THE IMPACT OF GOVERNMENT EXPENDITURE ON ECONOMIC GROWTH IN NIGERIA

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BEING A RESEARCH WORK WRITTEN AND SUBMITTED TO THE DEPARTMENT OF ECONOMICS IN PARTIAL FULFILLMENT OF THE REQUIREMENT FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc) DEGREE IN ECONOMICS, FACULTY OF SOCIAL SCIENCE, UNIVERSITY OF BENIN, BENIN CITY.

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DECLARATION

I hereby declare that the entire research work being submitted in partial fulfillment of the requirement for the award of Bachelor of Science degree (B.SC.) in Economics in University of Benin, Benin City, Edo state is the result of my independent assessment.

Embodied in this project is my original work and has not been presented for a degree by any other person in the University. All reference made to works of other person have been have been duly acknowledged.

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CERTIFICATION

I hereby certify that this project carried out by UZOEWULU OGECHI ISABEL with matriculation number SSC1708075 in the Department of Economics, Faculty of Social Sciences, University of Benin, Benin City is approved and has been considered as adequate for the award of Bachelor of Science (B.Sc) Degree in Economics.

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DEDICATION

This project is dedicated to God Almighty and my two loving parents Mr. Sunny Williams Uzoewulu of blessed memory and Mrs. Helen Uzoewulu for the provision of life and a successful project

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ABSTRACT

This study evaluates the effect of government expenditure on economic growth in Nigeria using time series data of 30 years (1990-2020). The variables used for the study include recurrent expenditure, expenditure on highways, safety costs, education costs as the independent variables and real GDP as the dependent variable. Four objectives were formulated for the study and four hypotheses were also prepared in line with the objectives. Ex-post-facto research design was employed and the time series data was generated and analysed using regression analysis, Autoregressive Distributed Lagged (ARDL) testing technique and Error Correction Model-based, Granger Causality, unit root test, and cointegration to examine the long run causal effect relationship that exist between government expenditure and economic growth in Nigeria. The study finds that government expenditure on highway, and expenditure on safety has positive significant effect on economic growth in Nigeria at 5% and 1% levels respectively, government recurrent expenditure has positive and no statistical significant on economic growth, while government expenditure on education has negative and no significant effect on the economic growth in Nigeria. The study recommends among others that Government should appropriate lesser portion of its expenditure to recurrent expenditure and pay more attention to capital expenditure as it is the major drive to economic growth.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

One of the most crucial macroeconomic management tools for regulating the amount of demand and money supply in an economy continues to be government spending. It can steer an economy toward long-term growth and development if properly managed. In any society, the government serves two primary roles, namely those of protection and provision of essential services and amenities (Abdullah, 2020). In order to reduce the risk of crime and outside aggression, the government's protection function entails the development of the rule of law and the enforcement of rights. The purpose of basic infrastructure/amenities comprises the supply of decent health facilities, education, power, agriculture, and transportation, as well as the construction of bridges and roads, among other things. The government must invest a significant amount of resources to execute both tasks, particularly in countries with poor infrastructure and amenities like Nigeria. The cash budget system used by the Nigerian government bases expenditure requests on anticipated revenue. The government has three policy alternatives to meet this predicted revenue: borrow money, tax people, or do both. Any of those options picked will directly affect economic expansion.

Public infrastructure investments made by the government can have both direct and indirect effects on the overall economy (Schmidheiny, 2019). According to Munnell (2020), there is a strong positive correlation between the level of output and government capital spending. Spending on education, roads, and safety are three examples of government spending that Brülhart, Jametti, and Schmidheiny (2019) highlighted as being particularly productive. It is claimed that these spending categories increase the economy's potential for production.

Prudent government expenditure can really help boost demand and increase sales for businesses by effectively allocating its resources to the various economic sectors. This boom is a driving force behind the reduction of poverty, social inequality, and the steady rise of the economy. However, because Nigeria's pattern of government spending over the years has been heavily influenced by crude oil revenue, which is reflected in the generated revenue, this goal has not been met (Akanbi, 2014).

According to Al-Yusuf and Couray, Nigeria is currently undergoing an economic slowdown as a result of declining oil earnings (2019). Due to decreased oil revenues, Nigeria's gross domestic product is projected to decrease by 2.06% and 1.5%, respectively, in 2019 and 2020. (Trading Economics, 2020). The need to create a safe and secure environment for people and businesses to operate is growing despite declining revenue, and as a result, spending on infrastructure, security, and health has increased in an effort to achieve steady infrastructure development, security, and create a safe

environment for capitalists to operate. However, as evidenced by the declining growth rate of the Nigerian Gross Domestic Product in 2019 and 2020, these significant expenditures have not resulted in the achievement of sustained economic growth (Trading Economics, 2020).

There is no consensus on how much of an impact government spending has on economic growth, despite the fact that many research have been conducted on the subject (Smyth & Hsing, 2019). As a result, the issue of how much of an impact government spending has on economic growth remains open (Anyamu, 2018). Statistics have showed that federal government spending has risen consistently over the years, according to (Trading Economics, 2020). This is a result of rising demand for public services including roads, energy, education, health care, and security as well as receipts from oil and non-oil money. Recurrent expenses for the federal government rose from N4.85 billion in 1981 to N579.3 billion in 2001 and N147 billion in 2010It rises even further in 2015, reaching N1335.450 billion ($221.5 billion). On the other side, government capital spending increased from N6.57 billion in 1981 to N438.7 billion in 2001 and N883.87 billion by 2010. Additionally, it falls to N818.35 billion in 2015 before rising again to N2,873 billion in 2018. (CBN, 2018). Additionally, government spending on security climbed from N9.14 billion in 1981 to N18.3 billion in 2001 to N549 billion in 2010. In 2015, it rises even more, to N969 billion, reaching N1334.4 billion.

In comparison, between 1980 and 1990, Nigeria's Human Development Index fell from 0.407 to 0.394 while the growth rate of government spending rose from 23.2 to 41.24 percent. Inverse correlation exists between the two eras as a result. However, it was discovered that between 2000 and 2010, the growth rate of government spending was 15.53 percent and 2.15 percent, respectively, whereas during the same time, the Human Development Index recorded values of 0.431 and 0.484. Additionally, it is discovered that between 2015 and 2018, the growth rate of government spending was 1.43 percent and 3.46 percent, respectively, while the Human Development Index saw 0.528 and 0.538 during the same period (CBN, 2018).

Nigeria's economy and business environment have been severely scarred by insecurity, with security ratings plummeting from 62.69% in 2007 to 49.49% in 2010 and 38.4% in 2018. (Mbasua, Muhammad & Abia, 2016). The government's attention has been diverted from the productive sectors to the security of the economic and commercial environment as a result of investors' skepticism in the economy's capital inflow shortage. Boko Haram in the North, Militancy in the Niger Delta, and Fulani herdsmen in the Middle Belt, among other banditry activities in Nigeria, have engaged in anti-economic and human capital development activities that have resulted in the loss of more than N1.4 billion to N1.6 billion in economic and business assets between 2015 and 2018, as well as a decline in daily oil production from 2.2 million to 1.7 million barrels per day in 2018. (Ben et al., 2019). This supports the idea that social security is important for the expansion and advancement of the economy.

Statement of the Problem

Nigeria has been defined over the years by poor savings and investment, insufficient social services, insecurity, etc. According to statistics, market forces alone underperform, which causes fluctuations in wages, employment, and prices. This results in the development of the business cycle and the requirement for countercyclical actions to be taken in order to control the situation. By adjusting government spending on building the necessary infrastructure and doing other budgetary actions, the deficit can be closed (Maku, 2009).

Nigeria's government has been spending more money as a result of the enormous profits from crude oil production and sales. Unfortunately, given that Nigeria is one of the world's poorest nations, this increase in government spending has not resulted in significant growth or development (Ogunrinola, 2011). In order to lessen the burden on citizens, governments continue to increase spending on infrastructure. In particular, effective means of transportation and communication ought to be available, people ought to be able to get basic healthcare services with little hassle, and there ought to be food security; paradoxically, however, this is not the case (Babatunde, 2015).

