EFFECT OF SELECTED MACROECONOMIC VARIABLES ON THE GROWTH RATE OF TOURISM SECTOR IN KENYA

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DECLARATION

This thesis is my original work prepared with no other than the indicated sources and support and has not been presented elsewhere for a degree or any other award.

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CERTIFICATION

The undersigned certify that they have read and hereby recommend for acceptance of Masinde Muliro University of Science and Technology a thesis entitled **" Effect of Selected Macroeconomic Variables on the Growth Rate of Tourism Sector in Kenya."**

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DEDICATION

I dedicate this research to my parents for their encouragement and support in my academics.

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To my supervisors, coursemates, and friends, I highly appreciate your moral support and encouragement.

ABSTRACT

Tourism has evolved into a vital sector of Kenya's economy by contributing to employment, alleviation of poverty, Gross Domestic Product (GDP), foreign exchange earnings, and a balance of payments surplus. Tourism is a productive economic activity that needs a stable macroeconomic environment for continued growth. Kenya's Vision 2030 highlighted tourism among the economic pillars that will spur its achievement. The vision posits an annual growth rate of 10%. However, since Kenya's Vision 2030 formulation, the annual growth rate in the tourism sector has been below 10 percent; besides, the sector has experienced unstable and fluctuating growth. Thus, there was a need for a study to be conducted to examine whether levels of government expenditure and taxation are constraining the tourism sector's growth rate. The study's main objective was to investigate the effect of selected macroeconomic variables on Kenya's tourism sector's growth rate from 2012 to 2021. The study specifically sought to examine the effect of recurrent expenditure on the growth rate of tourism sector, investigate the effect of capital expenditure on the growth rate of tourism sector, determine the effect of taxation on the growth rate of tourism sector, and finally to establish the moderating role of currency exchange rate on the nexus between the selected macroeconomic variables and tourism sector's growth rate. Using a causal research design with time series data from the Kenya National Bureau of Statistics, the study employed EVIEWS software version 10 for descriptive statistics, correlational analysis, and multiple regression analysis. Correlation analysis indicated positive relationships between the tourism sector's growth rate and recurrent expenditure (0.5144), capital expenditure (0.3837), and taxation (0.0237). Augmented Dickey-Fuller test showed integrated levels at I(0) and I(1), while F-Bounds tests revealed no cointegration among variables. Multiple regression analysis confirmed the significant positive effects of recurrent and capital expenditures, as well as taxation, on the sector's growth rate, with coefficients of 0.4848, 0.8525, and 0.2415, respectively, at a 5% significance level. However, currency exchange rate was found to exert no moderating effect on the relationship between the selected macroeconomic variables and tourism sector's growth rate. The post-estimation diagnostic tests indicated that data was normally distributed, autocorrelation did not exist, and the regression residuals were homoscedastic, and not serially autocorrelated. The CUSUM test demonstrated that the model was fit for policymaking. Based on the empirical findings, the study suggests that the Kenyan government should enhance its budget allocation for recurrent and capital expenditures, and consider expanding its taxation volume to stimulate the growth rate of the tourism sector.

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LIST OF ACRONYMS

ARDL	Autoregressive Distributed Lag.
ARIMA	Autoregressive Integrated Moving Average.
GDP	Gross Domestic Product.
IMF	International Monetary Fund.
KIPPRA	Kenya Institute for Public Policy Research and Analysis.
KNBS	Kenya National Bureau of Statistics.
LM	Lagrangian Multiplier.
MoTW	Ministry of Tourism and Wildlife.
MTP	Medium Term Plan.
OECD	Organisation for Economic Cooperation and Development.
OLS	Ordinary Least Squares.
PAYE	Pay As You Earn.
UNCTAD	United Nations Conference on Trade and Development.
UNWTO	United Nations World Tourism Organization.
VAT	Value Added Tax.
VECM	Vector Error Correction Model.
WTO	World Tourism Organization.
WTTC	World Travel and Tourism Council.

OPERATIONAL DEFINITION OF KEY TERMS

Recurrent expenditure	Refers to overall operational expenses incurred by the government.
Capital expenditure	Refers to government spending on developmental projects.
Currency Exchange Rate	Refers to the Proportion at which a country's currency is convertible to another currency.
Fiscal policy	Refers to the government's strategy to spur economic output in the tourism sector through its expenditure and taxation.
Government expenditure	Aggregate spending by the government to attain its social and development goals.
Taxation	Revenue from the mandatory fees paid by individuals and businesses to the government
Tourism	Refers to the movement of people to different locations for leisure.
Growth rate of tourism sector	Refers to the percentage change in the tourism sector's real gross domestic product.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Tourism has become a vital sector that contributes greatly to economic growth around the world (World Bank, 2020). Characterized by accelerated growth and related economic benefits, tourism has been regarded in practice and academically as an effective means of attaining sustainable development for countries. Certainly, recognizing its growing importance, the tourism sector should not be underestimated, as it significantly contributes to both global and national economies through investments, employment opportunities, income generation, and balance of payments improvement (Perween & Hajam, 2021). United Nations World Tourism Organization (UNWTO, 2020) reckons the tourism sector diverges exports for economies, hence reducing trade deficits and making up for weaker export profits from other commodities and services.

In 2019, the tourism sector made up 10.3% of the global gross domestic product, while achieving a growth rate of 3.5%, as reported by the World Travel and Tourism Council (WTTC, 2020). In Caribbean countries where tourism accounts for 41.79% of GDP, with Aruba having a 73.6% contribution to GDP, the region experienced 3.4% growth in the tourism sector in 2019. In South America, Brazil had a growth rate of 3% in tourism, outpacing the overall economic growth of just 1.26%, while Columbia had a 7.3% growth in tourism in 2019. In 2019, tourism contributed 21% to the GDP in the US and had a growth of 2.3%, while, Europe

had a growth rate of 2.4%, with Greece having the highest growth of 12.1% (WTTC, 2020).

In Africa, tourism has become a vital sector, accounting for 8.5% of the GDP, which was close to $194.26 billion in 2018 and experienced a growth rate of 5.8% (WTTC, 2020). The United Nations World Tourism Organization (UNWTO, 2020) observes that Africa had 70 million international tourist arrivals in 2019 drawing USD 38 billion from international tourism in 2019. According to WTTC 2020, Tunisia had a growth rate of 12.9% in the tourism sector, which was attributed to improvement in security, while the overall economy had a growth rate of 1.3%. Rwanda had 10.9% growth in the sector in 2019, which was attributed to the government's initiatives to enhance sustained growth of the sector by ensuring both community development and conservation.

In Kenya, the tourism sector promotes the socioeconomic welfare of all citizens by stimulating both regional development and Small and Medium Enterprises Development (Ndambuki, 2017). As per the Ministry of Tourism and Wildlife (MoTW, 2020), tourism contributes 10.4% to GDP and employs 990,000 people. The country has had a promising performance in this sector since 2015. In 2019, the number of inbound tourists in the country surged to 2.05 million (MoTW, 2019), up from 1.03 million in 2013 (KNBS, 2013). Additionally, local tourism experienced substantial growth, with the count of domestic tourists rising from 2,794,144 in 2012 to 3,974,243 in 2018, reflecting a growth rate of 9.03%. As outlined by Kenya Institute for Public Policy Research and Analysis (2015), a significant feature of domestic tourism in Kenya is its consistent nature in contrast

to the fluctuations seen in international tourism arrivals and earnings, all the while contributing around half of the total tourism earnings, conversely, Kenya's domestic tourism market remains unexploited despite having a huge national potential. This shows that the benefits of domestic tourism have not been embraced by the majority of Kenyans.

In 2015, tourism earnings declined to Kshs 84.6 billion from the previous year's earnings of Kshs 87.1 billion. The government had to take measures to curb this decline by increasing the allocated budget to the respective state department by Kshs 5.6 billion in the financial year 2014/2015 to Kshs 10.7 billion in the following financial year. The government also had to scrap landing fees at Mombasa and Malindi international airports for chattered planes from January 2016 to June 2018 and a subsidy of US $30 for each passenger who dissembled in Kenya during the period (KNBS, 2016). (WTTC, 2020) observes that Kenya had a growth rate of 4.9% in tourism in 2019 which was attributed to improvements infrastructural connectivity.

Growth in this sector affects economic growth through its externalities and spillover effects (Perween & Hajam, 2021). This has resulted in the government of Kenya being involved in the tourism sector because Vision 2030 singles out tourism as one of the principal economic pillars that will drive the economy towards attaining Vision 2030, which envisions Kenya becoming a middle-income country (Ndambuki, 2017).

1.1.1 Government Expenditure and Tourism Sector Growth

Government expenditure encompasses all the costs accrued by the government while fulfilling its responsibilities (Muguro, 2017). Government expenditure is grouped as recurrent or capital. Recurrent expenditure concentrates on short-term activities that are operational in nature, like salary payments. Capital expenditure concentrates on long-term investments by the state, like infrastructure (Emmanuel & Oladiran, 2015).

Government expenditure impacts the whole economy with its sectors. Economically, an increment in government expenditure boosts aggregate demand for goods and services, leading to multisectoral growth. Overall tourism expenditure has led to growth in the sector in many economies (Perween & Hajam,2021). Tourism sector growth is influenced by government expenditure size through infrastructure provision, education**,** security, and health. Infrastructural development is crucial for the tourism sector to experience growth, it provides fundamental physical amenities which are essential to businesses and society (United Nations, 2016). This is because if a country invests in infrastructure, then there will be the availability of household utilities like water, electricity, and sewage. Capital expenditure in transport infrastructure promotes the tourism competitiveness of a destination. UNCTAD (2022) reckons that infrastructure is a vital part of production capabilities and therefore it is having a crucial responsibility in fostering resilience, which augments sustainable development outcomes. A good infrastructural system increases the provision of a better and economically feasible experience related to tourism in a destination

consequently attracting more international tourists (WTTC, 2018). Feliziani and Monni, (2012) reckon that the competitiveness of tourist destinations can determine their level of success. The accessibility of reliable electricity and transport infrastructure creates significant challenges to businesses in the tourism sector (Munga, Onsomu, Nyabaro & Shibia, 2020).

Government expenditure on security ensures that the safety of tourists is paramount since the tourism sector is responsive to issues related to insecurity. The health situation in a country also affects the arrivals of tourism to that country, thus for steady growth in the tourism sector, a country has to invest heavily in its health sector. According to Munga, Onsomu, Nyabaro, and Shibia, (2020) for Kenya to achieve higher growth rates in the tourism sector, it has to tackle distributional inequalities and concentrate on the removal of growth constraints majorly, in transport and other infrastructure.

Tourism sector's growth is also determined by the amount spent by governments in it. According to Kutyashova and Skobela (2020), government spending on the tourism industry is done to fix market flaws that impact it, encourage its growth, and market it internationally. The government is in charge of financing industry businesses, providing essential tourism infrastructure, and maintaining national parks and museums (Nguyen, 2021).

1.1.2 Taxation and Tourism Sector Growth

Taxes must be imposed on individuals and businesses in a nation in order for the government to carry out its duties (Biagi, Brandano & Pulina, 2017). A tax can

either be direct or indirect. Direct taxes are levied against individuals right away, whereas indirect taxes are levied against goods that are either produced locally or imported. Governments raise most of their revenues via taxes. Currently, economists agree that taxes are the major source of revenue used to run government operations (Surugiu & Surugiu, 2017). Taxation has been used as a tool to redistribute income in the economy to achieve a specific economic goal. Taxation has been useful in correcting market failures (Feliziani & Monni, 2013). According to Aghion, Akcigit, Cage, and Kerr (2016), the comparison of the benefits of public goods and its enticement effects will determine how much taxes has an impact on growth.

The tourism sector is subject to taxes as other sectors; however, this sector is sensitive to taxes because they influence the tourism competitiveness of a country (Surugiu & Surugiu, 2017). Taxing this sector leads to constructive consequences on equity (Kristjansdottir, 2021). Surugiu and Surugiu, (2017) postulate that even though taxing the tourism sector is viewed to be appealing, taxes associated with tourism export are harmful to a destination's competitive level. A tax increases the price payable by tourists, contrarily; it reduces the profit gained by operators (Sheng, 2017). Taxes influence growth of tourism with VAT being the major factor influencing the competitiveness of tourism (Fintineru, Smedescu & Fintineru, 2021). Value-Added Tax (VAT) tends to increase the overall prices of products in a country. As a result, more international tourists will avoid those economies that have higher prices for goods and services and opt for economies that have fair prices for goods and prices (Fintineru et al 2021).

Tourism sector vitally contributes to overall growth of the economy. However, macroeconomic variables such as recurrent expenditure, capital expenditure and taxation can promote or hinder the growth rate of the tourism sector. This study looked at how selected macroeconomic variables impacted Kenya's tourism sector's growth rate.

