THE IMPACT OF TAXATION ON ECONOMIC GROWTH IN TANZANIA

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN ECONOMICS (MSC-Econ)

DEPARTMENT OF ECONOMICS AND COMMUNITY ECONOMIC DEVELOPMENT

OF THE OPEN UNIVERSITY OF TANZANIA

2023

CERTIFICATION

The undersigned certifies that he has read and hereby recommends for acceptance by The Open University of Tanzania a dissertation entitled, "**The Impact of Taxation on Economic Growth in Tanzania**" in partial fulfilment of the requirements for the award of Degree of Master of Science in Economics (MSC-Econ).

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Dr. Felician Mutasa

(Supervisor)

…………………………………

Date

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DECLARATION

I **Margreth Faraja Murebere**, do hereby declare that, the work presented in this dissertation is original. It has never been presented to any other University or Institution. Where other people's works have been used, references have been provided. It is in this regard that I declare this work as originally mine. It is hereby presented in partial fulfilment of the requirement for the Master's Degree of Economics.

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Signature

…………………….…….

Date

DEDICATION

I dedicate this dissertation to my family and husband, Mr. Julius Mgaya, whose

entire love and guidance made it possible.

AKNOWLEDGEMENT

First, I take this opportunity to express my sincere gratitude to Almighty God, who gives me life and has helped me throughout this study.

I also want to acknowledge my supervisor, Dr. Felician Mutasa, for his support and guidance during my stay at the Open University of Tanzania and my research work. He has never been tired of helping me, and God bless him abundantly. Moreover, I am thankful to my lecturers, who did their best to equip me with skills that helped me carry out this study.

Furthermore, many thanks to my manager, Masaga Fimbo, and my workmate, Mr. James Mpini, for their participation and engagement in this study. Lastly, I would like to acknowledge my husband, Mr. Julius Mgaya, for his financial support and valuable suggestions that helped guide this dissertation.

ABSTRACT

The study investigated the impact of taxation on economic growth in Tanzania. Specifically, the study looked at the impact of tax revenues and tax rates on economic growth. Also, the study examined the impact of the moderator's government expenditures on the relationship between taxation and economic growth. The theoretical model for this study was based on the neoclassical growth model. Also, the research applied two theories, including classical theory and optimal taxation theory. The study applied causal research design, descriptive statistics, trend analysis, and time-series analysis. Moreover, in the analysis of the data, the study applied autoregressive distributive lag (ARDL). Furthermore, various econometric tests, such as unit root tests, cointegration tests, and diagnostic tests, were used. Results show that the tax revenue (p-value = 0.0424) is positive statistically significant at 5% in the first lag (L1), and the tax rate (p-value = 0.073) is negative statistically significant at 5% in the first lag (L1). Also, results show that government expenditure (p-value = 0.234) is not statistically significant. Therefore, the study concludes that tax revenue has a positive impact on economic growth, while tax rate has a negative impact on economic growth. The study recommends that the government should restructure a well-designed tax system to incentivize businesses and individuals to invest, save, and work harder, leading to a better economy. By encouraging investment, stimulating consumer spending, attracting foreign investment, fostering entrepreneurship, reducing tax evasion, and introducing reasonable tax rates, a country can guarantee sustained economic growth.

Keywords: *Government Expenditure, Economic Growth, Tax Rate, Tax.*

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LIST OF ABBREVIATION

ARDL	Autoregressive distributed Lag
ATAF	African Tax Administration Forum
GDP	Gross Domestic Product
NBS	National Bureau of Statistics
NBS	National Bureau of Statistics
OECD	Organisation for Economic Co-operation and Development
TRA	Tanzania Revenue Authority
VAT	Value-Added tax
WB	World Bank

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Taxation plays a crucial role in shaping a nation's economy. Governments use it as their main source of income to pay for public goods and services. The relationship between taxes and economic growth has been an endless and hot debate around the world (Al-tarawneh et al., 2020). Over the past few decades, there has been a trend of declining tax rates across the globe. The Organisation for Economic Co-operation and Development (OECD) average tax rate on personal income globally, has decreased from 38.2% in 2000 to 34.3% in 2019.

Similarly, the average corporate tax rate has decreased from 32.6% in 2000 to 23.7% in 2019 in Tanzania (Bunn, et al., 2020). Also, many countries (such as Japan, South Korea, China, India, and Kenya) in the world have shifted towards indirect taxes, such as value-added tax (VAT) and goods and services tax (GST), rather than direct taxes like income tax, to increase revenue. Indirect taxes are typically easier to administer and collect than direct taxes (Mpofu & Moloi, 2022).

The impacts of taxes on the economy of a country have not been common in different countries. The impacts of taxes on the economy depend on the established mechanisms of tax administration. Most taxes, except lump sum taxes, create distortions and, in turn, have a negative impact on the economic growth of a country. A negative impact of the taxation system can be avoided if optimal taxation is considered (Neog & Gaur, 2020). Taxes raise the cost of capital and lower investment incentives, and they also affect households' decisions to save, supply labor, and

invest in human capital. Individuals substitute activities that are highly taxed with activities that have relative low tax rates because higher tax rates lead an individual to engage in less productive economic activities or exit the labor market, which in turn lowers economic growth rates (Dladla & Khobai, 2018).

Taxation trends in Africa have been mixed in recent years (2015s), with some countries implementing reforms to increase tax revenue and improve compliance, while others continue to struggle with low tax bases and high levels of tax evasion (Mpofu & Moloi, 2022). According to a report by the African Tax Administration Forum (ATAF) (2021), tax revenue in Africa has been increasing gradually over the past decade, with a growth rate of 5.6% between 2018 and 2019. However, this growth has been driven mainly by natural resource revenues, while domestic revenue mobilization has been lagging behind (ATAF, 2021).

Furthermore, the report notes that many African countries (such as Tanzania, Kenya, and Uganda) face significant challenges in terms of tax administration, including weak institutional capacity, inadequate infrastructure, and limited access to information and technology. These challenges have resulted in low tax compliance rates, and high levels of tax evasion, and low tax revenues, particularly in the informal sector (Moore, 2020). To address these issues, many African countries are implementing tax reforms aimed at broadening the tax base, simplifying tax systems, and improving tax administration. For example, Kenya introduced a new digital tax system in 2021 aimed at taxing online transactions (Nyanumba, 2023), while Nigeria has been implementing a comprehensive tax reform program since 2017 to increase tax revenues (Ayoola, et al., 2023).

Despite these efforts, however, many African countries still face significant obstacles to increasing tax revenue and improving compliance, such as corruption, political instability, and weak governance. As such, the trend of taxation in Africa remains complex and varied, with progress in some areas but continued challenges in others (Mpofu & Moloi, 2022).

Tanzania has been putting in place various efforts to raise revenue to meet different developmental goals. To ensure that enough revenue is collected from taxes as the main source of government revenue, Tanzania has been restructuring its taxation system to explore all tax potentials in a country optimally (Epaphra & Kaaya, 2020). Despite these initiatives, it is indicated that for a long time Tanzania has been collecting a smaller and decreasing proportion of tax to GDP compared with most of the countries in Africa (Chindengwike, 2022). This situation is exacerbated by tax and investment policies in Tanzania and the prevalence of a large informal sector in the economy. The promotion of investment in a country that was coupled with the introduction of tax incentives for new investment aggravated the decline of tax revenues. Tax incentives due to tax exemptions on imports, excise duties, and other taxes caused the revenue to fall in the 1990s (Mondo, 2022).

Like other developing countries, Tanzania has been facing various tax administration inefficiencies from tax authorities, especially before the 2000s, which forced the government to abolish some taxes that were formerly charged by some authorities (Kipilimba, 2018). This transformation was introduced to increase transparency and reduce the abuse of tax exemptions. Although there are various reforms to the tax structure and system aimed at capturing all tax potentials in Tanzania, there has been

no significant increase in the tax revenues which is still below the required level of 18% (Fjeldstad, et al., 2019).

Both tax revenue and GDP have been increasing over time, with a difference between tax growth and economic growth. The report about tax and government statistics from the National Bureau of Statistics (NBS) shown that over the 2000/01 and 2011/12 fiscal years, tax revenue collection increased steadily. From TZS 861.3 billion in 2000/01 to TZS 2,038.2 billion in 2005/06, and finally to TZS 6,668.6 billion in 2011/12, revenue collection rose (NBS, 2012). Likewise, from 2013 to 2022, tax revenue collection has been steadily increasing. However, this increase in tax revenues does not meet the targeted level for the financial year. The question is: do affordable tax rates and tax revenues have a significant impact on economic growth? To answer this question, the relationship between taxation and economic growth needs to be assessed.

Also, the relationship between taxation and economic growth can be altered by government expenditures (Zhang, et al., 2021). Government expenditures can play a moderating role in the relationship between taxation and economic growth in Tanzania by stimulating economic activity, supporting social programs, influencing resource allocation, and implementing counter-cyclical fiscal policies. Various studies have been conducted to explore the relationship between Taxation and the economic growth of Tanzania.

This study employed different analytical techniques with different approaches. This study is expected to use the newly developed and most powerful technique, namely

autoregressive distributed lag (ARDL), which is useful to analyze the model with variables integrated in different order. The study used time series data for the period 1990-2022, which has not been captured by previous studies?

1.2 Statement of the Problem

The impact of taxation on economic growth has been the subject of considerable debate and research among economists and policymakers. While taxation is necessary to fund public goods and services, it also has the potential to affect economic growth by influencing incentives for work, investment, and consumption (Nguyen & Darsono, 2022). There are proponents who believe that taxation has a positive impact on economic growth, while others argue that taxation has a negative impact on economic growth. The problem, therefore, lies in the lack of consensus on the true impact of taxation on economic growth. The debate on taxation and economic growth is complex and multifaceted, with arguments from both sides relying on empirical evidence and theoretical frameworks. For example, the study conducted by Maganya (2020) in Central European found the positive relationship while the study conducted by Ngasamiaku (2020) in Tanzania found negative relationship between tax and economic growth. Also, the study conducted by Ojong et al. (2016) found no significant impact of tax on economic growth.

Moreover, the impact of taxation on economic growth may vary depending on the specific tax structure and the overall economic conditions of a country. For instance, the efficiency and effectiveness of tax collection systems, the progressivity of tax rates, the presence of loopholes and exemptions, and the overall level of government spending can all influence the relationship between taxation and economic growth.

Therefore, with the use of time series data from 1990 to 2022, this research assessed the impact of taxation on economic growth in Tanzania.

1.3 Objective of the Study

The study consists of main and general objectives.

1.3.1 General Objective

The main objective of this study is to assess the impact of taxation on economic growth in Tanzania.

1.3.2 Specific Objectives

Specifically, the study intends to;

i. To identify the impact of tax rates on economic growth in Tanzania.

ii. To determine the impact of tax revenues on economic growth in Tanzania.

iii. To examine the moderating impact of government expenditure on the relationship between taxation and economic growth in Tanzania.

