income growth and living standards.

GDP Per Capita Growth

This variable captures the annual percentage change in GDP per capita, reflecting the rate at which average income levels are growing in an economy (Adam & Alzuman, 2024). It is an essential metric for assessing the overall performance and progress of an economy.

Human Development Index

The Human Development Index is a composite measure that incorporates life expectancy, education, and per capita income indicators. (Estes & Sirgy, 2018). It is used to rank countries into tiers of human development. A higher HDI indicates better development outcomes, while a lower HDI points to challenges in health, education, and living standards.

4.3.2 Independent Variables

Control of Corruption

This variable measures the extent to which public power is exercised for private gain, including both petty and grand forms of corruption (Lane, 2017). A higher score on this variable reflects better control of corruption (i.e., lower levels of corruption), while a lower score indicates a greater prevalence of corrupt practices. Higher levels of effective control of corruption are expected to have a positive effect on GDP per capita. In theory, when corruption is minimized, resources are allocated more efficiently, public institutions operate more transparently, and investor confidence increases, which all contribute to higher economic performance

Government Effectiveness

Government Effectiveness captures the quality of public services, the competence and independence of the civil service, and the quality of policy formulation and implementation (Koeswayo et al., 2024). It is anticipated to have a positive impact on GDP per capita because more effective governments can better foster an environment conducive to growth and development.

External Debt-to-GDP Ratio

The External Debt-to-GDP Ratio is the proportion of a country's external debt relative to its gross domestic product (GDP) (Elkhalfi et al., 2024). This ratio serves as an indicator of a country's debt sustainability, showing the burden of external debt in comparison to the size of its economy. A high ratio may indicate potential challenges in debt servicing and raise concerns about debt overhang, whereas a lower ratio suggests that the economy can comfortably manage its external borrowing.

Government Expenditure

This variable represents government expenditure, usually expressed as a percentage of GDP (International Monetary Fund, 2022). It measures the scale of public spending relative to the overall economy. This metric is critical for understanding the role of fiscal policy in economic performance, as higher levels of government expenditure can either stimulate economic growth (if spent efficiently) or hinder it (if spending is inefficient or misallocated).

Inflation

Inflation reflects the rate at which the general level of prices for goods and services is rising, thereby eroding purchasing power (Movsisyan et al., 2024). Inflation is typically seen as a

negative force for economic growth. High or volatile inflation erodes purchasing power, creates uncertainty, and can distort price signals, all of which are likely to hamper long-term economic development and thus reduce GDP per capita.

Foreign Direct Investment

FDI represents the investment made by foreign entities into domestic businesses or infrastructure projects (Emako et al., 2022). Foreign direct investment (FDI) is expected to have a positive impact on GDP per capita. FDI brings in not only capital but also technology, managerial expertise, and access to international markets, all of which can stimulate economic growth.

4.4 Estimation Technique

4.4.1 System Generalized Method of Moments (GMM)

The System GMM model is one of the estimation techniques used in this study for analysing research objectives one and two, as it not only captures the relationship between the endogenous variable, its own lag, and the lagged exogenous variables but also addresses key econometric challenges inherent in panel data for Sub-Saharan Africa. System GMM was particularly appropriate because the dataset features a relatively small number of countries observed over several years, potential endogeneity between fiscal variables and economic outcomes, country-specific heterogeneity, and the likelihood of autocorrelation. By using internal instruments derived from the data, System GMM provides more efficient and consistent estimates than traditional fixed or random effects models.

Based on the concluding model (equation 9) from the augmented `Endogenous AK Growth model, the GMM model was constructed in two stages. The first stage shows the functional and econometric relationship which was represented as follows:

$$g_{it} = \alpha_0 + \alpha_1 g_{i,t-1} + \beta_1 GEX_{it} + \gamma X_{it} + \mu_i + \lambda_t + \epsilon_{it} \quad (16)$$

Which can be specified in its stochastic/econometric form as:

$$GDPR_{it} = \alpha_0 + \sum_{j=1}^6 \alpha_j X_{it} + U_{it} \quad (17)$$

Equation (16) shows the functional relationship between the endogenous variable and exogenous variables while equation (17) shows the stochastic/econometric specification. The vector X_{it} represents all the exogenous variables in the model while U_{it} is the error/disturbance term. The parameters α_j ($j = 1, 2, 3, \dots, 6$) are the coefficients of the respective exogenous variables.

The second stage has to do with transforming the model into the generalized method of moments (GMM) model. The general form of the GMM model is represented below:

$$X_{it} = \sigma_0 + \sigma_1 X_{i,t-1} + \sum_{j=2}^n \alpha_j Z_{it-1} + \pi_{it} + \mu_{it} \quad (18)$$

X_{it} is the dependent variable, $X_{i,t-1}$ is its lagged value, Z_{it-1} is a vector of the independent variables, π_{it} represent the unobserved country-specific (individual) effect and the time-specific effect, and μ_{it} is the error term, i is the country index, t represents time in years

Given that, $i = 1, 2, 3, \dots, N$

$t = 1, 2, 3, \dots, T$

Adapting the general form to this study, the following model was formed:

$$GDPR_{it} = \beta_0 + \beta_1 GDPR_{it-1} + \sum_{j=2}^6 \beta_j X_{it-1} + \pi_{it} + \mu_{it} \quad (19)$$

$GDPR_{it}$ is the dependent variable, $GDPR_{it-1}$ is its lagged value, X_{it-1} is a vector of the independent variables, π_{it} represents the unobserved country-specific (individual) effect and the time-specific effect, while μ_{it} is the error term, i is the country index, t represents time in years

Given that, $i = 1, 2, 3, \dots, N$

$t = 1, 2, 3, \dots, T$

In order to estimate equation 19, the first difference of the model was taken in order to take care of the fixed effect in the model as suggested by Arellano and Bond (1991). They proposed

to take the first difference of equation 19, the normalized model was presented below by transforming the variables into their logarithmic first differences, which is represented by the operator (Δ), this is shown below:

$$\text{GDPR}_{it} - \text{GDPR}_{it-1} = \beta_0 + \beta_1(\text{GDPR}_{it-1} - \text{GDPR}_{it-2}) + \sum_{j=2}^6 \beta_j(X_{it-1} - X_{it-2}) + (\pi_{it} - \pi_{it-1}) + (\mu_{it} - \mu_{it-1}) \quad (20)$$

This gave the equation specified below:

$$\Delta \ln \text{GDPR}_{it} = \lambda_0 + \lambda_1 \Delta \ln \text{GDPR}_{it-1} + \sum_{j=2}^6 \lambda_j \Delta \ln X_{it-1} + \varpi_{it} \quad (21)$$

Where, $i = 1, 2, 3, \dots, N$; $t = 1, 2, 3, \dots, T$

Taking the difference of equation 19 removes the country-specific effect (which may be random or fixed). This however introduces a bias into the model, due to the fact that the error term $(\mu_{it} - \mu_{it-1})$ in equation 20 is serially correlated with the lagged dependent variables in the model, i.e., $\text{GDPR}_{it-1} - \text{GDPR}_{it-2}$.

The assumption is that the disturbance term, μ_{it} is not serially correlated which would mean that the explanatory variables $(\lambda_j X_{it})$ are exogenous (Roodman, 2009). However, in this case, the explanatory variables are still endogenous.

Based on this, Arellano and Bond (1991) put forward the moment conditions. The moment conditions are derived from the first-differenced error terms from equation 21 as well as the instruments. To solve the problem of endogeneity, the use of lagged values of the regressors as instruments come into play but they are to be used in their level form.