Nigeria is currently going through an economic depression as a result of declining oil revenues, which the nation depends on for survival. The GDP growth rate for Nigeria is reported by Trading Economics (2016) to be -2.06% and -1.5% for 2016 and 2015, respectively. This decline is attributed to decreased oil revenues. Similar to how total

government spending increased from N14,968 billion in 1980 to N60,268.20 billion in 1990, N3,452,990 million in 2009, and N17,461,350 billion in 2017, total government spending in Nigeria has increased (CBN, 2018). The nation has not appeared to attach any significance to social security over the last few decades. According to statistics, social security contributions were N3.6 billion in 1990, N9.6 billion in 1995, N48.5 billion in 2000, N170.5 billion in 2005, N272.9 billion in 2012, and N1330.2 billion in 2018. Despite the increase in social security in the nation, the government has typically developed few or no strategic measures to address problems brought on by social instability.

Numerous studies have looked at the connection between government spending and economic expansion (Abu & Abdullahi, 2010; Ighodaro & Oriakhi, 2010; Ogunrinola, 2011; Modebe, Okafor, Onwumere & Ibe, 2012; Nworji & Oluwalaiye, 2012; Okoro, 2013; Tajudeen & Ismail, 2013; Agbonkhese & Asekome, 2014; Oni, Aninkan & Akinsanya, 2014; Robinson, Eravwoke & Ukavwe, 2014; Udoffia & Godson, 2016). For instance, studies by Ighodaro and Oriakhi (2010), Tajudeen and Ismail (2013), Agbonkhese and Asekome (2014), and others indicated that there is a negative correlation between government spending and economic growth.

Conversely, the findings of Oni, Aninkan and Akinsanya (2014), Robinson, Eravwoke and Ukavwe (2014) and Udoffia and Godson (2016) established that government expenditure and economic growth are positively related. Also, there are still

those with mixed results such as the works of Ogunrinola (2011) and Modebe, Okafor, Onwumere, and Ibe (2012). Despite the comprehensive nature of the existing information, some points are left unclarified, and this is what we refer to as gaps in the literature.

In Nigeria, there hasn't been a common methodology or approach for determining the relationship between gross domestic product and costs for transportation, recurring expenses, education, and safety. The primary focus of the literature was on GDP, despite the fact that this measure doesn't really capture how economic progress affects a country. The majority of the research in this study used financial expenses; as a result, the true cost of upgrading the programmatic and human resource management systems is mostly unclear. However, the disparity between their conclusions necessitates more research. This study aims to determine how government spending affects economic growth in Nigeria against this backdrop.

1.2 Research Questions

Based on the above stated problems, the following research questions will guide this study.

1. What is the effect of recurrent expenditure on economic growth of Nigeria?
2. What is the effect of Highways cost on economic growth of Nigeria?
3. What is the effect of safety cost on economic growth of Nigeria?
4. What is the effect of Education cost on economic growth of Nigeria?

1.3 Objectives of the Study

The main objective of the study focuses on the impact of government expenditure on the economic growth of Nigeria. The specific objectives includes to;

1. examine the effect of recurrent expenditure on economic growth of Nigeria.
2. evaluate the effect of Highways cost on economic growth of Nigeria.
3. determine the effect of safety cost on economic growth of Nigeria.
4. evaluate the effect of Education cost on economic growth of Nigeria.

1.4 Hypotheses of the Study

In the course of this research, the following hypotheses were stated in null form;

$H0_1$ Recurrent expenditure has no significant effect on economic growth of Nigeria.
$H0_2$ Amount expended on Highways cost has no significant effect on the economic growth of Nigeria.

$H0_3$ Expenditure on Safety program has no significant effect on the economic growth of Nigeria.

$H0_4$ Education cost has no significant effect on the economic growth of Nigeria.

1.6 Significance of the study

However, this study is anticipated to provide empirical evidence on the impact of government spending on economic growth in Nigeria by making a valuable contribution to the empirical foundation required for a correct understanding of the prior routes and by

emphasizing the need for government spending in the country's future processes. The study tends to be quite helpful to federal agencies and policymakers that occasionally recommend and advise policy options to the government on matters surrounding government expenditure in Nigeria because the research's conclusions go beyond academic paradigms. The academic community will benefit from this research's up-to-date information on government spending and economic growth in Nigeria.. Finally, this piece will also act as basis for reference for further studies on government expenditure and economic growth in Nigeria.

1.7 Scope of the Study

In this study, the impact of government spending on Nigeria's economic growth from 1990 to 2020 is to be investigated. This study will make use of secondary time series data from the Statistical Bulletin of the Central Bank of Nigeria. Real gross domestic product serves as the study's primary indicator of the dependent variable, which is economic growth. The study's independent variables are the amount of money spent by the government on infrastructure, security, health care, administration, and education.

1.8 Structure of the Study

This study was structured into five chapters. The first chapter deals with background to the study, statement of problem, research questions, objectives of the research, hypothesis, and significance of the study, scope and finally the structure of the study. The second chapter discusses concepts and theories related to the area of study.

The review of the literature includes the conceptual review in its first section, follow by theoretical review in its second section which is followed by the empirical review of the previous studies related to the area as well as gaps in literature in its fourth section. Third chapter presents the methodology following; theoretical framework, model specification, estimation techniques and sources of data. The fourth chapter discusses the presentation, analysis and interpretation of results and the last chapter makes summary of findings, recommendations and conclusion.

1.9 Limitation of the studies

In the course of conducting this research, the following constraints were experienced; Due to the nature of this research work, which deals with secondary data only it was difficult to gather the necessary figure like the statistical data for the dependent variable. Hence the researcher has to consult some statistical bulletin, journal and the internet in other to come up with the right figures.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

2.1 Introduction

In this chapter, the review of some related literature relating to the topic was discussed, It comprises of facts/contextual review, theoretical review and empirical review. How government expenditure has affected the economic growth of Nigeria was also discussed.

2.2 Conceptual Review

Public spending is a key component of economic activity in any country and plays a significant role in the process of social and economic development. Public expenditure specifically refers to the cost of products and services delivered by the public sector (Okoro, 2013). Additionally, according to Adamgbo (2012), public expenditures include costs incurred by the federal, state, and local governments. Capital and recurrent expenses are the two primary categories of government spending. According to Adamgbo (2012), recurrent expenditures are expenses that are incurred on a regular basis for maintenance of the state, repairs to fixed assets, security votes, salaries, etc., while capital expenditures are expenses incurred by government on the acquisition, establishment, and execution of capital projects/assets that are not made frequently. In addition to the fundamental requirements of productivity and the financial advantages of solving service

problems, capital expenditure is required to establish real businesses that work to increase production and employment. Current expenditure plays a role in increasing domestic liquidity, which in turn boosts economic activity. Public capital refers to spending that is designated for capital formation in the community, such as the creation of new projects (Mahaini, 2013).

2.2.1 Government expenditure

Government spending is money spent by governmental agencies at the federal, state, and municipal levels. Government spending is divided into economic and functional (sectoral) components in the majority of nations, including Nigeria. Capital and recurring expenditures are the two categories under which government spending is classified economically. Recurrent expenses are payments for transactions within a year, whereas capital expenditures are payments for non-financial assets utilized in production for more than a year (CBN, 2019). The term "capital expenditures" refers to costs associated with the construction of long-lasting assets, such as buildings, roads, drainage systems, airports, seaports, plants, machinery, and equipment purchases.