1.4 Research Hypothesis

The study formulates the following hypothesis.

i. Tax rates have no significant impact on economic growth in Tanzania.

i. Tax revenues have no significant impact on economic growth in Tanzania.

ii. Government expenditures have no moderating impact on the relationship between taxation and economic growth in Tanzania.

1.5 Scope of the Study

The research was limited to time series data from 1990 to 2022. This time period was selected because, during this period, Tanzania has experienced many economic

shocks and reforms. Also, the study was limited to two aspects of taxation: tax revenues and tax rates. Moreover, the relationship between taxation and economic growth is moderated by different factors, such as political stability and government expenditures. However, this study focused on the moderating impact of government expenditure on the relationship between taxation and economic growth.

1.6 Significance of the Study

Understanding the relationship between taxation and economic growth helps policymakers design effective tax policies that promote long-term economic development. Also, by examining the impact of taxation on economic growth, the research helps identify how tax policies can be structured to enhance economic efficiency and productivity.

Assessing the effects of taxation on economic growth aids in determining the optimal tax levels and structures to support fiscal sustainability. Furthermore, the study contributes to the existing body of knowledge by exploring the complex relationship between taxation and economic growth. It helps researchers and policymakers gain a deeper understanding of how tax policies affect economic performance. This can help stimulate further research in the area and contribute to evidence-based policymaking nationally.

1.7 Organization of the Study

This research is organized into six chapters, where Chapter one illustrates the research background, problem0statement, objectives, research questions significance, scope, and study organization. Also, chapter two covers a literature review that contains

theoretical, empirical reviews, research gap, conceptual framework, and hypotheses while chapter three covers research methodology. Also, chapter four includes data analysis, and findings presentation, while chapter five is the finding's discussion, and chapter0six includes a conclusion, recommendations, and areas of or further study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter gives reviews of the literature. It consists of definitions of key terms, theoretical review, empirical review, and conceptual framework.

2.2 Definition of Key Terms

This section identifies important words used in the study, including as; tax, tax rates, taxation, economic growth, and government expenditures.

2.2.1 Tax

Tax is a mandatory financial obligation imposed by the government on individuals, businesses, and other entities to generate revenue for public expenditure. It is used to fund various government functions, such as infrastructure development, public services, defense, healthcare, education, and social welfare programs (Kemme, et al., 2020). Tax is a compulsory financial charge or levy imposed by a government on individuals, businesses, or other entities based on their income, property, or consumption (Langford & Ohlenburg, 2015)

2.2.2 Taxation

Taxation is the process by which governments collect funds from individuals, businesses, and other entities to finance public expenditures and provide essential services. Taxes are typically imposed on income, profits, property, transactions, and various goods and services (Farhi & Gabaix, 2020). Governments levy taxes at different levels, including national, state/provincial, and local/municipal levels. The

funds collected through taxation are used to support a wide range of public services, such as infrastructure development, education, healthcare, defense, social welfare programs, and public safety (Kleven et al., 2020). In the context of this study, Taxation is the systematic and compulsory process by which a government imposes and collects financial charges or levies, known as taxes, on individuals, businesses, or other entities (Besley & Persson, 2013).

2.2.3 Tax Rate

Tax rate refers to the percentage at which an individual or business is taxed on their income or profits. It is determined by the government and varies based on factors such as income level, type of income, and location (Drake et al., 2020). Tax rates can be progressive, meaning they increase as income increases, or flat, meaning they remain the same regardless of income level. Different types of taxes, such as income tax, sales tax, and property tax, can have different tax rates (Asen, 2020). In the context of this study, the tax rate represents the percentage or proportion of income, goods, or services that individuals or businesses are required to pay as taxes to the government (Asen, 2020).

2.2.4 Economic Growth

Economic growth is the gradual rise in the number of products and services that a country's economy produces. Gross Domestic Product (GDP), which represents the entire cost of all products and services generated by a nation over a specific time period, is used to measure it (Ledhem & Mekidiche, 2020). Economic growth is considered to be an important marker of a healthy economy as it indicates that there is more production, consumption, investment, and employment opportunities (Joseph,

2020). High economic growth can lead to higher standards of living, reduced poverty, and improvements in infrastructure and public services. However, economic growth also has its downsides such as increased pollution, inequality, and depletion of natural resources (Sanga et al., 2022). Economic growth generally refers to an increase in the production and consumption of goods and services within an economy over a specific period (Popov, 2018).

2.2.5 Government Expenditure

Government expenditure refers to the amount of money that a government spends to provide public goods and services such as healthcare, education, infrastructure, defense, social security, etc. This is typically financed through taxes and other forms of revenue collection (Ndanshau & Mdadila, 2023). Government expenditure is an important driver of economic growth, as it stimulates aggregate demand and creates employment opportunities. It also plays a critical role in addressing social and economic inequalities, promoting social welfare, and enhancing the overall well-being of citizens. However, excessive government expenditure can lead to inflation, fiscal deficits, and debt accumulation, which can have adverse economic consequences (Zungu et al., 2020). In this study, government expenditure is defined as the total amount of money spent by the government within a specified time period on goods, services, investments, transfer payments, and other activities (Dudzevičiūtė et al., 2018).

2.3 Theoretical Literature Review

The research is used two theories including Optimal taxation theory, and Classical theory. The study used two theories to cover the context of the variables of the study

such as tax rates, tax revenues, and government expenditure.

2.3.1 Optimal Taxation Theory

The author of the Optimal Taxation Theory is James Mirrlees in 1970s. His research on optimal taxation theory has had a significant impact on the field of public economics and has informed policymakers' understanding of how to design tax systems that achieve desirable social outcomes (Mankiw et al., 2009). The goal of optimal taxation theory is to identify the fairest and most effective means of taxing for government expenditures while minimizing any harm to economic expansion. The theory considers how different tax policies affect economic incentives, resource allocation, and long-term growth prospects (Fleurbaey & Maniquet, 2018).

In the context of economic growth, optimal taxation theory recognizes that taxes can influence individuals' and firms' behavior, which, in turn, affects investment, savings, labor supply, and innovation-all factors essential for sustained economic growth. The theory aims to strike a balance between raising sufficient revenue for public goods and services and minimizing distortions that impede economic activity (Sørensen, 2007). The theory is relevant to the study as it suggests that lower marginal tax rates generally encourage work, investment, and entrepreneurship, leading to higher economic growth. Higher tax rates, especially on higher incomes or investments, can reduce incentives to engage in productive activities, potentially dampening growth (Fleurbaey & Maniquet, 2018).

Also, the theory recognizes the trade-off between efficiency (economic growth) and equity (fairness). While high tax rates on high-income individuals or corporations

may promote equity by redistributing income, they can also discourage work, investment, and risk-taking, potentially hindering economic growth (Barbu et al., 2022). Balancing efficiency and equity considerations is a challenge for policymakers. The structure of the tax system and the allocation of public expenditures can affect economic growth. Well-designed tax policies that fund productive public investments in infrastructure, education, and research and development can enhance long-term growth prospects (Ales & Sleet, 2022).

2.3.2 Classical Theory

Classical theory, also known as classical economics, provides insights into the relationship between taxation and economic growth. It is associated with influential economists such as Adam Smith, David Ricardo, and John Stuart Mill (Montgomery & Vaughan, 2007). The classical theory on the relationship between taxation and economic growth can be summarized by the Laffer Curve, named after economist Arthur Laffer. The Laffer Curve illustrates the relationship between tax rates and government revenue. It suggests that there is an optimal tax rate that maximizes government revenue, and beyond that point, higher tax rates actually lead to lower revenue (Trabandt & Uhlig, 2011). According to classical theory, a lower tax burden gives individuals and businesses more incentive to work and invest, leading to higher economic growth. This theory assumes that individuals make rational economic decisions, and that lower tax rates will lead to more investment and job creation (Bylund, 2021).

Classical theory also suggests that government spending should be kept in check to avoid crowding out private investment and reducing economic growth (Montgomery

& Vaughan, 2007). However, critics of classical theory argue that it only focuses on the short-term effects of tax cuts, and does not consider the potential long-term effects on government deficits, income inequality, and public services. They also highlight the importance of using tax revenue to fund essential public goods and services that promote economic growth and social welfare (Mattick, 2018).

2.4 Empirical Literature Review

Dladla and Khobai (2018) studied the impact of taxation on economic growth in South Africa. The ARDL approach was developed using annual data for South Africa from 1981 to 2016. The empirical findings support the notion that taxes hinder South Africa's economic expansion. The study found connections between capital, taxes, commerce and openness, and economic growth. The study did not include the impact of the moderator variables.

Al-tarawneh, et al., (2020) studied the short and long run effects of taxation on economic growth in Jordan, a developing nation. Annual data from 1980 to 2018 were used to develop an ARDL approach. The bounds test results indicate that the variables of economic growth, taxes, capital, and trade are cointegrated. The estimated model's empirical results confirm a negative short and long run relationship between taxes and economic growth in Jordan. The study did not include the impact of the moderator variable.

According to Stoilova and Patonov (2013), fundamental patterns in the allocation of the entire tax burden in the (27) member states of Europe from 1995 to 2010 were investigated. The comparative study emphasizes cross-country variations in total tax

burden as indicated by the tax-to-GDP ratio and tax structure design as indicated by the division of total tax revenues into common components like direct taxes, indirect taxes, and social contributions. The conclusion is that a tax structure based on direct taxes is more effective in supporting economic growth in European countries. The study did not include the impact of the moderator variable.

Ofoegbu and Akwu (2016) examined the effect of tax revenue on Nigerian economic development, and whether there is any difference in establishing the relationship using HDI and GDP. The results show a significant and positive relationship between tax revenue and economic development. The findings also show that measuring the effect of tax revenue on economic development using HDI yields a lower relationship than measuring the relationship using GDP, implying that using GDP provides a more complete picture of the relationship between tax revenue and economic development in Nigeria. The study did not include the impact of the moderator variable.

Shafiq, et al., (2022) studied the impact of tax revenue on Pakistan's economic growth. According to current research, tax revenue and inflation have a negative and significant impact on Pakistan's economic growth, whereas government expenditures and gross fixed capital formation have a positive and significant impact. Okwara and Amori (2017) examined the impact of tax revenue on Nigerian economic growth from 1994 to 2015. The results revealed that non-oil income has a significant impact on GDP, whereas value added tax has a negative relationship and is statistically insignificant for the time period under consideration. The study did not include the impact of the moderator variable.

Ngwoke (2019) assessed the impact of taxation on economic growth (2007-2017). The findings revealed that the petroleum profit tax has a significant impact on Nigeria's GDP. Company income tax has a significant impact on Nigeria's GDP, and customs and excise duties have a significant impact on Nigeria's GDP. Egbunike, et al., (2018) looked into the impact of tax revenue on economic growth in Nigeria and Ghana. Multiple regressions were used as analytical tools in the study. The study confirms previous research by finding a positive impact of tax revenue on the gross domestic product of Nigeria and Ghana. The study did not include the impact of the moderator variable.