1.2 Statement of the Problem

Tourism was deciphered in Kenya as one of the sectors that will spur growth toward achieving vision 2030 (Munga, Onsomu, Nyabaro & Shibia, 2020). The vision 2030 identifies the tourism as the leading sector among the economic pillars that will spur the country in achieving the vision (GOK, 2008). Correspondingly, the tourism sector is envisioned to post a growth rate of more than ten percent annually (GOK, 2013). However, growth in this sector has been unsteady and the annual growth rates have not surpassed the stipulated annual growth rate of more than ten percent. The tourism sector in Kenya grew by 4.9% in 2019, yet Tunisia and Rwanda experienced annual growth rates of 12.9% and 10.9% in the same year (WTTC, 2020). Additionally, in 2015 tourism sector earnings declined to Kshs. 84.6 billion compared to Kshs. 87.1 billion (KNBS, 2016). Hence, the tourism sector has untapped potential in Kenya (KIPPRA, 2015). Therefore, the researcher necessitated the need for this study to examine whether the levels of expenditures and taxes by the government are constraining tourism sector growth.

Tourism being an economic activity is greatly affected by the levels of government spending and taxation in an economy. Government expenditure and

taxation are used to address market failures, supply basic infrastructure**,** and accelerate tourism sector' growth rate. As observed by Munga, Onsomu, Nyabaro, and Shibia (2020), tourism sector's growth potential is cramped by several emerging and prevailing constraints. Thus, there is need to continuously examine this from all different angles to uncover the epochal factors that can potentially promote its growth (Ivankova, Gavurova, Bacik & Rigelsky, 2021), government expenditure and taxation are among the factor (Nguyen, 2021; Perwin & Hajam, 2021).

For continued tourism sector growth, governments have to spend on transport infrastructure, communication networks, health, education, electricity transmission, security**,** and social order (United Nations, 2016; WTTC, 2018; UNCTAD, 2022). The government should also have a taxation system that encourages growth in the tourism sector and the related sectors, this ensures avoidable prices for goods and services in the country (Sheng, 2017). Concerning economic theory, higher levels of government expenditure and low levels of taxation lead to high rates of growth in each sector of the economy (Kutyashova & Skobela, 2020; Nguyen, 2021; Sheng, 2017). However, both higher levels of public expenditure and taxes cause mixed growth in sectoral output; as higher levels of government expenditure will accelerate growth, on the other hand, high levels of taxation will be crowding out private investments as well as raise the prices of commodities.

Most economies in sub-Saharan Africa including Kenya, there exist gaps in government expenditure and evidence of taxation which has affected the growth

of the tourism sector. The researcher also reviewed the related literature on the topic of study and found an empirical gap about the study topic. Most empirical studies on tourism have majorly concentrated on tourism demand which has been applied to recent empirical approaches for many countries (Dogru, Balat & Sirakaya-Turk, 2021; Ndambuki, 2017). Therefore, this study sought to investigate the effect of selected macroeconomic variables on the growth rate of tourism sector in Kenya from 2012 to 2021.

1.3 Objectives of the Study

Broadly, the study examined the effect of selected macroeconomic variables on the growth rate of tourism sector in Kenya from 2012 to 2021.

The study specifically sought;

I. To examine the effect of recurrent expenditure on the growth rate of tourism sector in Kenya.
II. To investigate the effect of capital expenditure on the growth rate of tourism sector in Kenya.
III. To determine the effect of taxation on the growth rate of tourism sector in Kenya.
IV. To establish the moderating effect of currency exchange rate on the relationship between the selected macroeconomic variables and the growth rate of tourism sector in Kenya.

1.4 Hypothesis of the Study

H_{O1}: Recurrent expenditure has no statistically significant effect on the growth rate of tourism sector in Kenya.

H_{O2}: Capital expenditure has no statistically significant effect on the growth rate of tourism sector in Kenya.

H_{O3}: Taxation has no statistically significant effect on the growth rate of tourism sector in Kenya.

H_{O4}: Currency exchange rate has no statistically significant moderating effect on the nexus between the selected macroeconomic variables and the growth rate of tourism sector in Kenya.

1.5 Scope of the study

The purpose of this study was to determine how specific macroeconomic variables affect Kenya's growth rate of tourism sector. Content scope included; recurrent expenditure, capital expenditure**,** and taxation and their effects on Kenya's tourism sector's growth rate from 2012 to 2021. The theoretical scope included; Keynesian theory of aggregate demand and Endogenous growth theory. The time scope comprised ten years, spanning from 2012 to 2021. During this period the Medium-Term Plans (MTP) I and II for the tourism sector were implemented which advocated for more government involvement in the tourism sector to spur sustained growth. The study utilized quarterly time series data retrieved from the Kenya National Bureau of Statistics.

1.6 Significance of the study

The study findings will provide policy insights on the growth of tourism in Kenya. In addition, the study will be helpful to potential investors in the tourism sector by enabling them make sound decisions on whether to invest in the tourism sector. Lastly, the study will be as a starting point for further research into the related topic.

1.7 Limitations of the study

The study relied on secondary data which is prone to variations on the same type of data from different sources. To avoid discrepancies, the researcher sourced data from the Kenya National Bureau of Statistics, and employed the triangulation approach in comparing data from the same source in subsequent publications. This is because even from the same KNBS, it often contains different values for the same variable especially in subsequent publications. To ensure the validity and reliability of the data provided by the KNBS, the researcher used revised figures in subsequent publications and not provisional figures.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter centered on conducting a literature survey regarding the topic under examination. Section 2.2 deals with the theoretical literature which includes; the Keynesian theory of aggregate demand, and endogenous growth theory. Section 2.3 deals with an empirical review of existing studies. Section 2.4 deals with the summary of literature and knowledge gaps that this study seeks to address. Section 2.5 deals with the conceptual framework.

2.2 Theoretical Literature

The Keynesian theory of aggregate demand and the endogenous growth theory are the two theories that support the investigation. The study was anchored on Keynes' aggregate demand theory.

2.2.1 Keynesian Theory of Aggregate Demand

British economist J.M. Keynes developed this theory in the 1930s, at the height of the Great Depression. According to this theory, government spending and taxation should be used to promote the expansion of economic sectors and subsequently, output. This theory postulates that increasing government expenditure results in job creation, improved efficiency and investment thanks to multiplier effects (Muguro, 2017), and increased private consumption due to higher disposable income (Kairanya, 2016).

Abel, Bernanke, and Croushore (2014) observe that the early Keynesians stressed that government decisions on expenditures, and taxes, can significantly affect the level of output. Keynesian economists advocate government spending increase and reduction of tax rates as the efficient tools in instigating overall demand for commodities in the economic sectors (Nyasha & Odhiambo 2019; Mose, 2014; Emily, 2012), and stabilizing the economy (Muguro, 2017).

The study applied the Keynesian theory as it aligns with the notion of increasing government expenditure and reducing taxes to stimulate output. The theory is useful in the harmonization of macroeconomic stability which is a prerequisite for sustainable growth (Emily,2012). The fiscal policy can promote growth in the tourism sector by inducing economic agents to invest in tourism. Furthermore, it promotes quality and competitiveness services in tourism, promotes tourist destinations abroad, develops an economy's infrastructure, and protects the environment. This theory underpins the variables of capital expenditure, recurrent expenditure, taxation, and the growth rate of tourism sector. This study is therefore anchored in this Keynesian theory of aggregate demand.

2.2.2 Endogenous Growth Theory

Endogenous growth theory posits that sectoral economic growth is influenced by internal factors. The proponents of this theory are Robert Lucas and Paul Romer. The theory asserts that a steady growth rate is credited to internal undertakings like human capital, investment, research, and development. The theory considers research, investment subsidies, taxes, and government expenditure as policies that affect the magnitude of economic undertakings in a nation (Kamau, 2021).

Barro (1990; 1991), King, and Rebelo (1990) developed endogenous growth models that assert that both the long-haul path of output and growth is affected by distortionary taxation and government expenditure. In endogenous growth models, the amount and nature of taxes affect growth (Owino, 2018). The theory posits that direct taxation affects output both positively and negatively; negatively, it distorts the motivation to save and inducement to work; positively, it intensifies the marginal efficiency of private resources, consequently, soaring growth (Renstrom & Spatoro,2021).

The endogenous growth theory is relevant to this study since taxes and government expenditure are endogenous forces that affect investments and savings in an economy. Levels of government spending and taxation can stimulate tourism sector's growth by providing a conducive environment and motivation both for foreign and local investors to venture into the sector thus increasing its growth. This theory underpins the variables of capital expenditure, recurrent expenditure, taxation, and the growth rate of tourism sector.

2.3 Conceptual Review of Study Variables

This section highlights a review of the study variables and their measurement as they appear in the conceptual framework.

2.3.1 Recurrent Expenditure

Recurrent expenditure comprises of regular government outlays for operational and maintenance purposes. It comprises salaries and wages, payment of interest on public debts, pensions, and other costs used in overall maintenance as well as

operations (Aluthge, Jibir & Abdu, 2021). Muthui, Kosimbei, Maingi, and Thuku, (2013) assert that recurrent expenditure has increased as a percentage of total spending in Kenya. In the study conducted by Onifade, Erdogan, Asongu and Bekun (2020) calculated recurrent spending in percentage of GDP, in examining its impact on economic expansion in Nigeria. Other research endeavors transformed recurrent expenditure into natural logarithms after measuring it in its aggregate form, as seen in studies by Okoye, Omankhanlen, Okoh, Urhie, and Ahmad (2019) and Iheanacho (2016). In this study, recurrent expenditure was measured as a proportion of the GDP.

2.3.2. Capital Expenditure

Capital expenditures refer to the costs incurred by the government for projects that are anticipated to generate long-term benefits and profitability. It increases an economy's productive capacity. It majorly comprises infrastructural spending and public investments in products that are too expensive for private-sector investment. Infrastructural spending can be physical or non-physical. Physical infrastructure includes; roads, railways, electricity, buildings, and telecommunication. Investing in these projects spurs economic activities in a country. Non-physical infrastructure comprises spending on education, health, defense, security, and research.

Using data from Nigeria, Aluthge, Jibir, and Abdu (2021) investigated how government spending affected economic growth, and used perpetual inventory approach to measure capital expenditure as a stock variable. They found out that capital investment fosters economic expansion. Using data from Nigeria, Okoye,

Omankhanlen, Okoh, Urhie, and Ahmad (2019) evaluated how government spending affected economic growth. Natural logarithms were used to proxy capital expenditure. By using data from Nigeria, Onifade, Ergogan, Asongu, and Bekun (2020) investigated how government spending affects economic growth, and measured capital expenditure as a proportion of GDP. In this study, Capital expenditure was measured as a proportion of GDP.

2.3.3. Taxation

Taxation involves government imposition of mandatory fees on persons and firms to collect revenue for its social and economic mandate (Kairanya, 2016). Despite taxes being the main source of revenue, they ought to be designed in a way that stimulates development. In a 2019 study, Loganathan, Ahmad, Mursitama, Taha, Mardani, and Streimikiene studied how Malaysia's foreign tourism demand is impacted by the exchange rate, pricing competitiveness indices, and taxation. Sales tax and indirect tax were used to measure taxation in their study. The findings indicated that sales tax had a negative impact on the demand for foreign arrivals, whereas indirect tax had a minimal effect. VAT was used as a measure of taxation in studies by Skare and Kukurin (2020) and Kristjansdottir (2021). Taxation was measured in tax as a percentage of GDP.

2.3.4 Currency Exchange Rate

The currency exchange rate represents the convertibility ratio between two different currencies. In the case of the Kenyan shilling, its value has gradually declined relative to the US dollar. Athari, Alola, Ghasemi, and Aloa (2021), along with Meo, Chowdhury, Shaikh, Ali, and Masood Sheikh (2018), quantified the

currency exchange rate using the real effective rate. On the other hand, Usman, Lorember, and Jelilou (2020) measured the currency exchange rate through the nominal effective rate. This study measured currency exchange rate by exchange rate volatility.

2.3.5 Growth Rate of Tourism Sector

Tourism sector's growth rate reflects the percentage alteration in the output of activities associated with tourism. UNWTO (2021) highlights that during the pre-COVID-19 pandemic, the growth of this sector consistently exceeded global economic growth for a span of ten years. Chaudry, Nazar, Ali, Meo, and Faheem (2022) in their study measured the growth of tourism sector through tourism receipts. Kristjansdottir, (2021) and Loganathan et al. (2019) measured the growth rate of tourism sector by international tourism demand, while Skare and Kukurin (2020) measured the growth rate of tourism sector by growth rates. In this study, growth rate of tourism sector was proxied by growth rates.

2.4 Empirical Literature Review

2.4.1 Recurrent Expenditure and Growth Rate of Tourism Sector

Oche, Okwo, and Nwoha (2021) employed annual data spanning from 1999 to 2019 and utilized Ordinary Least Squares (OLS) methodology to investigate the influence of distinct components of recurrent expenditure on the economic growth of Nigeria. The various recurrent expense categories were disaggregated into administrative, economic, social and community, and transfer segments. Their findings indicated that economic growth was positively impacted by recurrent

expenditures allocated to social and community services, as well as transfers, while recurrent expenditures for administrative and economic services yielded a positive yet statistically insignificant impact. Unlike the focus of Oche, Okwo, and Nwoha's (2021) study on the influence of recurrent expenditure components on economic growth, the present study is centered on the nexus between recurrent expenses and the growth rate of the tourism sector in Kenya.

