# External Borrowing, Tax Revenue, and Infrastructural Development in Nigeria

**Martins Olajide ADEWINLE**
**LCU/PG/001880**

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## Certification

This is to certify that **Martins Olajide ADEWINLE** with the matriculation number **LCU/PG/001880** carried out this research work titled "External Borrowing, Tax Revenue, and Infrastructural Development in Nigeria" in the Department of Management and Accounting, Faculty of Management and Social Sciences, Lead City University Ibadan, Oyo State, Nigeria for the award of Doctor of Philosophy (PhD) in Finance and has not been previously submitted.

**Prof. G. E. Oyedokun** **Date**
**Supervisor**

**Dr. T. M. Akinbo** **Date**
**Head of Department**

## Dedication

This research work is dedicated to God Almighty and my beloved family, who have been my primary source of inspiration by continually offering their moral, spiritual and emotional support.

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**Abstract**

Economic growth, improved living conditions, and a higher human capital development index all depend on investments in infrastructure. Even though these infrastructures are regarded as essential services, most developing economies lack the financial resources to keep up with their expanding infrastructural investment requirements. Extant literature has mixed thoughts on these issues warranting the need to empirically examine the interaction between external borrowing and tax revenue on infrastructure development in Nigeria. This study adopted the

*ex*-post facto research design to examine the interaction between External Borrowing (EB), Tax Revenue (TR), and Infrastructure Development (ID) from 1991-2022 and adopted the Auto-regressive Distributed Lag (ARDL) model framework as the analytical technique to substantiate the hypotheses formulated. The ARDL long-run result at 5% showed that in Nigeria; EB had a significant influence on Government Expenditure (GE) on road construction (β = -0.258, p= 0.050); EB has a significant effect on GE on agriculture (β = -0.436, p= 0.003); EB has a significant effect on GE on transport and communication in Nigeria (β = -0.483, p= 0.000); EB has a significant effect on GE on social and community services (β = -0.213, p= 0.050); and TR interaction with EB to significantly influence ID (β = -0.312, p= 0.007). The study concluded that EB and TR when efficiently utilized play a complementary role in enhancing ID in Nigeria. The study recommended that the Federal government of Nigeria needs to be systematic in their sourcing for funding to provide infrastructure development facilities. While EB is critical, looking inwardly to create additional tax means needs to be looked into because it is cheaper and the burden imposed by exchange rate fluctuations and interest rate payment on EB is very high and is not sustainable in the light of Nigeria's economic growth and development. Although funding can be obtained internally and externally to address developmental challenges, researchers seem to have mixed thoughts on funding domestic investment through external borrowing. Some scholars claim it is insufficient, while others affirm its adequacy. Those in support claim that external borrowing will only aid infrastructure development only if it is used wisely in productive activities. Those who advocate internal borrowing argue that it offers result to the economy and create a less international burden on the need to pay back in foreign currency. This debate suggests that there is no consistency in finance literature regarding the relevance of debt for infrastructural development and also, this study argues for tax revenue because of its relevance as a source of revenue to the federal government. The advocacy is that if the government channels appropriate strategy to tax creation and collection, it can lower government debt exposure and enhance the provision of infrastructural amenities in the country. The argument also needs to be examined empirically. Although several studies have positioned the value of debt to infrastructural development, likewise how tax revenue can bolster economic growth through infrastructural development in developed and emerging economies. On this strength, the study examines the effect of external borrowing, tax revenues, and infrastructural development in Nigeria.

**Keywords:** External borrowing, Tax revenue, Infrastructure development, Economic growth, Social Services, Multilateral debt, Eurobond, promissory notes.
Word Count: 500

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## List of Acronyms

| Abbreviation | Meaning |
|---|---|
| ADF | Augmented Dickey Fuller |
| AFRODAD | African Forum and Network on Debt and Development |
| AICD | Africa Infrastructure Country Diagnostic |
| ARDL | Autoregressive Distributed Lag |
| CBN | Central Bank of Nigeria |
| DMO | Debt Management Office |
| DRS | Debtor Reporting System |
| DSA | Debt Sustainability Analysis |
| ECM | Error Correction Method |
| EFCC | Economic & Financial Crime Commission |
| EU | European Union |
| FDI | Foreign Direct investment |
| FGN | Federal Government Nigeria |
| FMOLS | Fully Modified Ordinary Least Squares |
| GCVEC | Granger Causality Vector Error Correction |
| GDP | Gross Domestic Product |
| GDPPC | Gross Domestic Product Per Capita |
| GFCF | Gross Fixed Capital Formation at Current Prices |
| HCD | human capital development |
| HIPC | Heavily Indebted Poor Countries |
| ICM | International Capital Market |
| ICPC | Independent Corrupt Practices Commission |
| IFIs | International Financial Institutions |

| | |
|---|---|
| IGR | Internal General Revenue |
| IMF | International Monetary Fund |
| LLC | Levin-Lin-Chu |
| MNEs | Multinational Enterprises |
| NBS | National Bureau of Statistics |
| NEED | National Economic Empowerment and Development Strategy |
| OLS | Ordinary Least Squares |
| PFI | Private Finance Initiatives |
| PPBS | Planning Programming Budgeting Systems |
| PPP | Public Private Partnerships |
| PSI | Policy Support Instrument |
| RGDP | Real Gross Domestic Product |
| SSA | Sub-Saharan African |
| UK | United Kingdom |
| UN | United Nations |
| VAR | Vector Auto-Regression |
| WDI | World Bank development indicators |
| ZBB | Zero-Based Budgeting |

# Chapter One

# Introduction

## 1.1 Background to the Study

Economic growth, improved living conditions, and a higher human capital development index all depend on investments in infrastructure. The term "infrastructural development" refers to the expansion and enhancement of essential services and infrastructures like those that keep the lights on, keep people healthy, move people from one place to another, and keep people connected Even though these infrastructures are regarded as essential services, but most developing economies lack the financial resources to keep up with their expanding infrastructural investment requirements[1]. The answer to this issue is that emerging countries seek domestic and foreign borrowings to cushion this tendency.

Despite massive incidences of foreign borrowings, developing nations continue to lag behind established economies in terms of the quality, quantity, and accessibility to the benefits of infrastructural development[2]. Most developing nations have shown an eagerness to invest in infrastructure by borrowing vast sums of money from international financial institutions, international development partners, and developed nations[1]. However, this is in stark contrast to the actual infrastructures in place, revealing a massive infrastructural deficit (the lack of necessary infrastructures in relation to the population)[2].

The Global Infrastructure Development Index from 2016–2021, for instance, revealed that annual global averages for infrastructure development were 33% in 2016, 37% in 2017, 32% in 2018, 37% in 2019, 43% in 2020, and 39% in 2021[3]. The G8 (France, Germany, Italy, Japan, the United States, the United Kingdom, Canada, and Russia) had 35%, 37%, 33%, 35%, 36%, 37%, and 38% in 2016, 2017, 2018, 2019, and 2020, while Europe had 31%, 34%,

26%, 29%, 38%, and 38%, respectively[3]. The differences between the global average, the G8, and Europe were rather small. However, this is not the case for emerging nations in Africa.

Seychelles placed highest with 96.73% in 2020 and Botswana ranked lowest with 37.50%; other African countries were Nigeria, Egypt, Libya, South Africa, Mauritius, Tunisia, Morocco, Algeria, Cabo Verde, and Botswana. Contrarily, the Central African Republic, Sierra Leone, Madagascar, Ethiopia, Eritrea, Congo, Chad, Niger, South Sudan, and Somalia were ranked last in Africa in terms of infrastructure development, with Somalia receiving the lowest score of 4.5 out of 100[4]. In 2021, the developed world had an infrastructure development index of 38.3%, while developing countries had an index of 28.44%, according to statistics[4].

A significant gap exists in Nigeria's infrastructure. With an Infrastructural Development Index of 8.61% in 2003 and 23.27% in 2020, Nigeria fell from the 12th to the 24th position in Africa[4]. For many years, problems such as high unemployment and inflation, widespread poverty, insufficient access to clean drinking water, erratic energy, and widespread fear plagued the country[2]. The country has decided to seek external borrowings from international development partners, foreign financial institutions, and developed countries in order to address the problem of the infrastructural deficit caused by inadequate credit[5].

External borrowings are the proportion of a country's debt that is owed to commercial banks, governments, or international financial institutions (multilateral, bilateral, promissory notes, Eurobonds, and other sources)[6]. It is a significant source of government revenue, and rising levels of foreign borrowing are taken as evidence of progress toward meeting economic and infrastructure goals[5]. Nonetheless, nations often borrow for one of two macroeconomic purposes: to fund increased investment or consumption, or to get around strict budget constraints[7]. This means that borrowing is used to improve infrastructure deficits, reduce

poverty, strengthen national security, and lower the costs of utilities like electricity, gas, and phone service[8].

Countries borrow money when they do not have enough revenue to cover all of their spending needs (capital and recurrent) If the funds are used to expand the economy's productive potential, borrowing from abroad is a good idea and even required for speeding up infrastructure development[5]. Although Nigerians are eager to borrow money from abroad, this interest has yet to materialize into tangible improvements to the country's aging infrastructure. Initial evidence suggests that cash was either stolen or improperly spent[2].

For example, the Debt Management Office (DMO) requested to borrow additional N6. 39 trillion to cover the 2022 budget, bringing Nigeria's total indebtedness as of September 2022 to an estimated 44 trillion Naira 2022[10]. Nigeria's external borrowing rose to $37.96 billion in the third quarter of 2021, from $33.47 billion in the previous quarter[10]. In other words, $16.74 billion came from multilateral debt, $502.32 million from bilateral debt (AFD), and $3.26 billion from bilateral debt issued by the Exim Bank of China, the Japan International Cooperation Agency (JICA), the India Development Finance Corporation (IDFC), and the KFW. The remaining $11.17 billion came from commercial debt instruments like Eurobonds and Diaspora Bonds[11]. Unfortunately, Nigeria's infrastructural investment still ranks below average worldwide and average in Africa, suggesting that her massive external borrowing profiles are not having a favorable effect on her infrastructural growth[3].