Recurrent expenses, often known as consumption expenses, include loan interest payments, transfers, wage payments, and the purchase of goods and services. General services, defense, public order and safety, education, health, social security and welfare, agriculture, manufacturing and communication, and environmental protection are included in the functional (sectoral) component categorization of public expenditures

(Heller and Diamond, 2020). In Nigeria, government spending is broken down into four functional categories—administration, economic services, social and community services, and transfer payments—along with two economic component categories—capital and recurrent expenditures (CBN, 2019). Each functional component consists of spending on specific economic segments (or sectors). Spending on general administration, the national assembly, defense, and internal security make up administration expenditures. Spending on economic services includes expenses for things like communications, transportation, and agriculture. Expenditures on community services include those for health, education, and other areas.

Public debt (internal and external) levies, pensions, gratuities, and subventions make up transfer payments. Government spending is a potent tool for fiscal policy that may be used to control the level of economic activity in the nation. Government can boost economic activity when it is low, which is typically reflected in a high level of unemployment, by increasing spending, which will increase aggregate demand, level of output, and employment. On the other hand, when a nation's economy is overstimulated, which is typically demonstrated by a high inflation rate, the government can control it by cutting spending. Therefore, government spending can be utilized to affect the amount of national output, employment, general price level, and income redistribution in favor of the poor. It is crucial for promoting economic progress, stability, and the eradication of poverty.

2.2.2 Economic growth

According to Kimberly (2019), economic growth is a rise in a state's ability to produce products and services over a given period of time. Gross domestic product can be used to gauge a country's or state's economic growth. This metric accounts for the nation's output and productive capacity. All products and services generated in the nation are consumed as part of the gross domestic product. According to Maingi (2017), there are numerous elements that contribute to economic growth, but they are more closely linked to higher rates of investment by the private or public sector than to other factors like consumption spending, higher rates of school enrolment, and more political stability. This argument has challenged the neo-classical theory of growth, which held that economic growth could be fostered and encouraged by proper policies, but that it might also emerge from technical change brought about by chance. By taxing consumption, supporting investment and research, reallocating funds from government consumption to government investment, and creating an environment that allows the private sector to drive growth, government policies can be designed to increase economic growth rates. However, government actions can limit how much economic growth occurs. For instance, government borrowing to support ongoing expenses, a high corporate tax rate, a lack of investment in capital stock, a high exchange rate, and an interest rate that is too high are just a few examples.

2.2.3 High way expenditure (Infrastructure)

High way expenditure are cost incurred in building roads, bridges, canals and tunnels for the passage of human, cargos and goods (Nasiru, 2020). The expenditure on long term assets or core infrastructure, as roads, railways, airports, and utilities, which are expected to lead to larger gains in economic output. Expenditure in high way infrastructure create enabling environment and link communities, this enhances the productive capacity of firms, as it allows more goods and services to be produced with the same level of inputs, fostering long-term economic growth. With respect to overall firm output, increased infrastructure spending by the government is generally expected to result in higher firm output in the short term by stimulating demand and in the long term by increasing overall productivity. The federal system permits investment in infrastructure by the federal, state, and municipal governments, with the majority of direct funding coming from the federal and state governments. Direct funding, subsidies to state and local governments, loan guarantees, and favorable tax treatment are among ways that the federal government supports infrastructure investments. Such infrastructure is advantageous to households, businesses, and the economy as a whole. Infrastructure can assist companies in reducing their fixed production costs, particularly transportation expenses, which are sometimes a key factor in deciding where to locate firms.

2.2.4 Education Cost

According to Okoro (2020), "public expenditure on education" refers to both current and capital expenditures made by the government on educational institutions (both public and

private), education administration, and subsidies for private entities (students, households, and other private entities). As a percentage of all general government spending across all sectors, Owoye (2017) expresses general government spending on education (current, capital, and transfers) (including health, education, social services, etc.). It comprises expenses paid for by government transfers from external sources. Pre-primary and primary education, secondary education, post-secondary non-tertiary education, and tertiary education are all included in education. education is not level-based, services related to education, research, and development in education.

2.2.5 Recurrent Expenditure

Recurrent expenses include any expenditures paid for products and services other than those for capital assets, such as wages and salaries, employer contributions, interest payments, subsidies, and transfers (Akpan, 2015). Recurrent government spending on goods and services is spending that neither generates nor results in the creation of fixed assets (new or second-hand). It mostly comprises of spending on wages, salaries, and other compensation, buying products and services, and using up fixed assets.

Therefore, government recurring expenses or government final consumption expenditures on goods and services for current use are meant to directly meet individual or group requirements of community members (Akpan, 2018).

2.2.6 Safety Cost

According to Dunne and Uye (2019), two of the biggest barriers to development are war and a lack of security. Government at all levels incurs high safety expenses in

this regard. However, this highlights the reason why many nations around the world wish and work to maintain peace and security both inside and outside of their borders (Apanisile & Okunlola, 2019). According to Adams Smith, a government's important function is to defend the society from violence and invasion by independent societies, as well as to protect each member of the society from oppression by other members. As a result, government spends on safety to secure internal and exterior security. As a result, it becomes clear that governments must invest in global security. Apanisile and Okunlola (2014), Asghari (2017), Awaworyi and Yew (2014), and others have conducted studies on defense spending and economic growth using military spending as a proxy for defense costs.

2.2.7 Public Expenditure and Economic Growth

Governments all over the world are legally obligated to provide the conditions that will allow the private sector to drive economic growth. However, the situation in Africa is fundamentally different because the private sector there continues to be one of the key indicators of underdevelopment. Due to this terrible circumstance, the government has continued to be the primary financier of the economy.

A country's economic growth is the process by which it moves from one economic state to one that is better and lasts longer while also being more desired and sustainable. The availability of goods and services, which are intended to raise the

standard of living of the population, has increased both quantitatively and qualitatively throughout this period of high condition. On the other hand, government spending can be seen of as costs incurred by the government for its own upkeep as well as for the benefit of society, the economy, outside entities, and other nations. It is simple spending by the government made possible by money collected from taxes, exports, grants, aid, and other sources. Anyafo (2016) provided a more detailed definition of government (public) expenditure, which included the items listed below.

a) Expenditure incurred either directly or in forms of subsidies on the provision of goods and services by government ministries and departments.

b) All transfer payments by government ministries and departments on cost centers that do not attract my corresponding transfer of real resources and;

c) Capital expenditures by government parastatals.

The urgent requirement for enhanced growth in the majority of African nations has resulted in ever-rising government spending that frequently exceeds actual and/or projected income. As a result, trends in public expenditures now appear to be expanding (deficit spending). The degree to which this expansionary expenditure profile of the government has resulted in actual socio-economic progress, however, is still largely an open question in most nations. The expenditure budget of Nigeria, for instance, went from N38.766 billion in 1991 to N101.201 billion in 1992 (161% increase), to N155.2 billion in 1995 (53% increase), to N 1,302.6 billion in 2004 (739% increase).

From the aforementioned, the country's expenditure profile climbed by more than 3260%, from N38.766 billion in 1991 to N1, 302.6 billion in 2004. Despite this extraordinary increase in government spending, Adimmadu (2021) identified the following economic issues that must be resolved for an economy to advance. These include:

a) Unemployment

b) Low Industrial capacity performance

c) Heavy stuck of finished goods

d) Heavy Import Intensity

e) Growing unstable price level

f) Debt over-hang and

g) The naira depreciation and an exchange rate policy that places a non-convertible local currency like the naira at a disadvantage.

2.2.8 Capital Expenditure and Efficient Provision of Public Goods

Musgrave and Musgrave (2016) have made an effort to investigate what exactly qualifies as public or even private goods. As a result, there are both pure and impure public goods. Since they are both non-rivalry and non-excludable, pure public

commodities have no additional resource cost when used by another individual after they have been delivered. Additionally, when a good is either prohibitively expensive or impossible to prevent from being consumed by someone who is unwilling to pay for it, its consumption is not excludable (Rosen, 2018).