Okoye, Omankhanlen, Okoh, Urhie, and Ahmed (2019) examined the link between government expenditure and economic escalation in Nigeria adopting yearlong data from 1981 to 2017. Results revealed insignificant positive difference of recurrent spending on long-term economic growth, alongside significant negative effects in the short term. Similarly, Onifade, Erdogan, Asongu, and Bekun (2020) researched the association between government spending and economic growth, utilizing ARDL with annual data spanning 1981 to 2017, finding a negative effect of recurrent expenditure on economic growth. Likewise, Aluthge, Jibir, and Abdu (2021) explored the connection between government spending and economic growth in Nigeria using ARDL and annual time series data from 1970 to 2019. They discovered a significant negative impact of recurrent spending on growth, attributed to interest payments on debt. In contrast to Okoye, Omankhenlen, Okoh, Urhie, and Ahmad (2021); Onifade, Erdogan, Asongu, and Bekun (2020); and Aluthge, Jibir, and Abdu (2021), this study diverges by focusing on the effect of recurrent expenditure on Kenya's tourism sector’s growth rate.

Hassan and Abdullah (2017) examined how government revenue and expenditure impinged productivity of Sudan's agricultural, industrial, and service sectors. Based on an endogenous growth paradigm, the results revealed an insignificant positive transient influence of recurrent expenditure on the agricultural and industrial sectors, respectively, albeit a significant positive transitory difference on the service sector. In line with the long-term results, recurrent spending displayed a negative insignificant impact on the agriculture sector, while positive significantly affected the industrial and service sectors. In contrast to Hassan and Abdullah's (2017) study, which centered on the agricultural, industrial, and service sectors, this study researched how recurrent expenses affected the growth rate of tourism in Kenya.

Aina and Omojola’s (2017) findings revealed an insignificant positive effect of recurrent expenditure on agricultural output. Similarly, Atayi, Boniface, Bobola, and Olorunrimu (2020) researched the nexus between government spending and agricultural productivity in Nigeria, employing ordinary least squares and co-integration methods with annual data from 1981 to 2018. Their study also identified an insignificant positive impact of recurrent expenditure on agricultural productivity. However, Oluwaseun, Solomon, and Yusuf (2020) discovered a significant positive influence of recurrent expenditure on agricultural production. These studies collectively suggest that recurrent expenditure tends to promote agricultural output. However, it's important to note that these studies primarily focused on the agricultural sector, whereas the current study centers on the relationship between recurrent expenditure and the growth rate of the tourism sector in Kenya.

Obiano (2022) demonstrated that recurrent expenditure had a significant positive influence on manufacturing capacity utilization. In a similar vein, Ubesie, Ananwude, Cyracus, and Emmanuel (2020) examined whether fiscal mechanisms enhanced manufacturing sector productivity in Nigeria, using annual data and the ordinary least squares method. Their findings indicated a negative insignificant effect of recurrent expenditure on manufacturing sector output. Unlike Obiano (2022) and Ubesie et al. (2020), this study focused on the nexus betwixt recurrent expenditure and tourism sector's growth rate, as opposed to the manufacturing sector.

2.4.2 Capital Expenditure and Growth Rate of Tourism Sector

Aluthge, Jibir, and Abdu (2021) explored the impact of government spending on economic growth in Nigeria using time series data from 1970 to 2019 and the ARDL model. Their empirical findings highlighted that capital expenditure exerted a positive and significant influence on economic growth in both the short and long term. The study reckoned that capital investment enhances economic output due to its allocation to productive projects with substantial social value and extended benefits, acting as a positive externality. Aluthge, Jibir, and Abdu (2021) delved into the nexus betwixt capital expenditure and economic growth, while the current study delved into the link between capital expenditure and the growth rate of Kenya's tourism sector.

Conversely, Dore (2022) unveiled that capital expenditure on administrative services, economic services, and transfers had a significant positive impact on manufacturing sector. However, government capital spending on community and

social services exhibited an insignificant negative effect. While Dore's (2022) study is pertinent as it explores the connection between government capital expenditure and sectoral output, it exclusively focuses on the manufacturing sector. In contrast, this study seeks to examine how government capital expenses impact the growth rate of Kenya's tourism sector.

Emmanuel and Oladiran (2015) assigned the error correction model and yearly data from 1970 to 2013 in examining how government capital expenditure affects manufacturing sector output in Nigeria. Government capital expenditure was found to be positively statistically significant in explaining manufacturing sector output with a coefficient of 0.1112. However, the study by Hassan and Oladiran (2015) focused on how government capital expenditure affects the manufacturing sector, while this study sought to investigate the link between capital expenditure and the growth rate of tourism sector in Kenya.

Nguyen, Binh and Su (2020) employed both Random Effects and Fixed Effects models in investigating capital investment in tourism in 150 countries from 2003 to 2017. The findings indicated that an increase in government capital spending positively impacts capital investment in tourism. The results further indicated an increment in government capital spending on tourism results to an increment in capital investments in tourism by 0.13%- 0.14% for Random Effects estimates, or 0.08% for Fixed Effects estimates. Hence, it's evident that government spending fosters capital investment in tourism, which in turn essentially escalates tourism sector growth. This study examined the link between government capital expenditure and tourism sector growth in Kenya, to address the gap in Nguyen,

Binh, and Su's (2020) examination of the connection between government capital spending and capital investment in tourism.

Li, Shi, Yang, and Ren (2020) revealed that Belt and Road Initiative increases inbound tourists by 17.2% and inbound revenue by 8.0% in 155 countries. The study suggests that road transport connectivity contributes to the growth of inbound tourism. However, the study solely concentrates on inbound tourism but not the entire tourism sector. Furthermore, it employs panel methodology which can be vulnerable to issues related to cross-sectional dependence. To bridge the gaps identified in Li et al.'s (2020) research, this study delved into how capital expenditure affects tourism sector's growth rate in Kenya.

2.4.3 Taxation and Tourism Sector Growth

Loganathan, Ahmad, Mursitama, Taha, Mardani, and Streimikiene (2019) utilized the bootstrap quantile regression model and monthly time series data from 1996 to 2017 to examine the influence of exchange rates, price competitiveness, and taxation on international tourism demand in Malaysia. The findings indicated that sales tax negatively impacted international tourism arrivals in Malaysia with a coefficient of -0.847, while indirect tax had an insignificant positive impact on international tourism demand. The study, however, investigated how taxation affects international tourism demand using a quantile regression, while this study intended to examine how taxation affects tourism sector's growth rate in Kenya using ordinary least squares (OLS).

Employing yearly time series data from 1998 to 2017 and the state-space model, Skare and Kukurin (2020) simulated how VAT affects the tourism industry in

Croatia. The simulated results indicated that VAT increment had significant negative effects on the competence and growth of tourism industry. By applying the non-multiplying effects simulation of VAT from 13% to 25%, the results showed that revenue generated from tourism falls by -6%, employment in tourism falls by -2.64%, and total investments in tourism decline by -5.04%. Simulations with multiplying effects depict the real picture in the tourism industry since they reveal a decline in total revenue from tourism by -8.76%, a decline in employment and investments in tourism by -3.84%, and -7.31% respectively. However, the study focused on the nexus between VAT and tourism industry, thus this study focused on how aggregated taxation affects the growth rate of tourism sector in Kenya.

Employing panel data from 30 European states from 1995 to 2016, Kristjansdottir (2021) researched how tax influences European tourism. Using the Gravity model, the findings indicated that a VAT increase had an insignificant difference on tourists' inflow to a country. The researcher underscored that the competitiveness of destinations is not influenced by VAT. The study proposes the utilization of Value Added Tax (VAT) as a revenue generation strategy for governments, highlighting its non-detrimental impact on tourism demand. Therefore, VAT implementation would not adversely affect tourism sector's growth rate. Nonetheless, the study employed panel data, which may not capture country-specific nuances. As a response, this study focused on investigating the influence of taxation on the growth rate of the tourism sector in Kenya, aiming to provide insights that are specifically relevant to the Kenyan context.

2.4.4 Exchange Rate and Tourism Sector Growth

Majok (2015) analyzed the changes in exchange on rate Kenyan commercial banks employing a census comprising 43 commercial banks that operated by December 2014. The study's conclusions are pertinent to this one since they describe the three ways that alterations in the exchange rate impact the economy. The first way is via the prices of products that are imported by having an explicit effect on the prices of locally produced products. Secondly, this impact is felt through the prices of intermedial imported products such that the effect is witnessed on the production cost of domestic products. Lastly, the effect is via the prices of local products that are paid for in foreign currency.

Employing monthly data spanning from 1996 to 2016, Isik, Radulescu, and Fedajev (2019) studied the effect of exchange rate devaluation, applying it to the tourism balance of trade in Spain, established that the depreciation of the Euro against Turkey's Lira had a positive significant influence on Spain's tourism trade balance, while the appreciation did not affect it negatively. They opined that exchange rate fluctuations affect the flow of tourists and spending behaviour in a country as a destination via variations in the price competitiveness of a particular country in the worldwide tourist market. Highlighting a geographical gap and the use of outdated data in the previous study, this research intends to address these issues. Specifically, the study seeks to understand how the exchange rate effects the nexus between recurrent expenditure, capital expenditure, taxation, and the growth of Kenya's tourism sector.

Chaudry, Nazar, Ali, Meo, and Faheem (2022) found that exchange rate depreciation positively impacts tourism. They opined that local currency depreciation against other currencies boosts an economy's income from tourism. Furthermore, tourism growth is stimulated by low exchange rates because the exchange rate is a determinant when selecting a destination. The study uses panel data thus missing out on country-specific issues related to exchange rates. This study effectively addresses the research gap by examining how the exchange rate influences the nexus between the chosen macroeconomic indicators and tourism sector growth. This investigation is carried out using time series data ranging from 2012 to 2021.

Meo, Chowdhury, Shaikh, Ali, and Massood (2018) found that the exchange rate had a significant impact on tourism demand. This finding is consistent with Kisswani, Zaitouni, and Kisswani's (2022) research, which demonstrated that exchange rate variability positively affects tourism inflows, using the NARDL model and time series data spanning from 1990 to 2019. Unlike Meo et al. (2018) and Kisswani et al. (2022) who focused on the nexus between exchange rate and tourism, this study established the moderating effect of the exchange rate on the nexus between the study variables.

2.5 Summary and Overview of Literature Review.

The analyzed literature revealed a mixture of results and identified several gaps. Notably, many studies predominantly focused on areas such as economic growth,

the agricultural sector, and manufacturing, which underscores the significance of this study' focus on tourism sector's growth rate in Kenya.

Regarding recurrent expenditure, divergent findings were observed. Oche et al. (2021) and Okoye et al. (2019) established a positive difference between recurrent expenditure and economic growth, whereas Onifade et al. (2017) and Aluthge et al. (2021) found a negative association. Hassan and Abdullah (2017) uncovered a negative impact of recurrent expenditure on the agricultural sector, while noting positive effects on the industrial and service sectors. Aina and Omojola (2017), Atayi et al. (2020), and Oluwaseun et al. (2020) indicated that recurrent expenditure promotes manufacturing sector output. In a different vein, Obiano (2022) discovered a positive effect of recurrent expenditure on manufacturing sector capacity utilization, whereas Ubesie et al. (2020) identified an insignificant negative effect on manufacturing sector performance.

Regarding capital expenditure, Aluthge et al (2021) found that it promotes economic growth. Dore (2022) and Emmanuel and Oladiran (2015) revealed that government capital spending positively influences manufacturing sector output. Nguyen et al. (2020) found that government spending stimulates capital investments in the tourism sector. Li et al. (2020) found that the road transport infrastructure through the Belt and Road Initiative increased both inbound tourists and revenue.

Regarding taxation, Loganatan et al (2019) revealed a negative impact of sales tax on international tourism demand. Skare and Kukurin (2020) found out that VAT

increases negatively impact growth of the tourism sector. Kristjansdottir (2021) found that VAT has an insignificant impact on tourism demand.

Regarding the exchange rate, the reviewed studies showed that exchange rate affects the tourism sector, thus, giving proof that the exchange can be used as a moderating variable.