In addition, Nigeria's infrastructure has not improved despite the country's use of various forms of external borrowing, including multilateral loans, bilateral loans, Eurobonds, and promissory notes[15]. Unemployment, poverty, insecurity, want, kidnapping, terrorism, hunger, a poor economy, a weak naira, poor educational standards, rising inequality, increased inflation, banditry, social and political unrest, improper waste management, and higher child

mortality rates are all results of Nigeria's subpar infrastructure, including its roads, agriculture, transportation, and economic services[16,17,18,19,20]. Meanwhile, these international borrowing and infrastructure development face a corollary threat from the ongoing decline in the value of the naira, the increase in the interest rate for servicing loans, and the persistent rise in the prices of goods and services in general. Because a weaker naira may make exports to other countries less competitive.

Nigeria has the greatest economy in Africa thanks to its abundance of natural and people resources. It has the world's 20th-largest economy when measured by PPP and the world's 21st-largest when measured by nominal GDP[12]. Oil reserves are estimated at 35 billion barrels, making Nigeria one of the continent's top oil producers, and natural gas reserves are projected to be over 100 trillion cubic feet, making it one of the world's major gas producers (2,800 km3)[12]. In terms of agricultural products like cocoa, groundnuts, natural rubber, and palm oil, Nigeria ranks sixth in the world and first in Africa[11]. Despite these positive indicators, the Nigerian economy is in a rut due to a lack of investment in infrastructure, which has triggered widespread problems such as high unemployment, inflation, insecurity, exchange rate, and poverty[13,14,15,16,17,18,19,20].

Infrastructure development can benefit from using borrowed funds from abroad since the funding of government deficit spending boosts aggregate demand and, in turn, economic growth[12]. However, if the government spends more than it takes in, it can put an undue strain on the economy. When the total amount of debt owed reaches a certain point, it starts to become difficult to pay off[15]. Increasing gross external borrowing should encourage growth in infrastructural investment, which in turn should bring about infrastructural development and a rise in the standard of living[17]. The key reason for drawing external loans is a shortage of internal cash to finance investment projects. Borrowing from outside should speed up

infrastructural development[14]. A rising external debt service burden is a big danger to economic growth, which in turn is driving rising fiscal deficits. Large debt accumulation has a domino effect, putting the country at risk of a heavy debt load[15, 20].

Although external borrowings may enhance the allocation of funds that can translate into infrastructure development. There is a renewed commitment to tax creation, collection and administration by State and Federal governments to suggest that the renewed commitment can result in higher tax revenue growth for the government and holds the potentials in enhancing the provision of infrastructural development. Therefore, the study seeks to investigate the effect of Nigeria's external borrowing (multilateral debt, eurobond, bilateral loan, and promissory note) on infrastructure development (road, agriculture, transportation and economic services) with the inflation rate, interest rate and exchange rate as control variables and to position whether tax revenue can perform an intervening effect.

## 1.2 Statement of the Problem

Access to standard and efficient infrastructure facilities take for example, roads, healthcare, security, education, and power is a hallmark of a prosperous nation. However, this has become a cause of concern for Nigerian citizens. The roads are death traps across major highways and in city centers, access to basic primary healthcare service is a challenge just as insecurity and an unrelenting industrial strike action embarked upon by healthcare practitioners, university dons, and power generation employees happen too frequently. Agricultural productivity has consistently remained poor and worsened by the activities of bandits. If the underlying concerns are not addressed, Nigeria is at risk of remaining a country with high levels of poverty

Finance experts have opined that with appropriate funding, such infrastructural deficit can be developed and made to improve economic activities which has a positive ripple effect on the

living standard of the citizens[1,3,5,7,8]. While this sounds logical, it is imperative to undertake empirical investigations to determine the extent funding drives infrastructural development in Nigeria. Although funding can be obtained internally and externally to address developmental challenges, researchers seem to have mixed thoughts on funding domestic investment through external borrowing[5, 6,17,18,19,20,21]. Some scholars claim it is insufficient, while others affirm its adequacy. Those in support claim that external borrowing will only aid infrastructure development if it is used wisely in productive activities[7,17,20]. Those who advocate internal borrowing argue that it offers result to the economy and create a less international burden on the need to pay back in foreign currency. This debate suggests that there is no consistency in finance literature regarding the relevance of debt for infrastructural development. Hence, the need to address this concern.

Also, this study argues for tax revenue because of its relevance as a source of revenue to the government[21,22]. The advocacy is that if the government channels appropriate strategy to tax creation and collection with an efficient and transparent administration it can lower government debt exposure and enhance the provision of infrastructural amenities in the country. The argument needs to be examined empirically. Although several studies have positioned the value of debt to infrastructural development, likewise how tax revenue can bolster economic growth through infrastructural development in developed and emerging economies[1,3,6,8,18,20,21,22,23]. However, not much is known about how external debt interacts with tax revenue to address the infrastructural deficit in Nigeria. It is on the strength of this discussion, that this study evaluated the effect of external debt on infrastructural development in Nigeria while considering the moderating effect of tax revenue.

### 1.3 Aim and Objectives of the Study

The aim of the study is to evaluate the effect of external borrowing (promissory notes, bilateral loans, multilateral funding, and Eurobond) on infrastructural development (road, agriculture, transport, and other economic activities) in Nigeria. To achieve this aim, the following specific objectives are to:

i. investigate the influence of external borrowing on government expenditure on road construction in Nigeria;
ii. evaluate the effect of external borrowing on government expenditure on agriculture in Nigeria;
iii. determine the influence of external borrowing on government expenditure on transport and communication in Nigeria;
iv. investigate the influence of external borrowing on government expenditure on social and community services in Nigeria;
v. assess the moderating effect of tax revenue on the effect of external debt on infrastructural development in Nigeria;

### 1.4 Research Questions

The following specific research questions are asked:

i. What is the influence of external borrowing on government expenditure on road construction in Nigeria?
ii. In what way does external borrowing affect government expenditure on agriculture in Nigeria?
iii. What is the influence of external borrowing on government expenditure on transport and communication in Nigeria?

iv. How do external borrowing affect government expenditure on social and community services in Nigeria?

v. What is the moderating effect of tax revenue on the effect of external borrowing on infrastructural development in Nigeria?

### 1.5 Hypotheses

In this study, the following null hypotheses were stated:

**$H_0$1:** External borrowing do not have significant influence on government expenditure on road construction in Nigeria;

**$H_0$2:** There is no significant effect of external borrowing on government expenditure on agriculture in Nigeria;

**$H_0$3:** External borrowing has no significant effect on government expenditure on transport and communication in Nigeria;

**$H_0$4:** There is no significant effect of external borrowing on government expenditure on social and community services in Nigeria;

**$H_0$5:** Tax revenue has no significant moderating effect on the interaction between external borrowing and infrastructural development in Nigeria.



### 1.6 Significance of the Study

External borrowing has become a matter of huge concern to stakeholders in Nigeria. Similarly, nations across the globe have resulted in finding a permanent solution to the judicious utilisation of external borrowing and appropriate units of measurement for its servicing.

The general understanding of this study serves as a guide to the debt management office, Central Bank of Nigeria, public sector stewards and stakeholders in the economy to understand external borrowing components (promissory notes, bilateral loans, multilateral funding, and Eurobond) as they affect infrastructural development (government expenditure on the road, government expenditure on transport, government expenditure on agriculture, government expenditure on social and community services(health, education, security, power, & water) in Nigeria while using tax revenue to moderate this relationship.

Understanding from this study should enable the CBN, DMO, and other financial regulatory bodies to formulate better policies and regulations with regards to debt management, external debt management and infrastructural development in Nigeria.

Financial Institutions' stakeholders are better informed in making decisions as it affects the choice of external borrowing and how it relates to infrastructural development in Nigeria. Most importantly, the aspect of infrastructural investment such external funds should be expended.

This study provides a new conceptual model for external borrowing, tax revenue, and infrastructural development in Nigeria. This conceptual model shows functional relationships between sub-variables of the independent variable-External borrowing and sub-variables of the dependent variable-infrastructural development.

Review of concepts, theories and empirical studies also serve as the foundation for future studies. In addition, the findings of the present study will be useful in future research, most especially, those related to external borrowing, tax revenue and infrastructural development in Nigeria, Africa and around the globe.

Finally, findings from this research contribute to the body of knowledge and stir further research in the field of accounting, finance, and public policy.

## 1.7 Scope of the Study

The study assessed the interaction between external borrowing and the infrastructural development of Nigeria. External borrowing (Promissory notes, bilateral loans, multilateral funding, and Eurobonds) is the independent variable (X) while Infrastructural Development (government expenditure on road, government expenditure on transport, government expenditure on agriculture, government expenditure on other economic services) is the dependent variable (Y). While moderating variable (Z) is tax revenue. Control variables in the study include the inflation rate, interest rate and exchange rate.

These variables were selected for the independent and dependent variables because they are appropriate measurements for the X, Y, and Z variables in relation to Nigeria's debt tenure and infrastructural development. Similarly, in order to fully capture the effect of external borrowing on Nigeria's infrastructural development (government expenditure on the road, government expenditure on transport, government expenditure on agriculture, government expenditure on social and community services (health, education, security, power, & water), data covering a period of 30 years (1991-2022). In addition, the periods chosen to cover are under democratic leadership.