Gashi, et al., (2018) examined the impact of the tax structure on Kosovo's economic growth from 2007 to 2015. The findings indicate that while most taxes have a beneficial effect on GDP growth, not all taxes have the same effect. Also, Babatunde et al. (2017) from 2004 to 2013, looked into the impact of taxation on African economic growth. According to the findings, tax revenue is positively related to GDP and promotes African economic growth. The study did not include the impact of the moderator variable.

For the period 1996 to 2019, Maganya (2020) examined the effect of taxation on economic growth in Tanzania using a ARDL bounds testing. Domestic goods and services (TGS) taxes, according to the findings, are statistically significant at the 1% level and positively correlated with GDP growth. On the other hand, it was discovered that income taxes had a negative correlation with GDP growth and were statistically significant at the 5% level. The pair-wise Granger causality results showed that, at a 1% significance level, there is bidirectional Granger causation between TGS and GDP

growth. The study did not include the impact of the moderator variable.

William (2021) examined the impact of total tax revenue on Tanzania's economic growth. The research found that total tax revenue has an insignificant positive effect on Tanzanian economic growth in both the short and long run. Government spending was also found to have a negative impact on economic growth rates in both the short and long run. Daniel (2021) assessed the effects of tax reforms on tax revenue and, as a result, Tanzania's economic growth. According to the study, raising the annual tax revenue rate has a favorable short- and long-term impact on Tanzanian economic growth. The study did not include the impact of the moderator variable.

Kachumita (2022) in Tanzania showed that taxes have an impact on economic growth. Import duty had positive regression coefficients, whereas excise duty had negative, but insignificant, coefficients. Furthermore, the study discovered that income tax had a positive and significant correlation with economic growth. Other taxes, such as motor vehicle taxes, stamp duty, business license, export duty, fuel levy, and port charges, have an inverse significant regression coefficient against economic growth. The study did not include the impact of the moderator variable.

William (2018) in Tanzania examined how tax systems affect economic growth and income distribution in the country from 1996 to 2016. There is no evidence of a link between personal income tax, corporate income tax, and economic growth, according to the study. The findings also reveal a strong relationship between corporate income tax, personal income tax, and income inequality.

Kahoho (2020) investigated the impact of taxation on Tanzania's economic development as measured by GDP. According to the findings, income tax, value added tax, and custom duty are important factors in determining GDP, implying that taxation has a negative and statistically significant impact on economic growth in Tanzania. The implication is that taxation lowers the return on innovation and reduces the amount spent on research and development, both of which have a negative impact on growth. Higher tax rates may be more distortionary and hence have a detrimental influence on GDP, whereas lower rates may result in revenues that are spent productively. The study did not include the impact of the moderator variable.

2.5 Research Gap

Empirical reviews have shown mixed results ranging from negative to positive to no relationship. The impact of taxation on economic growth depends on various factors such as economic structure and development, tax structure, and tax preference, as well as other related factors. Also, in Tanzania, there are insufficient reviews about the impact of taxation (by proxy of tax revenues and tax rates) on economic growth by using ARDL. Moreover, most of the studies did not include the impact of the moderator variables. Since the impact of taxation on economic growth varies depending on the level of government spending, this study used government expenditure to examine how government expenditure can influence the relationship between taxation and economic growth.

2.6 Conceptual Framework

The conceptual framework explains, in a graphical representation, how the dependent variable relates to the independent variables. With reference to the objectives of the

study, taxation (measured by tax revenues and tax rates) is used as an independent variable, while economic growth (measured by GDP growth rate) is used as a dependent variable. Also, the study included government expenditures, which regulate the relationship between taxation and economic growth. The relationship is demonstrated in Figure 2.1.

Independent Variable   **Dependent Variable**
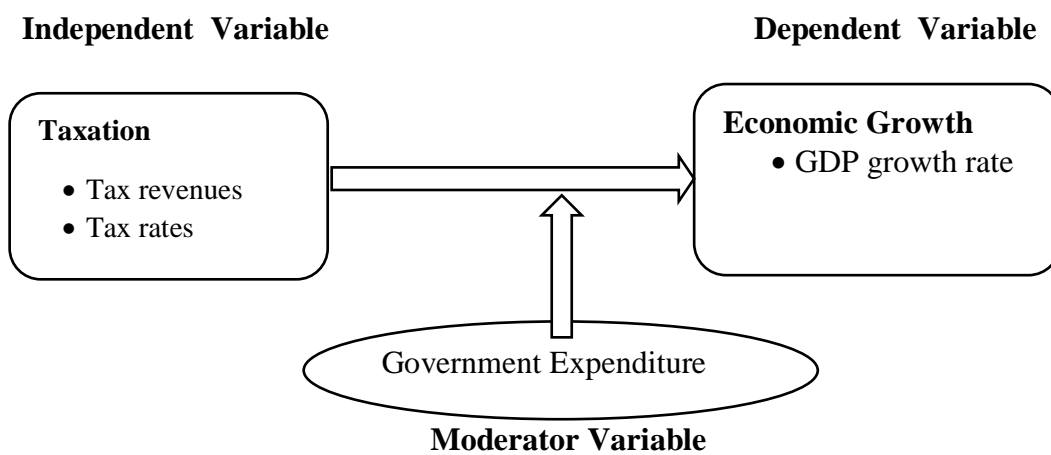
Figure 2.1: Conceptual Framework

2.6.1 Description of the Variables

Independent Variable;

Taxation: Tax rates can influence economic incentives for individuals and businesses. Higher tax rates on income, capital gains, or corporate profits can reduce the incentives to work, invest, and take risks. This may discourage economic activity and potentially hinder growth. Conversely, lower tax rates can incentivize economic agents to engage in productive activities, leading to higher growth.

Dependent Variable;

Economic Growth: When individuals and businesses are heavily taxed, they have less money to spend, save, and invest. As a result, they may reduce their spending,

which leads to a decrease in sales and production. Also, due to high tax rates, businesses may decide to move their operations to countries or regions where tax policies are more favorable, which can result in a loss of economic activity and potential GDP growth. On the other hand, taxes are also used by governments to fund public goods and services, such as education, healthcare, and infrastructure. These investments can lead to increased productivity and innovation in the long run, resulting in higher GDP growth rates.

Moderator Variable;

Government Expenditures: The effectiveness of taxation revenues in promoting economic growth also depends on how the government allocates and spends those funds. Investments in infrastructure, education, research and development, and other productive sectors can have positive spillover effects on productivity, innovation, and overall economic performance.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

The main parts of this chapter comprise research design, research approach, data types and sources, measurement of variables, theoretical model, procedures of data analysis, and diagnostic tests.

3.2 Research Design

The research applied causal research design. The causal research design is a type of research design used in scientific studies to establish a cause-and-effect relationship between variables. The study was selected to determine whether changes in one variable (taxation) directly cause changes in another variable (economic growth). Causal research design involves manipulating an independent variable and observing the effect on a dependent variable while controlling for other potential factors (Oppewal, 2010).

3.3 Research Approach

The study used a quantitative approach because the information on tax revenues, tax rates, economic growth, and government expenditures were collected quantitatively.

3.4 Data Types and Data Sources

The study used quantitative data from secondary sources. The annual time series data for the specified time period (1990-2022) was collected. The main sources of data for the variables of the study were the Central Bank of Tanzania (BoT), Tanzania Revenue Authority (TRA), National Bureau of Statistics (NBS), and

World Bank (WB) for the relevant years. The study used secondary data because of the nature of the study (time series) and because of the easy accessibility of data.

3.5 Variables and Measurement

In this study, variables comprise tax revenues, tax rates, government expenditure, and economic growth. Table 3.1 indicates variables and their measurement.

Table 3.1: Measurement of Variables

Variable	Measurement
Independent Variable	
Taxation	Tax revenues
	Tax Rates
Moderator Variable	
Government Expenditure	The rate of Government Expenditure
Dependent Variable	
Economic Growth	GDP Growth Rate

Source: Researcher, (2023).

3.6 Theoretical Model

The neoclassical growth model serves as the theoretical foundation for this study. It describes how the interaction of three forces—labour, capital, and technology—leads to a stable economic growth rate (Dimand & Spencer, 2009). The theory asserts that the relationship between the capital and labour of an economy determines its output.

$$Y = AF (K, L) \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots1$$

Where, Y= total national product,

K = Quantity of physical capital used,

L = Quantity of labour used,

A = State of technology.

However, based on the variables for our study the theoretical model in equation 1 is modified to;

EG = f (TRE, TR, GOE) …………………….…………………………2

Whereby;

EG = Economic Growth,

TRE = Taxation Revenue,

TR = Tax Rate, and

GOE = Government Expenditure.

3.7 Data Analysis and Procedures

The data was entered, edited, and cleaned in Excel and be exported in STATA for analysis. The study used descriptive statistics, trend analysis, and time-series analysis, which were analysed in chapter four. Furthermore, the study applied diagnostic tests to check the fitness of the model.

3.7.1 Descriptive Analysis

The descriptive analysis involved means, standard deviations, maximum and minimum values of the study variables. Hence, means, standard deviations, the maximum and minimum value of tax revenues, tax rates, government expenditure, and economic growth from 1990-2022 were presented.

3.7.2 Trend Analysis

Trend analysis can help the company understand how its business has performed in the past and forecast where the company's current operations and practices will be in the future (Partal & Kahya, 2006). Therefore, the research used the line graphs

to show the trend of data for the tax revenues, tax rates, government expenditure, and economic growth.

3.7.3 Time Series Analysis

Time series analysis was used in this research due to the data's nature. The unit root test (ADF test) and Optimal Lag Length Selection were utilized in the research as early tests. Also, the study used Bounds Test for Co-integration to see the long-run relationship among the variables, ARDL results, Granger Causality, and ARDL Model Diagnostic Tests.

3.7.3.1 Preliminary Tests

The preliminary test include Unit root test, lag length test, and cointegration.

Unit Root Test: The test of Augmented Dickey-Fuller (ADF) was used to identify the existence of stationarity in the time series data.

Optimal Lag Length Selection: Co-integration may be affected by lag duration. Too few lags may not adequately depict the dynamics of the real error correction process, resulting in subpar results, whereas too many lags may reduce test power due to degrees of freedom loss and overestimation of extra-parameters (Maysami & Koh, 2000). The optimum lag length is therefore-necessary to prevent errors. The decision to choose the information criterion with the lowest value when it produces conflicting results for the decision criteria for the ideal lag length is entirely up to the researcher. This is because none of the criteria (AIC, BIC, SBIC, and FEP) are seen to be better than the others; nonetheless, such a choice must be supported.

Co-integration Test: Bounds Test for co-integration is useful to prove whether there is a long-run relationship among variables. The co-integration null hypothesis is that "there is no co-integration", and the alternative hypothesis is that "there is co-integration". If the estimated F-Statistic is greater than the upper bound critical value at a 5% level of significance, the null hypothesis is rejected, otherwise is not rejected. If there is a rejection of the null hypothesis, it can be concluded that the time series is co-integrated (i.e., There is long-run relationship among the variables).