Musgrave and Musgrave (2016) have made an effort to investigate what exactly qualifies as public or even private goods. As a result, there are both pure and impure public goods. Since they are both non-rivalry and non-excludable, pure public commodities have no additional resource cost when used by another individual after they have been delivered. Additionally, when a good is either prohibitively expensive or impossible to prevent from being consumed by someone who is unwilling to pay for it, its consumption is not excludable (Rosen, 2018). Therefore, the fundamental concerns that different governments must address in order to significantly increase economic welfare for their citizens can be divided into three categories: allocation, distribution, and stabilization difficulties. The distribution function, however, emphasizes on the need to share incomes and resources to foster national unity and equity, while the allocation function relates to the assignment of tasks between the public and private sectors. When the federal government assures social, economic, and monetary stability, it is performing the stabilization function once more (Jimoh, 2013). However, Akujuobi (2020) has observed that even in the most democratic of all countries, the public's presence still looms large even though the private sector appears to be better positioned to carry out the aforementioned state functions through the market mechanism. The reasons for this range

from historical to economic considerations. In order to produce public goods satisfaction, security, and low cost of production for corporate organizations, it is expected that capital expenditures made by the federal government must supply the essential infrastructure, which cannot be undertaken by corporate entities.

2.2.9 The Problem of Inadequate Economic Growth

There is little evidence that a pure market economy will automatically tend to attain a reasonable pace of economic growth, in addition to the fact that it fails to guarantee full employment without inflation. Both economic and non-economic factors must be present in significant amounts for the forces that promote economic growth. For the maintenance of a desirable and sustainable growth rate, the quantitative expansion of productive resources, particularly capital, and the quality enhancement of resources are crucial. Additionally, political stability is important for economic progress, particularly in developing nations like Nigeria. The importance of investment cannot be overstated because it has two long-term challenges: first, it must absorb the incremental output brought on by net additions to the country's capital stock; second, it must continue to perform its short-run function of using savings generated at full employment equilibrium in the economy. In fact, a continuously expanding level of production capacity is necessary for the economy to grow consistently, and this does not happen by itself. In accordance with this, Fischer (2020) discovers that continuous growth benefits from a stable macroeconomic environment. According to his research, it is important to address

issues like excessive inflation, significant budget deficits, and improper exchange rate management since these hinder economic growth. Additionally, Carallo and Mondino (2016) noted that, while researching Argentina, macroeconomic volatility played a role in the nation's slow economic growth, particularly in the early stages of the economy. The lack of consistent power supply that enables businesses to offer affordable goods and services, the lack of road construction that enables convenient transportation, and the lack of employment that multiplies tax revenue services all contribute to Nigeria's problem of inadequate economic growth are all results of the federal government's inability to carry out most capital expenditure projects.

2.2.10 Capital Expenditure Growth

Capital expenditure growth refers to the increase in spending that the federal government makes on capital projects in order to produce economic growth in a nation. It is anticipated that rising capital spending will help to boost the GDP growth rate (GDPGR). According to Osiegbu, Onuorha, and colleagues (2010), total federal government capital expenditure increased from 5.46 billion (4.06% of GDP) in 1985 to 121.14 billion (4.17% of GDP) in 1995 and then increased to 519.47 billion (3.56% of GDP) in 2005. From 519.47 billion or 3.56% in 2005 to 957.30 billion or 11.08% in 2014, it increased. In particular, the increase largely accounted for the outlay on transfer payments, administration, and economic service but there was a decline in social and

community service in 2009. This trend was largely explained by the pattern of federal government capital expenditure on the economic service sector in general.

A functional breakdown of capital spending by the federal government revealed that the amount spent on transfer payments increased from 2.21% in 2005 to 4.76% in 2006, then decreased to 3.03% in 2007 and further decreased to 1.80% in 2008, explaining Nigeria's low rate of debt borrowings. As a result of capital expenditures by the federal government for the dredging of the River Niger, construction of the East-West road, and the significant purchase of fertilizer goods, these transfer payments increased in 2009 by 18.23% with a difference of 16.43%. The transfer payments decreased once more to 6.75% in 2010 as a result of a shift in the federal government's administration structure, but then increased to 22.59% and 30.39%, respectively, in 2011 and 2012 as a result of the severe insecurity in Nigeria's North-East. However, the transfer payments went downhill in 2013 and 2014, falling to -2.29% and -4.41%, respectively, which explains why the federal government did not fully engage in the implementation of capital expenditures in the Nigerian economy.

2.1.11 Impact of Federal Government Capital Expenditure on Production

Capital investments made by the federal government are typically used to increase production. In addition to this, they also have an impact on the output's composition and production pattern. Anyafo (2016) claims that when the government designs a good capital spending program, it also causes resources to be diverted from less desirable regions to more worthwhile ones.

2.2.12 Impact of Federal Government Capital Expenditure on the Circular Flow of Income

Capital investments by the federal government aid in reintroducing tax-reduced funds into the income cycle. Anyafo (2016) claims that the federal government's capital spending includes transfer payments to individuals (pension and gratuities). Spending by the recipients of this money replenishes the income stream. It is used to purchase factor inputs and other necessities for the government when it enters the income stream. Once more, the funds that the government pays for the factors of production flow instantly back into the revenue circular cycle. The government spending on goods by businesses, on the other hand, had the impact of allowing the businesses to release cash into the income circular flow through the purchase of factor inputs. As a result of the foregoing and the fact that tax revenue and government spending are equal, government spending aids in restoring buying power to its prior level (balanced budget).

2.2.13 Reasons for Increasing Federal Government Capital Expenditure in Nigeria

The reasons for increasing government expenditure, especially in Nigeria are many and they include:

A. Inflation: Increased government spending due to inflationary pressures often reflects rising prices for the ingredients, goods, and services that go into making rice.

B. Increase in National debt: When national debt rises, the federal government of Nigeria turns to borrowing at higher interest rates or repaying the debt.

C. Increase in Population: The recent trend of Nigeria's population growth has the potential to boost demand for all goods, which will result in an increase in the size of the federal government's capital.

D. Provision of Infrastructure: The recent trend of Nigeria's population growth has the potential to boost demand for all goods, which will result in an increase in the size of the federal government's capital.

E. Encouragement of Agricultural development: The federal government's capital expenditure in agriculture has increased as a result of the growing requirement to supply food to Nigeria's commercial commodity markets. Nigeria has a significant demand for industrial growth, which would increase federal government capital spending in the main industries that support the nation's economic expansion.

2.3 Theoretical Literature

This research on the effect of government spending on Nigeria's economic growth develops a model that looks at the relationship between spending by the government and the country's economic growth. The least square (OLS) method is used in this section to create the estimating equation and draw from the literature utilizing time series data from 1990 to 2020. The theoretical framework employed in this study is revealed in this session.

2.3.1 Theory of Government Expenditure

The costs of delivering goods and services through public sector budgets and/or newly established regulations and legislation that will lead to private sector expenditure

are the subject of the theory of public expenditure. There are two ways to look at the issue of public sector expansion: the growth in the total amount of public spending and the growth in the sector relative to the size of the economy. Public spending can be divided into two major groups, namely exhaustive public spending and transfer public spending, according to Brown and Jackson (1994: 119–120). Government purchases of labor, consumables, etc. Both capital goods and services (current commodities and services) are regarded as exhaustive public expenditures (i.e. public sector investment in roads, schools, hospitals, etc). According to them, comprehensive public expenditures are the public sector's purchases of inputs, which are determined by multiplying the amount of inputs by the input costs. Economic experts have claimed that the opportunity cost (crowding out effect) of private sector investment increases with the extent of exhaustive public expenditure. Crowding out, according to Keynes (1940), only occurs at full employment. According to this logic, if private sector investment expenditures, for instance, are interest elastic, then an increase in public spending financed by bonds will drive out private sector activity. The transfer's public expenditures on pensions, debt interests, subsidies, unemployment benefits, etc. make up the second area of public spending. According to Brown and Jackson (1994), unlike extensive governmental expenditures, these costs do not reflect a claim on the resources of society. Instead, transfers are a redistribution of resources among members of society, with the public sector acting as a mediator. Three theories, namely Wagner's Law, Peacock and

Wiseman's analysis and development models of public spending growth, are covered in the macro-models of public expenditure analysis.