## 1.8 Limitations of the Study

There are caveats to this study that need to be recognized in order to open opportunities for additional research. This study is focused on external borrowing and tax revenue and how they influence the provision of infrastructure development in Nigeria between 1980 and 2020. Therefore, the findings of this study are paramount to the time specified and therefore

inappropriate for a different time assessment.

The secondary sourcing has some limitations. However, the research ensured that data gathered were appropriate to the variables examined in this study and were sourced from the appropriate government agencies in Nigeria and where necessary from the World Bank report given the period under investigation. This becomes critical as failure to ensure these can invalidate the findings of the study and render it misleading. Finally, the statistical assumptions, number of observations for the data analysis, and other issues related to inferential statistics were major concerns for testing study hypotheses. However, these obstacles were overcome by adapting the data treatments and pre-estimation tests. Despite these caveats, this research does present important conceptual, empirical, theoretical, and practical implications for the Federal government of Nigeria as regards external borrowing, tax revenue and the provision of infrastructure development facilities.

## 1.9 Operationalization of the Research Variables

Variables of this study are External Borrowing (X) and Infrastructural Development (Y) that is dependent and independent variables respectively. The independent variable (X) is measured by the following parameters: multilateral debts, Eurobond, bilateral loans, and promissory notes. The dependent variable (Y) is infrastructural development with the following sub-variables: Government Expenditures on the road, transportation, Agriculture and Economic Activities while tax revenue is the moderator. Inflation rate, exchange rate and interest rate are the control variables. The Operationalization of the dependent and independent variables are based on the following equation:

$Y = f(X, Z)$

$Y =$ Dependent variable: Infrastructural Development

$X =$ Independent variable: External Borrowing

$Z =$ Moderating variables (Tax revenue).

With Inflation rate, exchange rate and interest rate as Control variables.

Where,

**Dependent Variable**:

X= External Borrowing

Multilateral debt

Eurobond

Bilateral Loan

Promissory notes

**Independent Variables:**

Y = Infrastructural Development

Government expenditure on Road

Government Expenditure on Agriculture

Government Expenditure on Transportation

Government Expenditure on social and community services

**Moderating Variables:**

**Z**= Tax revenue

## 1.10 Operational Definition of Terms

**Bilateral Loans:** A loan contract with just one lender and one borrower (as opposed to a syndicated loan agreement where there are multiple lenders).

**Commercial Debt:** This includes Eurobonds and Diaspora Bonds.

**Eurobond:** An arrangement for a loan between a borrower and a single lender (as opposed to a syndicated loan agreement where there are multiple lenders).

**Exchange Rate:** This is the value that the naira is exchanged for dollar and other currencies at the global market.

**Government Expenditure on Agriculture:** This is government spending on agriculture sector and agriculture-related products and services.

**Government Expenditure on Road:** This includes government spending on road projects across the nation.

**Government Expenditure on social and community services:** This includes all government's expenses on health, education, power and water.

**Government Expenditure on Transport:** This is government spending on transportation projects.

**Inflation Rate:** Persistence rise in the general price level of goods and services.

**Infrastructural Development:** Infrastructural development involves improvement in qualities and quantities of a country's infrastructure such as electricity, water supply and sanitation, information, communication technology, roads, bridges, transportation, rail, solar

energy, cyber route and facilities, airports, and nuclear infrastructures.

**Interest Rate:** This is the amount charged by the lender for making a loan available to the borrower.

**Multilateral Funding:** Multilateral funds are provided by multilateral organizations without any use restrictions, such as the World Bank, International Monetary Funds and the various United Nations agencies.

**Promissory Note:** A promissory note is a document that contains a written promise by one party to pay another party a definite sum of money, either on demand or at a specified future date.

**Tax Revenue:** This includes levies imposed on individual and organisation operating in Nigeria

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# Chapter Two

# Literature Review

The review of the literature of this study followed conceptual, theoretical, and empirical reviews. This review was done to offer a robust understanding of the issues under investigation in this study in consonance with extant literature.

## 2.1 Conceptual Review

This section discussed the study's concept and the existing relationship between the study's various variables, which include external debt, infrastructural development, government expenditure, inflation rate, exchange rate and interest rate.

### 2.1.1 Infrastructural Development

Infrastructure is the physical installations that include things like highways and roads, airports, telecommunication facilities, water supply systems, electrical infrastructure, and waste treatment facilities, among other things[1]. Infrastructure not only provides services that are included in the consumption bundles of local residents, but it also supplements both capital and labour as input in the production process[2]. Increases in investment, productivity, and long-term economic growth are all results of increased access to infrastructure provision, which is beneficial to both human development and quality of life[3].

Expenditures made by Government on infrastructure are intended to raise the total amount invested in the country, which may lead to economic expansion[3]. In his research, Adam Smith proposed that Government should limit its spending to the military, the maintenance of peace and order, and public development projects; anything beyond these is seen to be both unjust and wasteful. If Government fails to assist with the provision of infrastructure, the

economy would negatively be impacted. Communications, roadways, transportation, highways, and ports are all included in the definition of "infrastructure[4].

In another hypothesis, the existence of infrastructure lowers the costs of transportation and any applicable tariffs, increases access to new markets, and lowers operational expenses in a particular nation[4]. Both economic and social aspects of infrastructure are considered to be part of the larger whole[5]. The former category often includes facilities for transportation and communication, road building and construction, electricity generation, water supply, and sanitation, whereas the latter category comprises establishments for education and medical care[6]. The term "infrastructural development" refers to improvements in a country's physical and non-physical infrastructure, both of which are essential to the nation's overall economic development[6]. The improvement of infrastructure is a significant engine for economic advancement and a critical facilitator of productivity[7].

#### 2.1.1.1 Government Expenditure on Road

The purpose of the various structures that make up the road infrastructure, which serves to transport both people and goods, is to connect the various types of roads that exist in a given area[7]. The term "road infrastructure" refers to all of the different types of roads, as well as the facilities, structures, signage and markings, electrical systems, and other elements that are required to ensure that traffic is safe, problem-free, and effective[8]. A rise in the amount of money spent by the government on the infrastructure of roads will result in the construction of good roads suitable for motorized traffic, which will make it simpler to transport raw materials and finished goods to and from places of business.

Access to a good road network is one of the most important aspects that domestic investors take into consideration when deciding where to locate industries. If a country has a good road network, foreign investors are more likely to invest there because this reduces the risk of

accidents that could damage raw materials and finished goods. Such accidents are more likely to occur in countries with poor road networks[8].

Additionally, it is expected that domestic investment will increase in regions that have a good road network, as this will facilitate the easy flow of resources. Poor road conditions almost always result in collisions involving trucks and other vehicles that are transporting raw materials from their source of supply and finished goods to places of consumption[7]. Because roads are the most important subset of the transport subsector, which affects a greater proportion of the population in terms of the transportation of economic goods and services, there is a cap on the amount of money that can be spent on roads[8].

A reliable road network is very important because of its capacity to support the growth and development of other areas of the economy, such as agriculture, commerce, and industry[9]. This is one of the reasons why having a reliable road network is very important. They went on to say that the purpose of having good roads is to make life more meaningful for the people who live on them by lowering the costs of production and shortening the amount of time it takes to move goods and people from one location to another. This is due to the fact that having excellent roads will cause a considerable reduction in the cost of production and save time spent moving goods and people from one location to another[10].

#### 2.1.1.2 Government Expenditure on Transport

The funding for transportation infrastructure could come from the budget of the central government, the budget of local governments, state enterprises, or private investment, all of which contribute to the role of the government as the preeminent provider of transportation infrastructure[11]. This is because it is a form of public transportation; consequently, the Government ought to take a more active role in the provision of public facilities[12]. Since Government through States made the allocation of funding for transportation infrastructure.

Transportation infrastructure includes roads, rail, airports, and seaports are the conduits that allow for free flow of people, goods, and information; these are three things that are necessary in any economy that is based on manufacturing and exporting[11]. Make up of Nigerian transportation system: road, air, rail, maritime, and pipelines. Even though, most goods and people are transported through her extensive road network[12].

Meanwhile, total length of the road network in Nigeria is approximately 195,500 kilometers, of which 32,000 kilometers are classified as Federal's roads, 31,000 kilometers as State's roads, and the remaining kilometers as Local Government's roads. Only about 60,000 kilometers out of a total of 195,500 kilometers of roadways (or 30.7%) are tiled[13]. Despite the fact that there have been several changes made in the transportation industry, the majority of these tiled roads are in dilapidated condition due to poor maintenance and inadequate investment[14]. Overall, transportation's contributions to the gross domestic product of the country are low[15]. Transportation is an activity that typically involves moving people as well as goods from one location to another. Because transportation is so important to economic expansion, there is a direct correlation between the economic prosperity of a nation and the number of kilometers of tiled roads[16].

Scholars believed strong infrastructures cause a decline in transportation costs and create a motive for regional and multinational companies' entry, and that they are accompanied by the attraction of foreign investment. The costs incurred by businesses as a result of deteriorating infrastructure contribute to a reduction in investment[17,18]. An enhancement in the amount and caliber of transportation infrastructure can result in a reduction in the necessary private inputs for producing a specific output level[18].

When government-provided infrastructure leads to a more efficient use of existing resources, there is a corresponding reduction in supply costs. This is true both at the level of the

individual firm and at the aggregate level, where total output per unit of input rises. In light of the information presented above, one line of reasoning suggests that improvements to the nation's and world's transportation systems could boost the efficiency of both domestic and foreign direct investment[16]. Furthermore, the domestic private sector and multinational corporations (MNEs) would function less effectively without publicly funded infrastructure, and any attempts by these entities to provide their own networks would result in duplication and a waste of resources[19]. These types of infrastructure were not publicly provided; the domestic private sector and MNEs would operate with less efficiency[19].