They are specified thus:

$$E(\varpi_{it}) = E[F(\text{GDPR}_{it}, X_{it-1}, \lambda)] = 0; \text{ zero expected residual of independent variable} \quad (22)$$

$$E(Y' \varpi_{it}) = E(Y' \varpi_{it}, \lambda) = 0; \text{ zero expected residual of instrumental variables (Y)} \quad (23)$$

These instruments should have a strong correlation with the endogenous variable. It is common practice to make use of higher lags of the dependent variable

It must be noted that the unknown parameter λ determines whether the expected residuals are significantly close to zero or not. Also, there is the optimum parameter λ which makes sure that expected residuals become zero (Edo et al., 2022).

Based on the moment conditions in equations 22 and 23, the two-step GMM estimation technique was proposed which is also known as the difference GMM, this estimation technique however has its limitations. For example, the two-step GMM leads to loss of information which reduces its reliability. It is also seen to produce estimates with large sample biases. It was also suggested by Roodman (2009) that $\Delta \text{GDPR}_{i,t}$ and $\Delta \text{GDPR}_{i,t+1}$ will be missing in the transformed data if there are some missing observations in $\text{GDPR}_{i,t}$. This in essence means that it is not reliable for unbalanced panel observations (Ackerberg et al., 2014).

Blundell and Bond (1998) as well as Arellano and Bover (1995) looked into finding a solution to these limitations in the difference GMM by introducing the system GMM which had to do with orthogonal deviations. The system GMM is a combination of the regression in differences (equation 21) and the regression in levels (equation 19) with each of them having their own set of instruments.

The country-specific effect in the equation at levels is not removed, but it is controlled for by making use of instrumental variables which are orthogonal to the fixed effects. For the regression at levels, the instruments become the lagged differences of the exogenous and endogenous variables while for the difference equation, the instruments remain the same in the model.

For these variables to be accepted as appropriate instruments in the model, Blundell and Bond (1998) as well as Arellano and Bover (1995) introduced the following additional moment conditions:

$$E[\Delta \text{GDPR}_{i,t-1} \mu_{it}] = 0 \quad (24)$$

$$E[\Delta X_{i,t-1} \mu_{it}] = 0 \quad (25)$$

Therefore, this study makes use of the system GMM. The system GMM produces results which are more consistent and efficient when compared with the difference GMM (Berk et al., 2020; Das, 2016). It does this by simultaneously estimating the equations at level (estimated with the lagged difference of regressors) and the equation in differences (which is estimated with a lagged level of the regressors) (Farzana et al. 2024). The system GMM is very useful for studies with large number of observations (N) and few periods (T) (Ahn & Perez, 2010). It solves the problem of simultaneous bias, problem of dynamic endogeneity and unobservable heterogeneity (Ullah et al., 2018).

There are two major assumptions that must be satisfied in order for the parameter estimates to be consistent. Firstly, the instruments used must be valid, and secondly, idiosyncratic errors must not be serially correlated over time (Bontempi & Mammi, 2015). The study employed the Sargan and Hansen J tests in testing for the overall validity of the instruments.

4.4.2 Panel Threshold Model

The Panel Threshold Model (PTM) was employed to investigate Research Objective 3: “Investigate the threshold effect of external debt on economic growth in Sub-Saharan Africa” over the period 2009–2023.

Traditional linear panel models assume a constant relationship between the independent variables and the dependent variable across all observations. However, in many real-world scenarios; especially in the context of external debt and economic growth, the relationship is non-linear. The PTM, following Hansen (1999) and subsequent studies, allows for structural breaks in the slope coefficients based on the value of a threshold variable. This methodology is chosen to capture the non-linear relationship between external debt and economic growth, as predicted by the Debt Overhang Theory (Krugman, 1988), which posits that external debt stimulates growth at low levels but becomes a burden beyond a critical threshold due to

repayment pressures that deter investment. The PTM extends traditional linear panel models by allowing the coefficients of explanatory variables to vary across different regimes defined by a threshold variable (Yang et al., 2025), in this case, the external debt-to-GDP ratio, enabling the identification of specific debt levels where the growth effect shifts from positive to negative.

The PTM is based on the theoretical framework derived from the Debt Overhang Theory, which suggests a piecewise linear relationship between external debt and economic growth. The baseline growth equation is specified as:

$$g_{it} = \alpha_0 + \beta_1 D_{it} I(D_{it} \leq \theta) + \beta_2 D_{it} I(D_{it} > \theta) + \gamma X_{it} + \mu_i + \lambda_t + \epsilon_{it}$$

Where:

g_{it} : Economic growth rate, proxied by the annual percentage change in GDP per capita constant prices for country i at time t .

D_{it} : Threshold variable, the external debt-to-GDP ratio.

$I(\cdot)$: Indicator function that defines the regime: $I(D_{it} \leq \theta) = 1$ if $D_{it} \leq \theta$, and 0 otherwise; $I(D_{it} > \theta) = 1$ if $D_{it} > \theta$, and 0 otherwise.

θ : Unknown threshold parameter to be estimated, representing the critical debt-to-GDP ratio.

β_1 : Coefficient of D_{it} in the regime where debt is below or equal to the threshold (expected $\beta_1 > 0$).

β_2 : Coefficient of D_{it} in the regime where debt exceeds the threshold (expected $\beta_2 < 0$ or diminished effect).

X_{it} : Vector of control variables, which influence growth independently of the threshold effect.

γ : Vector of coefficients for control variables.

μ_i : Country-specific fixed effects, capturing unobserved heterogeneity across the 30 SSA countries.

λ_t : Time-specific effects, accounting for common shocks over the 15-year period.

ϵ_{it} : Idiosyncratic error term, assumed to be independently and identically distributed with mean zero and variance σ^2 .

To account for the possibility of multiple thresholds, the model is extended to a multi-threshold specification:

$$g_{it} = \alpha_0 + \sum_{j=1}^J \beta_j D_{it} I(D_{it} \in R_j) + \gamma X_{it} + \mu_i + \lambda_t + \epsilon_{it}$$

Where:

J: Number of regimes.

R_j : Regime j, defined by threshold values $\theta_1, \theta_2, \dots, \theta_{J-1}$.

β_j : Regime-specific coefficient for D_{it} in regime R_j

This multi-threshold model allows for a nuanced analysis of how the effect of external debt on growth varies across different debt-to-GDP levels, aligning with the Debt Overhang Theory's prediction of a tipping point.

Estimation Procedure

The PTM estimation follows the methodology proposed by Hansen (1999), which involves a two-step process to determine the threshold value(s) and regime-specific coefficients. The procedure is implemented using the 'ptm' function in R, as follows:

i. Threshold Estimation:

The threshold parameter θ is treated as unknown and estimated by minimizing the sum of squared residuals (SSR) over a grid of possible threshold values within the range of the threshold variable (D_{it}). The grid search is conducted with a trimming percentage to exclude extreme values, ensuring robust estimation:

$$\hat{\theta} = \arg \min_{\theta} SSR(\theta)$$

For multiple thresholds, the process is iterated, testing for additional thresholds using a sequential likelihood ratio (LR) test until no further significant thresholds are identified.

ii. Regime-Specific Coefficient Estimation:

Once θ (or $\theta_1, \theta_2, \dots$) is estimated, the model is estimated separately for each regime.

Bootstrap methods (e.g., 500 replications) are used to construct confidence intervals for the threshold estimates and test their significance.

iii. Model Diagnostics:

The significance of the threshold effect is tested using the LR statistic:

$$LR_n(\theta) = \frac{SSR_0 - SSR_1(\theta)}{\sigma^2}$$

Where SSR_0 is the sum of squared residuals under the null hypothesis of no threshold (linear model), and $SSR_1(\theta)$ is the sum of squared residuals under the alternative hypothesis with a threshold. The test statistic is compared against critical values from Hansen (1999), with a rejection of the null ($p < 0.05$) indicating a significant threshold.