3.7.3.2 The Time Series Models Selection

In the analysis, the study applied Autoregressive Distributed Lag (ARDL) if the variables is integrated at level I(0) and at first difference I(1). ARDL Model contains the lagged value (s) of the dependent variable, the current and lagged values of regressors as explanatory variables. The regression equation form of ARDL is given under two criteria depends on the cointegration among the variables.

Criteria One: If there is no cointegration among the variables (short-run estimates), the equation of ARDL model is given by;

$$\Delta EG = \beta_0 + \sum_{i=1}^{p} \beta_2 \Delta TRE_{t-1} + \sum_{i=1}^{p} \beta_3 \Delta TR_{t-1} + \sum_{i=1}^{p} \beta_4 \Delta GE_{t-1} + \varepsilon_t \ldots\ldots\ldots\ldots\ldots(3)$$

Criteria Two: If there is cointegration among the variables (Long-run estimates (Error Correction Model)), the equation of ARDL model is given by;

$$\Delta EG = \beta_0 + \beta_1 ECT_t + \sum_{i=1}^{p} TRE_{t-1} + \sum_{i=1}^{p} \beta_3 \Delta TR_{t-1} + \sum_{i=1}^{p} \beta_4 \Delta GE_{t-1} + \varepsilon_t \ldots\ldots\ldots(4)$$

Where;

P = Maximum number of lags,

β_0= Iintercept of the ARDL,

β_1= Coefficient of Error Correction Term (Speed of adjustment parameter with a

negative sign),

ECT_t = Error correction term

β2, β3, β4, β5 = Coefficient of variables,

ε_t = Random error

t = time

3.7.4 ARDL Model Diagnostic Tests

ARDL Model diagnostic tests include normality test, serial correlation test, heteroskedasticity test, and parameter stability test.

3.7.4.1 Normality Test

A Jarque-Bera test was used in the study to determine whether the data have a normal distribution. The hypothesis of the Jarque-Bera test include;

H_0: Data from the sample is normally distributed.

H_1: Data from the sample is not normally distributed

When, the p-value is more than 0.05, the null hypothesis is not rejected and it is concluded that the sample data is normally distributed. Also, when, the p-value is less than 0.05, the null hypothesis is rejected and it is concluded that the sample data is not normally distributed.

3.7.4.2 Serial Correlation

The study applied the serial correlation LM test to crosscheck the occurrence of residual autocorrelation. The LM test is a well-known method for determining the presence of residual autocorrelation in ARDL model. The hypothesis includes;

H_0: No residual autocorrelation exists.

H_1: Residual autocorrelation exists

When the p-value is more than 0.05, the null hypothesis is not rejected and it is concluded that there is no residual autocorrelation. Also, when the p-value is less than 0.05, the null hypothesis is rejected and it is concluded that there is residual autocorrelation.

3.7.4.3 Heteroscedasticity

The goal of the heteroskedasticity test is to ensure that the standard errors are correct and that any inferences drawn are accurate. In the heteroscedasticity test, the null hypothesis states that "error terms are homoscedastic (i.e., there is constant variance among the residuals)", and the alternative hypothesis states that "error terms are heteroscedastic (i.e., there is no constant variance among the residuals)". To ensure that this assumption is no longer violated, the Breusch-Pagan-Godfrey test will be used. When the p-value is more than 0.05, the null hypothesis is not rejected and it is concluded that there is no heteroscedasticity (i.e., there is constant variance among the residuals). Also, when the p-value is less than 0.05, the null hypothesis is rejected and it is concluded that there is heteroscedasticity (i.e., there is no constant variance among the residuals).

3.7.4.4 Stability Test of the ARDL Model

One of the main requirements for the model to be effective is that it must be stable. The model's stability was tested by using Cumulative Sum (CUSUM) at a 5% significance level. If the CUSUM graphs of recursive residuals are inside the boundaries of the crucial regions, then the model is considered stable.

CHAPTER FOUR

DATA ANALYSIS AND PRESENTATION OF FINDINGS

4.1 Introduction

This chapter presents the results according to the specific objectives. The general objective of the research was to assess the impact of taxation on economic growth in Tanzania. Specifically, the study aimed to determine the impact of tax revenues on economic growth in Tanzania; to identify the impact of tax rates on economic growth in Tanzania; to examine the moderating impact of government expenditure on the relationship between taxation and economic growth in Tanzania.

In this chapter, descriptive analyses, such as summary descriptive statistics and trend analysis, were performed. The descriptive analysis involved means, standard deviations, and maximum and minimum values of the study variables, and the trend analysis involved line graphs. Also, the research used preliminary tests such as the unit root test ADF test, Optimal Lag Length Selection, and Co-integration Test to see the fitness of the data for further time series tests. Moreover, the study used the ARDL model to assess the impact of taxation on economic growth. Lastly, the study performed ARDL model diagnostic tests such as normality test, serial correlation test, heteroskedasticity test, and parameter stability test.

4.2 Descriptive Analysis

The study used summary descriptive statistics and trend line graphs to present the findings.

4.2.1 Summary Descriptive Analysis

The study applied means, standard deviations, maximum and minimum values to

present descriptive results in Table 4.1. The data of the variables of are in rate forms.

Table 4.1: Descriptive Statistics

Variables	Mean	Max	Min	Std. dev
Tax Revenues	11.1786	19.7	8.5	1.8590
Tax Rates	41.5727	44.9	33.2	3.5975
Government Expenditures	3.9233	28.9998	-32.9114	11.0156
GDP Growth Rates	5.1586	7.6722	0.5843	1.9730
Observation	**33**	**33**	**33**	**33**

Source: Field data (2023).

Results in Table 4.1 indicate that the standard deviation (1.8590) of the tax revenues is highly distorted from its mean (11.1786). Also, the result indicates that the tax revenues have a maximum value of 19.7 and a minimum value of 8.5. Under ceteris paribus, a high tax-to-GDP ratio can indicate a thriving economy with robust revenue generation. It suggests that the economy is growing and generating higher income, resulting in increased tax collections. A high tax-to-GDP ratio may suggest that the country has an effective and efficient tax administration system.

Furthermore, the results show that the tax rate's standard deviation (3.5975) is significantly different from its mean (41.5727). Also, the result indicates that the tax rate has a maximum value of 44.9 and a minimum value of 33.2. High tax rates can potentially have a negative impact on GDP growth rates. The argument is that high tax rates reduce individuals' incentives to work, save, invest, and innovate. When tax rates are high, people may be less motivated to engage in productive economic activities because they receive a smaller share of the rewards. This can lead to a decline in overall economic output and slower GDP growth.

On the other hand, low tax rates can stimulate economic growth. The rationale is that lower tax rates leave individuals and businesses with more disposable income, which

they can spend, save, or invest. This increased economic activity can lead to higher GDP growth rates. Low tax rates can also incentivize entrepreneurship, investment, and innovation, as individuals have a greater incentive to take risks and pursue economic opportunities.

Furthermore, the results in Table 4.1 show that the government expenditure's standard deviation (11.0156) is significantly different from its mean (3.9233). Moreover, the result indicates that the government expenditure has a maximum value of 28.9998 and a minimum value of -32.9114. A negative government expenditure rate indicates that the government's spending is decreasing or contracting relative to the overall economy. In this case, a government expenditure rate of -32.9114 suggests a significant reduction in government spending.

Furthermore, results in Table 4.1 indicate that the standard deviation (1.973044) of the GDP growth rate is distorted from its mean (5.1586). Also, the result indicates that the GDP growth rate has a maximum value of 7.6722 and a minimum value of 0.5843. A high GDP growth rate is generally seen as a positive indicator because it signifies that an economy is expanding and generating more wealth. On the other hand, a low GDP growth rate can be a cause for concern because it suggests that the economy is not generating enough output and wealth. It can be an indication of various underlying issues, such as low consumer spending, reduced business investment, declining exports, or weak overall economic demand.

4.2.2 Trend Analysis

The trend analysis involved the line graphs of the tax revenues, tax rates, government expenditure, and GDP growth rate.

4.2.2.1 Government Expenditure

Figure 4.1 shows the Government Expenditure in the respective years.
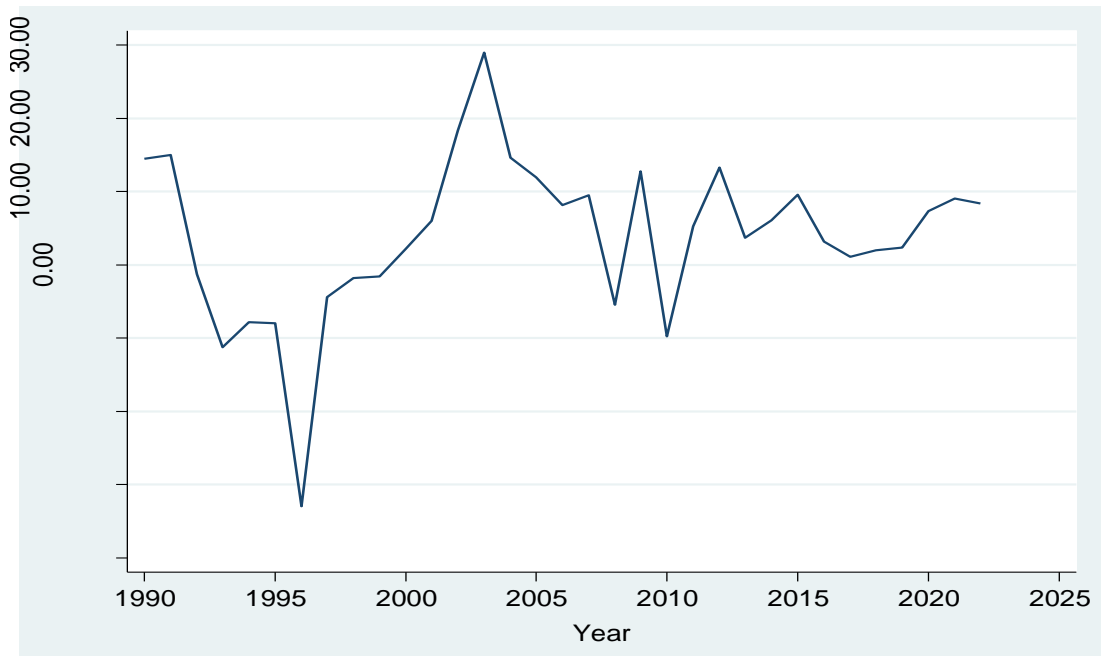
Figure 4.1: Government Expenditure (1990-2022)
Source: Field data (2023).

Results in Figure 4.1 show the trend of government expenditure from 1990 to 2022. Results show that the maximum government expenditures were found in 2003 and minimum government expenditures were found in 1996. During the 1990s, Tanzania implemented Structural Adjustment Programs as part of its economic reform policies. These programs were aimed at reducing government spending and promoting fiscal discipline. As a result, the government implemented austerity measures, including cutting back on public expenditure. Also, in 2003, Tanzania embarked on a series of public sector reforms to improve governance, efficiency, and service delivery. These reforms involved restructuring and capacity building within government institutions. The implementation of these reforms required additional funding, resulting in increased government expenditure.