According to the findings of a study on the effect of transportation infrastructure on the attraction of FDI in Iran, transportation infrastructure did not affect FDI attraction in the short run; however, in the long run, it had a positive and significant effect on FDI attraction[20]. Despite this, data from the African Development Bank's 2018 Report on the AIDI indicates that the transport infrastructure index of Nigeria is low when compared to other African nations[15]. It was ranked 31st out of the 54 African countries in 2016, with an index of 4.89 percent. In 2017 and 2018, it was ranked 29th out of the 54 African countries, with an index of 5.10 and 5.09 percent, respectively[15,16]. The total number of paved roads and the total road network are the two components that make up the transport infrastructure index, as stated in the report[16].



#### 2.1.1.3 Government Expenditure on Agriculture

A significant contributor to the competitiveness of agricultural value chains is the agricultural infrastructure, and the key to the production of sustainably-sourced food is access to reasonably-priced physical infrastructure[21]. This includes infrastructure that: supports on-farm reduction such as irrigation, energy, transportation, pre- and post-harvest storage; ensures efficient trading and exchange including telecommunications and covered markets;

enables products to travel swiftly and effectively from the farm to processing facilities and on to distributors. These facilities contribute value to the domestic economy[22]. For example, bulk storage and transportation are two examples of this type of infrastructure.

Therefore, all of the fundamental services, facilities, equipment, and institutions that are required for the smooth operation of the food and fibre markets are included in the definition of agricultural infrastructure[23]. These aspects of agricultural infrastructure, either directly or indirectly, contribute to the expansion of agricultural land and the sector's increased productivity. To achieve maximum level of agriculture's potential output, agricultural development, or its efficiency, is a multi-faceted phenomenon that requires a number of different factors and conditions to cooperate with one another[24]. The productivity of agriculture is affected by a variety of factors, including climatic factors, the growth of agricultural infrastructure, technological advancements, agricultural inputs, and economic policies implemented by the government[25].

Infrastructure is the basis upon which industrial development is built, and agricultural infrastructure is the rock-solid material foundation upon which the growth of agriculture can take place in a healthy and consistent manner. After the country gained its independence, the key to Nigeria's development, which has taken the form of a rapid economic transformation, the alleviation of poverty, and increased food security, has been the intense focus placed on agricultural development[26].

Furthermore, historical records show that agriculture played a significant role in the economy of Nigeria. This was accomplished through the production of sufficient food and fibre of a high quality, the majority of which came from rural areas of the country[27]. As a result, agriculture contributed the greatest share to the nation's gross domestic product (GDP) and earnings in foreign exchange. Agriculture was responsible for a total contribution of 42.07

percent to the nation's GDP in the year 2008, with crop, livestock, forestry, and fishery accounting for 37.52 percent, 2.65%, 1.37 percent, and 0.53 percent, respectively[26,27].

As a result of this, the crop sub-sector had a contribution to the agriculture GDP that was approximately 89.2 percent. In point of fact, the majority of the early developments in the country's infrastructure were funded by the proceeds from agricultural endeavours[28]. In those days, Nigeria was the world's leading exporter of groundnuts and the second-largest exporter of cocoa, accounting for approximately 36 and 20 percent of the global groundnut and cocoa trade, respectively[29]. The export of cotton by Nigeria accounted for approximately 18 percent of the global supply, and the country's contribution of vegetable oil represented approximately 11 percent of the global total[21]. During this time period, Nigerian agriculture was able to grow at a rate that was sufficient to provide adequate food for the growing population as well as raw materials for the industrial sector. This led to an increase in both the public revenue and foreign exchange that the government received, as well as an increase in the number of employment opportunities available to an increasing labor force[30].

In Nigeria, agriculture was responsible for approximately 60 percent of the non-oil revenue that was collected by the government[30]. Agricultural endeavours take place in rural communities. These rural communities experience difficulties as a result of neglect and decay of Agricultural facilities[29]. The most important problem that rural farmers face is the inability to add value to their crops due to a lack of infrastructure in their areas, which is the primary cause of their lower income levels[30]. Because of the cumulative effects, there is now a large gap between food demand and supply, which has resulted in significant food imports which further erodes Nigeria's economy and foreign exchange earnings[31].

The steadily increasing costs of purchasing foreign currency as a result of rising food imports over the years had knock-on effects on a variety of other aspects of the economy. This is not

unconnected with the discovery of crude oil that becomes the country's major exportation. Subsequently, over 80 percent of Nigeria's earnings come from crude oil, with agriculture's share of the total export continuing to decline[32]. This is unconnected with the discovery of crude oil, which later takes the centre stage of the country's exportation[33].

However, as a result of a report published by the World Bank in 1994, the definition of agricultural infrastructure was narrowed down to include only long-lived engineered facilities and other services. These services include roads, electricity supplies, and telecommunication systems[21]. The relationship between the development of infrastructure and agricultural productivity can be seen in the fact that agriculturally related infrastructures are anticipated to lower the costs of farmers, accelerate output, and produce more employment opportunities in the agricultural sector[16]. This is one way that the relationship can be seen. Infrastructure, such as roads and information and communication technology, has a direct and significant impact on agricultural productivity[34]. The quality of the roads has a direct correlation to the amount of agricultural production that can be achieved. Roads, electricity supplies, telecommunication, and other forms of infrastructure are important agricultural output stimulants, especially in rural areas, as was further argued by roads in the previous sentence. Peasant small holder farmers account for approximately 90 percent of all farm holdings in the country[22]. These farmers are the primary force behind agricultural activities. These farmers rely primarily on more conventional agricultural practices and produce food primarily for their own subsistence.

The need to provide access to inputs and other support to peasant farmers in order to boost their productivity and enable them to transition to mechanized agricultural practices has been a driving force behind government interventions. Commercial farm holders have been supported through the provision of credit facilities, input subsidies, capacity-building

initiatives, and export incentives[18]. Agriculture has continued to be a primary contributor to Nigeria's economic expansion, despite the fact that the country's overall rate of growth has slowed over time[19]. The industry expanded by 15.9 percent between the years 2000 and 2005; however, this high figure could be attributed to the enormous growth that was recorded in 2002 (55.9 percent); if that growth hadn't occurred, the industry would have expanded by 6.0 percent. Its growth, on the other hand, slowed down to 6.5 percent between the years 2006 and 2010, and 4.1 percent between 2011 and 2016, respectively[35].

In a similar vein, the sector has maintained its preeminent position in the economy of Nigeria[36]. This is in part attributable to the contribution that the sector makes in terms of value added to GDP as well as the proportion of the population that is employed within the sector, which is estimated to be around fifty percent of all Nigerians[37]. During the years 2000-2005, this sector was responsible for 36.3% of the total value added to GDP[37]. However, over the course of time, its average contribution has decreased to the point where it was only 31.7 percent during the period of 2006-2010 and further decreased to 21.3 percent during the period of 2011-2016[38]. One of the goals that has been included in the majority of the government's agricultural policies and programmes has been to increase the nation's level of self-sufficiency, as well as to decrease the proportion of food that is imported and to encourage the export of agricultural commodities[39].

During the years 2000-2016, there was a consistent rise in the proportion of total merchandise exports that consisted of agricultural raw materials. These exports contributed to a higher total value. Its share increased from an insignificant 0.1 percent during the period of 2000-2005 to 1.0 percent during the period of 2006-2010 and 4.3 percent during the period of 2011-2016 respectively[40]. However, significant gains that were made in reducing the share of imports of agricultural raw materials to total merchandise imports at the beginning of the

period under consideration were reversed towards the end of the period. This occurred despite the fact that the beginning of the period was being considered[41].

Agriculture infrastructure although involves huge initial capital investments, long gestation periods, high incremental capital output ratio, high risks and low rates of returns on investments and increasing crop yields, thereby promoting agricultural growth[42]. Government initiatives to improve the quality and quantity of infrastructure in rural areas through programmes such as the construction of small dams and boreholes for rural water supply and the clearing of feeder roads for the evacuation of agricultural produce and the supply of electricity to rural areas from large irrigation Dams, the establishment of nine River Basin Development Authorities (RBDAs) in addition to the two existing ones (Sokoto and Rima RBDAs); DFR. initiatives to increase the amount and quality of infrastructure in urban areas by implementing programs like the construction[43].

### 2.1.3 Tax Revenue

Despite the fact that several authors use diverse terminology to define taxation, they all agree on one thing: it is obligatory. The purpose of taxation is to ensure that public authorities have the resources they need to provide citizens with social amenities and security, and to foster economic growth and prosperity[44]. Most governments' revenue bases are built on taxation[45]. Taxation is the economic pivot point between the state and its citizens, and tax money is the lifeblood of the social compact. A nation's tax policy is the primary means through which public and private sectors allocate resources within the country. Taxes are levied for the purposes of controlling enterprises, reducing income inequality, lowering inflation, and protecting nascent industries. The term "tax" refers to the financial or material resources that private citizens are compelled to hand over to government agencies as part of the taxation process. Because tax money is designed to be used to provide public goods for the benefit of

all citizens, no individual taxpayer receives any of the advantages[46].

For tax collection to be as efficient as possible, the tax system must encourage economic growth and development in a number of ways. Through the efficient and effective use of tax income, which in turn encourages voluntary compliance, a healthy tax system supports and drives commerce. In light of the fact that taxation continues to be one of the most stable ways in which states raise money to fund public expenditures, it is incumbent upon the appropriate authorities to implement tax policies that streamline tax administration while simultaneously fostering economic expansion[47]. However, tax revenue generation in Nigeria has been hampered by public authorities' failure to meet the obligations outlined in their social contract with the country's population, making tax revenue mobilization a difficult task for those responsible for collecting the necessary funds[48].