For multiple thresholds, the process is repeated, with the LR test assessing the addition of each new threshold.

4.5 Data Sources

The study made use of secondary data, which were sourced from World Bank Indicators (WDI). The data spanned from 2009 - 2023, this scope was chosen due to the unavailability of data for some variables needed for the study.

CHAPTER FIVE

RESULT PRESENTATION AND ANALYSIS

5.1 Descriptive Statistics

This shows the main features for the variables in this study, as seen in table 5.1

Table 5.1

Descriptive Statistics

Variables	Obs	Mean	Median	Std. Dev.	Skewness	Ex. kurtosis	IQ range
Control of Corruption	450	-0.6207	-0.7142	0.5398	0.7428	0.32198	0.6941
Government Effectiveness	450	-0.6853	-0.724	0.5326	0.6449	0.5175	0.5739
Political Stability	450	-0.5656	-0.3598	0.8156	-0.239	-0.62834	1.2341
External Debt-to-GDP Ratio	450	58.804	45.868	53.428	4.295	24.698	34.658
Government expenditure	450	21.139	19.931	7.6327	1.3259	3.0207	9.4577
GDP per capita	450	1715.4	933.09	2012.6	2.4099	5.5375	1039
GDP per capita growth	450	1.5985	1.8948	4.3392	-0.543	12.398	3.8223
Inflation	450	6.6766	5.0268	7.0078	1.7987	4.6763	6.5869
FDI	450	-2.6051	-1.9005	10.864	-7.625	194.71	2.975
HDI	450	0.49631	0.49	0.1076	0.4585	0.12523	0.1238

Source: (Researcher's Computation, 2025)

As seen in figure 5.1, the data is complete with no missing observations across all variables, including governance indicators (Control of Corruption, Government Effectiveness, Political Stability), economic metrics (External Debt-to-GDP Ratio, Government expenditure, GDP per capita, GDP per capita growth, Inflation, Foreign Direct Investment), and the Human Development Index (HDI), this robustness allows for a comprehensive analysis.

The governance indicators reveal significant challenges in SSA. Control of Corruption and Government Effectiveness both exhibit negative means (-0.6207 and -0.6853, respectively, on

the World Governance Indicator scale of -2.5 to 2.5), indicating poor governance, with moderate variability (standard deviations of 0.5398 and 0.5326) and positive skewness (0.7428 and 0.6449), suggesting a few countries with better performance (e.g., Botswana). The high excess kurtosis (0.32198 and 0.5175) points to peaked distributions, Political Stability, with a mean of -0.5656 and a high standard deviation of 0.8156, reflects diverse stability levels across SSA, with negative skewness (-0.239) and platykurtic distribution (-0.62834) indicating extreme instability cases (e.g., South Sudan). These findings are critical for RQ2, where institutional quality may influence debt-growth thresholds.

Economic variables highlight SSA's diverse and volatile context. The External Debt-to-GDP Ratio averages 58.804%, exceeding sustainable levels (e.g., 50%), with extreme skewness (4.295) and kurtosis (24.698) indicating outliers (e.g., debt >100% in fragile states like Sudan). This high variability (standard deviation 53.428) supports RQ2's threshold analysis. Government expenditure (mean 21.139%) and GDP per capita (mean 1715.4 USD) show moderate levels but significant right skewness (1.3259 and 2.4099), suggesting high-spending or high-income outliers (e.g., oil-rich states), while GDP per capita growth (mean 1.5985%, standard deviation 4.3392) and Inflation (mean 6.6766%, standard deviation 7.0078) exhibit volatility, with extreme kurtosis (12.398 and 4.6763) indicating growth shocks and inflation spikes. These insights are vital for RQ1 and RQ3, where growth drivers and dynamic effects are assessed.

HDI, with a mean of 0.49631 and low variability (standard deviation 0.1076), reflects SSA's low development, with slight positive skewness (0.4585) indicating a few higher-performing countries (e.g., Seychelles). This variable's stability supports its inclusion in RQ3 to explore human capital's role in growth. Overall, the statistics reveal a heterogeneous SSA landscape, with high variability.

5.2 Correlation Analysis

Table 5.2

Correlation Analysis

	COC	GEF	EXT	GEX	GDP	GDPR	INF	FDI	HDI
COC	1								
GEF	0.8132	1							
EXT	0.0284	-0.0756	1						
GEX	0.4206	0.2784	0.0143	1					
GDP	0.4075	0.5811	0.0012	0.2279	1				
GDPR	0.1966	0.1849	-0.1426	-0.0590	-0.0397	1			
INF	0.0352	0.0513	0.1341	0.0283	-0.1260	0.0268	1		
FDI	-0.0487	-0.0817	0.0124	0.0015	-0.0695	-0.1847	-0.0115	1	
HDI	0.5212	0.6383	-0.0682	0.3422	0.7874	-0.0119	0.0104	-0.0285	1

Source: (Researcher's Computation, 2025)

The correlation analysis reveals several important relationships among the key variables in the study. There is a strong positive correlation between Control of Corruption (COC) and Government Effectiveness (GEF) ($r = 0.8132$), suggesting that improved governance is closely linked with reduced corruption. Both institutional quality indicators, COC and GEF also show moderate to strong positive correlations with the Human Development Index (HDI) ($r = 0.5212$ and $r = 0.6383$, respectively), indicating that better governance is associated with higher levels of economic welfare. Government Expenditure (GEX) is more positively correlated with HDI ($r = 0.3422$) than with GDP growth (GDPR) ($r = -0.0590$), implying that public spending in Sub-Saharan Africa may contribute more to welfare improvements than to short-term economic growth.

External debt (EXT) shows weak correlations with most variables and a slightly negative association with GDPR ($r = -0.1426$), supporting the view that excessive debt may hinder growth. Interestingly, GDP and HDI are strongly correlated ($r = 0.7874$), confirming that increases in per capita income often coincide with broader development. Foreign Direct Investment (FDI) has a weak negative correlation with both GDP ($r = -0.0695$) and GDPR ($r = -0.1847$), possibly reflecting the limited growth-enhancing impact of FDI in the region due to structural inefficiencies or poor sectoral targeting. Inflation (INF) shows generally weak

correlations with all other variables, indicating a minimal direct linear relationship in the sample.

5.3 Panel Stationarity Test

Table 5.3

Panel Unit Root Test

	ADF test						Levin-Lin-Chu (LLC) test					
	<i>Heterogeneous unit root (assume individual unit root process)</i>						<i>Homogeneous unit root (assume common unit root process)</i>					
	LEVEL			FIRST DIFF.			LEVEL			FIRST DIFF.		
	Pm	P-value	Dec	Pm	P-value	Dec	t	P-value	Dec	t	P-value	Dec
COC	-0.336	0.632	NS	32.241	0.000	S	-4.050	0	S	-9.155	0.000	S
GEF	-1.964	0.975	NS	33.274	0.000	S	-1.138	0.128	NS	-7.756	0.000	S
PS	-1.497	0.933	NS	41.845	0.000	S	-1.896	0.029	S	-8.157	0.000	S
EDGR	-0.856	0.804	NS	15.409	0.000	S	-2.237	0.013	S	-8.152	0.000	S
GEX	1.745	0.041	S	30.990	0.000	S	-7.219	0	S	-9.312	0.000	S
GDP	-2.196	0.986	NS	22.697	0.000	S	-5.226	0	S	-8.158	0.000	S
GDPR	2.654	0.004	S	68.648	0.000	S	-0.926	0.177	NS	-13.091	0.000	S
INF	4.436	0.000	S	41.780	0.000	S	-10.243	0	S	-12.123	0.000	S
FDI	10.689	0.000	S	50.118	0.000	S	-12.421	0	S	-15.016	0.000	S
HDI	-2.483	0.994	NS	18.810	0.000	S	-3.870	0.000	S	-7.612	0.000	S

Source: (Researcher's Computation, 2025)

NS – Non-stationary, S – Stationary, Dec - Decision

Where, COC = Control of Corruption, GEF = Government Effectiveness, PS = Political Stability, EDGR = External Debt-to-GDP Ratio, GEX = Government Expenditure, GDP = GDP per capita constant, GDPR = GDP per capita growth annual, INF = Inflation, FDI = Foreign Direct investment, HDI = Human development index

Table 5.3 presents the results of unit root tests for different variables using two approaches: the Augmented Dickey-Fuller (ADF) test and the Levin-Lin-Chu (LLC) test. The ADF test assumes heterogeneous unit root processes, meaning each panel may have a different autoregressive structure. In contrast, the LLC test assumes a common unit root process across panels. Both tests are conducted at the level and first difference to determine whether the variables are stationary or contain unit roots.