Table 2.1 Summary Table of Selected Empirical Literature Review

Author/Year	Topic	Model	Findings	Critique/Research gaps
Oche, Okwo and Nwoha (2021)	"Effect of recurrent expenditure components on economic growth in Nigeria."	Ordinary Least Squares (OLS)	Recurrent expenditure on social and community services, along with transfers, fosters economic growth. In contrast, recurrent expenditure on administrative and economic services has an insignificant positive impact on economic growth.	While the prior study investigated the link between recurrent expenditure and economic growth, this study delved into the connection between recurrent expenditure and the growth rate of the tourism sector. Additionally, the former study was conducted in Nigeria, whereas the present study took place in Kenya.
Okoye et al. (2019)	"Government expenditure and economic growth."	Autoregressive distributed lag (ARDL)	Recurrent expenditure boosts economic growth	The previous study explored the relationship between recurrent expenditure and economic growth, whereas this study focused on the relationship between recurrent expenditure and the growth rate of the tourism sector. The study used the ARDL model while this study used regression

				analysis. The studied was based in Nigeria while this study was based in Kenya.
Hassan and Abdullah (2017)	"The role of public sector in economic growth; evaluation of the impact of government expenditure in sectoral output."	Autoregressive distributed lag (ARDL)	Short- run results indicated that recurrent expenditure had insignificant impact on agricultural and industrial sectors, while significant positive impact on service sector. Long-run results showed that had an insignificant negative impact on agricultural, whereas insignificant impact on both industrial and service sectors	The study examined how recurrent expenditure impacted industrial, agricultural and service sectors, on the other hand this study examined how recurrent expenditure affected tourism sector's growth rate. The adopted the ARDL model while this study adopted regression analysis. The study was undertaken in Sudan, while this study was researched in Kenya.
Aina and Omojola (2017)	"Assessment of effect of government expenditure on agricultural output in	Ordinary Least Squares (OLS) and Error Correction Model (ECM)	Recurrent expenditure had a significant positive effect on agricultural	The study focused on the nexus between recurrent expenditure and agricultural output, while this study

	Nigeria."		output.	examined the nexus between recurrent expenditure and tourism sector's growth rate. The study adopted both the OLS and ECM, whereas this study only adopted the OLS. The study was exercised in Nigeria, whereas this study was exercised in Kenya.
Obiano (2022)	"Effect of fiscal policy on manufacturing capacity utilization in Nigeria."	Error Correction Model (ECM)	Recurrent expenditure had a significant positive impact on manufacturing capacity utilization	The study focused on manufacturing sector's capacity utilization, while this study focused on tourism sector's growth rate. The study applied the ECM while this study applied the OLS. The study was undertaken in Nigeria, while this study was undertaken in Kenya.
Dore (2022)	"Impact of government capital expenditure on manufacturing sector output in	Autoregressive distributed lag (ARDL)	Capital expenditure on administrative, economic and transfer services	The previous study concentrated on the productivity of the manufacturing sector, whereas this study

	Nigeria."		promoted manufacturing sector output, while capital expenditure on social and community services had an insignificant impact on manufacturing sector output.	specifically targeted the of the tourism sector growth rate. The study adopted the ARDL model, whereas this study adopted OLS. The study was executed in Nigeria, while this study was executed in Kenya.
Emmanuel et al (2015)	"Impact of government capital expenditure on manufacturing sector output in Nigeria."	Johansen Cointegration and Error Correction Model	Government capital expenditure had a positive significant effect on manufacturing sector output	The study concentrated on the manufacturing sector output, while this study concentrated on tourism sector's growth rate. The study adopted both the Johnsen cointegration and ECM, while this study adopted the Bounds cointegration and OLS. The study was conducted in Nigeria, whereas this study was conducted in Kenya.
Loganathan et al (2019)	"The effect of exchange rate, price competitiveness index and taxation on	Bootstrap quantile regression model	Sales tax affects international tourism demand negatively,	The previous study explored the nexus between taxation and international tourism demand, whereas this study

	international tourism demand in Malaysia."		while indirect tax had no either sign impact on international tourism demand	analyzed the connection between taxation and the growth rate of the tourism sector. Additionally, the former study was conducted in Malaysia, while this present study took place in Kenya. The study disaggregated taxation into sales tax and indirect tax, while this study aggregated taxation. The study adopted bootstrap quantile regression model, while this study adopted OLS
Skare and Kukurin (2020)	"Measuring the effect of VAT changes on the tourism industry in Croatia."	State space model	An increase in VAT negatively affects growth of the tourism sector	The study focused on value added tax, while this study focused an aggregated taxation. The study adopted state space model, whereas this study adopted regression model. The study was conducted in Croatia, while this study was conducted in Kenya.

Kristjansdottir (2021)	"Tax on tourism in Europe: Does higher value-added tax impact tourism demand in Europe."	Gravity model	VAT has no significant impact on tourism demand	The study examined the nexus between Value added tax and tourism demand, whereas this study examined the nexus between taxation and tourism sector's growth rate. The study used the Gravity model, while this study used the regression model. The study applied panel data, while this study adopted time series data. The study was conducted in 30 European countries, while this study was conducted in Kenya.

Source: Author, (2023**)**

2.6 Conceptual Framework

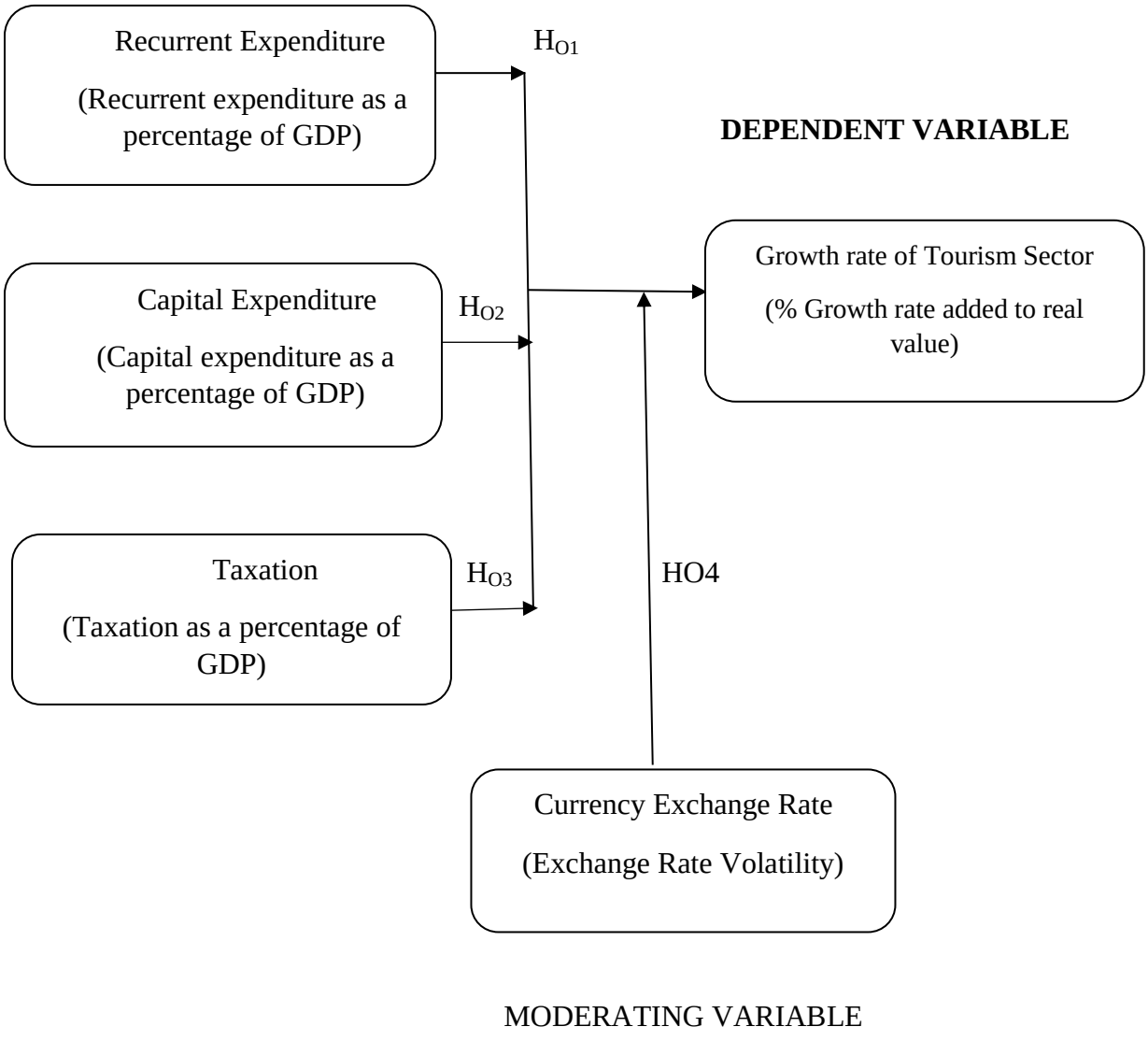
The purpose of a conceptual framework is to visualize how the study variables relate. The conceived association was on how independent variables (recurrent expenditure, capital expenditure, and taxation) influence growth rate of tourism sector.

Independent variables: The study comprised of three independent variables; recurrent expenditure, capital expenditure, and taxation). The study sought to establish whether each of them affected the growth rate of tourism sector positively or negatively.

Moderating variable: The moderating variable was the currency exchange rate and the study determined how it affected the nexus between selected macroeconomic variables and the growth rate of tourism sector.

Dependent variable: The study's dependent variable was the growth rate of tourism sector, and the researcher examined how it was influenced by recurrent expenditure, capital expenditure and taxation.

FIGURE 2.1 CONCEPTUAL FRAMEWORK



Source: (Author, 2023)

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methods used to collect, analyze, and present data in order to achieve the objectives of the study. Additionally, it provides the research design, study area, data, data types, analysis, pre-estimation, and post-estimation diagnostic tests.

3.2 Research Design

The aim of research design is setting up data gathering and analysis techniques in a way that aims to maximize relevance to the research purpose, as noted by Kothari (2021). The specific type of research design is influenced by the research problem at hand (Leavy, 2017). A Causal research design was adopted determining the effect of recurrent expenditure, capital expenditure, and taxation on Kenya's tourism sector's growth rate. With this design, the degree and extent of cause-and-effect relationship between two or more variables is identified. Furthermore, the design is suitable for time series data as it captures trends and seasonality of a variable across time (Kothari, 2021.

3.3 Study Area

The research was undertaken in Kenya, a country famous for its diverse landscapes, rich cultural heritage, conducive all year-round climate and wildlife. Beach, safari and conference are the main components of tourism in Kenya (Ndambuki, 2017; World Bank, 2010, GOK, 2008). Wildlife accounts for about

70% of tourism activities in Kenya (KNBS 2016), additionally the country has a total of 60 national parks and reserves and six world heritage sites. Vision 2030 identifies the tourism sector among economic pillars that will spearhead the country toward achieving the vision (Munga et al, 2020). The tourism sector is vital to Kenya's economy in terms of contribution to employment, alleviation of poverty, gross domestic product, foreign exchange earnings and balance of payment surplus, as a result, the government has to ensure that its macroeconomic policy on recurrent expenditure, capital expenditure and taxation stimulates tourism sector's growth.

Given the aforementioned vitality of the sector, it was crucial to understand the effect of recurrent expenditure, capital expenditure and taxation on this sector since there is lack of an empirical study showing how the above-mentioned variables affect growth rate of tourism sector. The study vitally contributed to the advancement and enrichment of Kenya's tourism sector by advocating for both domestic and international tourism, facilitating the growth of tourism-related infrastructure, and augmenting the competitive edge of the Kenyan tourism industry.

3.4 Data, Data Types, and Collection Methods

The study relied on secondary data sourced from the economic reports, statistical summaries, and economic indicators provided by the Kenya National Bureau of Statistics. The collected data encompassed several variables, including recurrent expenditure as a percentage of gross domestic product, capital expenditure as a percentage of gross domestic product, taxation as a percentage of gross domestic

product, exchange rate volatility, and tourism sector growth rates. Utilizing a quarterly time series framework, the study employed data from 2012 to 2021. This specific period was selected due to its manifestation of fluctuating growth rates within the tourism sector.

3.5 Data Analysis and Presentation

The data analysis employed EVIEWS software version 10 and encompassed both descriptive and inferential statistical techniques. Descriptive statistics revealed parameters such as minimum, mean, maximum, standard deviation, skewness, and kurtosis values. Inferential statistics were utilized to test the study's hypotheses. Correlational analysis explored the connection between independent variables (capital expenditure, recurrent expenditure, and taxation) and the dependent variable (growth rate of the tourism industry). Subsequently, a multivariate regression analysis examined how selected macroeconomic factors (capital expenditure, recurrent spending, and taxation) influenced the dependent variable (growth rate of the tourism industry). The findings were presented through tabulated data.

3.5.1 Description and Measurement of Variables

Table 3.1 provides information on the description of study variables, how they were measured, and the predicted signs.

Table 3.1 Description and Measurement of the variables

Variable	Description	Measurement	Predicted prior sign
Tourism sector growth rate	Variation in the real output of the tourism sector	Growth rates of the sector	Dependent variable
Recurrent Expenditure	Overall operational expenses incurred by government	Recurrent expenditure as a percentage of GDP	+/-
Capital Expenditure	Overall developmental spending by the government	Capital expenditure as a percentage of GDP	+/-
Taxation	Mandatory fees paid by individuals and businesses to the government	Taxation as a percentage of GDP	+/-
Currency exchange rate	Proportion of converting a country's currency into another currency	Exchange rate volatility	+/-

Source: (Author, 2023)

3.5.2 Econometric Model Specifications

Data was analyzed in two steps;

Step 1: Employed a multivariate linear regression analysis in checking the hypothesized relationship between the growth rate of tourism sector, and the regressors (capital expenditure, recurrent expenditure, and taxation).

The following model was employed;

$$\mathbf{Y_t = \beta_0+\beta_1X_{1t}+\beta_2X_{2t}+\beta_3X_{3t}+\mu}$$

Where; $\mathbf{Y}_t$ = Criterion variable, which is the growth of tourism measured in percentage growth added to real value.

$\boldsymbol{\beta_0}$ = constant.

$\boldsymbol{\beta_1}$.....$\boldsymbol{\beta_3}$ = the slope representing the extent to which tourism sector growth rate changes as the regressor changes by a unit.

$\mathbf{X_1}$ = recurrent expenditure

$\mathbf{X_2}$ = capital expenditure

$\mathbf{X_3}$ = taxation

t = time index

μ= error term

The coefficient of determination (R^2) was applied in showing the variation in $\mathbf{Y_t}$ (growth in the tourism sector over time) explained by the variation in recurrent expenditure($\mathbf{X_1}$), capital expenditure($\mathbf{X_2}$), and taxation ($\mathbf{X_3}$) over time.