Nonetheless, a few schools of thought in taxes appear to propose reforms that would increase tax payer trust and encourage more people to fulfill their legal responsibilities to the state. The benefit theory of taxation is one such theory; it argues that tax rates are set automatically because individuals pay taxes in direct proportion to the benefits they receive from the State. In other words, the person who receives the most from public services is also the one who pays the most in taxes. The benefits theory's strong point is the one-to-one relationship between tax collections and government spending. It's used as an approximation of market behavior in Sector 47's method of allocating public resources.

One line of thought continued by saying that since there is no such thing as tax evasion, governments should focus on taxing goods and services whose supply and demand are relatively stable. Where labor supply is perfectly inelastic, there appears to be consensus that income tax is the most effective tool for the redistribution of wealth. This view is flawed because, in cases where tax rates, penalties for noncompliance, and regulatory environments

are all unfavorable, income taxes actually provide a more inviting setting for tax evasion than commodity taxes. No matter how you look at it, taxation is an important economic regulator for both advanced and emerging economies. To be more specific, taxes are administered to encourage revenue creation in order to fund public spending, provide merit goods, curb inflation, redistribute money, and discourage unsavory enterprises and the consumption of harmful commodities[49].

The creation of tax revenue is regulated by international tax regimes, which have their roots in both international and home tax policies and internationally accepted tax principles that arise from analyzing the many components of any domestic tax regime. The International Tax regime consists of the following four main parts, each of which can be found in one of the following four primary sources: The ideas, norms, regulations, and decision-making procedures upon which the tax regimes of individual jurisdictions are based[38]. As a result of widespread agreement on basic concepts, tax treaties have emerged as a bilateral framework for preventing double taxation[50].

Multilateral agreements that address either internationally acknowledged concepts of substance or internationally adopted procedures, as well as the works of organizations like the Organization for Economic Cooperation and Development. The taxation axes are a stand-in for fiscal policy and have a wide-ranging impact on a nation's economy. Investing Activity May Be Slowed By Taxes[51]. When the benefits of working longer hours are diminished, people may choose to spend their time doing other things rather than working, which might reduce the labor supply. A negative impact of tax policy on R&D spending has the potential to dampen productivity growth. When one jurisdiction has a high tax rate and another has a low tax rate and a favorable regulatory climate, the flow of resources might be influenced by the tax rate.

The effective utilization of human capital might be distorted by excessive taxation on labor. Individuals, their assets, and businesses are all subject to taxation as a means of raising money to cover the costs of living. It's important to keep in mind that taxes are not voluntary contributions, but rather a legal obligation[52]. One of the many factors that contribute to Nigeria's economic growth is the country's tax system[53]. Direct taxes are those levied on a specific person, business, or asset, while indirect taxes are levied on a specific class of people or things. In contrast to indirect taxes, which are paid by the final consumer, the incidence of direct taxes is borne entirely by the person whose income is being taxed. Income taxes, both individual and corporate, and value-added taxes are examples of direct taxes. Indirect taxes include value-added tax.

All citizens and permanent residents of Nigeria are subject to a personal income tax on all money earned in or brought into the country. The Federal Inland Revenue Service is responsible for collecting personal income tax from federal employees, Nigeria Police officers, Ministry of Foreign Affairs employees, and non-residents, while the States Boards of Internal Revenue are in charge of collecting tax from residents. All corporations based in or receiving revenue from Nigeria must pay corporate profit tax, often known as firms' income tax, while corporations based in or receiving revenue from oil and gas operations in Nigeria must pay petroleum profit tax.

Value-Added Tax Expenditure, sometimes known as Consumption Tax, is a tax levied on the gross proceeds from the sale of non-exempt, qualifying goods and services in Nigeria. Nigeria's tax system is governed by both central and local governments, each of which has certain territorial and tax-related responsibilities. The Taxes and Levies (Approved list for collection) Act No. 2, 1998 specifies these obligations. Section 2(1) of this Act provides that "Notwithstanding anything contained in the constitution of the Federal Republic of Nigeria

1979 as amended, or in any other enactment or law, no person other than the appropriate tax authority, shall determine or collect any tax or levy stated in the schedule to this Act on behalf of the government, and members of the Nigerian Police Force may only be employed in line with applicable tax laws[54].

Federal Government Taxes; These are tax kinds that are subject to the jurisdiction of the Federal Tax Authorities (Federal Inland Revenue Service) as stipulated by the 'Taxes and Levies' (Approved list for collection) Act, No 2, 1998. Examples of these are:

Firms' Income Tax: This is charged on the profits of limited/Public limited liability companies. It is also known as corporate profit tax. Taxpayers in this category in Nigeria are evaluated based on their filings from the previous year. That is to say, this year's taxable gain is the result of last year's operations. Withholding tax is a form of prepayment of income tax. It is not a tax type in itself but a collecting tool meant to prevent tax evasion. Payments to taxpayers who participate in contract activities are subject to withholding at the source. It nonetheless, stands as credit to the taxpayer and it is eventually utilized to settle its tax burden when tax returns are finally submitted in respect of the year to which the deduction applies. If a taxpayer's declared tax due is higher than any credits or deductions to which they are entitled, then that taxpayer will get cash or a refund upon request.

Firms involved in petroleum exploration and production, often known as oil producing companies, are subject to a tax known as the Petroleum Profit Tax on their net income. The Petroleum Profit Tax Act sets the rules for this sector's businesses. There are two types of tax returns that they must submit: Returns of Estimated Taxes must be submitted within two months of the beginning of each fiscal year (Latest by the end of February of each year). The returns comprise the estimations of the Petroleum profit tax due for the accounting year based on the company's authorized budget for the year and the expected price per barrel utilized by

the Federal government in its annual budget as the reference price of crude oil. However, if the company learns during the accounting period that the initial estimates as filed may result in overpayment of tax at the end of the year due to changes in prices, cost, or volume of production or liftings, revised estimated returns may be filed at any time during the accounting period.

Authentic/Final Tax Returns: Within five months after the end of the accounting period, i.e. on or before May 31 of the following year, production and exploration businesses must file their final returns based on their audited financial statements. On the basis of the predicted tax returns, the tax is paid monthly in equal installments. VAT, or Value Added Tax: Consumption tax, or sales tax, is another name for this. Everyone who shops for products and services pays it, with the exception of those who buy exempt items. Taxpayers are able to offset the output VAT they incur when supplying the final customers with the Input VAT they incur when purchasing goods and services for use in manufacture or resale. The Value Added Tax Act regulates the implementation of this form of taxation.

Tax on educational institutions that serves as a form of development levy to spur the expansion of educational opportunities for all citizens (Majorly Tertiary education). Two percent of a company's taxable profit is subject to this tax. The Tertiary Education Trust Fund receives the funds collected by the Internal Revenue Service of the United States. Income Tax on Capital Gains for Corporations and Foreign Residents. Basically, it's a tax on the profits made from selling tangible assets like buildings. There will be a 10% tax applied. Lastly Federal Inland Revenue Service stamp duties are assessed on legal documents signed by corporations. All contracts entered into by private citizens fall within the purview of the state's Board of Internal Revenue.

Taxes levied by individual states, such as the "Pay as you earn" (PAYE) version of the

individual income tax and "direct assessments" of other types. (Taxation of Individuals Act of 2011 Section 104) (As amended). Section 3(1) of the Act states that tax must be paid annually on the whole amount that constitutes each taxable person's income for the year from sources within and outside of Nigeria[55]. Examples of these levies are: Individuals are responsible for paying the withholding tax. When an individual disposes of a chargeable asset, he or she is subject to capital gains tax. Individually executed instruments, wagers on pools and lotteries, gaming and casino charges, and taxes on these activities all incur stamp duties. Fees for using the roads. Registration costs for commercial properties. Individuals are responsible for this development levy. Capital city street naming fees. Occupancy rights: State government fees for use of state-owned land in populated areas. Duties are taxes imposed by the market.

Spending by Municipal Governments Numerous types of taxes, such as those on property, salaries, purchases, and permits are collected. Shops and kiosks are included in the taxation. Fees for registering a marriage, a birth, or a death; Slaughter slab rentals; Tenant assessments; Fee for registering the naming of a street outside of the state capital. Property taxes in rural areas, excluding those levied by the federal and state governments for the upkeep of public infrastructure[56]. Taxes and levies imposed by the market, with the exception of markets regulated by the state, taxes on parking lots, charges for keeping pets, costs associated with using non-motorized modes of transportation include bicycles, trucks, canoes, wheelbarrows, and carts Only cattle farmers are required to pay the tax on their livestock, public convenience, sewage, and refuse disposal fees, wrong parking charges, Customary burial ground permits Religious places establishment permits Signboard and advertisement permits Radio and television license fees (other than radio and television transmitters) Vehicle radio license fees (to be imposed by the local government of the State in which the vehicle is registered)[57].

It is well known that developing countries like Nigeria have trouble raising tax revenue due to factors like the prevalence of informal sector-based economies, the low rate of taxpayer registration, the encouragement of non-compliance through the improper use of tax revenue by leadership (especially in Africa), and, most importantly, the inability of tax authorities to effectively implement anti-avoidance policies due to a lack of resources[58]. Lack of anti-avoidance legislation, such as transfer pricing documentation requirements or thin capitalization rules, also makes it easier for multinational firms to shift profits from high tax to low tax jurisdictions. Income shifting is accomplished by the manipulation of transfer prices, the debt-equity structure of the organization, and the location of valuable assets, especially intangible ones[59]. In addition, multinational corporations favor establishing subsidiaries in tax haven countries due to the lenient tax policies and regulatory environments provided by these nations. These nations facilitate tax evasion and avoidance practices by providing incentives like a zero or low tax rate, a preference for not sharing tax information with other nations, and the ability to conceal the true ownership of a company's assets. Other methods include providing intentionally low pricing on exports to subsidiaries in tax haven countries and providing artificially high prices on imports from such subsidiaries[60,61].