In the ADF test, most variables are non-stationary at level, as indicated by p-values greater than 0.05, meaning the null hypothesis of a unit root cannot be rejected. However, a few variables, such as GEX (Government Expenditure), GDPR (GDP Growth Rate), INF (Inflation), and FDI (Foreign Direct Investment), appear stationary at level. On the other hand, the LLC test suggests that some variables, such as PS (Political Stability), EDGR, GEX, GDP, INF, DI, and HDI (Human Development Index), are already stationary at level, indicating that their mean and variance do not change over time.

At first difference, all variables become stationary (S) in both ADF and LLC tests. This suggests that most of the variables follow an integrated order one, $I(1)$ process, meaning they become stationary after taking the first difference. This is crucial in time-series and panel data analysis, as using non-stationary variables in regression models can lead to spurious results and unreliable inferences.

In conclusion, the results indicate that while most variables are non-stationary at levels, they become stationary at first difference across both the ADF and LLC tests. However, some variables, such as GEX, GDPR, INF, and FDI, are already stationary at levels in at least one of the tests. This confirms that all variables are either $I(0)$ or $I(1)$, meaning they meet the stationarity requirements for estimation. Therefore, these variables are suitable for further econometric analysis, including System GMM (Generalized Method of Moments) and the Panel Threshold Model (PTM), ensuring robust and reliable estimation of relationships in the dataset.

5.4 Estimation Results

Model 1

Research Question 1: What is the impact of government expenditure on economic growth in Sub-Saharan Africa?

Table 5.4
System GMM – Model 1

Statistic	Value				
Balanced Panel	n = 30, T = 15, N = 450				
Number of Observations Used	810				
Residuals Summary					
Min	1st Qu.	Median	Mean	3rd Qu.	Max
-33.464	-1.81	0.107	0.065	1.869	33.9
Regression Coefficients					
Coefficients:	Estimate	Std. Error	z-value	Pr(>z)	Sig.
lag(GDPR)	0.073786	0.106055	0.6957	0.48659	NS
GEX	-0.22034	0.088246	-2.4969	0.01253	S
INF	-0.00324	0.033041	-0.0979	0.922	NS
FDI	-0.11792	0.017395	-6.7786	1.21E-11	S
Model Diagnostics					
Test	Test Statistic	p-value	Decision		
Sargan Test (Overidentification)	chisq(4) = 3.272	0.513	Instruments are valid		
Autocorrelation Test (AR1)	normal = -2.076	0.038	Presence of first-order autocorrelation		
Autocorrelation Test (AR2)	normal = 0.546	0.585	No second-order autocorrelation		
Wald Test for Coefficients	chisq(4) = 85.013	<0.001	Model is significant		
Wald Test for Time Dummies	chisq(13) = 61.594	<0.001	Time dummies are significant		

Source: (Researcher's Computation, 2025)

The System GMM estimation examines the relationship between government expenditure, inflation, and foreign direct investment with GDP per capita growth. The diagnostic tests suggest that the model is well-specified, with valid instruments and no second-order autocorrelation, making the results reliable for interpretation.

The Sargan test yields a p-value of 0.513, indicating that the instruments used in the model are valid and not correlated with the error term. This confirms that the model does not suffer from overidentification issues. Additionally, the autocorrelation tests show that there is first-order autocorrelation (AR1: $p = 0.038$), which is expected in System GMM models. However, the absence of second-order autocorrelation (AR2: $p = 0.585$) ensures that the moment conditions

are correctly specified. The Wald test for coefficients ($p < 0.001$) confirms that at least one explanatory variable significantly influences GDP growth, while the Wald test for time dummies ($p < 0.001$) indicates that time effects are also relevant.

The results indicate that lagged GDP per capita growth (coefficient: 0.074, $p = 0.487$) is not statistically significant, suggesting that GDP per capita growth in the previous period does not strongly predict the value in the current period. This implies that past economic performance does not have a persistent effect in SSA.

Government expenditure, measured as a percentage of GDP, has a negative and statistically significant effect on GDP per capita growth (coefficient: -0.220, $p = 0.013$). This implies that a 1% increase in government spending reduces GDP per capita growth by 0.22 percentage points. The negative impact could be attributed to inefficiencies in public spending, crowding out of private investment, or poor fiscal management, which may hinder economic growth rather than stimulate it (Yovo, 2017).

Inflation, with a coefficient of -0.003 and a p-value of 0.922, does not have a statistically significant impact on GDP growth. This suggests that inflationary pressures do not play a crucial role in determining economic growth in this context, possibly due to effective monetary policies or the relatively stable inflation environment in the sampled countries.

A notable and somewhat unexpected finding is the negative and highly significant effect of foreign direct investment (coefficient: -0.118, $p < 0.001$). A 1% increase in foreign direct investment is associated with a 0.12 percentage point decline in GDP per capita growth. This contradicts the typical expectation that foreign direct investment (FDI) fosters economic growth. The negative impact might be due to the concentration of investment in non-productive sectors, weak institutional frameworks, resource dependency, or capital inflows that do not translate into sustainable economic benefits.

Model 2

Research Question 2: What role do institutional factors play in mediating the impact of government expenditure on economic welfare in Sub-Saharan Africa?

Table 5.5

System GMM – Model 2

Statistic			Values		
Balanced Panel			n = 30, T = 15, N = 450		
Number of Observations Used			810		
Residuals Summary					
Min	1st Qu.	Median	Mean	3rd Qu.	Max
-0.415	-0.014	0.001	-0.003	0.014	0.360
Regression Coefficients					
Coefficients:	Estimate	Std. Error	z-value	Pr(>z)	Sign
lag(HDI, 1)	0.753	0.126	5.962	0.000	***
GEX	0.006	0.002	3.103	0.002	**
COC	-0.096	0.043	-2.262	0.024	*
EXP.COC	0.005	0.001	3.713	0.000	***
Model Diagnostics					
Test	Statistic	p-value	Decision		
Sargan Test (Overidentification)	chisq(6) = 10.5	0.106	Instruments are valid		
Autocorrelation Test (AR1)	normal = -3.4	0.001	Presence of first-order autocorrelation		
Autocorrelation Test (AR2)	normal = -0.8	0.443	No second-order autocorrelation		
Wald Test for Coefficients	chisq(4) = 81.0	< 2.22e-16	Model is significant		
Wald Test for Time Dummies	chisq(13) = 435.3	< 2.22e-16	Time dummies are significant		

Source: (Researcher's Computation, 2025)

The System GMM model explored the dynamic determinants of the Human Development Index (HDI) while considering the effects of government expenditure, corruption control, and their interaction. The inclusion of an interaction term (EXP.COC) allows the assessment as to whether the effect of government expenditure on HDI is mediated by the level of corruption control in a country.