Step 2: Employed a hierarchical regression analysis in deducing the moderating effect of the exchange rate on joint effects of capital expenditure, recurrent expenditure, and taxation on the growth of the tourism sector. The following model was applied;

$$\mathbf{Y_t = \beta_0+\beta_1 X_{1t} M_t+\beta_2 X_{2t} M_t+\beta_3 X_{3t} M_t+\mu_t}$$

Where; $\mathbf{Y_t}$ = Criterion variable.

$\boldsymbol{\beta_0}$ = constant.

$\boldsymbol{\beta_1 X_{1t} M_t,\ \beta_2 X_{2t} M_t,\ \beta_3 X_{3t} M_t;}$ are interaction terms used to show the moderating effect.

The study compared R^2 regression model with and without the moderating variable to see if there was a difference in R^2. F- test was applied in establishing whether the variation in R^2 was statistically significant. If the change was statistically significant, this demonstrated that currency exchange rate affected the regression model.

3.6 Pre- Estimation Diagnostic tests

The researcher performed the following diagnostic tests; descriptive statistics, inferential statistics, unit root test, Bai- perron test for structural breaks, determination of optimum lag length, and bounds cointegration test**.**

3.6.1 Descriptive Statistics and Inferential statistics

3.6.1.1 Descriptive Statistics

Descriptive statistics are indices depicting a given representative (Kothari, 2021). They allow the researcher to illustrate the spread of variables utilizing certain indices or statistics (Leavy, 2017).

3.6.1. 2 Inferential Statistics

Inferential statistics generalize the results obtained from a sample to a broader population with a certain level of confidence. They are essential in evaluating the study's hypotheses and estimating the population parameters (Kothari, 2021).

3.6.2. Unit Root Test

The assessment of data stationarity was carried out through unit root testing at various levels. When a dataset displays a consistent mean and variance over time, it is deemed stationary (Gujarat, 2022). To evaluate if the time series data was stationary, the Augmented Dickey-Fuller (ADF) test was employed. ADF probability value below 0.05 signifies the absence of a unit root (Maniagi, 2018). Should a unit root be present, differencing the data can eliminate it.

3.6.3 Bai- Perron Test for Structural Breaks

Time series data is subject to abrupt changes at any point in time (Cassini & Perron, 2018). As a result, the researcher adopted the Bai-Perron test to identify structural breaks with an uncertain break date in a linear regression model.

3.6.4 Optimal Lag Length Determination

The optimum lag length has to be determined before estimating the model to avoid serial correlation (Thoma, 2008). The method with the lowest rank value was adopted (Oduor, 2021). The researcher used the Akaike Information Criterion to determine the ideal lag length.

3.6.5 F-Bounds Cointegration Test

Pesaran, Shin, and Smith (2001) note that Cointegration emerges when two or more time series variables display a long-term relationship and demonstrate mutual movement over time, even amid short-term divergences. In this study, the F-Bounds test was applied to explore potential cointegration linkages between the independent variables and the dependent variable. This test remains relevant irrespective of whether the series is of order (0) or (1).

3.6.6 Normality Test

The normality test ascertains if all data is distributed normally (Kamau, 2021). Jarque-Berra test was employed in testing for normality. This test is guided by a null hypothesis of normal distribution (Aljandali and Tatahi, 2018).

3.6.7 Multicollinearity Test

Multicollinearity arises within a multivariate regression model when the independent variables display strong linear correlations. To assess the presence of multicollinearity, the study employed Variance Inflation Factors (VIF). The VIF value remains below 10 to indicate the absence of multicollinearity (Gogtay & Thatlle, 2017).

3.7 Post Estimation Diagnostic Tests

Post-estimation diagnostic tests are used to identify potential issues with a regression model after fitting the model. They help in making sure that the assumptions of a model are valid and that the research findings are reliable. The following tests were conducted;

3.7.1 Heteroscedasticity Test

When the variance of the error component in a regression model is not consistent across observations, it is said to be heteroscedastic (Gujarat, 2022). The study utilized the Breusch-Pagan Test, designed to assess the null hypothesis concerning the absence of heteroscedasticity within a regression model's errors. When employing this test, the null hypothesis of homoscedasticity is rejected if the associated p-value from the Breusch-Pagan test falls below 0.05. Consequently, such a scenario implies the presence of heteroscedasticity within the data.

3.7.2 Autocorrelation test

Auto-correlation occurs when the residues from the regression are highly correlated (Gujarat, 2022). The Breusch-Godfrey LM test was utilized in this study to examine the presence of autocorrelation. Autocorrelation is absent when the probability value exceeds 0.05 (Aljandali & Tatahi, 2018).

3.7.3 Model Stability Test

The stability of the regression model was checked using the Cumulative sum test to make sure it was suitable for formulating policy. The CUSUM test was first suggested by Brown, Durbin, and Evans in mid 1970s, later refined by Kramer (1992). Zeileis (2004) asserts that a model is stable if all the variables are contained inside the 5% range.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter displays the findings of the data analysis and discusses them. It presents both descriptive and inferential statistical findings. The analysis is based on examining the connection existing between recurrent expenditure, capital expenditure, taxation, currency exchange rate, and the growth rate of tourism sector.

4.2 Descriptive Statistics

Descriptive statistics, encompassing mean, standard deviation, minimum, and maximum values, along with skewness, kurtosis, and Jarque-Berra tests, were conducted on the raw data. The mean, a pivotal measure of central tendency (Kothari, 2021), indicates the distribution's average value. Furthermore, the standard deviation quantifies the extent of dispersion within the distribution, illuminating the spread of observations from the mean. Skewness, kurtosis, and Jarque-Berra tests gauge the normality of the sample data's source distribution.

Table 4.1 indicated that there were 40 observations with five variables. The growth rate of tourism sector was the dependent variable and denoted as (TSG), recurrent expenditure was the first independent variable and denoted as (REEX), capital expenditure was the second independent variable and denoted as (CAEX), taxation was the third independent variable and denoted as (TAXA), while foreign currency exchange rate was the moderating variable and denoted as (FOEX).

Table 4.1 Descriptive Statistics

	TSG	REEX	CAEX	TAXA	FOEX
Mean	4.0850	11.1450	5.4125	10.1425	97.9863
Median	4.4000	10.8000	5.4500	10.2500	101.1450
Maximum	6.7000	13.9000	6.6000	12.7000	111.9000
Minimum	0.9000	8.4000	4.6000	6.4000	84.1200
Std. Dev.	1.3067	1.5921	0.5988	1.5805	8.6449
Skewness	-0.6526	01340	0.2550	-0.3412	-.0.4146
Kurtosis	3.4277	1.9517	2.0216	2.3331	1.7813
Jarque-Berra	3.1443	1.9621	2.0289	1.5174	3.6211
Probability	0.2076	0.3749	0.3626	0.4683	0.1636
Sum	163.4000	445.8000	216.5000	405.7000	3919.4500
Sum Sq. Dev	66.5910	98.8590	13.9838	97.4178	2914.654
Observations	40	40	40	40	40

Source: (Author,2023)

From Table 4.1, the tourism sector growth rate, assessed in terms of growth rates, exhibited a mean value of 4.085%. Notably, the sector encountered its lowest growth rate at 0.9000%, attributed to the impact of COVID-19 (GOK, 2020), while its highest performance reached 6.7000%, although still below the targeted 10% (GOK, 2013). The standard deviation stood at 1.3067, indicating the variability around the mean. Recurrent expenditure, represented as a percentage of GDP, displayed an average of 11.1450%, with a minimum value of 8.4000% and a maximum value of 13.9000%. Capital expenditure, proxied by a percentage of GDP, revealed an average of 5.4125%, with a minimum of 4.6000% and a maximum of 6.6000%. Taxation, measured as a percentage of GDP, showcased a mean of 10.1425%, with a minimum of 6.4000% and a maximum of 12.7000%.

The nominal exchange rate of the Kenyan Shilling against the US Dollar, denoting the currency exchange rate, registered an average of 97.9863, with a minimum of 84.1200 and a maximum of 111. 9000.Skewness, kurtosis, and Jarque-Berra check for the normality of the distribution. Skewness shows the asymmetry of a distribution. A skewness value of less than two, a kurtosis value of less than six, and a Jarque-Berra probability of more than 0.05 indicate that the dataset ought to be considered normally distributed (Maniagi, 2018). Positive skewness signals the mean of a dataset is greater than the median value, while negative skewness indicates that the median value is greater than the mean value (Odour, 2021). From Table 4.1, the growth rate of tourism sector had a skewness value of -0.6526, indicating that it was moderately negatively skewed, with a kurtosis of 3.4277 and a Jarque-Berra probability of 0.2076. The above three tests showed that the growth rate of tourism sector was distributed normally. Recurrent expenditure was positively skewed (0.139950), with a kurtosis of 1.9517 and a Jarque-Berra probability of 0.3749 indicating that it was normally distributed. Capital expenditure was positively skewed (0.255020), had a kurtosis of 2.0216, with Jarque- Berra p-value of 0.3626 indicating normal distribution. Taxation was negatively skewed (-0.341216), has a kurtosis 2.3331, and Jarque- Berra p-value of 0.4683 showing it was normally distributed. Currency exchange rate was moderately negatively skewed (-0.414551), had a kurtosis value of 1.7813 with a Jarque- Berra p-value of 0.1636 indicating normal distribution.

4.3 Correlational Analysis

Correlational analysis measures the extent to which variables associate with each other (Gujarat, 2022). The fundamental aim of correlational analysis is to show if a positive or negative association exists between variables and how strongly they relate (Gogtay & Thattle, 2017). In this study, correlational analysis was performed at the level of variables. The study employed pairwise correlational analysis in determining the strength and the way in which the variables under study associate as shown in Table 4.2.

Table 4.2 Correlation Analysis

	TSG	REEX	CAEX	TAXA	FOEX
TSG	1.0000				
REEX	0.5144 [3.6978] (0.0006)	1.0000			
CAEX	0.3837 [2.5610] (0.0145)	-0.0635 [-0.3925] (0.6969)	1.0000		
TAXA	0.0237 [0.1459] (0.0385)	-0.1943 [-1.2209] (0.2296)	-0.2840 [-1.8257] 0.0758	1.0000	
FOEX	-0.3083 [-1.9976] (0.0529)	0.2389 [1.5164] (0.1377)	-0.6545 [-5.3359] (0.0000)	0.1427 [0.8885] (0.3798)	1.0000

Source: (Author, 2023)

From Table 4.2, recurrent expenditure (REEX) had a moderate significant positive correlation with the tourism sector's growth rate (TSG), R = 0.5144 (p = 0.0006); capital expenditure (CAEX) had a positive significant connection with

the tourism sector's growth rate (TSG), R = 0.383658 (p = 0.0145); and taxation (TAXA) had a weak positive significant correlation with the tourism sector's growth rate (TSG), R = 0.023658 (p = 0.0385). The currency exchange rate had a weak, insignificant negative correlation with the tourism sector's growth rate (TSG), R = -0.308270 (p = 0.0529). The coefficients of associations between explanatory variables indicated that there was no multicollinearity among them, as the values were below 0.9 (Gogtay and Thattle, 2017).

4.4 Augmented Dickey-Fuller Unit Root Test

Many time series data sets exhibit non-stationarity, implying that both their variance and mean fluctuate over time (Gujarat, 2022). Checking for unit root is a vital step prior to conducting statistical analyses, as it safeguards against inaccurate outcomes, given that numerous statistical models and methods assume data stationarity (Maniagi, 2018). The Augmented Dickey-Fuller (ADF) test was administered in checking for unit root. This test incorporates lagged values to address potential serial correlation within the disturbance term. As elucidated by Aljandali and Tatahi (2018), the null hypothesis of this test posits the existence of a unit root. In accordance with the ADF test, the T-statistic must exceed both the 5% and 1% critical values, irrespective of sign, while the p-value must surpass 0.05 for the null hypothesis to be retained. The ensuing table presents ADF test outcomes across varying levels.

Table 4.3 ADF Results at levels

Variables	ADF T-statistic	Prob	Critical Values			Conclusion
			1%	5%	10%	
TSG	-3.7338	0.0317	-3.2118	-3.5297	-3.1964	Stationary
REEX	-4.3426	0.0077	-4.2349	-3.5403	-3.2024	Stationary
CAEX	-2.9674	0.1550	-4.2349	-3.5403	-3.2024	Unit root
TAXA	-4.0056	0.0035	-3.6104	-2.9389	-2.6079	Stationary
FOEX	-1.8029	0.6841	-4.2118	-3.5297	-3.1964	Unit root

Source: (Author, 2023)

Table 4.3 indicates that tourism sector's growth rate (TSG) was stationary at level, had a p-value of 0.0317< 0.05, and had an ADF T-statistic of (-3.7338) greater than 1% (-3.2118), 5% (-3.5297), and 10% (-3.1964) critical values, respectively. Recurrent expenditure (REEX) was stationary at level (p-value 0.0077<0.05), and the ADF T-statistic (-4.3426) greater than 1% (-4.2349), 5% (-3.5403), and 10% (-3.2024) critical values, respectively. Capital expenditure (CAEX) was non-stationary at level due to the presence of a unit root (p-value 0.1550>0.05), and the ADF T-statistic (-2.9674) was less than 1% (-4.2349), 5% (-3.5403), and 10% (-3.2024) critical values, respectively. Taxation (TAXA) was stationary at level (p-value 0.0035<0.05), and the ADF T-statistic (-4.0056) greater than 1% (-3.6104), 5% (-2.9389), and 10% (-2.6079) critical values, respectively. Currency exchange rate (FOEX) contained a unit root at level, hence non-stationary (p-value 0.6841>0.05), and the ADF-Test statistic (-1.8029) is less than 1% (-4.2118), 5% (-3.5297), and 10% (-3.1964) critical values, respectively.