4.2.2.2 Tax Revenues

Figure 4.2 shows the tax revenues in the respective years.
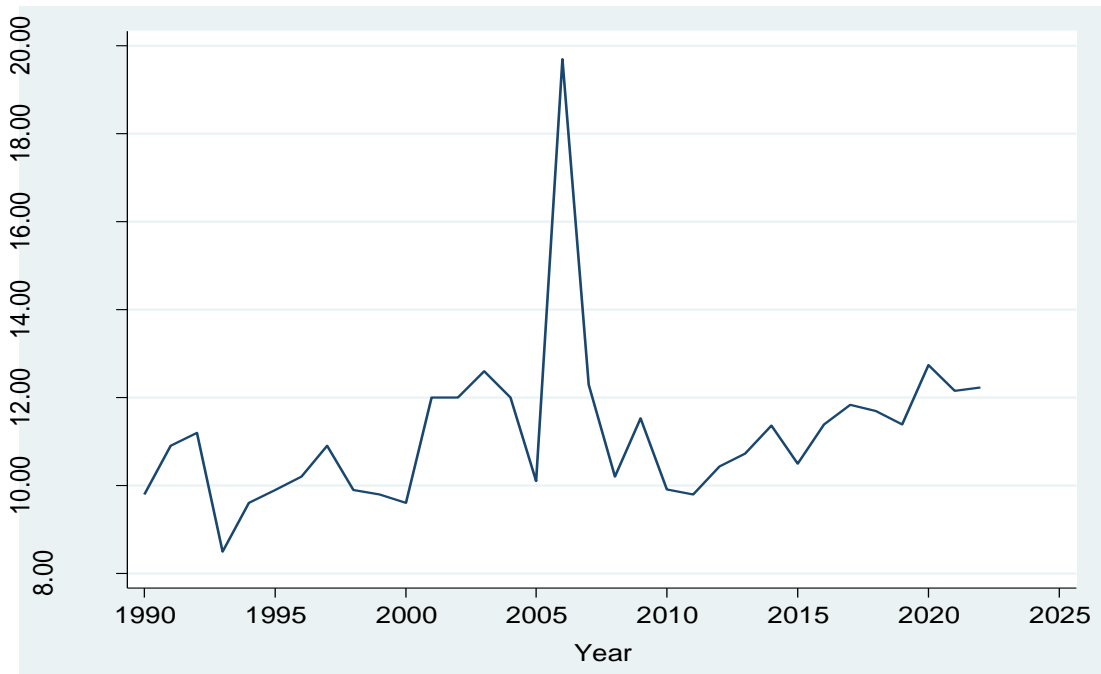
Figure 4.2: Tax Revenues (1990-2022)
Source: Field data (2023).

Results in Figure 4.2 show the trend of tax revenues from 1990 to 2022. Results show that the maximum tax revenues were found in 2006 and the minimum tax revenues were found in 1993. Tanzania possesses significant natural resources, including minerals, oil and gas, and agricultural products. In 2006, increased production and favorable commodity prices for these resources likely resulted in higher tax revenues. The government likely imposed taxes on mining and extraction activities, export duties, and other levies related to natural resource exploitation.

Also, during the early 1990s, Tanzania faced significant economic challenges. The country was transitioning from a centrally planned economy to a more market-oriented system, which resulted in economic instability and a decline in overall

economic activity. This slowdown in economic growth would have had a direct impact on tax revenues since tax collections are closely linked to economic performance.

4.2.2.3 Tax Rate

Results in Figure 4.3 indicate fluctuations of tax rates in the respective years.
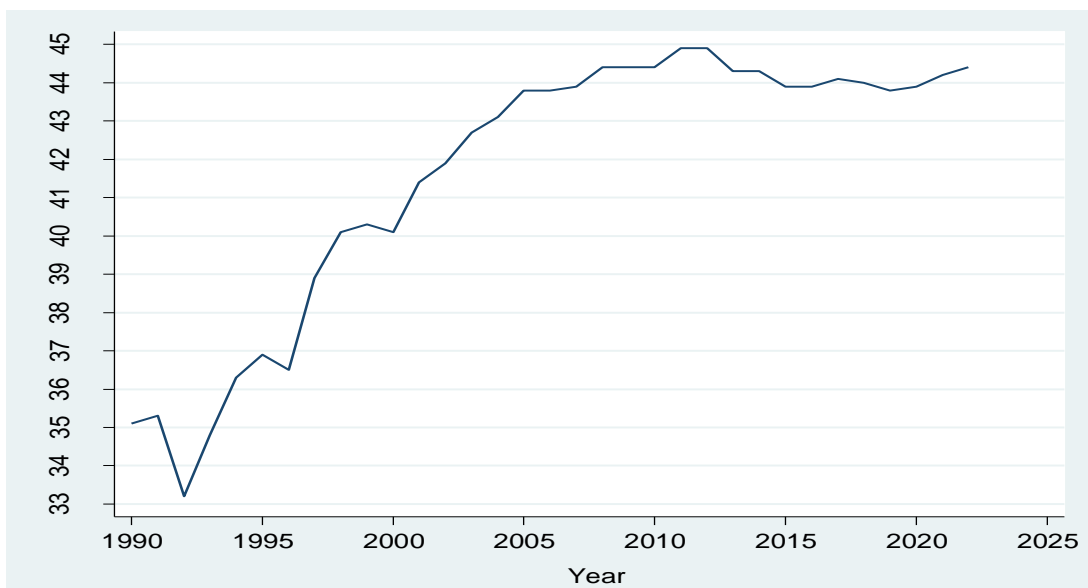
Figure 4.3: Tax Rates (1990-2022)
Source: Field data (2023).

Results in Figure 4.3 shows the trend of tax revenues from 1990 to 2022 has been increasing, where in 1992 a country experienced a minimum tax rate and in 2011 and 2012 a country experienced a minimum tax rate. Tanzania faced fiscal challenges in the early 1990s, including budget deficits and high inflation. Lowering tax rates was seen as a way to stimulate economic activity, increase tax compliance, and generate additional revenue through a broader tax base. The government aimed to achieve fiscal stabilization by promoting economic growth and reducing budget deficits. Also, Tanzania experienced significant economic growth in the early 2010s. Higher tax

rates could have been introduced to capture a portion of this growth and ensure that the government benefited from the expanding economy.

4.2.2.4 GDP Growth Rates

Findings in Figure 4.4 indicate fluctuations of GDP growth rates in the respective years.
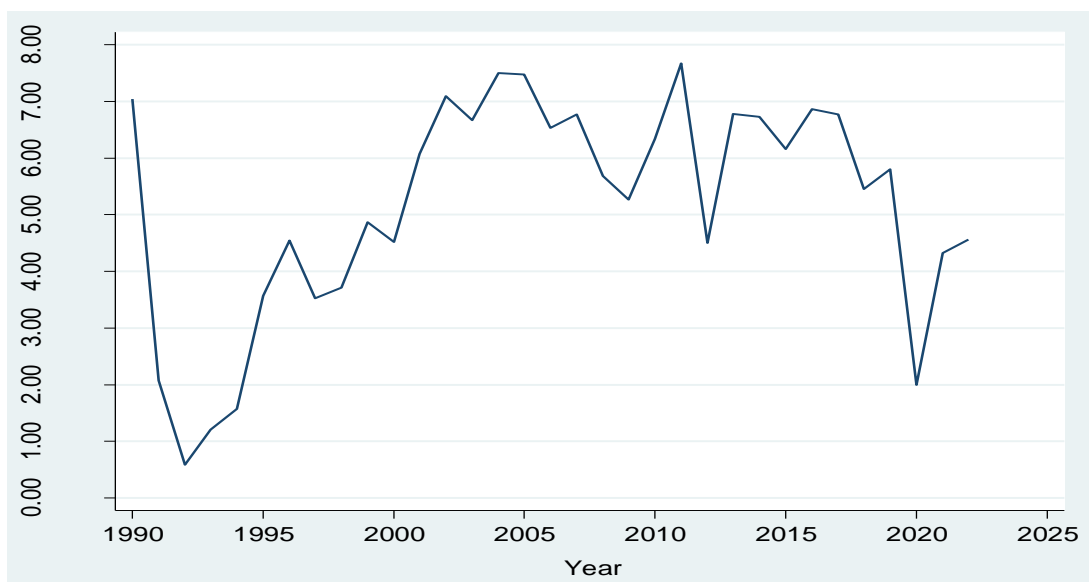
Figure 4.4: GDP Growth Rates (1990-2022)
Source: Field data (2023).

Results in Figure 4.3 show the trend of GDP growth rates from 1990 to 2022 has been increasing, where in 1992 a country experienced a minimum GDP growth rate and in 2011 a country experienced a minimum GDP growth rate. The services sector, including trade, transport, communication, and tourism, played a vital role in Tanzania's GDP growth in 2011. Increased trade activities, expansion of telecommunications networks, and growth in the tourism industry contributed significantly to overall economic growth. Also, Tanzania had just started implementing economic reforms in the early 1990s, transitioning from a centrally

planned economy to a more market-oriented one. These reforms often involve structural adjustments, policy changes, and liberalization measures that can initially lead to short-term disruptions and an economic slowdown.

4.3 Preliminary Tests

The research used preliminary tests such as the unit root test ADF, Optimal Lag Length Selection, and Bound Co-integration Test to see the fitness of data for further time series tests.

4.3.1 Unit Root Test

The ADF test was used to determine whether the time series data are stationary. Since ADF can handle correlation in error terms by adding lags, the study chose to employ it. ADF testing was done, and the results are shown in Table 4.2. The unit root test was carried out using the following hypothesis:

H_0: Time series data is non-stationary (a problem of a unit root)

H_1: Time series data is stationary

Table 4.2: Augmented Dickey-Fuller Test for Unit Root

	Variable	Tax Revenues	Tax rates	Government Expenditure	GDP Growth Rate
At Level	MacKinnon approximate p-value for Z(t)	0.2223	0.3484	0.1277	0.2596
	Conclusion	Non-Stationary	Non-Stationary	Non-Stationary	Non-Stationary
	Variable	Tax Revenues	Tax rates	Government Expenditure	GDP Growth Rate
At 1st Difference	MacKinnon approximate p-value for Z(t)	0.0000	0.0000	0.0000	0.0000
	Conclusion	Stationary	Stationary	Stationary	Stationary

Source: Field data, (2023).

The results of the ADF test, which tested the stationarity of time series data at lag one using Mackinnon's approximate p-value for Z (t), are shown in Table 4.2. (1). If Mackinnon's approximative p-value for Z(t) is less than 5%, time series data must be stationary. Table 4.2 shows that the tax revenues, tax rates, government expenditures, and GDP growth rates at a level failed to meet the condition of stationarity (i.e., the Mackinnon approximate p-value for Z(t) > 5% level of significance). Since, p-value for Z(t) > 5%, then, the null hypothesis "*Time series data is non-stationary*" is not rejected.