2.3.2 Peacock and Wiseman's Theory of Expenditure

One of the most well-known evaluations of the timing of public expenditures is that of Peacock and Wiseman. They based their findings on the political theory of public determination, which holds that while voters dislike paying taxes and governments enjoy spending more money, the latter should pay some regard to the former. The two believed that taxes acted as a brake on government spending. Even though there might be a discrepancy within the economy between what people regarded as being desirable level of public expenditure and the desirable level of taxation, tax revenue at constant tax rates would rise as the economy and thus incomes grew. This would enable public expenditure to show a gradual upward trend. This steady rise in public spending, however, would be halted at times of popular unrest. These times would coincide with war, hunger, or some other significant societal catastrophe, necessitating a sharp rise in public spending, forcing the government to boost tax levies. However, at a time of crisis, the public would likely accept an increase in taxation rates. This was referred to as the "displacement effect" by Peacock and Wiseman. Public spending is shifted upward and for the duration of the crisis, private spending is shifted up; but, public spending does not return to its previous level.

No country has a tax base that is substantial enough to finance a war. Countries must consequently borrow and pay debt interest before an event. The "imperfection

effect," which they hypothesized would also be at work, might result from people's increased awareness of societal issues at a time of upheaval. Since people's perception of tolerable taxation levels does not return to its previous level, the government is able to finance these higher levels of expenditures originating from the expanded scope of government and debt charges. As a result, the government expands its scope of services to improve these social conditions.

2.3.3 Endogenous Growth Theory

Subsequent growth models have been measured against the Solow-Swan endogenous growth model. The Cobb-Douglas production function and equation of capital accumulation served as the foundation for this model's publication. The model's fundamental presumptions include the existence of decreasing returns in the factors of production (labor and capital), acceptance of a constant return to scale, and a constant percentage of family income set aside for savings. Due to the constant share of output that is saved by households and employed for capital accumulation, output is determined by the production side when firms maximize profit taking (Andreas & Thanasis, 2009). The Solow model was further further extended to incorporate human capital as a factor for economic growth by acknowledging human capital (which is collected via knowledge and new skills and ideas that are used in production) as a vital tool for sustained (endogenous) growth. Human capital was incorporated to the Solow model in 1992 by

Mankiw, Romer, and Weil, who created the human-capital extended slow-swan model. According to the extended model, human capital directly contributes to productivity.

Economic growth, according to proponents of the endogenous growth theory, is essentially the consequence of endogenous factors like human capital, innovation, and knowledge. These elements significantly contribute to economic expansion. Romer and Lucas created this model in 1986. (1988). According to the Schumpeterian viewpoints, the fundamental tenet of the endogenous growth theory is that long-term growth is driven by technical advancement. Understanding how industrialized economies and the global economy can grow over time in spite of the operation of diminishing returns in the accumulation of physical and human capital is made possible by endogenous growth models (Barro, 1996).

The output per capita is a function of capital and technology in the simplest form of the endogenous growth model (the AK model), where: • K - comprises both physical and human capital and it represents the volume of capital Health and Economic Growth. • A represents a degree of technology that is stable and positive. Thus, the model makes the assumption that technology and capital, which includes human capital, are at positive constant levels. The relationship between capital accumulation and technological advancement was not specifically stated in this paradigm. In the aggregate production function, health is regarded as a component of human capital to quantify the impact of health on economic growth. This is consistent with the enhanced Solow model employed

by Mankiw, Romer, and Weil (1992).). Endogenous growth theory differs from neo-classical theory in emphasizing that technological progress is itself an economic process, with economic determinants much like the process of capital accumulation.

It emphasizes how crucial human capital is to the expansion and advancement of the economy. Economic development is significantly influenced by population health since healthier populations are more productive, which results in more income per capita. Because it acts as a catalyst for economic development, the value of human capital to economic growth cannot be overstated. The health led growth hypothesis underlies the impact of health spending on economic growth. Investments in health can raise labor productivity, which can then increase wages and ultimately improve population well-being because it views health as capital. According to Bloom and Canning, when the labor market is strong, people are more motivated to learn new things because they anticipate receiving long-term advantages. However, when the labor force is made up primarily of sick employees, productivity suffers, which explains why different parts of the world have developed at different rates. Low life expectancy and poor health are to blame for 50% of the difference in economic growth between developing and industrialized nations. Every population benefits from changes in technology, which are partly brought on by improvements in medical science. Newhouse emphasized that one of the main causes of the rise in health spending is the development of new technology. The claim made by Newhouse was empirically supported in the United States of America

by Fuchs, who found that 85% of a sample of health economists agreed that technical change was to blame for the country's sharp rise in health care spending.

2.4 Empirical Review

On the effect of government spending on growth, empirical evidence is contradictory. Several empirical studies that use time series data spanning several years are country-specific. Some of these studies use panel or cross-sectional data and span multiple countries. Using time series data from 1974 to 2002, Grossman and Younis (2018) evaluated the causal relationship between GDP and public expenditures for the US federal government. They discovered that total expenditures do in fact generate GDP growth, which is consistent with Keynesian theory. Wagner's law is broken since the increase in overall public spending is not caused by the growth of the GDP.

Hall (2020) uses Jordan time series data for his investigation of the relationship between public spending and economic growth. He discovered that, in line with Keynesian theory, government spending overall had a positive impact on GDP growth. According to Mansouri's (2008) analysis of the relationship between fiscal policy and economic growth in Egypt, Morocco, and Tunisia—three North African nations—there is a positive correlation between the two variables, and a 1% increase in public spending will increase real GDP by 1.26 percent in Morocco, 1.15 percent in Tunisia, and 0.56 percent in Egypt. The outcomes also confirmed that all three countries have long-term partnerships. A survey of roughly thirty developing nations was conducted. Their results of the research which employed the Seemingly Unrelated Regression technique (SURE) reported that the

share of government capital expenditure in GDP is positively and significantly correlated with economic growth.

Due to an increase in crude oil output, Hansson and Kramarenko (2018) examined the rapid scaling-up of expenditures followed by the rapid scaling-down of Azerbaijani government expenditures. According to studies that used the neoclassical growth model, the fiscal policy's abrupt changes pose a serious threat to long-term sustainability. The empirical findings of a comparable analysis of Iran conducted by Khosravi and Karimi (2010), based on an autoregressive distributed approach to co-integration between 1960 and 2006, suggested that economic growth, monetary policy, and fiscal policy have long-term relationships.

Using the Ordinary Least Square (OLS) technique, Hsieh and Lai (2019) investigated the trends and impacts of government spending on the growth rates of real GDP in Nigeria between 1970 and 2008. The results demonstrate a favorable association between real GDP and both recurrent and capital spending. In addition, Nurudeen and Usman (2010) examined thirty-two (32) years' worth of time series data from 1977 to 2008 in order to assess the effect of government spending on economic growth in Nigeria. The analysis found that total government capital spending has a detrimental impact on economic growth.

Adefeso and Mobolaji (2010) argue that the effect of monetary policy is more dominating than fiscal policy when comparing the relative effectiveness of fiscal vs monetary policies on economic growth in Nigeria. This conclusion was reached after using annual

time series data from 1970 to 2007 and taking into account key factors such as GDP, broad money (M2), government spending (G.E), and degree of openness (DOP), as well as an error correction and co-integration approach.

Iheanacho and Okiakhi (2016) use time series data for 46 years ending in 2007 and the Granger causality test to investigate government spending that was broken down into general administration, community, and social services in Nigeria. The findings indicated that government spending has a detrimental effect on economic growth.

According to Baro (1990), government spending on investment and productive activities should add positively to economic growth just as such expenditure on consumption goods are considered as agents of negative economic growth. Lin (1994) claimed that the positive effects of public expenditure are actually felt when government expenditure is on the provision of public goods and infrastructure, social services, and targeted intervention covering areas such as export subsidies and so on. It must have been in accordance with this reasoning that the Nigerian government decided which expenditure should be classified as an investment or consumption expenditure (CBN, 2005).