Capital expenditure (CAEX) and currency exchange rate underwent first difference and were found to be stationary, there p-values were (0.0000<0.05) and (0.0002<0.05) respectively as per Table 4.4.

Table 4.4 ADF Results at 1st Difference

Variables	ADF T-statistic	Prob	Critical Values			Conclusion
			1%	5%	10%	
DCAEX	-8.8435	0.0000	-4.2191	-3.5330	-3.1983	Stationary
DFOEX	-5.7404	0.0002	-4.2191	-3.5330	-3.1983	Stationary

Source: (Author, 2023)

4.5 Bai-Perron Structural Breaks Test

An abrupt shift in the mean, trend, or variance of a time series dataset can result in a structural break. Structural breaks can affect the accuracy of statistical analysis techniques significantly. These breaks are caused by policies implemented by the government, natural occurrences, and technological innovations. The researcher tested for multiple structural breaks using the Bai- Perron test for unknown breaks. In the event structural breaks are present, dummy variables are created and added to explanatory variables to the model to correct them (Casini and Perron, 2018). In determining whether the dummy variables that were included in the model had an impact, their statistical significance was evaluated. If the dummy variables are statistically significant, they are retained, but if they are insignificant, they are excluded from the model. Accordingly, the researcher carried out multiple breakpoint tests for REEX, CAEX, and TAXA. The results in Table 4.5 indicated that the REEX series had one structural break in Quarter 2 of 2020.

Table 4.5 Multiple Breakpoint Test for REEX

Break test	F-Statistic	Scaled F-Statistic	Critical Value**
0 vs 1*	67.40483	134.8097	11.47
1 vs 2	3.664800	7.329599	12.95

Break dates:

	Sequential	Repartition
1	2020Q2	2020Q2

Source: (Author, 2023)

The structural break was fixed by creating a dummy variable that was added to the regression model to check its statistical significance as displayed in table 4.5.

Table 4.6's findings showed that the dummy variable's p-value was 0.9824> 0.05 at the significance level.

Table 4.6 Test for the statistical significance for REEX Dummy Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob
REEX	0.415971	0.059885	6.946117	0.0000
DCAEX	-0.156122	0.222371	-0.702079	0.4874
TAXA	-0.000660	0.072796	-0.009067	0.9928
DUMMYREEX	0.009743	0.058791	0.043206	0.9824
C	0.789901	2.087022	0.378482	0.7074

Source: (Author, 2023)

Table 4.6 indicated that the dummy variable was statistically insignificant, consequently it had no effect on model. Therefore, the dummy variable was excluded from the model. Table 4.7 indicated that DCAEX series had a structural break at quarter two of 2020.

Table 4.7 Multiple Breakpoint Tests for DCAEX

Break test	F-Statistic	Scaled F-Statistic	Critical Value**
0 vs 1*	20.73983	41.47966	11.47
1 vs 2	3.253982	6.507964	12.95

Break dates:

	Sequential	Repartition
1	2020Q2	2020Q2

Source: (Author, 2023)

To fix the structural break shown in table 4.7, a dummy variable was created. The dummy variable was included in a regression analysis to check if it was statistically significant.

Table 4.8 indicated that the p-value for the dummy variable was 0. 6246>0.05.

Table 4.8 Test for Statistical Significance for DCAEX Dummy Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob
REEX	0.455976	0.059885	6.9460	0.0000
DCAEX	0.159102	0.290354	0.7900	0.1445
TAXA	-0.00760	0.113266	-0.7796	0.9788
DUMMYDCAEX	-0.009143	0.050480	-0.0532	0.7819
C	0.789901	2.087022	0.7706	0.6246

Source: (Author, 2023)

Table 4.8 ascertained that the dummy variable was statistically insignificant, thus it had no effect on the model. As a result, the dummy variable was withdrawn from the model.

Table 4.9 below indicated that TAXA series had a structural break at quarter two of 2020.

Table 4.9 Multiple Breakpoint Tests for TAXA

Break test	F-Statistic	Scaled F-Statistic	Critical Value**
0 vs 1*	27.80654	55.61308	11.47
1 vs 2	6.142273	12.28455	12.95

Break dates:

	Sequential	Repartition
1	2020Q2	2020Q2

Source: (Author, 2023)

To fix the structural break seen in table 4.9, a dummy variable was created. A regression analysis was performed on the dummy variable to determine its statistical significance.

According to the findings in table 4.10, the dummy variable's p-value was 0.1226>0.05.

Table 4.10 Test for Statistical Significance for TAXA Dummy Variable

Variable	Coefficient	Std. Error	t-Statistic	Prob
REEX	0.532949	0.100287	5.3142	0.0000
DCAEX	0.163074	0.269740	4.3118	0.0001
TAXA	0.277481	0.111508	2.4884	0.0177
DUMMYTAXA	-0.003159	0.044617	-0.0782	0.9381
C	0.096252	0.037121	1.6813	0.1226

Source: (Author, 2023)

Table 4.10 ascertained that the dummy variable was statistically insignificant, thus it had no effect on the model. As a result, the dummy variable was eliminated from the model.

4.6 Optimum Lag Length Determination

A lag is a period it takes the dependent variable to be affected by an independent time (Thoma, 2008). The following table displays results on lag length determination by various criteria. The Akaike Information Criterion (AIC) was used in this study to determine the lag order.

Table 4.11 Determination of Optimal Lag Length

Lag	logL	LR	FPE	AIC	SC	HQ
0	-211.8464	NA	1.371521	11.66738	11.84153	11.72877
1	-160.3115	89.14156*	0.202243*	9.746567*	10.61733*	10.05355*
2	-146.1736	21.39792	0.231197	9.847220	11.41460	10.39979
3	-139.6665	8.441634	0.420592	10.36035	12.62434	11.15851

* Indicates lag order selected by the criterion

Source: (Author, 2023)

LR sequential modified LR test statistic (each test at 5% level)

FPE Final prediction error

AIC Akaike information criterion

SC Schwarz information criterion

HQ Hannah-Quinn information criterion

Table 4.11 indicated the AIC had an asterisk on lag 1 and contained the smallest value in this rank. Hence lag 1 was best suited for the model.

4.7 F-Bounds Cointegration Test

Given the mixed integrated order of the variables, the study employed the F-Bounds test (Tursoy and Faisal, 2018). The Bounds test assessed whether a cointegrating equation existed among the variables. If the F-statistic surpasses the 5% critical values of the lower bound I(0) and upper bound I(1), in line with the criteria for the Bounds cointegration test, the null hypothesis is rejected. This signifies the presence of cointegration and a sustained long-term relationship between the series (Sam, McNown, and Goh, 2019). This indicates that the series

are interconnected and can undergo a linear combination. Furthermore, it implies that if short-term disturbances impact a particular series, they will ultimately converge (Sam et al., 2019). As a result, the Vector Error Correction Model (VECM) or the Autoregressive Distributed Lag (ARDL) model should be employed to estimate both short-run and long-run models.

According to Adom, Bekoe, and Akoena (2012), the null hypothesis is not rejected when the F-statistic is less than the corresponding 5% critical values of I (0) and I (1), showing the absence of a cointegration. As a result, the researcher should only estimate short-run models because it is implied that the series only contains short-run relationships. Thus, the researcher can either adopt a vector autoregressive (VAR) model or regression analysis.

Table 4.12, shows the F-statistic was less than the critical values of I (0) and I (1) at 5%, which are 4.01 and 5.07, respectively. As a result, the researcher did not reject the null hypothesis at the 5% level of significance, Indicating the absence of long run relationship among the variables under study.

Table 4. 12 F-Bounds Cointegration Test

F-Bounds Test		Null Hypothesis: No level relationship		
Test Statistic	**Value**	**Signif.**	**I(0)**	**I(1)**
		Asymptotic: n = 1000		
F-statistic	2.207712	10%	3.47	4.45
k	3	5%	4.01	5.07
		2.5 %	4.52	5.62
		1%	5.17	6.36
Actual Sample Size	36	Finite Sample: n = 40		
		10%	3.76	4.795
		5%	4.51	5.643
		1%	6.238	7.74
		Finite Sample: n = 35		
		10%	3.8	4.888
		5%	4.568	5.795
		1%	6.38	7.73

Source: (Author, 2023)

4.8 Multivariate Regression Analysis

The Bounds cointegration test displayed the absence of a long-term relationship among the variables being studied, prompting the researcher to resort to regression analysis to examine a potential short-term relationship regarding how the explanatory variables impacted Kenya’s tourism sector’s growth rate. To render the model feasible and capture dynamic effects, the lagged value of the tourism sector's growth rate was incorporated as an independent variable. Table 4.13 displayed the outcomes of the regression analysis.

Table 4.13 Multiple Regression Analysis Results for the effect of Recurrent Expenditure, Capital Expenditure, and Taxation on Growth Rate of Tourism Sector

Dependent Variable: TSG
Method: Least Squares
Sample (adjusted): 2012Q2 2021Q4
Included observations: 39 after adjustments

Variable	Coefficient	Std. Error	t-statistic	Prob
TSG(-1)	0.398861	0.103802	3.842520	0.0005
REEX	0.484809	0.079084	6.130345	0.0000
DCAEX (-1)	0.852497	0.245354	3.474557	0.0014
TAXA (-1)	0.241511	0.084421	2.860781	0.0072
C	-10.05061	2.034059	-4.941157	0.0000

R- squared	0.694431	Mean dependent var	4.092308
Adjusted R- squared	0.658482	S.D. dependent var	1.322952
S.E. of regression	0.773128	Akaike info criterion	2.442464
Sum squared resid	20.32269	Schwarz criterion	2.655741
Log likelihood	-42.62805	Hannan- Quinn criter.	2.518986
F- statistic	19.31695	Durbin- Watson stat	2.006347
Prob (F-statistic)	0.000000		

Source: (Author,2023)

The regression model was fit and statistically significant at the 5% level of significance, according to table 4.13, where the p-value for the F-statistic was 0.0000000<05 and the measure of goodness of fit, R^2 was 0.694431. Furthermore, R^2 value of 0.694431showed that the variance in regressor predicted 69.443% of variance in the dependent variable. Therefore, other macroeconomic variables that were not captured in the study accounted for 30.557% variance in tourism sector's growth rate in Kenya.

Table 4.13 showed that lagged growth rate of tourism sector TSG(-1) had a statistically significant impact on TSG, implying that tourism sector's growth rate in current quarter was influenced by its value in the previous quarter. as did

REEX, CAEX, and TAXA. Additionally, all the independent variables (REEX, DCAEX, and TAXA) had a statistically significant effect on the growth rate of tourism sector.

The fitted regression is shown in the equation below;

$TSG_t = -10.0506 + 0.3987TSG_{t-1} + 0.4848REEX_t + 0.8525DCAEX_{t-1} + 0.2415TAXA_{t-1} + \mu$

Where; TSG= Growth rate of tourism sector

TGS t-1= lag1 of growth rate of tourism sector taken as an independent variable in the model.

REEX= Recurrent expenditure as a proportion of GDP (measure for recurrent expenditure in the study)

DCAEXt-1= lag 1 of the first difference of capital expenditure as a proportion of GDP (measure for capital expenditure in the study)

TAXA1= lag 1 of tax on products as a proportion of GDP (measure for taxation in the study)

μ= the error term

t = quarterly time series

4.9 Results and Discussion as Per the Study Objectives

The study's overall objective was to establish how recurrent expenditure (REEX), capital expenditure (CAEX) and Taxation (TAXA) affected the growth rate of the tourism sector (TSG) in Kenya.

4.8.1 Effect of Recurrent Expenditure on Growth Rate of Tourism Sector

The initial null hypothesis (HO1) in this study, which hypothesized that recurrent expenditure has no significant impact on the growth rate of the tourism sector in Kenya, was rejected based on the regression outcomes displayed in Table 4.13. Specifically, the p-value for recurrent expenditure (REEX) was recorded as 0.000, thus less than 0.05. This indicated a significant effect of recurrent expenditure on the growth rate of the tourism sector in Kenya. Furthermore, the coefficient (β1) associated with this variable was determined to be 0.4848. This coefficient signified that, in the short term, a 1% increase in recurrent expenditures leads to an average growth rate augmentation of 48.48% in the tourism sector, while maintaining all other factors constant.

This finding implied that when the government spends on transfer payments, salaries and wages, subsidies and other operations it promotes the growth rate of tourism sector through the multiplier effect. Therefore, this finding agrees with those of Hassan and Abdullah, (2017), who found that recurrent expenditure promoted the economic output of the service sector in Sudan. This finding also concurs with Oluwaseun, Solomon and Yusuf (2020) who found that recurrent expenditure promoted agricultural sector output significantly. Finally, it coincides

with Obiano (2022) who found a significant positive impact of recurrent expenditure on manufacturing sector's capacity utilization. This finding differs with Ubesie et al. (2020) who found an inconsequential negative impact of recurrent expenditure on manufacturing sector output.