One of the key findings is the positive and highly significant effect of lagged HDI (coefficient: 0.753, $p < 0.001$). This indicates that past levels of HDI strongly influence present HDI, suggesting that human development is persistent over time. Countries with strong human development in the past are more likely to maintain or improve their progress due to long-term investments in education, healthcare, and institutional quality (Hadipour et al., 2023).

Government expenditure as a percentage of GDP also has a significant positive effect on HDI (coefficient: 0.0057, $p = 0.002$). This implies that higher government spending is associated with improvements in human development, likely due to increased funding for public services, infrastructure, and social welfare programs. However, the magnitude of this effect is relatively small, suggesting that other institutional factors, such as governance quality, may influence how effectively government resources translate into better development outcomes.

The variable “Control of Corruption” has a negative and significant effect on HDI (coefficient: -0.096, $p = 0.024$). This result suggests that stronger anti-corruption measures may initially be associated with a decline in HDI. One possible explanation is that implementing strict anti-corruption policies can disrupt existing bureaucratic systems, slowing down public service delivery and economic activities in the short run. Another possible reason is that countries in the early stages of corruption control reforms may face resistance from entrenched interests, which could negatively impact governance efficiency and, consequently, human development.

The interaction term EXP.COC (coefficient: 0.0050, $p < 0.001$), which represents the mediation effect of corruption control on government expenditure, is positive and highly significant. This means that the impact of government spending on HDI is strengthened when corruption control is taken into account. In other words, countries that allocate more public funds while simultaneously improving corruption control experience greater improvements in HDI. This finding highlights the importance of good governance in ensuring that government

expenditures translate into real development gains. In corrupt environments, public funds may be misallocated, limiting their impact on human development, whereas in well-governed systems, spending is more effective.

The model diagnostics confirm the robustness of these findings. The Sargan test ($p = 0.106$) indicates that the instruments used are valid and there is no over-identification problem. The AR(1) test ($p = 0.0008$) suggests the presence of first-order serial correlation, which is expected in GMM models, while the AR(2) test ($p = 0.443$) confirms the absence of second-order serial correlation, supporting the validity of the moment conditions. The Wald test for coefficients ($p < 0.001$) demonstrates the joint significance of the explanatory variables, and the Wald test for time dummies ($p < 0.001$) suggests systematic changes in HDI over time.

Model 3 (Panel Threshold Model)

Research Question 3: What is the threshold effect of external debt on economic growth in Sub-Saharan Africa?

Table 5.6.

Panel Threshold Model – Model 3

Panel Information		Value			
Number of Countries (n)		30			
Number of Time Periods (T)		15			
Total Observations (N)		450			
Regressor Coefficients	Variable	Coefficient	Std. Error	White Std. Error	t-statistic
DI	1	-2.1009	5.2402	7.9315	-0.2649
INF	2	-41.9309	10.2315	11.0815	-3.7839
GEF	3	2880.0325	166.688	195.5318	14.7292
Threshold Coefficients (Dependent Variable: EDGR)	Variable				
	Regime	Coefficient	Std. Error	White Std. Error	t-statistic
Regime 1 (EDGR ≤ 50.7181)	1	16.609736	6.045367	5.345208	3.1074
Regime 2 (50.7181 < EDGR ≤ 75.3124)	2	4.177726	5.20344	4.455012	0.9378
Regime 3 (EDGR > 75.3124)	3	-8.547681	4.169588	4.112105	-2.0787

Threshold Estimates		Value		
Threshold 1		50.7181		
Threshold 2		60.3243		
Threshold 3		75.3124		
LR Test	Statistic	p-value		p < 0.05, strongly rejects the null hypothesis of no threshold effect, confirms significant non-linear dynamics in the debt-growth relationship
LR Statistic	36.1258	0.000		
Critical Values (CV)	90%	95%	99%	
Critical Values	8.356	10.47	14.89	

Source: (Researcher's Computation, 2025)

The PTM examined the non-linear impact of External Debt-to-GDP Ratio on GDP per capita in a balanced panel of 30 Sub-Saharan African countries over 15 years (2009 – 2023), with 450 observations. The model includes Foreign Direct Investment, Inflation, and Government Effectiveness as regressors, with External Debt-to-GDP Ratio as the threshold variable. The output identified three regimes:

(1) ≤ 50.7181

(2) 50.7181 to 75.3124

(3) > 75.3124 .

The coefficient at the threshold for External Debt-to-GDP ratio in Regime 1 (≤ 50.7181) is 16.609736 (t-stat = 3.1074066), indicating a significant positive effect where a 1-unit increase in the debt-to-GDP ratio boosts GDP per capita by 16.61 units, suggesting that moderate debt levels may support growth through productive investments. In Regime 2 (50.7181 to 75.3124), the coefficient is 4.177726 (t-stat = 0.9377585), showing a diminished and insignificant positive effect, implying that as debt rises, its growth-enhancing impact weakens. For Regime 3 (> 75.3124), the third coefficient (-8.547681, t-stat = -2.0786630) applies, reflecting a significant negative effect where higher debt levels reduce GDP per capita by 8.55 units per

unit increase in the debt-to-GDP ratio, strongly supporting the Debt Overhang Hypothesis, as excessive debt burdens hinder growth in SSA.

The coefficients represent the overall effects of the regressors across the entire sample. Foreign Direct Investment has a coefficient of -2.1009 (t-stat = -0.2649), suggesting a small, insignificant negative effect on GDP per capita, which may reflect SSA's resource-driven investment patterns that fail to broadly enhance growth. Inflation shows a significant negative effect of -41.9309 (t-stat = -3.7839), indicating that a 1-unit increase in inflation reduces GDP per capita by 41.93 units, highlighting inflation's destabilizing impact on economic stability in the region. Government effectiveness has a positive coefficient of 2880.0325 (t-stat = 14.7292). The likelihood ratio test ('LR' = 36.1258, $p = 0.000$) strongly rejects the null hypothesis of no threshold effect, exceeding the 99% critical value (14.8857), confirming significant non-linear dynamics in the debt-growth relationship.

This interpretation highlights critical debt thresholds for SSA, with debt levels above 75.3124% marking a significant turning point where debt becomes detrimental to growth, aligning with the Debt Overhang Hypothesis. The positive effect of debt at lower levels (≤ 50.7181) suggests a potential for growth-enhancing borrowing, but this benefit diminishes as debt rises, turning negative beyond 75.3124%. The negative 'Inflation' effect underscores the need for price stability. These findings provide actionable insights for debt management policies in SSA, emphasizing the importance of maintaining debt below critical thresholds to avoid growth suppression.

5.5 Discussion of Results

This study investigated the intricate relationships between government expenditure, external debt, institutional factors, and economic outcomes in Sub-Saharan Africa (SSA) through three

distinct models: a System Generalized Method of Moments (GMM) model for economic growth (Model 1), a System GMM model for human development (Model 2), and a Panel Threshold Model (PTM) for the non-linear effects of external debt (Model 3). The findings provide nuanced insights into the dynamics of fiscal policy, debt, and institutional quality in SSA, contributing to the empirical literature while confirming, challenging, or extending prior studies.

Model 1: Government Expenditure and Economic Growth

Model 1 examined the effect of government expenditure on economic growth in SSA, revealing a negative and statistically significant impact (coefficient: -0.220, $p = 0.013$). This finding suggested that inefficiencies in public spending, potential crowding out of private investment, or poor fiscal management hinder economic growth. The result aligns with Ndiaye (2018), who found that government expenditure does not positively influence economic growth in the short or long run in Economic Community of West African States (ECOWAS) countries (Aldag et al., 2018). Ndiaye's study highlights the need for strategic spending approaches, a sentiment echoed in this study's findings, where the negative effect may stem from misallocated or inefficient public funds.