These results show that the tax revenues, tax rates, government expenditures, and GDP growth rates are non-stationary at level [I(0)]. Since not all variables in the study are non-stationary at level [I(0)], to solve the problem, the initial difference between the variables needs to be considered. Table 4.2's first difference results for a time series demonstrate that all variables at first difference meet the requirement of stationarity (Mackinnon approximation p-value for Z(t) level of significance at 5%).

4.3.2 Optimal Lag Length Selection

Time series data must consider an ideal lag length in order to avoid hazards (such as insignificant coefficients, multi-collinearity, and loss of a degree of freedom). Table 4.3 highlights the selection of the ideal lag length and lists the standards for selection.

Sample: 1990- 2022   Number of observations = 29

Table 4.3: Selection-Order Criteria

	lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
Tax Revenues	0	-59.2126				3.72381*	4.1526*	4.16736*	4.19974*
	1	-58.7957	0.83379	1	0.361	3.87735	4.19281	4.22234	4.28711
	2	-58.7252	0.14105	1	0.707	4.1362	4.25691	4.30121	4.39836
	3	-58.1673	1.1158	1	0.291	4.26863	4.2874	4.34647	4.47599
	4	-58.1179	0.09871	1	0.75	4.56566	4.35296	4.42679	4.5887
Tax rates	lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
	0	-68.4133				7.0236	4.78713	4.80189	4.83427
	1	-20.7105	95.406*	1	0.000	0.280435*	1.56624*	1.59578*	1.66054*
	2	-20.516	0.389	1	0.533	0.29661	1.6218	1.66609	1.76324
	3	-18.7332	3.5657	1	0.059	0.28131	1.56781	1.62687	1.7564
	4	-18.7057	0.05503	1	0.815	0.301338	1.63488	1.70871	1.87062
Government Expenditures	lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
	0	-110.193				125.293	7.6685	7.68327	7.71565
	1	-106.046	8.2951*	1	0.004	100.864*	7.45143*	7.48096*	7.54573*
	2	-105.076	1.9392	1	0.164	101.128	7.45353	7.49782	7.59497
	3	-105.049	0.05489	1	0.815	108.255	7.5206	7.57966	7.70919
	4	-103.988	2.1222	1	0.145	107.984	7.51638	7.59021	7.75212
GDP Growth Rate	lag	LL	LR	df	p	FPE	AIC	HQIC	SBIC
	0	-54.2697				2.64813	3.8117	3.82647	3.85885
	1	-45.8744	16.791*	1	0.000	1.59047	3.30169	3.33122*	3.39598*
	2	-44.6725	2.4039	1	0.121	1.56929*	3.28776*	3.33206	3.4292
	3	-44.6104	0.1242	1	0.725	1.67587	3.35244	3.41151	3.54103
	4	-43.2605	2.6998	1	0.100	1.63871	3.32831	3.40214	3.56405

Source: Field data (2023).

Table 4.3 gives the results of the preferred lag length for the tax revenues, tax rates, government expenditures, and GDP growth rates. Therefore, based on LR, FPE, AIC, HQIC, and SBIC criteria, the preferred lag length for the tax revenues, tax rates, government expenditures, and GDP growth rates are 0, 1, 1, and 1, respectively.

4.4 ARDL Results

The overall results of the ARDL model in Table 4.4 show that the overall p-value (Prob > F = 0.000)1 is statistically significant at 5%. This p-value shows that the model can be used to predict the GDP growth rates. Also, results show that R-squared is equal to 0.6543 (65.43%). The value of R-squared shows that about 65.43% of the variation in GDP growth rates can be explained by the tax revenues, tax rates,

government expenditures, and GDP growth rates. The rest of the variation (34.56%) can be explained by other variables not included in the model. Therefore, this value of R-squared reveals that the model is a good fit for the data.

Also, results show an RMSE of 1.2930. This means that, on average, the difference between the actual values and the predicted values of your ARDL model is approximately 1.2930 units. A lower RMSE indicates a better fit of the model to the data, as it implies smaller errors between the predicted and actual values.

Table 4.4: General Results of ARDL Model

Category	Value
F (6, 25)	7.89
Prob > F	0.0001
R-squared	0.6543
Adj R-squared	0.5713
Root MSE	1.2930

Source: Field data (2022).

Also, Table 4.5 presents ARDL results regarding the impact of taxation on economic growth in Tanzania. Results show that the tax revenue (p-value = 0.0424) is positive statistically significant at 5% in the first lag (L1), and the tax rate (p-value = 0.073) is negative statistically significant at 5% in the first lag (L1). Therefore, the tax revenue and tax rate have significant impact on economic growth because their p-values are less than the level of significance (5%). The coefficient of tax revenues (0.0424) shows that every unit increase in the tax revenues results in a 0.0424 increase in GDP growth rate.

Also, the coefficient of tax rates (0.0314) shows that one unit increase in tax rates results in an increase of GDP growth rate by 0.0314. Moreover, results show that the government expenditure is not statistically significant as its p-values is less than the

significant level (5%). Therefore, these results reveal that the government expenditures have no a moderating impact on the relationship between taxation and economic growth at 5%.

Table 4.5: ARDL results

GDP Growth rate	Coef.	Std. Err	t	P>|t|	[95% Conf. Interval]	
GDP Growth rate L1.						
	0.3291	0.1726	1.91	0.068	-0.0265	0.6846
Tax Rev	0.0314	0.1400	0.22	0.0424	-0.3196	0.2569
Tax Rate L1.	0.6914	0.3695	1.87	0.073	-0.0697	1.4524
	-0.3532	0.3582	-0.99	0.034	-1.0909	0.3845
Expenditure L1.	-.0325	0.0294	-1.11	0.279	-0.0930	0.0280
	0.0348	0.0286	1.22	0.234	-0.0240	0.0937
Constant	-10.4965	3.5663	-2.94	0.007	-17.8414	-3.1517

Source: Field data (2023)

4.5 Bound Co-integration Test Results (ARDL Bounds Test)

The co-integration analysis looked at how the research variables were related over the long term. The co-integration analysis was carried out to determine whether there was a long-term link between the study's variables. The interpretation of the results is based on the comparison between critical values and the F-statistic as depicted in Table 4.6. The criteria of rejection are that the null hypothesis is rejected if the F-statistic is greater than the critical values ([I_0] bounds). The null hypothesis includes.

H_0: There is no cointegration among variables

H_1: There is cointegration among variables

F = 4.990

t = -3.886

Table 4.6: Bound Co-integration Test

```
Critical Values (0.1-0.01), F-statistic, Case 3
```

	[I_0] L_1	[I_1] L_1	[I_0] L_05	[I_1] L_05	[I_0] L_025	[I_1] L_025	[I_0] L_01	[I_1] L_01
k_3	2.72	3.77	3.23	4.35	3.69	4.89	4.29	5.61

```
accept if F < critical value for I(0) regressors
reject if F > critical value for I(1) regressors
```

Source: Field data, (2023).

Findings in Table 4.6 shows that the F-statistic (4.990) is greater than the critical value [I(0)] regressors, thus the null hypothesis is rejected, and this shows that there is co-integration (long-run relationship) among variables.

4.6 ARDL Model Diagnostic Tests

ARDL Model diagnostic tests include normality tests, serial correlation tests, heteroskedasticity tests, and parameter stability tests.

4.6.1 Normality Test

A Jarque-Bera test was used in the study to determine whether the data have a normal distribution. The hypothesis of the Jarque-Bera test include;

H_0: Data from the sample is normally distributed.

H_1: Data from the sample is not normally distributed

When the p-value is more than 0.05, the null hypothesis is not rejected and it is concluded that the sample data is normally distributed. Also, when the p-value is less than 0.05, the null hypothesis is rejected and it is concluded that the sample data is not normally distributed. The results from the Jarque-Bera normality test include the following;

Jarque-Bera normality test: Prob >Chi (2) (1.025) = 0.599

Jarque-Bera test for H_0: normality:

Since the p-value is greater at 5% significance level, then, the null hypothesis "Sample data is normally distributed" cannot be rejected, and therefore, it is concluded that the data is normally distributed.

4.6.2 Serial Correlation

The study applied the serial correlation LM test to crosscheck the occurrence of residual autocorrelation. The LM test is a well-known method for determining the presence of residual autocorrelation in ARDL model. The hypothesis includes;

H_0: No residual autocorrelation exists.

H_1: Residual autocorrelation exists

When the p-value is greater than 0.05, the null hypothesis is not rejected, and it is concluded that there is no residual autocorrelation. Also, when the p-value is less than 0.05, the null hypothesis is rejected, and it is concluded that there is residual autocorrelation. Findings from the Breusch-Godfrey LM test for autocorrelation are indicated in Table 4.7.

Table 4.7: Breusch-Godfrey LM test for autocorrelation

Lag(p)	Chi2	df	Prob> Chi2
1	0.591	1	0.4419

Source: Field data (2023).

Findings in Table 4.7 show that the p-value (Prob > Chi2 = 0.4419) is greater than the level of significance (5%) i.e. is not statistically significant. Therefore, the null hypothesis of "There is no residual autocorrelation" is not rejected, and it is concluded

that the data has no residual autocorrelation.

4.6.3 Heteroscedasticity

The goal of the heteroskedasticity test is to ensure that the standard errors are correct and that any inferences drawn are accurate. In the heteroscedasticity test, the null hypothesis states that "error terms are homoscedastic (i.e., there is constant variance among the residuals)", and the alternative hypothesis states that "error terms are heteroscedastic (i.e., there is no constant variance among the residuals)". To ensure that this assumption is no longer violated, the white test was used. When the p-value is more than 0.05, the null hypothesis is not rejected and it is concluded that there is no heteroscedasticity (i.e., there is constant variance among the residuals). Also, when the p-value is less than 0.05, the null hypothesis is rejected and it is concluded that there is heteroscedasticity (i.e., there is no constant variance among the residuals).

White's test for Ho: homoskedasticity

    Against Ha: unrestricted heteroskedasticity

  chi2(9) = 3.12

  Prob > chi2 = 0.1572

Since the p-value (0.1572) is greater than 0.05, the null hypothesis is not rejected and it is concluded that there is no heteroscedasticity (i.e., there is constant variance among the residuals).

4.6.4 Multi-Collinearity Test

The problem of high multicollinearity increases the variance of parameter estimation, and the estimation results are very sensitive to small changes in the model, that is,

weak and difficult to explain. The high multicollinearity problem was diagnosed, and the results are shown in Table 4.8, which includes the Tolerance values (1/VIF) and Values of Inflation Factor (VIF). When 1/VIF is less than 0.10 and the VIF is greater than 10, there is a problem of multicollinearity. The results in Table 4.8 show that there is no significant correlation between the explanatory variables, that is, there is no multicollinearity problem, because VIF is less than 10 and 1/VIF is higher than 0.10.