That is to say, in high tax jurisdictions, underreporting the value of exports and inflating the price of imports can be used to legally lower taxable profits[62]. The implication is that the host country's tax revenue productivity is diminished since the subsidiary's profit is artificially shifted out of the host country as expense in payment for the goods or services imported by it from the parent or other associated parties within the group. Where transfer pricing restrictions do not exist, or where they are ineffective, tax revenue losses increase dramatically. Tax-to-GDP ratios illustrate the less-than-ideal outlook for tax income in developing countries. In wealthy nations, this number is well above 30%, but in underdeveloped nations, it is still just about 15%. Intriguingly, Nigeria has a tax rate that is

only 6% of its GDP. That means there is no context for taxpayers to voluntarily comply with tax laws on their own.

### 2.1.3 Control Variables

The control variables in this study include inflation rate, exchange rate and interest rate, are discussed in this section.

**Inflation Rate**

Inflation is another factor that has an effect on interest rates, according to[63]. Because of the requirement to keep a positive real interest rate in order to encourage other economies, the interest rate is likely to be higher the higher the forecasted rate of inflation is. This is because of the need to maintain a positive real interest rate. If predicted inflation goes down, provided that all other factors remain the same, then the interest rate will go down as well. Interest rates have a tendency to go up when prices are going up and when inflation expectations are going up at the same time[63]. Conversely, interest rates tend to go down when inflation is low and when there is an improvement in projected inflation. Because of this, there is a positive connection that develops between inflation and the interest rate. Savers would be shielded from the negative effects of inflation by interest rates that were higher than the rate of inflation; on the other hand, when the rate of inflation was higher than the interest rate, borrowers tended to benefit at the expense of savers[64].

One definition of inflation is a insistent upsurge in prices for goods and services in the economy[16]. It is expressed as a percentage increase over the previous year. When inflation is high, each naira that a person possesses can only purchase a smaller proportion of a product or service[63]. During periods of inflation, the value of one naira can fluctuate significantly. The purchasing power of a currency is the standard by which its value is determined.

Purchasing power refers to the actual, material things that sums of money can buy[63].

Furthermore, a fall in the purchasing power of money occurs whenever there is an increase in inflation. The consumer price index is used to calculate inflation[16].

**Exchange Rate**

The participants in the market and the characteristics of the market both contribute to the significance of the exchange rate[64]. Another reason for the significance of the exchange rate is the significance of the exchange rate both as a variable for business operations and as a variable for macroeconomic policy[65]. Exchange is quintessential factor for economic growth. The goal of exchange rate management as a state economic policy is to increase a state's level of competitiveness in international markets[66].

One factor that can foster economic growth is a stable currency exchange rate, competitive, and effectively multiple[67]. The relationship between the interest rate and the exchange rate can be investigated through the demand for and supply of foreign currency on the foreign exchange market[67]. This is because these factors influence each other. Speculators in the foreign exchange market typically rely on higher interest rates in other countries in order to trade in foreign currency and benefit from higher gains[68]. For instance, stakeholders in South Africa might be enticed by a higher interest rate in Nigeria to purchase securities denominated in Naira in order to generate a higher level of revenue for themselves.

**Interest Rate**

Interest rate is the sum of money that is charged to a borrower by a lender for the use of money that has been borrowed[69]. This amount is expressed as a percentage of the principal amount of the loan. It is frequently expressed as a percentage of the total amount of money that has been borrowed (the principal) for one year or for any other period of time – month,

week, day, that has been agreed upon by the lender and the borrower at the time the loan was taken out[70]. Further, interest rates are the rental payment made by borrowers in exchange for the use of credit, while returns are given to lenders in exchange for parting with liquidity[71]. Interest rates serve as a form of rationing by dividing up a limited supply of credit among a number of competing demands. More so, interest rate is the rate at which inflation remained constant and the production gap was equal to zero[72]. The percentage of the principal that is paid as a fee over a specific period of time that makes up the interest rate[71]. This fee is known as the "interest." It could just as easily be described as rent payments in exchange for the use of credit by borrowers, while the return would allow lenders to rid themselves of liquidity over time[72].

Rates of interest can be discussed in terms of either nominal or real values, depending on whether or not adjustments to price levels (also known as inflation) are factored into the calculations of those rates. If there is no modification made to account for changes in the general price level, the interest rate will be expressed in nominal terms. A rate of interest that does not take into account the effects of inflation is referred to as a nominal interest rate. It is, in all intents and purposes, the simplest possible example of an interest rate[69].

The transmission of monetary policy actions to economic activities is heavily reliant on interest rates as a crucial element. For instance, the policy regarding interest rates in Nigeria has shifted during the period of time that spans both regulated and unregulated regimes[71]. However, the effects of this variable on the expansion of the Nigerian economy continue to be a contentious topic of debate. A new policy framework was implemented in 1993 with the primary objective of deregulating interest rates, which at the time were extremely variable and high[73].

Rates of interest play an essential part in the effective distribution of resources that are

intended to foster the expansion and development of an economy[73]. They also serve as a demand management technique that is used to achieve both internal and external balance, with a particular focus on deposit mobilisation and credit creation for the purpose of enhancing economic development[92]. In spite of the fact that numerous expansionary monetary policies have been put into place, the inflationary pressure has increased, which has resulted in the Central Bank of Nigeria having to raise interest rates[73].

### 2.1.4 External Debt

Government debt has been considered as a critical fiscal policy tool for funding a nation's growth. It is put to use in the process of settling expenditures that, in the long run, will finally boost productivity and contribute to the expansion of the economy[74]. As a result of various factors such as the decrease in oil prices, fluctuation in currency exchange rates, and rising interest rates, the global economy of developing nations has been negatively impacted, with a particularly strong effect seen in Nigeria. The problem of debt faced by numerous developing countries has received worldwide attention[74].

The amount of a nation's total debt that is owed to entities located beyond the borders of that nation, including but not limited to multinational enterprises, international financial institutions, and overseas governments, is known as the nation's external debt[74,75]. In the event that the government is unable to fulfill its responsibility of providing public goods to the populace in an effective and efficient manner in order to domestically improve the nation's standard of living and economic development, then the best alternative is to finance economic development by sourcing it from outside the nation through debt[76]. This sort of debt is paid off with funds derived from other countries' currencies, and interest is charged on it.

External debt refers to the amount of debt owed by a country to creditors outside of its borders. This can come from a variety of sources such as foreign companies, governments, or financial institutions[77]. It's not just the government that can be responsible for this type of debt, but also companies and even individuals. The external debt constitutes a part of a nation's total debt and represents the obligations to foreign lenders[78]. The external debt of a country is the portion of its total debt that is owed to creditors residing in other countries. These creditors could be foreign commercial banks, government entities, or international financial institutions. The term "foreign debt" or "external debt" is used to describe the amount owed to these out-of-country creditors.

According to yet another interpretation of the term, external debt refers to the sum of money that the government and other organisations inside a country have borrowed from the governments and organisations of other nations[79]. The amount of money that a nation owes to other nations is known as its foreign debt. This debt might be directly owed to other nations in the form of government-to-government loans, or it can be owed indirectly as a result of a negative balance of trade[79].

Despite this, many countries depend on one another to support their economic development and achieve sustainable growth. This is because there is a shortage of resources and certain countries have relative advantages[79]. The amount of money that a country or sub-nation owes to an international creditor after receiving financial assistance in the form of loans from that creditor is referred to as the country's or sub-external nation's debt[80]. This external debt can evolve into an external debt burden, which arises when the amount due gets increasingly substantial and difficult to pay back or when there is difficulties in annual debt service. Both of these scenarios are examples of situations in which an external debt burden can exist[80].

The term external debt can refer to either the national debt that is due by the government or

the aggregate of borrowings by all levels of government, including the federal, state, and local levels of government[81]. It is possible to see it as the total amount of borrowings that government bodies of a country have accumulated; this sum includes money that is owed to private companies, public entities, foreign governments, and other such entities. Therefore, it could refer to either local or foreign debt.

When discussing the national debt, it is important to take into account upcoming pension payments, existing government obligations, as well as goods and services obtained by the government using credit[81]. Borrowing can be a desirable option when it is utilized to finance investments that are predicted to bring in a satisfactory rate of return or to even out consumption during periods of irregular aggregate supply. This is particularly the case when borrowing is used to fund investments that are expected to generate an adequate rate of return. By doing so, borrowing can bring about an increased level of economic well-being that would not have been possible otherwise.

However, investments that are funded by debt must be productive and efficiently managed in order to generate a rate of return that is greater than the interest or principal that is paid on the debt[82,83]. Borrowing money from outside sources can be beneficial in that it can stimulate growth, albeit the level of this benefit is contingent on how the acquired resources are put to use. In reality, Nigeria faces limited opportunities for capital formation due to low income levels and a high prevalence of poverty, hindering the country's ability to secure sufficient funds for development from within its own borders. The widespread nature of poverty exacerbates the situation.

When developing countries are confronted with a shortage of capital, it is typically anticipated that they will acquire external debt in order to complement their domestic saving[84,85]. Borrowing money from international financial institutions, such as the

International Monetary Fund (IMF), often offers interest rates that are about half as high as those offered on the home market. This makes borrowing money from abroad a more attractive option than taking on domestic debt. However, this relies on whether the borrowed money is spent in the productive sectors of the economy or if it is used for consumption, as this determines whether or not the borrowing nation would benefit from taking on external debt[86].