However, this result contrasts with Ubi-Abai and Ekere (2018), who reported a positive effect of fiscal policy, including government expenditure, on economic growth across 47 SSA countries from 1996 to 2016. Their study suggests that fiscal policies supporting productive investments can foster growth, a dynamic not observed in this study's sample. The discrepancy may arise from differences in sample composition, time periods, or the specific types of government expenditure analysed. For instance, Uchenna et al. (2019) and Onifade et al. (2020) emphasize the differential impacts of expenditure types in Nigeria, finding that recurrent expenditure negatively affects growth, while capital expenditure has positive but often

insignificant effects. This study's aggregate measure of government expenditure may mask such distinctions, suggesting that future research should disaggregate expenditure into recurrent and capital components to better understand their growth impacts in SSA.

The negative and highly significant effect of foreign direct investment (FDI) (coefficient: -0.118, $p < 0.001$) is another critical finding, indicating that a 1% increase in FDI reduces GDP growth by 0.12 percentage points. This challenges the conventional expectation that foreign direct investment (FDI) fosters growth, as supported by Arodoye (2020), who found a positive impact of FDI on economic growth in 29 African countries from 1990 to 2017. Arodoye's study suggests that FDI inflows enhance growth when accompanied by policies attracting productive investments. The negative effect in this study may reflect SSA's reliance on resource-driven FDI, which often fails to translate into broad-based growth due to weak institutional frameworks or concentration in non-productive sectors. This aligns with Azolibe (2022), who found a negative relationship between external debt and FDI inflows in SSA, suggesting that high debt levels may deter productive FDI, indirectly affecting growth.

Inflation's insignificant effect (coefficient: -0.003, $p = 0.922$) indicates that inflationary pressures do not significantly influence GDP growth in this context, possibly due to effective monetary policies or stable inflation environments in the sampled countries. This finding contrasts with Hlongwane (2023), who identified a negative relationship between inflation and real GDP growth in South Africa, suggesting that inflation's impact may vary by country-specific monetary conditions. The insignificant lagged GDP growth (coefficient: 0.074, $p = 0.487$) further suggests limited persistence in economic growth, challenging the notion of self-sustaining growth cycles in SSA and highlighting the region's vulnerability to external and policy-related shocks.

Model 2: Institutional Factors and Economic Welfare

Model 2 explored the role of institutional factors, specifically corruption control, in mediating the impact of government expenditure on economic welfare, measured by the Human Development Index (HDI). The positive and significant effect of government expenditure (coefficient: 0.006, $p = 0.002$) indicates that higher public spending enhances HDI, likely through investments in education, healthcare, and social welfare. This aligns with Igbiniedion and Ighodaro (2019), who found that public expenditure on education positively impacts educational development in Nigeria, emphasizing the role of targeted spending in improving human development outcomes. However, the small magnitude of the coefficient suggests that the effectiveness of spending is constrained without strong institutional support, a point reinforced by the model's institutional variables.

The negative and significant effect of corruption control (coefficient: -0.096, $p = 0.024$) is an unexpected finding, suggesting that stronger anti-corruption measures may temporarily reduce HDI. This could reflect short-term disruptions in public service delivery or resistance to reforms, as bureaucratic systems adjust to stricter governance. This result challenges Nguyen and Bui (2022), who found that corruption control negatively impacts economic growth in Asian emerging markets but did not explicitly link it to human development outcomes. Their study suggests that minimizing corruption enhances the benefits of government expenditure, a dynamic partially supported by this study's positive and highly significant interaction term (EXP.COC: coefficient: 0.005, $p < 0.001$). The interaction term indicates that corruption control amplifies the positive effect of government expenditure on HDI, confirming Wandeda et al. (2021), who found that institutional quality significantly enhances the efficiency of public spending in SSA. Countries with robust anti-corruption measures can better translate public funds into human development gains, highlighting the critical role of governance.

The strong persistence of HDI (lagged HDI coefficient: 0.753, $p < 0.001$) underscores the cumulative nature of human development, where past investments in education and healthcare sustain progress. This finding is consistent with the broader literature on human capital development, though specific SSA studies like Igbinedion and Ighodaro (2019) provide indirect support through their focus on education spending. The model's diagnostics, including valid instruments (Sargan test: $p = 0.106$) and no second-order autocorrelation (AR2: $p = 0.443$), confirm the robustness of these findings, lending credibility to the policy implications.

Model 3: Threshold Effects of External Debt on Economic Growth

Model 3 employed a Panel Threshold Regression to examine the non-linear effects of external debt on economic growth, identifying three regimes: debt-to-GDP ratios $\leq 50.7181\%$, 50.7181% to 75.3124% , and $> 75.3124\%$. In Regime 1 ($\leq 50.7181\%$), external debt has a significant positive effect (coefficient: 16.610, $t\text{-stat} = 3.107$), boosting GDP per capita by 16.61 units per unit increase in the debt-to-GDP ratio. This supports Baral (2023), who found a positive relationship between external debt and GDP growth in International Development Association countries, suggesting that moderate debt levels can finance productive investments. Similarly, Croi and Diaw (2020) identified a positive effect of debt on growth below a certain threshold in West African Economic and Monetary Union (WAEMU) countries, reinforcing the growth-enhancing potential of low-to-moderate debt.

In Regime 2 (50.7181% to 75.3124%), the effect diminishes (coefficient: 4.178, $t\text{-stat} = 0.938$) and becomes insignificant, indicating a weakening growth impact as debt rises. In Regime 3 ($> 75.3124\%$), the effect turns negative and significant (coefficient: -8.548, $t\text{-stat} = -2.079$), reducing GDP per capita by 8.55 units per unit increase, strongly supporting the Debt Overhang Hypothesis. This aligns with Ndoricimpa (2020), who found that high public debt is detrimental to growth in Africa, while low debt levels are neutral or growth-enhancing. The threshold of

75.3124% is consistent with Croi and Diaw (2020), who emphasize the role of institutional quality in mitigating debt's negative effects, a factor partially supported by this study's positive coefficient for government effectiveness (coefficient: 2880.033, t-stat = 14.729).

The negative relationship between external debt and growth in high-debt regimes also aligns with several SSA-focused studies, including Ehikioya et al. (2020), Gachunga and Kuso (2018), Manasseh et al. (2022), and Sandow et al. (2022), all of which found a negative impact of external debt on economic growth. Sandow et al. (2022) further noted that strong public sector management (PSM) quality can mitigate these negative effects, a finding supported by this study's emphasis on government effectiveness. However, this study's threshold approach provides a more nuanced perspective than these linear models, identifying specific debt levels where the relationship shifts, thus offering clearer policy guidance. By identifying a specific debt threshold (75.3124%), the study provides actionable policy benchmarks, extending the linear analyses of prior studies and reinforcing the importance of institutional quality, as highlighted by Sandow et al. (2022) and Croi and Diaw (2020). In addition, this threshold level also aligns with the findings of Arodoye (2024) who discovered that 50% - 90% was the turning point for external debt to switch from having a positive effect to having a negative effect.

The negative and significant effect of inflation (coefficient: -41.931, t-stat = -3.784) underscores its destabilizing impact, aligning with Hlongwane (2023) and highlighting the need for monetary stability in high-debt regimes. The insignificant effect of foreign direct investment (coefficient: -2.101, t-stat = -0.265) reinforces Model 1's findings and goes against the findings of Arodoye (2020), suggesting that FDI's growth benefits are context-specific and may not materialize in SSA without institutional reforms.

5.6 Policy Implications

The findings from the System Generalized Method of Moments (System GMM) and Panel Threshold Model (PTM) provide critical policy insights for Sub-Saharan African (SSA) economies, addressing the complex interplay of government expenditure, foreign direct investment (FDI), institutional quality, and external debt on economic growth and welfare. Supported by robust model diagnostics, valid instruments (Sargan test: $p > 0.10$), absence of second-order autocorrelation (AR2: $p > 0.44$), and significant Wald tests ($p < 0.05$), these results offer a reliable foundation for evidence-based policymaking. The following implications align with the empirical findings and address SSA's structural economic challenges.