THEORETICAL FRAMEWORK MODEL SPECIFICATION AND METHODOLOGY

3.1 INTRODUCTION

This section presents the research methodology, the method that will be used in the collection of data, the model specification and the sources from which the empirical analysis were derived.

3.2 THEORETICAL FRAMEWORK

This research on the effect of government spending on Nigeria's economic growth develops a model that looks at the relationship between spending by the government and the country's economic growth. The least square (OLS) method is used in this section to create the estimating equation and draw from the literature utilizing time series data from 1990 to 2020.

This research also used One of the most well-known evaluations of the timing of public expenditures is that of Peacock and Wiseman. They based their findings on the political theory of public determination, which holds that while voters dislike paying taxes and governments enjoy spending more money, the latter should pay some regard to the former. The two believed that taxes acted as a restraint on government spending. Even though there may be a discrepancy within the economy between what people perceive as the desirable level of public expenditure and the desired level of taxation, tax

revenue at constant tax rates would rise as the economy and consequently incomes grew. This would enable public expenditure to show a gradual upward trend. This steady rise in public spending, however, would be halted at times of popular unrest. These times would coincide with war, hunger, or some other significant societal catastrophe, necessitating a sharp rise in public spending, forcing the government to boost tax levies.

However, at a time of crisis, the public would likely accept an increase in taxation rates. This was referred to as the "displacement effect" by Peacock and Wiseman. Public spending is shifted upward and for the duration of the crisis, private spending is shifted up; but, public spending does not return to its previous level. No country has a tax base that is substantial enough to finance a war. Countries must consequently borrow and pay debt interest before an event. The "imperfection effect," which they proposed might also be at work, was another factor that they believed might be at play. During the period of turmoil, there was heightened awareness of societal issues. Because people's perception of tolerable taxation levels does not return to its previous level, the government is able to finance these higher levels of expenditures resulting from the expanded scope of government and debt charges. As a result, the government expands its scope of services to improve these social conditions.

3.3 RESEARCH DESIGN

The study used time series data and was based on ex-post-facto research design. The study was based on ex-post-facto because the data used are data of event that has

taken place, and the study made no attempt to manipulate its nature or value. The data were obtained from Central Bank of Nigeria (CBN) statistical bulletin and the National Bureau of Statistic (NBS) for the period 1990 and 2020.

The time series properties of the data were explored to determine the order of integration of each variable in the model. Standard procedure in the time series literature suggests that the researcher should check for unit roots in each series before estimating any equations. If a unit root exists in any variable, then that particular series is considered to be non-stationary. Co-integration analysis using the Augmented Dickey Fuller (ADF) unit root test, Johansen Co-integration and Vector Error Correction techniques of estimation which provides coefficient estimates of the time-series data used in analysis. Estimation based on nonstationary variables may lead to spurious results with high coefficient of determination (R**2**). R**2** explains how much of the variances in the dependent variable are accounted for by the regression model from the sample. The stationary test was performed to avoid spurious regression problems normally associated with time series econometric modeling.

3.4 MODEL SPECIFICATION

The specification of an appropriate econometric model borders on the prevailing economic circumstance(s) and the availability of economic data relating to the variable(s) being examined (Koutusoyiannis, 1997)

The model specification below for this study states the Gross Domestic Product growth rate depends on High ways expenditure, Recurrent expenditure, Education cost, Safety cost.

These factors included are to help obtain a good fit and also since they impinge on Nigeria economy.

GDPGR= F (HWCOST, RECCOST, EDCOST, SAFCOST)…….(i)

Where GDPGR = Real gross domestic product

HWCOST = High ways expenditure

RECCOST = Recurrent expenditure

EDCOST = Education cost

SAFCOST = Safety cost

This can be reduce to a linear functional form thus

lnGDPt = d0 + d1lnHWCOST**1-t** + d2lnEDCOST**1-t** + d3lnRECCOST**t** + d4lnSAFCOST**t** + Et

d0 = Constant; ln = natural log (was used to reduce the data to single unity to ensure uniformity)

d1, d2…… d**4** = are the coefficient of the regression equation

E = stochastic error term; 1 = one year time lag

t = time series characteristics

3.5 Economic criterion:

The test is aimed at determining whether the signs and sizes of the results are in line with what economic theory postulates. In other words, it is concerned with determining the consistency of our parameter estimate with the signs and magnitude. As such it is our expectation that the parameter estimate of our study must be consistent with this signs and magnitude. Therefore, the variables under consideration, their parameter and a priori signs can be expressed as follows;

$\beta_0>0$, $\beta_1>0$, $\beta_2<0$, $\beta_3>0$, $\beta_4<0$,

Where;

β_0 = constant term

β_1 = coefficient of gross fixed capital formation

β_2 = coefficient of gross national savings

β_3 = coefficient of government capital expenditure

β_4 = coefficient of inflation rate

Statistical Criterion (First Order Test)

These tests are set of statistically theory used in evaluating the reliability of the parameter estimates. According to Guajarati (2004), a test of significance is a procedure by which sample result is used to verify the truth or falsity of a null hypothesis. It has the following tests;

i. **Standard Error Test**: Due to the fact that estimates derived from a given collection of straightforward observations are subject to sampling mistakes, this test is crucial. Therefore, it is important to calculate the error's extent and then decide how confident you are in the accuracy of the estimates you've received (Kautsoyiannis, 1977). The test enables us to determine whether our estimates are statistically significant or whether the sample used to generate our estimates may have come from a population where the true parameter value is zero (Kautsoyiannis, 1977-80).

ii. **The T-Test**: This is used to test the significance of the individual parameters of the regression model. This will be used in testing the statistical significance of each regression coefficient at a given level of significance with N – K degree of freedom and in this case, we will use 5% level of significance and it is given as; $+t_{\alpha/2\ (N-K)}$. Where; +t = t –critical, α = level of significance N = Sample size K = total number of estimated parameters. Decision Rule If $+t_{cal} < +t_{\alpha/2\ (N-K)}$ at a given level of significance, we accept H_0 and reject H_1 but if $t_{cal} > +t_{\alpha/2\ (N-K)}$ we reject H_0 and accept H_1. On the other hand, if $-t_{cal} < -t_{\alpha/2\ (N-K)}$ at a given level of significance, we reject H_0 and accept H_1 but if $-t_{cal} > -t_{\alpha/2\ (N-K)}$ we accept H_0 and reject H_1.

iii. **F – Test**: This involves the overall significance of the regression result as against individual significance 0f the regressions. This test can be said to be a join hypothesis test employing the analysis of variance (ANOVA). Thus if the computed F – test is greater than the critical value of $F_{\alpha\ (K-1)\ (N-K)}$, then we say it is significant.

iv. **R^2 and adjusted R^2 test**: The R^2 (multiple coefficient of determination) shall be carried out to the strength of the independent variables in explaining the changes in the dependent variables. Gujariti (2004:217) has noted that changes in the adjusted R^2 should be treated as another summary statistic. The R^2 is reported as the multiple coefficient of determination adjusted to take into account the degree of freedom associated with the sum of square.

Econometrics Criterion (Second Order Test)

There are test set by the theory of econometrics and aimed at investigating whether the assumptions of econometric method employed are satisfied or not, for the purposed of this study, we will test only for Autocorrelation.

i. **Auto-Correlation Test:** This is used to test if the errors corresponding to different observation are uncorrelated; testing for the randomness of the error term.

3.6 METHODOLOGY

The study made use of the error correction technique in econometric modeling to determine the relationship between variable (RGD) and the independent variables (HWCOST, RECCOST, EDCOST, SAFCOST) specified in the model.

3.7 SOURCES OF DATA

Time series data for the period 1990-2020 will be used to analyze the model of the impact of government expenditure on the economic growth of Nigeria. The data that will be used is a secondary data obtained from National Bureau of Statistics –Annual Abstracts of Statistics, as well as the statistical bulletin of the Central Bank of Nigeria for various years.