The early authors are of the opinion that a developing country's economic progress will most likely benefit from it taking on moderate amounts of debt in order to finance its borrowing needs. If these debts are managed correctly, they can be of enormous assistance to a rising nation. Not only do they contribute to the nation's expansion, but they also increase the overall resources that are accessible to an economy over a specified time period[82]. When a loan for USD28 Million was received from the World Bank in 1958 to construct a railway and other developmental projects in Nigeria, this marked the beginning of the country's accumulation of external debt[87]. The problem of servicing debt began in 1985, when the total external debt of Nigeria rose to USD19 billion. However, the government was able to pay back more than USD35 billion to the international creditors (Paris Club), while the amount of money that had been borrowed was then less than USD15 billion[88]. This caused the problem of servicing debt to arise.

Due to the apparent debt overhang in Nigeria, the administration that was led by Obasanjo during the years 2003-2007 vigorously sought debt revocation, which ultimately resulted in a reduction of the country's external debt to an amount equal to USD3.4 billion in 2007[87]. In 1964, the nation requested and received a loan from the Paris Club of Creditor Nations in the amount of $13.1 million US dollars to fund the construction of the Niger Dam. The structure of Nigeria's debt was altered as a result of the country's participation in the International

Capital Market (ICM) in 1978 for the much-talked-about "jumbo loan" of $1 billion. Prior to this, Nigeria's debt was primarily comprised of concessional loans; after this, it was comprised of loans with more stringent repayment terms[88]. In 2002, Nigeria's debt reached approximately $39.9 billion. This increase was mostly caused by the accumulation of interests, fees, and penalties in addition to the precipitous drop in oil prices. As a direct consequence of the debt crisis, Nigeria's economy grew more slowly than expected, and the country also faced increased levels of poverty and unemployment, as well as higher interest rates and security issues[89].

#### 2.1.4.1 Multilateral Debt

A nation's multilateral debt is the portion of its total foreign debt load that is owing to international financial institutions (IFIs) like the World Bank and the International Monetary Fund (IMF)[90]. Multilateral debt is also known as multilateral obligations. As a result of the International Financial Institutions' (IFIs) status as "preferred creditors" and as providers of core development and balance-of-payment loans, multilateral debt looms larger than other obligations for the majority of the world's poorest countries[91]. Due to the special status of these creditors, it is imperative that any payments made to them take precedence over both private and bilateral (government-to-government) debt. In addition, these organizations argue that the bylaws of their organizations prevent them from providing debt relief or writing off debts, as is common practice among commercial creditors and the government[91].

Since IFIs determine a country's creditworthiness, governments have a special incentive to keep current on their multilateral debts: until the International Monetary Fund gives its stamp

of approval, which typically requires adherence to the economic policies it recommends, poor countries generally cannot get credit or capital from other sources[19]. Also, in order to qualify for bilateral debt reduction from the countries that make up the "Paris Club" of creditors, a country must first sign onto a programme offered by the IMF. Loans and credits from the World Bank, regional development banks, and other multilateral and intergovernmental organisations are included in the category of publicly available and publicly guaranteed multilateral loans (such as the Caribbean Development Fund, Council of Europe, European Development Fund, Islamic Development Bank, Nordic Development Fund, and similar entities)[92].

Loans from funds that are administered on behalf of a single donor government by an international organization are not eligible for this programme[93]. These are what are known as loans from the respective governments. The primary function of multilateral financing agencies (MFAs) is to provide member nations that are in need of financial assistance with access to funds for specific projects and programmes. This, in turn, will encourage better rates of economic expansion[92]. MFAs increasingly require that the institutions (and their governments) who borrow the money execute economic reforms as part of the conditions for such lending[93]. These requirements are becoming progressively stricter.

Therefore, the multilateral lending organizations are concerned not only with ensuring that the loans will be repaid but also with how a particular loan affects the economy of the country and how the government will implement economic policy. Macroeconomic reform, which includes fiscal, monetary, and exchange-rate policy, as well as a recent emphasis on market liberalisation and privatisation, is the most important issue that multilateral lending institutions take into consideration[94]. Social reforms such as improvements in land tenure, expanded access to education, health care, and contraception, and political democracy

through multiparty elections in the absence of human rights abuses are of secondary importance[94]. For instance, international financing agencies will look favourably upon a nation that is making rapid progress toward market liberalisation, even if the nation in question abuses its political democracy and violates human rights. This is because rapid market liberalisation is a sign of economic growth[95].

On the other hand, these agencies do not cater to countries with mediocre macroeconomic performance, even if those countries are making significant efforts toward social reform in order to establish a solid base for growth. This is because these countries are not considered to be good growth prospects[96]. It is estimated that multilateral lending to all developing nations has reached roughly double the level of official bilateral lending at this point in gross terms. When measured in net terms, multilateral lending has emerged as the largest source of public borrowing for low-income countries and heavily indebted poor countries (HIPCs) in particular[97]. On the other hand, borrowing from private sources has become an increasingly important source of financing for middle-income countries.

Concurrently, in 1996, nations with a middle-income continued to receive the majority (65 percent) of multilateral funding, which amounted to a total of $27 billion (gross). Low-income countries, on the other hand, received around half of the net disbursements made by multilateral organisations[98]. This is due to the higher share of concessional lending that these nations received, which is typically of longer tenure and hence includes smaller repayments. In accordance with the definition found in the Debtor Reporting System (DRS) of the World Bank, the term "multilateral lending" will be used throughout this section to refer to lending done by international organizations[99]. These international organisations include the World Bank, regional development banks, and other multilateral and intergovernmental agencies. Also included is borrowing from the International Monetary Fund[23].

Excluded from consideration is lending that comes from funds that are managed by an international organization on behalf of a single donor government. The majority of the statistical data presented in this part comes from the DRS, with some estimates from the IMF staff rounding out the picture. Recognizing the importance of the private sector as the primary driver of economic expansion, multilateral institutions are placing a greater emphasis on encouraging the growth and privatisation of the private sector[100]. In spite of the fact that multilateral organisations are only able to have a limited direct involvement due to resource limitations, the primary focus of their function is to act as a catalytic agent by encouraging private money flows to be directed toward the private sector in developing nations[100].

### 2.1.4.2 Eurobond

Eurobonds were first proposed as a more developed type of cooperative debt management that offered the possibility of efficiency gains[101]. The enhanced liquidity of Eurobonds would lower the average cost of borrowing money throughout the Eurozone. This would be accomplished by merging the fragmented national public debt markets. In an ideal world, Eurobonds would compete with US Treasury Bonds for their status as a "safe haven," and they would also help to promote the role of the euro as a reserve currency[101].

Eurobonds, or "stability bonds" are public bonds that are frequently issued and guaranteed by nations who are part of the eurozone[101]. Therefore, the pooling of the respective credit risks and guarantee responsibilities of the Member States is included in the debt that is issued jointly. Weak member states, in the sense that they are currently confronted with severe market pressure and high interest rates, would gain from the credit worthiness and assurances of "strong" member states as a result of this. Eurobonds would most likely be issued by a single European agency, but this isn't a given and isn't a need either[98].

Eurobonds need a sharing of risks rather than a sharing of a "common" debt among investors.

Each nation is still responsible for the repayment of its own proportion of the debt that was issued in the form of Eurobonds. Creditors are only able to call in other countries' debts in the event that one nation defaults on its financial commitments (also known as failing to meet its payment obligations). Eurobonds are somewhat comparable to other forms of jointly guaranteed debt issuances that are already in existence and are used to finance European lending programmes[98]. Already, the European Commission takes out loans on the financial markets through the issuance of debt that is guaranteed by the EU budget (hence ultimately by all Member States). In addition, the lending activities of the EFSF and the ESM have their borrowing operations guaranteed by members of the eurozone[99].

A bond that is denominated in a currency that is different from that of the nation in which it was issued is referred to as a eurobond[102]. The phrase does not refer solely to bonds that have their origins in Europe. A bond is considered to be a Eurobond whenever its face value is expressed in a currency other than that of the country from which it originated; for instance, a Japanese bond that is denominated in dollars rather than yen is considered to be a Eurobond. Eurobonds, on the other hand, are not to be confused with 'project bonds,' which are fundamentally different financial products[103]. Project bonds enjoy the benefits of European guarantees, but they are issued by private enterprises. In addition to this, their primary focus is on easing the financial burden placed on particular infrastructure projects as opposed to general governmental expenditures[102].

**Size of the Eurobond Market**

The extent to which national debt issuances are replaced by purchases of Eurobonds will determine the size of the European bond market. If a complete substitution is implemented, issuance of the national debt would cease, and the financing of government debt would be wholly covered by eurobonds[104]. In addition, there is a possibility that previous national debt

could be converted into eurobonds. There has been only a small amount of replacement, although national debt issuances have continued alongside eurobonds[104]. The amount of debt that can be financed using Eurobonds is typically determined by reference to a ceiling, which is typically stated in terms of relative comparisons (for example, relative to a country's GDP). If access to the Eurobond programme is not required, then it is possible that certain countries considered to be "strong" will finance themselves only through their own national bonds[105].

Since only "poor" countries are likely to issue debt through Eurobonds, this may result in a worse credit rating for Eurobonds. If the restricted replacement option were chosen, any additional debt financing above the ceiling that was established for eurobonds would be financed by the nation's existing debt[106]. Because of the linked guarantees, eurobonds would be considered senior to national bonds, at the very least de facto but possibly de jure as well[28]. The objectives of Eurobonds, which are to ensure the borrowing resilience of "weak" nations and to prevent contagion, will not be realised if the market pressure on the remaining national debt issuances proves to be "excessive[106].

**Guarantee Structure**

With what is known as "proportionate guarantees," also known as "pro-rata" or "several" guarantees, each guaranteeing Member State is only accountable for its own proportionate share of the Eurobonds' financial obligations. A particular contribution key would be used to determine a person's liability[105]. This key may, among other things, be derived from a nation's proportion of issued eurobonds, ECB capital, the EU budget, or gross domestic product. This is the foundation upon which the EFSF and the ESM operate. Joint and several guarantees mean that each nation is responsible not only for its own proportion of Eurobond issuances but also for the proportion of any other Member State that is unable to live up to its

commitments. This means that the total amount of debt that must be repaid is significantly higher[106].