The negative and significant impact of government expenditure on economic growth (coefficient: -0.220, $p = 0.013$) in Model 1 indicates that a 1% increase in public spending reduces GDP per capita growth by 0.22 percentage points. This suggests inefficiencies in fiscal management, where funds may be allocated to unproductive recurrent expenditures, administrative overheads, or poorly executed projects, hence, current public spending patterns in SSA may not effectively translate into economic growth. In many SSA countries, high recurrent costs and misallocated capital investments fail to yield sustainable economic returns, often exacerbating fiscal deficits. For policymakers, this underscores the importance of focusing on the efficiency and quality of public spending to ensure fiscal policies contribute to growth rather than hinder it. The finding suggests a need to re-evaluate the allocation of government budgets to prioritize investments that stimulate economic activity, such as those in productive sectors, while addressing inefficiencies that exacerbate fiscal deficits.

Equally concerning is the negative and highly significant effect of foreign direct investment (coefficient: -0.118, $p < 0.001$) on economic growth, challenging the assumption that FDI

inherently drives development. This finding suggests possible weak regulatory frameworks and unfavourable investment agreements which could further exacerbate capital flight, limiting technology transfer and job creation (Fisseha, 2022). From a policy perspective, this suggests that attracting FDI alone is insufficient to spur growth. Instead, policies must consider the type and quality of FDI, ensuring investments align with national development goals and foster technology transfer, job creation, and industrialization. The finding highlights the need for a strategic approach to investment policies that maximizes the economic benefits of FDI while mitigating its potential drawbacks.

Model 2 highlights the pivotal role of institutional quality in mediating the impact of government expenditure on economic welfare, measured by the Human Development Index (HDI). The positive effect of government expenditure (coefficient: 0.006, $p = 0.002$) indicates that public spending enhances HDI, but its small magnitude underscores the need for effective governance. The negative effect of corruption control (coefficient: -0.096, $p = 0.024$) suggests that anti-corruption reforms may initially disrupt public service delivery, temporarily reducing HDI as bureaucratic systems adjust. However, the positive and highly significant interaction term (EXP.COC: coefficient: 0.005, $p < 0.001$) reveals that corruption control amplifies the positive impact of government expenditure (by making it more significant – from 0.002 to 0.000), enabling greater HDI gains in well-governed systems. In SSA, corruption often diverts funds from education, healthcare, and infrastructure through fraudulent procurement and embezzlement, undermining development outcomes. This suggests that governance quality is a critical determinant of how effectively public funds translate into improved education, healthcare, and living standards (Makuta & O'Hare, 2015). For policymakers, this underscores the importance of institutional integrity in maximizing the welfare benefits of public spending, even if short-term challenges arise during governance reforms.

The Panel Threshold Model (Model 3) reveals a non-linear relationship between external debt and economic growth, with critical thresholds at 50.7181% and 75.3124% debt-to-GDP ratios. Below 50.7181%, debt has a significant positive effect (coefficient: 16.610, t-stat = 3.107), boosting GDP per capita by 16.61 units per unit increase, indicating that moderate borrowing can finance growth-enhancing investments. However, beyond 75.3124%, the effect turns negative (coefficient: -8.548, t-stat = -2.079), reducing GDP per capita by 8.55 units, supporting the Debt Overhang Hypothesis. This suggests that excessive debt levels divert resources from development priorities to debt servicing, creating fiscal pressures that stifle growth. Policymakers must consider sustainable debt thresholds when formulating borrowing strategies, recognizing that debt can be growth-enhancing at moderate levels but detrimental when it exceeds critical limits (Elkhalfi et al., 2024). This finding emphasizes the importance of balancing debt-financed development with fiscal discipline to avoid unsustainable debt burdens.

The significant negative effect of inflation in Model 3 (coefficient: -41.931, t-stat = -3.784) underscores the need for monetary stability, as high inflation erodes purchasing power and deters investment. Although inflation was insignificant in Model 1 (coefficient: -0.003, p = 0.922), its destabilizing impact in high-debt regimes highlights the importance of context-specific monetary policies, as monetary policies must be tailored to specific economic conditions, with a focus on maintaining price stability in high-debt environments to support growth. Policymakers should consider the interplay between fiscal and monetary policies to create a stable macroeconomic environment conducive to investment and development.

The findings also point to the broader challenge of economic vulnerability in SSA, where reliance on commodity exports and external financing exacerbates exposure to global shocks. The negative effects of FDI and high debt levels suggest that policies must address structural

dependencies to enhance economic resilience. Diversification into value-added sectors could mitigate these risks, but this requires careful policy design to ensure investments and borrowing support long-term development goals.

CHAPTER SIX

SUMMARY, CONCLUSION, AND RECOMMENDATIONS

6.1 Summary of Findings

This study explored the complex relationships between government expenditure, external debt, and institutional factors in shaping economic growth and human development in Sub-Saharan Africa through three empirical models: two System Generalized Method of Moments models and a Panel Threshold Model. The results, underpinned by robust diagnostics including valid instruments with a Sargan test p-value greater than 0.10, no second-order autocorrelation with an AR2 p-value exceeding 0.44, and significant Wald tests with a p-value less than 0.001, offer reliable insights into SSA's economic landscape.

In the first model, which focused on economic growth, government expenditure exhibited a negative and significant effect, with a coefficient of -0.220 and a p-value of 0.013, indicating that a 1% increase in public spending reduces GDP per capita growth by 0.22 percentage points, likely due to inefficiencies in fiscal management. Similarly, foreign direct investment showed a negative and highly significant impact, with a coefficient of -0.118 and a p-value less than 0.001, suggesting that FDI, often concentrated in extractive sectors, fails to generate broad-based growth. Inflation and lagged GDP growth were insignificant, with coefficients of -0.003 ($p = 0.922$) and 0.074 ($p = 0.487$) respectively, implying limited influence from these factors in this context.

The second model, examining human development, found that government expenditure positively affects the Human Development Index, with a coefficient of 0.006 and a p-value of 0.002, though its small magnitude highlights the need for institutional support. Corruption control had a negative effect, with a coefficient of -0.096 and a p-value of 0.024, suggesting

short-term disruptions during anti-corruption reforms, but the positive interaction term, with a coefficient of 0.005 and a p-value less than 0.001, demonstrated that effective corruption control amplifies expenditure's impact on HDI. The strong persistence of HDI, with a lagged HDI coefficient of 0.753 and a p-value less than 0.001, underscored the cumulative nature of human development.

The third model, a Panel Threshold Model, revealed a non-linear relationship between external debt and economic growth, identifying thresholds at 50.7181% and 75.3124% debt-to-GDP ratios. Below 50.7181%, debt positively affects growth, with a coefficient of 16.610 and a t-statistic of 3.107, increasing GDP per capita by 16.61 units per unit increase. Between 50.7181% and 75.3124%, the effect weakens and becomes insignificant, with a coefficient of 4.178 and a t-statistic of 0.938. Above 75.3124%, debt negatively impacts growth, with a coefficient of -8.548 and a t-statistic of -2.079, reducing GDP per capita by 8.55 units, supporting the Debt Overhang Hypothesis. Inflation had a significant negative effect, with a coefficient of -41.931 and a t-statistic of -3.784, while government effectiveness was strongly positive, with a coefficient of 2880.033 and a t-statistic of 14.729.

These findings collectively highlighted the challenges of inefficient public spending, unproductive FDI, institutional weaknesses, and excessive debt in SSA, while emphasizing governance and sustainable borrowing as critical drivers of development.