CHAPTER FOUR

DATA PRESENTATION AND DISCUSSION OF EMPIRICAL RESULTS

4.1 INTRODUCTION

The model specified in the previous chapter is estimated and analyzed in this chapter. We start by presenting the results of the unit root tests for stationarity and the cointegration test. Thereafter, the result of the error correction model used for this study is presented and analyzed.

4.2 PRESENTATIONS OF UNIT ROOT TEST RESULTS

The important of testing for stationarity of time series data has been emphasized in extant literatures (see Gujarati, 2009; Iyoha, 2006). The Augmented Dickey Fuller (ADF) test was employed in this study to examine the statistical properties of the time series data on each of the variables in the specification. The unit root results are presented in table I and II.

Table I: Unit Root Test Results (at Level) variables

Descriptive Statistics

	RGDP	HWCOST	RECCOST	EDCOST	SAFCOST
Mean	33429.64	3021756.	5216.917	2.597500	88.67148
Median	27112.63	2461763.	4688.000	2.600000	115.2550
Maximum	63218.72	6757961.	13491.00	2.670000	156.3400
Minimum	19199.06	898230.0	1046.000	2.520000	8.040000
Std. Dev.	14801.92	1915032.	3157.130	0.057199	57.69475
Skewness	0.726034	0.608170	1.164261	-0.068172	-0.319950
Kurtosis	2.101183	1.944830	4.034855	1.364264	1.352358

Jarque-Bera	2.916376	2.592868	6.492939	2.694221	3.124196
Probability	0.232657	0.273505	0.038911	0.259990	0.209696
Sum	802311.4	72522146	125206.0	62.34000	2128.116
Sum Sq. Dev.	5.04E+09	8.43E+13	2.29E+08	0.075250	76559.74
Observations	24	24	24	24	24

Variables	ADF Test Statistics	95% Critical Value	Remarks
RGDP	-1.016231	-3.004861	Non-stationary
HWCOST	0.103002	-3.004861	Non-Stationary
RECCOST	-1.838161	-3.004861	Non-Stationary
EDCOST	-2.374910	-3.004861	Non-Stationary
SAFCOST	-0.883737	-3.004861	Non-Stationary

Note: ADF critical value 95 percent = -3.004861 including intercept and trend. Source: Author's Computation (2022)

From the table I above, it can be deduced that all the variables (RGDP, HWCOST, RECCOST, EDCOST, SAFCOST) are non-stationary because they have their Augmented Dickey Fuller (ADF) statistics less than Mackinnon critical value at 95%. This led to the testing for stationarity at first difference.

Table II: Unit Root Test Results (in First difference) variables

Variables	ADF Test Statistics	95% Critical Value	Order of integration	Remarks
Δ (RGDP)	-7.536419	-3.004861	I (1)	Stationary
Δ (HWCOST)	-8.004561	-3.004861	I (1)	Stationary
Δ (RECCOST)	-3.772637	-3.004861	I (1)	Stationary
Δ (EDCOST)	-3.412883	-3.004861	I (1)	Stationary
Δ (SAFCOST)	-4.556194	-3.004861	I (1)	Stationary

Note: Δ *= indicating first difference and L = natural logarithms; ADF critical value 95 percent = -3.004861 including intercept and trend. Source:* Author's Computation (2022)

In the results presented above, each of the ADF test statistics is greater than the corresponding 95% critical ADF value (in absolute terms). This directly indicates that each variable at first difference is stationary. Indeed, each variable is integrated of order one which is written as I(1).

Since some variables are individually non stationary in their level form, there is possibility that a linear combination of the variables will be stationary. In other words, there is possibility that a long run (cointegrating, equilibrium) relationship exists between them. The test for cointegration is performed using the Johansen approach to cointegration.

4.3 Presentation of Co-integration Test Result

When a linear combination of two I **(**1) series is stationary, then the two time series are co-integrated. Then there is a long – run relationship between them. This implies that the short run adjustment dynamics can be usefully described by the error correction model (ECM). The ECM involves using the lagged residual to correct for deviations of actual values from the long-run equilibrium values. The co-integration property requires all variables to converge in the long run. The test for this property was conducted and the results are reported in Table III.

Table III Johansen Co-integration Test Results

Hypothesized No. of CE (r)	Max-Eigen statistic	Critical value (0.05)	Trace-statistic	Critical value (0.05)
r=0*	48.78963	40.07757	120.0181	95.75366
r≤1*	38.62094	33.87687	81.22850	69.81889
r≤2*	30.38074	27.58434	52.60756	47.85613
r≤3	16.83010	21.13162	29.22682	29.79707
r≤4	11.36818	14.26460	12.39672	15.49471

**Null hypothesis of no co-integration rejected at the 5% level Source:* Author's Computation, (2022)

The results of the Max-eigen and Trace tests are as presented in Table III. The Trace and Maximum Eigenvalue test results indicate existence of three cointegrating equation among the variables at the variables. This is to say that long run equilibrium relationship does exist between them and as such, according to the Granger Representation Theorem, the short run dynamic relationship between them can be represented with an error correction model (ECM). The estimated ECM is shown in Table IV.

4.4 Estimated Coefficients of the Short Run Dynamic Error Correction Model.

The error correction mechanism is the speed or degree of adjustment i.e. the rate at which the dependent variable adjust to changes in the independent variables. Since a long run equilibrium relationship has been established, the next step is test for the speed of adjustment using the short run dynamism of error correction mechanism (ECM).

Table IV: The Parsimonious Error Correction Model

Dependent Variable: D (RGDP)

Variable	Coefficient	Std. error	t-statistics	Probability
C	1757.639	332.6638	5.283530	0.0001
D(HWCOST)	45.002045	0.000832	2.456928	0.0258
D(RECCOST)	46.467040	0.230579	-2.507567	0.0233
D(EDCOST)	-0.578191	72.97701	0.639522	0.5315

D(SAFCOST)	39.02329	21.46997	-1.817575	0.0879
ECM(-1)	-0.310935	0.150927	-2.060172	0.0560

R-squared 0.64 Adjusted R-squared 0.57

Durbin Watson stat 1.72 F-statistic (Prob.) 4.781638 (0.002452)

Unit root test

<u>At Level</u>

RGDP

Null Hypothesis: RGDP has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		1.016231	0.9952
Test critical values:	1% level	-3.769597	
	5% level	-3.004861	
	10% level	-2.642242	

*MacKinnon (1996) one-sided p-values.

HWCOST

Null Hypothesis: HWCOST has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.103002	0.9585
Test critical values:	1% level	-3.769597	
	5% level	-3.004861	
	10% level	-2.642242	

*MacKinnon (1996) one-sided p-values.

RECCOST

Null Hypothesis: RECCOST has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.838161	0.3537
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

*MacKinnon (1996) one-sided p-values.

EDCOST

Null Hypothesis: EDCOST has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.374910	0.1618
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

SAFCOST

Null Hypothesis: SAFCOST has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.883737	0.7748
Test critical values:	1% level	-3.752946	

5% level	-2.998064
10% level	-2.638752

*MacKinnon (1996) one-sided p-values.

4.5 Discussion of Results

The coefficient of Error Correction term (ECM) is correctly signed that is negative and highly significant at the 5 percent level. Accordingly it will rightly act to correct any deviation of the dependent variable from its long run equilibrium value.

The overall fit is moderately high with R-Squared of approximately 0.64 and R-Bar Squared of 0.57. The adjusted variations R-Bar Squared shows that about 57% of the variations are attributed to the explanatory variables. The F-statistics indicate that the model is highly significant, easily passing the significance test at the 5 percent level. Consequently, the hypothesis of a linear relationship between RGDP and the regressors in the equation, cannot be rejected at the 5 percent level of significance. The Durbin-Watson statistic of 1.72 shows that our model is free from the problem of serial correlation. We observe that the equilibrium error term is statistically different from zero.