4.8.2 Effect of Capital Expenditure on Growth Rate of Tourism Sector

The data presented in Table 4.13 indicated a significant effect of recurrent expenditure (CAEX) on the growth rate of the tourism sector, with a p-value of 0.0014, which is less than the significance level of 0.05. Consequently, the second null hypothesis (H_{O2}), positing that capital expenditure has no statistically significant impact on the growth rate of the tourism sector, was rejected based on a 5% level of significance. The coefficient associated with capital expenditure carried a positive sign, indicating that it indeed stimulates the growth rate of the tourism sector. Moreover, the coefficient value (β2) was calculated as 0.852497. This signifies that, in the short term, a 1% increase in capital expenditure results in an 85.2497% rise in the growth rate of the tourism sector, assuming all other variables remain constant.

The findings implied that capital expenditure directed towards development projects plays a pivotal role in accelerating the growth rate of the tourism sector. This outcome can be attributed to the enhancement of infrastructural connectivity, which in turn fosters tourism investments and cross-border tourism activities. This observation aligns with the conclusions drawn by Dore (2022) and Emmanuel and Oladiran (2015), who found that government capital expenditure significantly positively influenced manufacturing sector productivity. Additionally, this study's

outcome corroborates the findings of Nguyen, Binh, and Su (2020) indicating that capital expenditure encourages private sector capital investment in the tourism industry, as well as the observations of Li et al. (2020) highlighting the positive effects of improved transport connectivity on inbound tourism and revenue across 155 countries.

4.8.3 Effect of Taxation on Growth Rate of Tourism Sector

Taxation (TAXA) in table 4.13 had a p-value of 0.0072<05, showing that it statistically significantly influences the growth rate of the tourism sector. As a result, the third hypothesis (H_{O3}), which postulated that taxes had no statistically significant effect on the growth rate of the tourism industry, was rejected. The positive sign of the coefficient stipulated a positive connection between taxation and growth rate of tourism sector. The coefficient of TAXA (β_3) was 0.241511 implying that an increase in taxation by a percentage results in 24.1511 percentage increase in growth rate of tourism sector *Ceteris Paribus*. This implies that taxes provide public resources used to invest in infrastructure for tourism, such as roads and airports, which improve the quality and accessibility of the tourist destination. As a result, taxes help finance public goods and services that are crucial for fostering tourism sector's growth rate. The findings oppose those of Loganathan et al. (2021), who discovered a negative effect of sales tax on international tourism arrivals, and Skare and Kukurin (2020), who found an adverse effect of increased value added tax on the tourism sector's growth rate.

4.8.4 The Moderating Effect of Currency Exchange Rate on the nexus between Selected Macroeconomic Variables and the Growth Rate of Tourism Sector

A moderating effect occurs when a third variable has an impact on the relationship between the regressors and the regressand. In this study, currency exchange rate was the moderating variable, consequently the researcher sought to determine its effect on the relationship between regressors (recurrent expenditure, capital expenditure, and taxation) and the regressand (Growth rate of Tourism Sector).

In determining the moderating effect of currency exchange rate, the researcher sought to see if currency exchange rate affected the regression model by looking at the variation in R^2 between the regression model with no currency exchange rate (moderating variable) and the regression model containing the moderating variable. To examine the fourth null hypothesis (H_{O4}), asserting that currency exchange rate does not moderate the relationship between chosen macroeconomic variables and the growth rate of the tourism sector in Kenya, the researcher focused primarily on the R^2 value in the two models.

Table 4.14 Regression Output with Moderating Effect of Currency Exchange Rate

Dependent Variable: TSG
Method: Least Squares
Sample (adjusted): 2012Q2 2021Q4
Included observations: 39 after adjustments

Variable	Coefficient	Std. Error	t-statistic	Prob
TSG(-1)	0.501025	0.135921	3.686135	0.0008
REEXM	0.057980	0.058016	0.999378	0.3247
DCAEX (-1)M	0.051043	0.102692	0.497047	0.6224
TAXA (-1)M	-0.110489	0.046875	-2.357068	0.0243
C	2.113825	0.586159	3.606232	0.0010

R- squared	0.393631	Mean dependent var	4.092308
Adjusted R- squared	0.322294	S.D. dependent var	1.322952
S.E. of regression	1.089093	Akaike info criterion	3.127776
Sum squared resid	40.32818	Schwarz criterion	3.341053
Log likelihood	-55.99164	Hannan- Quinn criter.	3.204298
F- statistic	5.517874	Durbin- Watson stat	2.310086
Prob (F-statistic)	0.001558		

Source: (Author, 2023)

Table 4.14 showed that R^2 is 0.393631 when the regression model contains currency exchange rate as a moderating variable. The moderating variable changes the effect of recurrent expenditure (REEX) and capital expenditure (CAEX) from statistically significant to statistically insignificant, while the effect of taxation (TAXA) from positive significant to negative significant in explaining the growth rate of tourism sector.

In table 4.13, the value of R^2=0.694431 in the regression model without currency exchange rate as a moderating variable; alternatively, in table 4.14 the value of R^2=0.393631 when currency exchange rate is adopted in the model as a moderating variable. This implies that without moderating variable, the variance in regressors explained 69.4431% variance in growth rate of tourism sector in

Kenya. However, after currency exchange rate is added in the model as a moderating variable, the variance in the regressors explain 39.3631% variance in growth rate of tourism sector. Therefore, the regressors jointly explain the variance in the regressand by less 30.08% via the moderation of currency exchange rate. This indicates further that currency exchange rate has no statistically significant moderating effect on how recurrent expenditure, capital expenditure, and taxation jointly affect the tourism sector's growth rate in Kenya. Consequently, the researcher was unable to reject the fourth null hypothesis (H_{O4}), which posited that the connection between the chosen macroeconomic indicators and the growth rate of the tourism sector remains unaffected by changes in the currency exchange rate.

4.9 Post Estimation Diagnostic Tests

4.9.1 Normality Test

The Jarque-Berra test was applied in testing if the regression residual were distributed normally. The null hypothesis assumes residualls are distributed normally, p-value>0.05. The alternative hypothesis assumes that regression residuals do not fall under normal distribution, p-value<0.05. Figure 4.1 illustrates Jarque-Berra test output for normality.

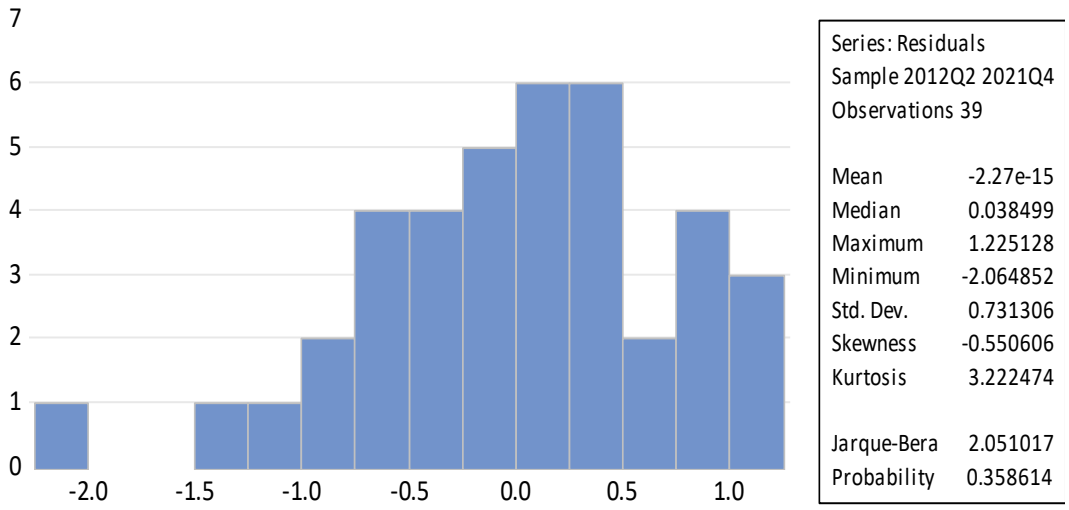


Figure 4.1 Jarque-Berra Test for Normality

Source: (Author, 2023)

Figure 4.1's findings indicated normal distribution of the regression residuals were normally distributed because the Jarque-Berra p-value of 0.358614>0.05 (Aljandali and Tatahi, 2018).

4.9.2 Multicollinearity Test

In assessing the potential presence of multicollinearity among the explanatory variables, the Variance Inflation Factors (VIF) method was employed. Multicollinearity can lead to unreliable estimates of regression coefficients. For the VIF test, a criterion was set that VIF values should be below 10, displaying the absence of multicollinearity within the regression model (Gogtay & Thatte, 2017). The outcomes of the VIF are presented in Table 4.16.

Table 4.15 Variance Inflation Factor Multicollinearity Test

	Coefficient	Uncentered	Centered
Variable	**Variance**	**VIF**	**VIF**
TSG (-1)	0.010775	13.02440	1.191717
REEX	0.006254	51.99532	1.017760
DCAEX (-1)	0.060199	117.2931	1.340151
TAXA (-1)	0.007127	49.23708	1.148268
C	4.137397	269.9538	NA

Source: (Author, 2023)

The centered VIF values were used in results interpretation. Table 4.15 shows that the VIF values of TSG1, REEX, DCAEX1 and TAXA1 are 1.191717, 1.0177660, 1.340151, and 1.148268 respectively. Given that the aforementioned VIF values were less than 10, multicollinearity in the regression model was presumed to be absent.

4.9.3 Heteroscedasticity Test

The Breusch-Pagan-Godfrey test for heteroscedasticity was applied to assess whether the residuals of the regression exhibited heteroscedasticity. In this test, a p-value greater than 0.05 is desired for the null hypothesis, which states the absence of heteroscedasticity. If the p-value is less than 0.05, it implies the presence of heteroscedasticity in the regression model, leading to unevenly distributed residuals for the variables being studied. The outcomes of the Breusch-Pagan-Godfrey test are displayed in Table 4.16.

Table 4.16 Breusch-Pagan- Godfrey Heteroscedasticity Test

Heteroscedasticity Test: Breusch-Pagan-Godfrey		
Null hypothesis: Homoskedasticity		
F-statistic	1.492823	Prob. F(4,34)
0.2261		
Obs *R-squared	5.826192	Prob. Chi-Square(4)
0.2125		
Scaled explained SS	3.125509	Prob. Chi-Square(4)
0.5370		

Source: (Author, 2023)

The probability Chi-Square (4) of the Obs *R-squared value was 0.2125>0.05, according to the data from table 4.16. Therefore, the regression model lacked heteroscedasticity because the researcher did not disqualify the null hypothesis at a 5% level of significance.

4.9.4 Breusch -Godfrey Autocorrelation Test

The Breusch-Godfrey test was used in the study to examine the regression model for autocorrelation, which happens when the lagged values of the error term have an impact on the current values of the error term. The Breusch-Godfrey test's null hypothesis is that autocorrelation does not exist in the regression model; H0: p-value>0.05; the alternative hypothesis is that autocorrelation does exist; H1: p-value0.05. Table 4.17 displays the result for Breusch-Godfrey Test for autocorrelation.

4.17 Breusch- Godfrey Autocorrelation Test

Breusch-Godfrey Serial Correlation LM Test:		
Null hypothesis: No serial correlation at up to 4 lags		
F-statistic	0.970346	Prob.F(4,30)
0.4382		
Obs*R-squared	0.467762	Prob. Chi-Square(4)
0.3464		

Source: (Author, 2023)

Table 4.17's Breusch-Godfrey test findings show that the p-value for the Chi-square test was 0.3464>0.05, indicating that the researcher accepted the null hypothesis that the model had no autocorrelation.

4.9.5 Model Stability Test

The stability of the model was assessed through the cumulative sum (CUSUM) test. For the model to be considered stable, the variables should remain within the 5% limit. The results of the CUSUM test for model stability are depicted in Figure 4.2. In this figure, all variables fall within the 5% bounds, indicating that the model maintained its stability (Zeileis, 2004).