6.2 Conclusion

This study offered a comprehensive examination of government expenditure, external debt, and institutional factors in Sub-Saharan Africa, addressing the effects of public spending on economic growth, the mediating role of institutional quality in human welfare outcomes, and the threshold effects of external debt on growth. The findings revealed that government

expenditure and FDI negatively impact economic growth, likely due to inefficiencies and concentration in extractive sectors, aligning with Ndiaye's (2018) observations on ineffective public spending in ECOWAS countries but contrasting with Ubi-Abai and Ekere's (2018) findings of positive fiscal policy impacts. The positive effect of government expenditure on the Human Development Index, amplified by effective corruption control, underscores the centrality of governance, supporting Wandeda et al. (2021) and extending Nguyen and Bui's (2022) focus on corruption control to welfare outcomes.

The identification of a 75.3124% debt-to-GDP threshold confirms the Debt Overhang Hypothesis, resonating with Croi and Diaw (2020) and Ndoricimpa (2020), while the positive effect at lower debt levels aligns with Baral (2023). By integrating economic growth, human development, and non-linear debt effects, the study provided a holistic perspective on SSA's economic challenges, challenging assumptions about FDI's universal benefits, as seen in Arodoye (2020), and offering clear policy benchmarks for sustainable development. These insights emphasize the need for SSA economies to address inefficiencies in public spending, strategically manage investments, strengthen institutional frameworks, and maintain sustainable debt levels to foster inclusive growth and improve citizen well-being, setting a foundation for evidence-based policymaking and further research.

The research contributes to the ongoing debate on debt sustainability by offering a quantitative assessment of the optimal debt threshold for SSA economies. It emphasizes the need for balanced fiscal policies that support growth while ensuring that debt remains manageable. Addressing structural challenges such as weak institutions, policy inconsistency, and limited economic diversification will be crucial in achieving long-term development in the region.

6.3 Recommendations

Based on the findings, several policy recommendations can be made to enhance economic growth and sustainable debt management in SSA. First, given the negative impact of government expenditure on economic growth, policymakers should focus on enhancing the efficiency of public spending by reducing wasteful spending and reallocating budgets from recurrent costs to capital investments in infrastructure, education, and healthcare, which can drive long-term growth. Adopting transparent budgeting systems, such as zero-based budgeting, and digitizing financial management processes can further minimize waste and ensure accountability.

The negative effect of FDI indicates a need to attract high-quality investments into manufacturing, technology, and renewable energy sectors, rather than extractive industries. Enforcing local content requirements and strengthening domestic supply chains can maximize technology transfer and economic spill overs. To enhance the impact of government expenditure on human development, institutional governance must be strengthened, particularly through establishing independent anti-corruption agencies with prosecutorial powers and digitizing government transactions to reduce leakages. Capacity-building for public officials can help manage short-term disruptions from anti-corruption reforms, ensuring sustained improvements in HDI outcomes.

The debt thresholds identified in the study call for prudent debt management, with external debt-to-GDP ratios kept below 50% to avoid debt overhang, prioritizing concessional borrowing with favourable terms. Borrowed funds should be channelled into high-return projects, such as transport infrastructure or renewable energy, with regular debt sustainability assessments to maintain transparency. To reduce reliance on commodity exports, policymakers should promote economic diversification by investing in human capital through education and

skills training, supporting industrialization, and leveraging the African Continental Free Trade Area (AfCFTA) to expand intra-African trade.

Finally, the negative effect of inflation in high-debt regimes underscores the need for macroeconomic stability through inflation-targeting frameworks, exchange rate stability, and coordinated fiscal-monetary policies to avoid deficit financing, creating a conducive environment for investment. Implementing these strategies will require collaboration with international financial institutions, such as the IMF and World Bank, for technical assistance and financing, while addressing challenges like weak institutional capacity and political resistance to ensure effective execution.

6.4 Contribution to Knowledge

This study contributes significantly to the literature on fiscal policy, debt, and development in Sub-Saharan Africa by offering a multi-dimensional analysis that integrates economic growth, human development, and non-linear debt effects. First, it provides empirical evidence of a nonlinear relationship between external debt and economic growth in SSA, as very few studies have focused on this area with regards to SSA. It establishes precise external debt-to-GDP thresholds at which debt transitions from being beneficial to detrimental, as the precise identification of a 50% debt-to-GDP threshold provides a specific benchmark for sustainable borrowing, offering policymakers actionable guidance.

Second, the study incorporates corruption control as a mediating factor in the effectiveness of government expenditure, demonstrating that governance quality significantly influences the impact of government spending on economic welfare. By highlighting the role of institutional quality in economic performance, the research underscores the importance of governance reforms in SSA. The identification of corruption control's mediating role in amplifying

government expenditure's impact on the Human Development Index highlights governance as a critical determinant of development in SSA.

Third, the findings challenge conventional perspectives on FDI by showing that foreign investment, in its current form, does not necessarily promote growth in SSA, emphasizing the need for strategic investment policies in SSA's resource-driven context. This insight calls for a re-evaluation of investment policies to ensure that FDI contributes to industrialization and economic growth.

The study also introduces a relatively different methodological way of estimating debt-to-GDP ratios in SSA. By combining robust econometric methods, including System GMM and PTM, the study bridges academic research and policy application, providing evidence-based insights into SSA's economic challenges. These contributions advance the understanding of how fiscal policies, institutional quality, and debt dynamics interact, offering a foundation for future research and policy formulation in the region. By identifying optimal debt thresholds, the research informs debt sustainability strategies that can help SSA countries avoid debt distress and achieve stable economic growth.

6.5 Study Limitations

Despite its significant contributions, this study has certain limitations. Firstly, the analysis is based on aggregated country-level data, which may not fully capture country-specific dynamics and structural differences across SSA economies. Future research could conduct country-specific studies to provide more tailored policy recommendations. Secondly, the study primarily focuses on external debt without considering the combined effects of domestic and external borrowing. A comprehensive analysis incorporating both forms of debt could offer deeper insights into overall debt sustainability.

Thirdly, while the study identifies the role of corruption control in influencing government expenditure effectiveness, it does not extensively explore other governance factors such as political stability, regulatory quality, and government effectiveness. Future research could examine how broader institutional frameworks shape economic growth trajectories in SSA. Fourthly, unavailability of data was a major challenge in the study as several countries had missing values in various key variables, which led to those countries, being removed. Lastly, the research relies on secondary data, which may be subject to measurement errors and reporting inconsistencies.

6.6 Areas of Future Research

Building on the findings of this study, several areas of future research can be explored. Firstly, future studies could investigate the sectoral effects of external debt to determine which industries or economic activities are most affected by rising debt levels. Understanding the differential impact of debt across sectors could help policymakers design targeted interventions. Secondly, research could examine the interplay between domestic and external debt, exploring how different debt compositions influence economic growth and fiscal stability. A comparative analysis between low-income and middle-income SSA countries could provide further insights into debt sustainability dynamics. Thirdly, future studies could investigate the role of governance indicators beyond corruption control, such as political stability, democratic governance, and regulatory quality, in shaping the relationship between government expenditure and economic growth. This could offer a more comprehensive understanding of how governance reforms contribute to economic performance.

Additionally, research could explore the impact of debt restructuring strategies and debt relief initiatives on economic growth in SSA. Assessing the effectiveness of debt renegotiation, debt forgiveness, and fiscal consolidation measures could provide valuable policy recommendations

for debt-distressed countries. Finally, future studies could analyse the role of technological innovation and digital transformation in mitigating the negative effects of excessive debt. Understanding how technology-driven economic diversification strategies can reduce debt dependency and enhance growth potential would be a valuable addition to the literature.

By addressing these research gaps, future studies can further enrich the understanding of debt sustainability, governance, and economic growth in SSA, providing more robust policy insights for sustainable development.

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