The coefficient of High ways expenditure (HWCOST) is positive and significant at 5% level of significance. A 10% rise in high ways expenditure lead to 45.7% increase in Real

Gross Domestic Product. The coefficient of Recurrent Expenditure (RECCOST) is positive and significant at 5% level of significance. A 10% rise in recurrent expenditure lead to 57% increase in Real Gross Domestic Product.

The coefficient of Education cost (EDCOST) is negative and significant at 5% level of significance. A 10% rise in Education cost lead to 46.7% decrease in Real Gross Domestic Product. The coefficient of Safety cost (SAFCOST) has a positive relationship with RGDP, though the coefficient of exchange rate movements is not significant at the 5% level in explaining variations in RGDP. A 10% rise in e Safety cost lead to 390% increase in Real Gross Domestic Product.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

The study focuses on impact of government expenditure on the economic growth of Nigeria. This chapter summarizes the research findings, recommendations on the study under review and makes useful conclusion.

5.2 SUMMARY OF FINDINGS

Based on the empirical investigation in chapter four, the following specific findings were made:

(i) There is a positive relationship between High ways expenditure (HWCOST) and real gross domestic product in Nigeria at 5% level of significance. A 10% rise in malaria prevalence case lead to 45.7% increase in Real Gross Domestic Product.

(ii) There is positive relationship between Recurrent expenditure (RECCOST) and real gross domestic product in Nigeria at 5% level of significance. A 10% rise in recurrent expenditure lead to 57% increase in Real Gross Domestic Product

(iii) There is a negative relationship between Education cost (EDCOST) and gross domestic product in Nigeria at 5% level of significance. A 10% rise in population rate lead to 466.7% decrease in Real Gross Domestic Product.

(iv) The coefficient of Safety cost (SAFCOST) has a positive relationship with RGDP, though the coefficient of exchange rate movements is not significant at the 5% level in explaining variations in RGDP. A 10% rise in exchange rate lead to 390% increase in Real Gross Domestic Product.

5.3 CONCLUSION

The findings of this study confirmed those of earlier research on the impact of public spending on economic growth in Nigeria. The results show that government spending has a statistically significant impact on economic expansion. Therefore, increased spending on security (safety) programs and roadways has a favorable impact on Nigeria's economic growth. Government spending increases the amount of money in circulation and savings, which the financial institutions then utilize to lend to businesses who use it for production. As productivity levels rise, the government is able to collect more taxes and social vices are decreased. The flow of money through the economy grows as government spending rises, and the ability of the private sector to produce goods and services rises as well.

5.4 RECOMMENDATIONS

Based on the empirical findings, the study recommends the following.

1. Given that capital spending is the primary driver of economic growth, the government should devote a smaller amount of its budget to recurrent expenses and focus more on these costs.

2. The Nigerian government should spend more money on highway projects as this will create the infrastructure needed to raise private sector productivity, facilitate the distribution of raw materials and completed commodities, and promote economic growth.

3. Government should spend more on security since doing so will help to reduce insurgency, kidnapping, militancy, and other types of unrest, as well as create an environment that will encourage business expansion and significantly boost Nigeria's economy.

4. The amount of economic growth is negatively impacted by government spending on education. To ensure that all funds allotted for education are used effectively, the government should rigorously oversee the implementation of expenditures. This is due to the fact that in Nigeria, only corruption has the potential to tend to reverse the link between education spending and economic growth.

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Appendix I

Data used for regression Analysis

YEAR	RGDP	HWCOST	RECCOST	EDCOST	SAFCOST
1990	19,305.63	8.04	7.5	2.64	1116992
1991	19,199.06	9.91	12.7	2.64	898230
1992	19,620.19	17.3	44.59	2.64	1219348
1993	19,927.99	22.05	57.17	2.54	981943
1994	19,979.12	21.89	57.03	2.64	1154728
1995	20,353.20	21.89	72.84	2.54	1133926
1996	21,177.92	21.89	29.27	2.54	1423533
1997	21,789.10	21.89	8.53	2.52	1176363
1998	22,332.87	21.89	10	2.54	2122663
1999	22,449.41	92.69	6.62	2.52	1958026
2000	23,688.28	102.11	6.93	2.52	2388096
2001	25,267.54	111.94	18.87	2.54	2220348
2002	28,957.71	120.97	12.88	2.58	2535430
2003	31,709.45	129.36	14.03	2.54	2631696
2004	35,020.55	133.5	15	2.58	3109166
2005	37,474.95	132.15	17.86	2.58	3183072
2006	39,995.50	128.65	8.24	2.62	3547830
2007	42,922.41	125.83	5.38	2.63	5387290
2008	46,012.52	118.57	11.58	2.65	5317764
2009	49,856.10	148.88	11.54	2.66	6757961

2010	54,612.26	150.298	13.72	2.67	4569804
2011	57,511.04	153.8616	10.84	2.67	5661802
2012	59,929.89	156.34	12.22	2.67	6115308
2013	63,218.72	156.216	7.96	2.67	5910827
2014	19,305.63	160.999	12	2.23	1116992
2015	19,927.99	143.874	10.45	2.45	4569804
2016	54,612.26	133.5	45.13	2.12	6757961
2017	35,020.55	178.7	8.96	2.53	2631696
2018	39,995.50	168.44	12.22	2.54	5387290
2019	42,922.41	178.44	29.1	2.53	1176363
2020	31,709.45	159.38	67.33	2.56	3183072

Source: national bureau of statistics (NBS)

Descriptive Statistics

	RGDP	HWCOST	RECCOST	EDCOST	SAFCOST
Mean	33429.64	3021756.	5216.917	2.597500	88.67148
Median	27112.63	2461763.	4688.000	2.600000	115.2550
Maximum	63218.72	6757961.	13491.00	2.670000	156.3400
Minimum	19199.06	898230.0	1046.000	2.520000	8.040000
Std. Dev.	14801.92	1915032.	3157.130	0.057199	57.69475
Skewness	0.726034	0.608170	1.164261	-0.068172	-0.319950
Kurtosis	2.101183	1.944830	4.034855	1.364264	1.352358
Jarque-Bera	2.916376	2.592868	6.492939	2.694221	3.124196
Probability	0.232657	0.273505	0.038911	0.259990	0.209696
Sum	802311.4	72522146	125206.0	62.34000	2128.116
Sum Sq. Dev.	5.04E+09	8.43E+13	2.29E+08	0.075250	76559.74
Observations	24	24	24	24	24

Unit root test

<u>At Level</u>

RGDP

Null Hypothesis: RGDP has a unit root
Exogenous: Constant

Lag Length: 1 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		1.016231	0.9952
Test critical values:	1% level	-3.769597	
	5% level	-3.004861	
	10% level	-2.642242	

*MacKinnon (1996) one-sided p-values.

HWCOST

Null Hypothesis: HWCOST has a unit root
Exogenous: Constant
Lag Length: 1 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		0.103002	0.9585
Test critical values:	1% level	-3.769597	
	5% level	-3.004861	
	10% level	-2.642242	

*MacKinnon (1996) one-sided p-values.

RECCOST

Null Hypothesis: RECCOST has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-1.838161	0.3537
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

*MacKinnon (1996) one-sided p-values.

EDCOST

Null Hypothesis: EDCOST has a unit root
Exogenous: Constant
Lag Length: 5 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-2.374910	0.1618
Test critical values:	1% level	-3.857386	
	5% level	-3.040391	
	10% level	-2.660551	

*MacKinnon (1996) one-sided p-values.

SAFCOST

Null Hypothesis: SAFCOST has a unit root
Exogenous: Constant
Lag Length: 0 (Automatic - based on SIC, maxlag=5)

		t-Statistic	Prob.*
Augmented Dickey-Fuller test statistic		-0.883737	0.7748
Test critical values:	1% level	-3.752946	
	5% level	-2.998064	
	10% level	-2.638752	

*MacKinnon (1996) one-sided p-values.