Table 4.8: Collinearity Diagnosis

Variable	VIF	1/VIF
Tax Revenues	1.22	0.817940
Tax Rates	1.24	0.806546
Government Expenditures	1.25	0.803020

Source: Field data (2023).

4.6.5 Stability Test of the ARDL Model

One of the main requirements for the model to be effective is that it must be stable. The model's stability was tested by using Cumulative Sum (CUSUM) at a 5% significance level. If the CUSUM graphs of recursive residuals are inside the boundaries of the crucial regions, then the model is considered stable. If the CUSUM series stays within the CUSUM region, it suggests that the estimated coefficients are stable over time, indicating that the relationships between variables in the model are consistent. This is generally considered desirable because it means that the model remains valid for forecasting and inference. Figure 4.5 shows that the model is stable because residuals are inside the boundaries of the crucial regions.
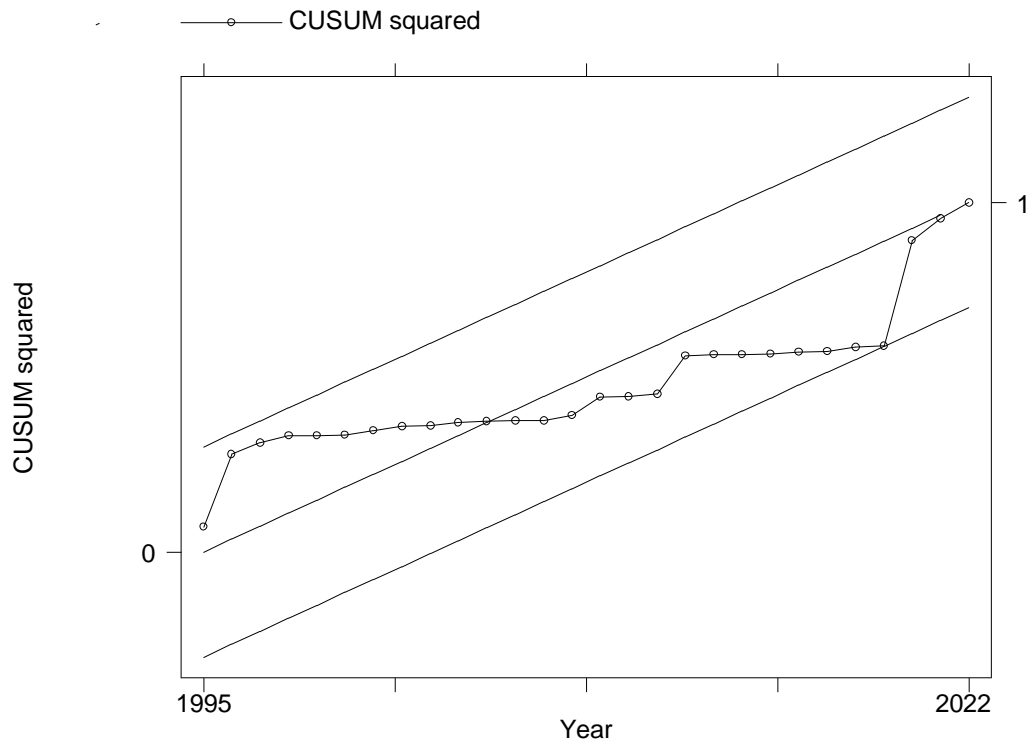
Figure 4.5: CUSUM Graph

Source: Field data (2023).

CHAPTER FIVE

DISCUSSIONS OF FINDINGS

5.1 Introduction

The main objective of the study was to assess the impact of taxation on economic growth in Tanzania. This section debates the findings of the study analysed in chapter four, and the discussion of the findings is based on specific objectives.

5.2 The Impact of Tax Revenues on Economic Growth in Tanzania

Results show that tax revenue is statistically significant. These findings show that tax revenues have a significant positive impact on economic growth. Thus, when tax revenues increase, the GDP growth rate also increases. This is because tax revenues provide the government with the financial resources it needs to undertake various public investments that can stimulate economic activity. For example, tax revenues can be used to fund infrastructure projects such as highways, airports, and public transportation systems. These projects can create jobs and encourage private investment, which can lead to economic growth.

Also, tax revenues can be used to finance research and development initiatives, which can lead to new innovations and technologies that boost economic productivity and competitiveness. For instance, the development of new technologies such as the internet and mobile devices has played a significant role in driving economic growth in recent decades, and this was made possible in part by government-funded research and development initiatives.

The findings of this study are in line with those of Ofoegbu and Akwu (2016) and Daniel (2021), who examined the effect of tax revenue on economic development. The findings show a significant and positive relationship between tax revenue and economic development. Tax revenues enable the government to invest in infrastructure development, such as roads, bridges, ports, and power supply. Improved infrastructure enhances productivity, reduces transaction costs, and attracts private investment, thereby stimulating economic growth. Also, tax revenues finance public services like healthcare, education, and social welfare programs.

By investing in human capital development, the government can improve the quality of the workforce, leading to increased productivity and economic growth. Adequate tax revenues contribute to fiscal stability and effective governance. They help the government manage public debt, maintain macroeconomic stability, and provide a conducive business environment. These factors are crucial for attracting domestic and foreign investment, which drives economic growth.

The findings of this study are different from those of Shafiq et al. (2022), who indicated that tax revenues have a negative and significant impact on Pakistan's economic growth. When taxes are high, households and businesses have less disposable income, which can lead to reduced consumption and investment in businesses. This reduction in investment and consumption can cause a slowdown in economic growth. Moreover, high tax rates can lead to a reduction in incentives for individuals and firms to work harder and be more productive. When taxes are high, individuals may choose to work less and take less-risky investments. This reduction in productivity can cause the economy to grow at a slower rate, which can have negative

effects on the overall health of the economy.

Higher tax burdens can discourage investment, innovation, and consumption, leading to resource misallocation and slower economic growth. Governments must strike a delicate balance between revenue generation and fostering an environment conducive to economic growth. This requires careful consideration of tax policies, rates, and structures that promote efficiency, incentivize investment, and stimulate economic activity while ensuring equitable fiscal practices.

Moreover, the results of this research are in line with the Optimal Taxation Theory. As indicated by Fleurbaey and Maniquet (2018), the Optimal taxation theory seeks to determine the most efficient and equitable way to raise revenue for government expenditures while minimizing the negative impact on economic growth. The theory considers how different tax policies affect economic incentives, resource allocation, and long-term growth prospects. The theory suggests that tax systems should be designed to maximize tax revenues without causing significant harm to economic growth. This means that the rate of taxation should be set at a level that maximizes revenue generation while minimizing the negative impact on economic incentives, investment, and entrepreneurship.

5.3 The Impact of Tax Rates on Economic Growth in Tanzania

Findings show that the tax rate is negative and statistically significant. These findings show that tax rates have a significant negative impact on economic growth. Thus, when tax rates increase, the GDP growth rate also decreases. High tax rates create disincentives for individuals and businesses to engage in productive economic

activities. When tax rates increase, individuals have less disposable income, reducing consumption and investment levels. Similarly, businesses face higher costs, which can discourage investment, innovation, and entrepreneurship. Consequently, this reduction in economic activity leads to slower economic growth. High tax rates reduce the returns on investment, making it less attractive for businesses to allocate resources towards productive activities. This reduced investment stifles capital accumulation, technological advancement, and the expansion of productive capacities, all of which are essential for sustained economic growth.

The results of the research are in line with those of Dladla and Khobai (2018) who studied the impact of taxation on economic growth in South Africa. Results confirm that taxes have a negative relationship with economic growth. High tax rates reduce the incentives for individuals and businesses to work, save, invest, and take risks. When the potential return on investment is diminished due to high taxes, individuals and businesses may choose to work less, reduce their investment activities, or seek tax shelters to minimize their tax burden. This can lead to a decrease in productivity and economic growth. Also, high tax rates make businesses less competitive, especially in a globalized economy. Higher corporate tax rates can discourage foreign businesses from investing in a country, leading to reduced foreign direct investment (FDI) and job creation. Additionally, high taxes on businesses can reduce their ability to expand, invest in research and development, and innovate, which can hinder long-term economic growth.

Also, findings by Kahoho (2020) showed that income tax, value added tax, and custom duty have negative impact on economic growth. Income tax can act as a

disincentive for investment, as it reduces the overall return on investment. Higher tax rates imply that individuals and businesses retain a smaller portion of their earnings, thereby reducing the funds available for investment in new projects, research and development, and expansion. Lower levels of investment can hinder economic growth by limiting capital accumulation, technological advancements, and innovation. Also, high income tax rates dampen productivity and work incentives. When individuals are subjected to higher tax burdens, their after-tax income decreases. This reduction in income can discourage individuals from working longer hours, seeking higher-paying job opportunities, or engaging in entrepreneurial activities. Consequently, a decline in productivity can hinder economic growth and impede the overall competitiveness of a nation.

According to Okwara and Amori (2017), by increasing the overall cost of goods and services, VAT discourages consumer spending, leading to reduced demand and subsequently slowing down production. This decline in demand can cause businesses to cut back on investments and expansions, negatively impacting economic growth. Moreover, the administrative burden imposed by VAT compliance further diverts resources away from investment, stifling innovation and productivity. Also, VAT has a direct impact on consumer purchasing power, as it adds an extra cost to goods and services. As prices rise due to the tax, consumers have less disposable income available to spend on other goods and services. This reduction in consumer spending can have a domino effect, as decreased demand leads to reduced production and employment opportunities. Consequently, the overall economic growth of a country can be hampered due to the negative impact on consumer spending patterns.

Also, as indicated Erero (2021), VAT imposes a significant administrative burden on businesses, especially SMEs. Compliance with VAT regulations requires businesses to maintain accurate records, file regular returns, and undergo audits. This bureaucratic process can be time-consuming and costly, diverting resources away from core business activities. For SMEs, the burden of VAT compliance can be particularly burdensome, hindering their growth potential and competitiveness. The increased costs and administrative complexities associated with VAT can discourage entrepreneurship and impede the establishment of new businesses, further dampening economic growth.

Furthermore, as indicated by Inyiama and Ubesie (2016), customs duties distort trade patterns by creating artificial barriers to international commerce. Such barriers limit access to foreign markets and impede the flow of goods and services. As a result, domestic industries become protected from foreign competition, leading to inefficiencies and reduced productivity. Protective measures, such as import tariffs, discourage innovation and hinder the growth of industries by shielding them from global competition. This protectionism can result in the development of uncompetitive and inefficient domestic industries, which ultimately hampers economic growth.

In additional, the results of the study are in line with those of Kuria (2018) who revealed that customs duties deterred FDI by increasing the cost of doing business and reducing the attractiveness of a country's market in Kenya. Higher tariffs raise the cost of imported raw materials and capital goods, making it more expensive for foreign companies to establish or expand operations in a country. This discourages FDI,

which is a crucial driver of economic growth through job creation, technology transfer, and knowledge spillovers. By limiting foreign investment, customs duties hinder the inflow of capital, expertise, and innovation that can contribute significantly to a nation's economic development.