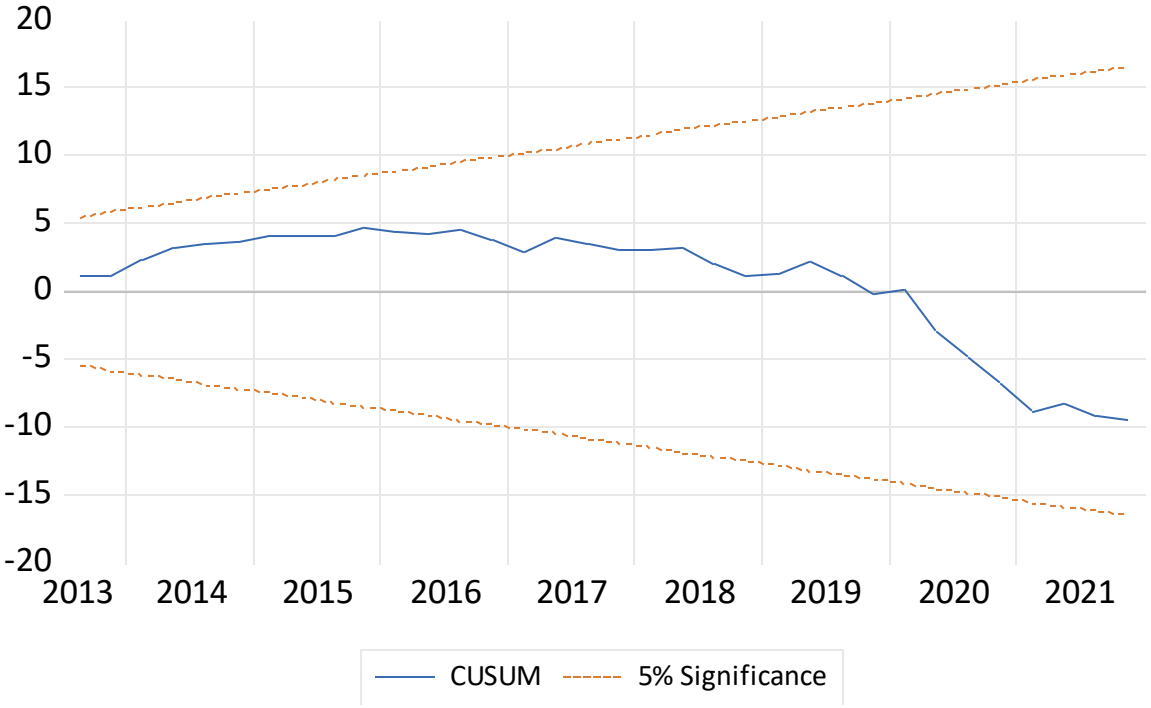


Figure. 4.2 CUSUM Model Stability Test

Source: (Author, 2023)

CHAPTER FIVE

SUMMARY, CONCLUSION AND POLICY RECOMMENDATIONS

5.1 Introduction

This chapter provides a comprehensive overview of the study's findings, derives conclusions on the effect of specific macroeconomic factors on the growth rate of the tourism sector, highlights policy recommendations, and identifies avenues for further research.

5.2 Summary of the Findings

The study investigated the effect of recurrent expenditure, capital expenditure, and taxation on the growth rate of the tourism sector in Kenya, while also considering the moderating effect of the currency exchange rate. The research utilized a causal research design, incorporating quarterly time series data sourced from the Kenya National Bureau of Statistics for the 2012-2021 period. Variables like recurrent expenditure, capital expenditure, and taxation were proxied as percentages of GDP, and exchange rate volatility represented the currency exchange rate. The growth rate of the tourism sector was proxied using the sector’s growth rates. Descriptive statistics summarized the data, showing positive means for all variables, while the Jarque-Bera test indicated normal distribution with probabilities exceeding 0.05. Correlation analysis indicated significant positive associations between the regressors and tourism sector's growth rate.

The Augmented Dickey-Fuller (ADF) test assessed stationarity, revealing that capital expenditure and currency exchange rate were stationary at first difference,

whereas recurrent expenditure and taxation were stationary at level. The Bai-Perron structural break test identified structural breaks in all variables in 2020Q2; however, introduced dummy variables were statistically insignificant and excluded from the model. Lag 1 was selected based on the Akaike Information Criterion (AIC).

The F-Bounds test found no cointegration among variables, prompting a multiple regression analysis in examining the statistical significance of the macroeconomic variables in explaining the tourism sector's growth rate. Post-estimation diagnostics validated the Ordinary Least Squares assumptions and model suitability for policy implications.

5.2.1 Recurrent Expenditure and its Effect on the Growth Rate of Tourism Sector

The first objective focused on examiming the effect of recurrent expenditure on the growth rate of the tourism sector in Kenya. Recurrent expenditure was presented as a percentage of GDP. Descriptive statistics indicated that recurrent expenditure (REEX) had a mean of 11.1450%, a maximum value of 13.9000%, and a minimum value of 8.4000% Correlation analysis findings demonstrated a moderate positive correlation between recurrent expenditure and the growth rate of the tourism sector, with a correlation coefficient of 0.051404 (p=0.0006). Regression analysis outcomes further demonstrated a notable positive influence of recurrent expenditure on the growth rate of the tourism sector in Kenya. The regression coefficient (β1) was calculated as 0.484809 (p= 0.0000).

5.2.2 Capital Expenditure and its Effect on the Growth Rate of Tourism Sector

The second objective of the study aimed to investigate the effect of capital expenditure on the growth rate of the tourism sector in Kenya. Capital expenditure was quantified as a percentage of GDP. As the descriptive statistics, capital expenditure had a mean of 5.4125%, a maximum of 6.6000% and a minimum of 4.6000%.Correlation analysis findings demonstrated a moderately significant positive correlation between capital expenditure and the growth rate of the tourism sector in Kenya, showing a correlation coefficient of 0.383658 (p=0.0145). The outcomes of the regression analysis further confirmed a noteworthy positive influence of capital expenditure on tourism sector's growth rate in Kenya. The regression coefficient (β2) was determined as 0.852497 (p=0.0014).

5.2.3 Taxation and its Effect on the Growth Rate of Tourism Sector

The third specific objective determined the effect of taxation on the growth rate of the tourism sector in Kenya. Taxation, measured as a percentage of GDP, showed a weak positive and significant correlation with the growth rate of the tourism sector in Kenya (correlation coefficient: 0.023658, p=0.0385), additionally, the regression analysis revealed a statistically significant positive effect of taxation on the growth rate of the tourism sector. The regression coefficient (β3) was 0.241511 (p=0.0072).

5.2.4 Currency Exchange Rate and its Moderating Effect on the Nexus between the Selected Macroeconomic Variables and the Growth Rate of Tourism Sector

From multiple regression analysis, the variance in recurrent expenditure (REEX), capital expenditure (CAEX), and taxation (TAXA) together with lag one of tourism sector's growth rate (TSG1) jointly explained 69.44% variance in the growth rate of tourism sector in Kenya. However, when currency exchange rate was included as moderating variable, R^2 decreased from 69.44% to 0.393631% implying that moderating effect of currency exchange rate resulted in the selected macroeconomic variables to jointly explain the variation in the growth rate by a decrease of 30.04%. Therefore, currency exchange rate had no moderating effect on the nexus between selected macroeconomic variables and tourism sector's growth rate.

5.3 Conclusion

From the empirical results, the following conclusion was made as guided by the study's specific objectives.

5.3.1. Effect of Recurrent Expenditure on the Growth Rate of Tourism Sector

Based on the findings from the first objective of the study, which focused on determining the effect of recurrent expenditure on the growth rate of the tourism sector in Kenya, it was concluded that recurrent expenditure has a significant positive effect on the growth rate of tourism in the country. As a result, the null

hypothesis (H_{O1}), stating that recurrent expenditure has no statistically significant effect on the growth rate of tourism, was rejected. Thus, an increase in recurrent expenditure is associated with an increase in the growth rate of the tourism sector, and conversely.

5.3.2 Effect of Capital Expenditure on the Growth Rate of Tourism Sector

Capital expenditure had a significant positive association with the growth rate of tourism sector in Kenya. This implied that tourism sector experiences an increase in growth rates as capital expenditure increases and vice versa, therefore, the null hypothesis (H_{O2}) affirming that capital expenditure has no statistically significant effect on the growth rate of tourism sector was rejected.

5.3.3 Effect of Taxation on the Growth Rate of Tourism Sector

The study's empirical analysis showed a significant positive nexus between taxation and the growth rate of the tourism sector in Kenya. As a result, the null hypothesis (H_{O3}) asserting that taxation has no statistically significant effect on the growth rate of the tourism sector was rejected. These findings suggest that higher volumes of taxation are associated with an increased growth rate in the tourism sector.

5.3.4 Moderating Effect of Currency Exchange Rate on the Nexus Between Selected Macroeconomic Variables and the Growth Rate of Tourism Sector in Kenya.

The study came to the conclusion that there is no moderating influence of currency exchange rate on the relationship between the growth rate of the tourism

sector and the selected macroeconomic variables (recurrent expenditure, capital expenditure, and taxation). This led to the null hypothesis (H_{O4}), which states that currency exchange rate has no moderating effect on the association between the selected macroeconomic variables and the growth rate of the tourism sector in Kenya, to be accepted.

5.4 Recommendations

This study's empirical findings are used to infer the following policy suggestions.

5.4.1 Recurrent Expenditure and its Effect on the Growth Rate of Tourism Sector

The research results revealed that recurrent expenditure had a significant positive effect on the growth rate of tourism sector in a significant manner. The study recommended the government, through the national treasury, boost budgetary allocation in recurrent expenditure so that more of its knock-on effects can significantly promote the growth rate of the tourism sector. The government should also adopt mechanisms to ensure that large part of the recurrent expenditure stimulates activities that directly and indirectly promote tourism sector growth.

5.4.2 Capital Expenditure and Its Effect on the Growth Rate of Tourism Sector

Findings revealed that capital expenditure promotes the growth rate of the tourism sector significantly. The recommendation for capital expenditure is that the government should allocate more budgetary resources to capital expenditure to ensure continued growth of the tourism sector. This is because capital expenses by the government on infrastructural development especially roads and airports which are vital in increasing the connectivity in the country hence enabling time flow tourists and resources that are vital for tourism activities.

5.4.3 Taxation and its Effect on the Growth Rate of Tourism Sector

The study demonstrated a significant positive effect of taxation on the growth rate of tourism in Kenya. Taxation serves as a key revenue source for the government and facilitates income redistribution within the economy, ultimately supporting the funding of essential public goods and services. Consequently, the study's findings recommend the government's prudent consideration of raising taxation levels to bolster growth rates in the tourism sector.

5.4.4 Currency Exchange Rate and Its Moderating Effect on the Nexus Between the Selected Macroeconomic Variables and the Growth Rate of the Tourism Sector

The research findings indicated that the currency exchange rate does not act as a moderating factor in the relationship between the selected macroeconomic

variables and the growth rate of the tourism sector. Consequently, the study suggests that the Central Bank of Kenya (CBK) should implement measures to maintain a stable Kenyan shilling against the US Dollar. This stability is recommended to facilitate the growth of the tourism sector in Kenya.

5.5 Areas for Further Research

The study mainly focused on how macroeconomic variables related to fiscal policy affect the growth rate tourism sector in Kenya. Therefore, the study recommends another study can be carried out to determine how macroeconomic variables related to monetary policy affect the growth rate of tourism sector in Kenyas. The study also, recommends that a similar study of the independent variables (recurrent expenditure, capital expenditure, and taxation) be conducted on how the effect the international tourism arrivals in Kenya.

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APPENDICES

Appendix I: Data

YR	TSG	REEX	CAEX	TAXA	FOEX
2012 Q1	3.8	9.9	5.6	6.4	84.14
2012 Q2	3.4	10.8	5.6	7.2	84.12
2012 Q3	4.9	13.7	6.3	9.4	84.28
2012 Q4	3.3	10.2	5.8	11.5	85.58
2013 Q1	4.4	10.8	5.9	10.8	86.72
2013 Q2	4.7	11.6	6.2	9.5	84.61
2013 Q3	4.6	10.4	5.6	11.3	87.25
2013 Q4	3.8	9.3	6	11.5	85.91
2014 Q1	5.6	10.7	5.7	9.6	86.36
2014 Q2	4.2	9.4	5.6	10.8	87.25
2014 Q3	3.9	8.4	5.9	10.9	88.24
2014 Q4	4.7	10.5	5.6	9.8	89.88
2015 Q1	4.8	10.7	6.5	7.9	91.53
2015 Q2	4.7	13.1	6.5	9.1	94.51
2015 Q3	4.4	11.5	6.6	8.2	102.97
2015 Q4	4.7	11.9	6.2	9.4	102.38
2016 Q1	4.8	12.5	6	8.1	101.91
2016 Q2	3.1	8.8	5.6	8.4	101.04
2016 Q3	4.2	10.5	5.4	9.6	101.34
2016 Q4	2.9	8.6	5.5	12.7	101.73
2017 Q1	5.3	13.2	5.5	10.3	103.4
2017 Q2	6.7	13.8	5.4	11.1	103.25
2017 Q3	4.3	9.5	5.4	12.4	103.1
2017 Q4	4.7	10.7	5.4	10.6	103.33
2018 Q1	4.4	10.4	4.9	10.3	101
2018 Q2	4.2	9.5	5	12.2	100.8
2018 Q3	4.4	11.9	5.1	10.9	100.55
2018 Q4	4.6	12.5	5	12	101.6
2019 Q1	5.5	12.7	4.9	10.2	100.95
2019 Q2	6.5	13.9	4.9	10.9	101.23
2019 Q3	5.0	13	4.8	12	103.38
2019 Q4	3.7	10.9	4.9	12.3	102.52
2020 Q1	5.5	12.4	4.8	10.2	101.06
2020 Q2	0.9	8.8	4.6	10.2	106.45
2020 Q3	1.1	9.4	4.7	11.9	107.4
2020 Q4	1.4	10.3	4.6	12.2	109.49
2021 Q1	1.7	11.8	4.6	8.3	109.35
2021 Q2	2.4	10.9	4.7	7.9	107.76

2021 Q3	2.8	13.3	4.6	8.6	109.18
2021 Q4	3.4	13.6	4.6	9.1	111.9

Appendix II. Map of Kenya on Distribution of National Parks and Reserves

Source: kenyahighcommission.ca/tourism

Appendix III. Research Permit

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