The results of this research are also supported by Optimal Taxation Theory whereby as indicated by Fleurbaey and Maniquet (2018), the theory seeks to determine the most efficient and equitable way to raise revenue for government expenditures while minimizing the negative impact on economic growth. The design of the tax system can influence economic growth. For example, taxes that are levied on capital and labor income may discourage savings, investment, and work effort, potentially slowing down economic growth. On the other hand, taxes on consumption or property may have a lesser impact on economic incentives, and could be more growth-friendly.

Also, high marginal tax rates can create disincentives for individuals and businesses to engage in productive activities. When taxes on income or profits are high, individuals may choose to work less, invest less, or engage in tax avoidance strategies, which can potentially hinder economic growth. Lower marginal tax rates, particularly on activities that stimulate investment and entrepreneurship, may have positive effects on growth.

5.4 The Moderating Impact of Government Expenditure on the Relationship between Taxation and Economic Growth in Tanzania

Results show that government expenditures are not statistically significant. Therefore, these results reveal that government expenditures have no moderating impact on

the relationship between taxation and economic growth. One reason that government expenditures may not have a significant impact on economic growth is that they are often financed through borrowing. When governments borrow money, they must pay interest on the debt, which can limit their ability to invest in other areas that might stimulate growth, such as education, infrastructure, or research and development. In addition, high levels of debt can ultimately lead to higher taxes, which can dampen economic activity and stifle growth.

In Tanzania, there is evidence to suggest that the relationship between taxation and economic growth is indeed moderated by government expenditure. For example, a study conducted by Kimaro and Sanura (2019) found that while taxation had a positive effect on economic growth, this effect was relatively weak and largely dependent on the level and quality of public expenditures. Specifically, the study found that government expenditures on education, health, and infrastructure had a positive impact on economic growth, while expenditures on defense and administration had a negative impact.

These findings highlight the importance of carefully considering the composition of government expenditures when designing tax policies. In particular, it suggests that tax policies aimed at increasing government revenue may have a limited impact on economic growth if the resulting expenditures are not invested in productive areas of the economy. Moreover, it suggests that policymakers should pay close attention to the potential negative effects of certain types of expenditures, such as defense or administration, which may have a crowding out effect on more productive areas of the economy.

The findings of the study are different from those of Shafiq et al. (2022) who indicated that government expenditures have a positive and significant impact on economic growth. Roads, bridges, and public transit networks are examples of infrastructure projects in which governments can invest. These investments improve productivity, reduce transportation costs, and attract private investment, thereby boosting economic growth. Also, government spending on education and healthcare can enhance human capital and improve labor productivity. A well-educated and healthy workforce contributes to economic growth in the long run.

However, it is important to note that government expenditures can also have negative effects on economic growth under certain circumstances: If the government increases spending without corresponding revenue increases, it may need to borrow money, leading to higher interest rates. This can crowd out private investment and reduce economic growth. Also, if government expenditures are misallocated or used for wasteful projects, they may not generate the desired economic benefits and could even hinder growth.

The results of the research are supported by Classical theory. One of the key areas where classical theory has implications for government policy is in the area of government expenditures. According to Montgomery and Vaughan (2007), classical economists argue that excessive government spending can lead to inflation and slow down economic growth. They argue that the government should limit its expenditures to only those areas that are necessary, such as national defense, infrastructure, and education.

Also, as indicated by Trabandt and Uhlig (2011), classical economists believe that government expenditures should be limited for several reasons. First, excessive government spending can lead to inflation. When the government spends more than it collects in taxes, it must borrow or print money to make up the difference. This can lead to an increase in the money supply, which can then lead to higher prices for goods and services. Second, excessive government spending can crowd out private investment. When the government spends money, it competes with private businesses for resources and labor. This can lead to higher prices for these resources, which can then make it more difficult for private businesses to invest in new projects and create jobs.

CHAPTER SIX

CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

This chapter presents the conclusion based on the findings as well as the recommendations of the study.

6.2 Conclusion

The study aimed to determine the impact of tax revenues on economic growth in Tanzania. The study concludes that tax revenue is statistically significant. It means that tax revenues have a significant positive impact on economic growth. Tax revenues can act as a vital source of finance for the government to invest back into the economy. This investment can be in the form of expenditures on defense, education, healthcare, and infrastructure development. Such investments help to create employment opportunities, increase productivity, and promote economic growth. Moreover, tax revenues can also be utilized to provide incentives for investment. Through tax breaks, governments can encourage businesses to expand their operations, increase their workforce, and invest in research and development.

Also, the study aimed to determine the impact of tax rates on economic growth in Tanzania. The study concludes that the tax rate is statistically significant, which means that tax rates have a significant negative impact on economic growth. Thus, when tax rates increase, the GDP growth rate also decreases. A well-designed tax system can incentivize businesses and individuals to invest, save, and work harder, leading to a better economy. By encouraging investment, stimulating consumer spending, attracting foreign investment, fostering entrepreneurship, reducing tax

evasion, and introducing reasonable tax rates, a country can guarantee sustained economic growth.

Moreover, the study aimed to examine the moderating impact of government expenditure on the relationship between taxation and economic growth in Tanzania. The study concludes that government expenditures are not statistically significant. Hence, government expenditures have no moderating impact on the relationship between taxation and economic growth. Based on the conclusion that government expenditures have no moderating impact on the relationship between taxation and economic growth, it can be inferred that public expenditure policies alone may not be effective in promoting economic growth.

6.3 Recommendations

Since tax revenues have a significant positive impact on economic growth, Then, the study suggests that allocating tax revenues toward infrastructure projects, such as transportation networks, energy systems, and digital infrastructure, can stimulate economic growth. Improved infrastructure enhances productivity, reduces transportation costs, and attracts investments. Also, by providing tax incentives and financial assistance to small businesses, we can encourage entrepreneurship and job creation. Tax revenues can be used to establish programs that offer funding, training, and mentorship to help small businesses thrive and contribute to economic growth.

Moreover, since tax rates have a significant negative impact on economic growth, lowering tax rates or providing tax incentives for specific sectors or activities can stimulate economic growth. For example, reducing corporate tax rates can attract

foreign direct investment and encourage businesses to expand their operations, leading to job creation and economic development.

6.4 Suggestion for Further Studies

The study focused on the GDP of the whole country. Therefore, other studies should analyze the impact of sector-specific taxation on economic growth. This study could focus on specific industries or sectors (e.g., manufacturing, services, and technology) and examine how tax policies tailored to these sectors influence their growth potential. It would help policymakers tailor tax incentives or exemptions to promote growth in specific sectors strategically.

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APPENDIX

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

THE OPEN UNIVERSITY OF TANZANIA

Ref. No OUT/ PG202100583   15th August, 2023

Manager General Services,
Administrative Services Department,
Bank of Tanzania (BOT),
P.O. Box 2939,
DAR ES SALAAM.

Dear Manager,

RE: RESEARCH CLEARANCE FOR MS. MAGRETH FARAJA MUREBERE, REG NO: PG202100583

2. The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1st March 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1st January 2007.In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

3. To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **Ms. Margreth Faraja Murebere, Reg. No: PG202100583)**, pursuing **Master of Science in Economics (MSc-ECONOMICS).** We here by grant this clearance to conduct a research titled **"The Impact of Taxation on Economic Growth in Tanzania"**. She will collect her data at your office from 16th August to 31th September 2023.

4. In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820.We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,
THE OPEN UNIVERSITY OF TANZANIA

Prof. Magreth S.Bushesha
For: VICE CHANCELLOR

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
THE OPEN UNIVERSITY OF TANZANIA

Ref. No OUT/ PG202100583   **15th August, 2023**

Statistician General,
National Bureau of Statistics (NBS),
P.O. Box 2683,
DODOMA.

Dear Statistician General,

RE: RESEARCH CLEARANCE FOR MS. MAGRETH FARAJA MUREBERE, REG NO: PG202100583

2.   The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1stMarch 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1stJanuary 2007.In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

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4.   In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820.We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,
THE OPEN UNIVERSITY OF TANZANIA

Prof. Magreth S.Bushesha
For: VICE CHANCELLOR

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY
THE OPEN UNIVERSITY OF TANZANIA

Ref. No OUT/ PG202100583   **15ᵗʰ August, 2023**

Director of Research and Planning,
Tanzania Revenue Authority (TRA),
P.O. Box 11491,
DAR ES SALAAM.

Dear Director,

RE: RESEARCH CLEARANCE FOR MS. MAGRETH FARAJA MUREBERE, REG NO: PG202100583

2.   The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1ˢᵗMarch 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1ˢᵗJanuary 2007.In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

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Yours sincerely,
THE OPEN UNIVERSITY OF TANZANIA

Prof. Magreth S.Bushesha
For: VICE CHANCELLOR

THE UNITED REPUBLIC OF TANZANIA

MINISTRY OF EDUCATION, SCIENCE AND TECHNOLOGY

THE OPEN UNIVERSITY OF TANZANIA

Ref. No OUT/ PG202100583   15ᵗʰ August, 2023

Country Representative,
World Bank,
DODOMA.

Dear Country Representative,

RE: RESEARCH CLEARANCE FOR MS. MAGRETH FARAJA MUREBERE, REG NO: PG202100583

2.   The Open University of Tanzania was established by an Act of Parliament No. 17 of 1992, which became operational on the 1ˢᵗMarch 1993 by public notice No.55 in the official Gazette. The Act was however replaced by the Open University of Tanzania Charter of 2005, which became operational on 1ˢᵗJanuary 2007.In line with the Charter, the Open University of Tanzania mission is to generate and apply knowledge through research.

3.   To facilitate and to simplify research process therefore, the act empowers the Vice Chancellor of the Open University of Tanzania to issue research clearance, on behalf of the Government of Tanzania and Tanzania Commission for Science and Technology, to both its staff and students who are doing research in Tanzania. With this brief background, the purpose of this letter is to introduce to you **Ms. Margreth Faraja Murebere, Reg. No: PG202100583), pursuing Master of Science in Economics (MSc-**

Murebere, Reg. No: PG202100583), pursuing Master of Science in Economics (MSc-ECONOMICS). We here by grant this clearance to conduct a research titled **"The Impact of Taxation on Economic Growth in   Tanzania"**. She will collect her data at your office from 16ᵗʰ August to 31ᵗʰ September 2023.

4.   In case you need any further information, kindly do not hesitate to contact the Deputy Vice Chancellor (Academic) of the Open University of Tanzania, P.O.Box 23409, Dar es Salaam. Tel: 022-2-2668820.We lastly thank you in advance for your assumed cooperation and facilitation of this research academic activity.

Yours sincerely,
THE OPEN UNIVERSITY OF TANZANIA

Prof. Magreth S.Bushesha
For: VICE CHANCELLOR