In principle, this kind of guarantee would be more powerful than a 'proportionate' guarantee, and as a result, it would reduce the costs of borrowing money through Eurobonds. If it becomes necessary, the guarantee on the Eurobonds can be strengthened by the use of additional methods. This may involve legal seniority status (with respect to issuances of national debt) or collateralization of the debt (with cash, gold, shares of public companies, and earmarking on fiscal revenues)[101].

**Conditionalities**

Participation of a Member State in the issuing of Eurobonds may be made contingent on the state's fulfillment of certain conditions and/or the consensus of the other nations that are participating in the programme. Specific requirements could include, for instance, meeting rigorous fiscal and macroeconomic benchmarks, having implemented binding fiscal regulations, and not being engaged in an EU/IMF adjustment programme[99]. Participation in Eurobonds can be made contingent not only on meeting specified conditions, but also on receiving the approval of other nations within the Eurozone and possibly the Commission. In order to guarantee the political, economic, and legal viability of eurobonds, considerable obstacles would need to be surmounted. They include maintaining the legal soundness of eurobonds, balancing predicted economic gains and losses, and having proper regulatory systems in place to address concerns around moral hazard[98].

Eurobonds have the potential to play a role in a more extensive solution to the crisis. They have the ability to keep 'weak' member states' access to the financial markets open. This would, in turn, enhance their outlook while also reducing the possibility of contagion spreading to other Member States. Nevertheless, countries within the Eurozone would still be

required to address the fundamental causes of the crisis, which include unsustainable fiscal policies and/or substantial economic imbalances. This is an essential requirement[99]. However, Eurobonds would provide both the time and resources necessary to carry out the essential reforms. In addition, participation in Eurobond issuances might be made contingent on compliance with the norms of European economic governance, which would provide support to the rules' actualization by making compliance with them a prerequisite for participation[30].

#### 2.1.4.3 Bilateral Debt

A direct loan agreement made between a single borrower and a single lender is referred to as a bilateral debt[100]. Because there are only two parties involved in the loan, it is referred to as a "bilateral" loan because each party has an obligation to the other. The terms of the loan agreement stipulate that one party will provide a certain amount of money, and the other party will repay the money according to the terms of the same agreement[101]. A working capital loan, a loan for fixed assets, or a loan for general corporate purposes are all examples of the types of loans that fall under the category of "bilateral loans." Bilateral loans are a type of loan business. The fact that the bank is willing to be relatively autonomous, flexible, and personalised the repayment scheme for the borrower is the primary benefit of a bilateral loan[107].

The size of the loan should be the primary factor used to determine whether you should go with a bilateral loan or a loan through a syndicate. However, another thing that should be taken into consideration is whether or not it is essential for the business to maintain continuity regarding the identity of the lender during the duration of an agreement[107]. As an illustration, this would be the case if the corporation anticipated the requirement to seek exemptions from covenants (undertakings) or causes of default in the foreseeable future[32]. A lender with whom it has a relationship and with whom it conducts more business is likely to

be more willing than a lender with whom it does not have a relationship to sit down and negotiate waivers and even a refinancing. In the event that the business wishes to maintain its relationship with its lender, the facility will most likely be bilateral (rather than syndicated), and a clause will be included in the agreement to restrict the lender's power to assign or transfer the loan[108].

Because bilateral loans provide for more flexibility than ad-hoc collections of bilateral and syndicated loans, some businesses prefer to negotiate a series of bilateral loans rather than enter into either. On the basis of a standard form loan agreement that was prepared by the firm on its own, a corporation has the ability to perform what has been described above. It is possible that financial institutions will be willing to accept this on the condition that each financial institution will be in a position comparable to that of any other financial institution, depending on the circumstances[108].

#### 2.1.4.4 Promissory Notes

A promissory note is a short-term credit instrument that consists of a written promise by one person (the maker) to pay another person a specific sum of money on demand or at a given future date[108]. This promise can be made either immediately or at some point in the future. The terms of a promissory note can frequently be negotiated, and the note may be secured through the pledging of property. During the Renaissance period, promissory notes were common currency in Europe. Both the form and the function of the instrument underwent significant transformations throughout the 20th century. New clauses were written into the document, including provisions that allowed for the sale of collateral, the extension of payment terms, and the acceleration of payment terms in the event of a default[109].

A promissory note is a legal instrument (more specifically, a financial instrument) in which one party (the maker or issuer) promises in writing to pay another party (the payee) a certain

sum of money, either at a fixed or determinable future time or on demand of the payee, subject to particular terms[109]. This promise can be made either at a future time that is fixed or determinable or on demand of the payee. It is referred to as a negotiable instrument when the promissory note does not have any conditions attached to it and can be sold quickly[109]. A promissory note is an unqualified guarantee in writing made by one person to another and signed by the maker, committing to pay a certain amount of money to, or to the order of, a specific person or to the bearer on demand or at a set or determinable future time[109]. This promise is made by one person to another and is documented in writing[108].

A note is not an instrument in the form of a note that is payable to the maker's order unless and until the creator has signed it. An instrument in this form is defined as a promissory note in this clause. Promissory notes have, at various times throughout history, served the function of a sort of privately issued currency. During the Tang dynasty (618–907), a form of promissory note known as flying currency was commonly employed. Flying cash was a form of payment that was frequently utilised by Chinese tea traders. At provincial capitals, flying cash could be converted for actual currency. A promissory note was signed in Milan in the year 1325, according to folklore[109].

There is some circumstantial evidence that letters of credit were exchanged between Genoa and Barcelona in the year 1384, although the actual letters have been misplaced. The same thing occurred with the ones that were printed in Valencia in 1371 by Bernat de Codinachs for Manuel d'Entenca, a merchant from Huesca (which was a part of the Crown of Aragon at the time), and they added up to a total of one hundred florins. Since the amounts that were issued could not be easily moved in the form of metal coins across the cities that were involved, a rudimentary system of paper money was developed out of the promissory notes in each of these instances. In the year 1553, Ginaldo Giovanni Battista Strozzi produced a

primitive kind of promissory note in Medina del Campo, which was located in Spain. The note was made out to the city of Besancon[110].

According to Anglo-Saxon law, the definition of a promissory note is as follows: "an unconditional written promise made by one person to another, and signed by the publisher, containing a promise to pay, at the time shown or at a certain time and at a predetermined date in the future will come, a sum of money, by order or to a designated person or to a carrier, in full." This promise must be made in writing and must be signed by the publisher[110].

At the outset of its development, a promissory note was simply accepted as a way to acknowledge the debt. Later, the letter turned into a promissory note which has the power as a negotiable instrument, so that it can function as a medium of exchange in the trade of goods and services in the community. Promissory note/promissory note at the beginning of its development was only recognised as a means of acknowledging the debt. Receiving a promissory note will be contingent on the issuer of the letter expressing the ability to pay the debt, as with any other form of debt[110]. The issuer's reputation and credit standing will be evaluated (notes). Therefore, one can say that promissory notes can be used to seek payment of a certain amount of money from the publisher, or one can also say that the value of promissory notes is on par with the value of money. Both of these statements are correct[110].

A promise to pay a specific amount of money, either on demand or at a future date and time that has been predetermined or defined, to the holder of the instrument or to a particular person who has been identified. A promissory note is described as an unconditional promise in writing given by one person to another, signed by a maker, committing to pay, on-demand or at a set or determinable future period, a sum certain in money to, or to the direction of, a designated person or to bearer[108]. It is expected that the effect of a promissory note will be comparable to that of a bill of exchange.

The promissory note is different from other forms of payment in that the importer, who pledges to make a direct payment to the seller on a future date that has been predetermined, drafts it[107]. This note is not being addressed to any third party that is acting as an intermediary. When the current holder desires to receive rapid cash payment and the new holders wish to buy the note or draught as a short-term investment, the bills and notes can be negotiated to an endless number of subsequent holders[107]. This occurs when the current holder wishes to sell the note or draught. These are required to be transmitted in the form of a "bearer instrument" by delivery and must be drawn in unconditional terms either by endorsement and physical delivery or in the form of a "bearer instrument" by delivery. When a consumer presents a bank with a promissory note, the bank treats the note as though it were cash and treats it accordingly[108].

The fundamental understanding that underpins a business transaction is referred to as a promissory note or a promise to pay. As a direct result of this, every promissory note is required to have a specific set of qualities. It has been suggested that a simple verbal commitment to pay does not qualify as a promissory note[111]. It does not matter how the writing is done; it can be done with a pencil, in ink, or printed. What is crucial is that it be done in a form that cannot be easily changed. It is absolutely necessary that there be a clear understanding to pay, as well as an unambiguous promise, for this. There needs to be a clear commitment to make the payment[111].

A simple recognition is insufficient; thus, a promise to pay must be made in an unqualified manner: An otherwise negotiable instrument loses its ability to be negotiated if it has a conditional undertaking attached to it. As a result, the fulfilment of the promise made today cannot be dependent on the occurrence of any external situation or event[39]. It is imperative that the payment be made in full. The sole criteria that must be met to satisfy the law is that it

must reflect unequivocally both the identity of the person signing the document and his intention to be legally bound by the terms of the agreement. It is imperative that the creator be certain. The notation needs to make it abundantly apparent who is consenting to take on the responsibility of paying the sum in question[112].

In the event that a person logs in under an assumed name, that person is held liable as a maker due to the fact that a maker is taken to assess whether or not sufficient indication follows about his identity from his description[112]. In the event that more than one person promises to pay, those individuals have the ability to commit themselves jointly. Both jointly and severally, yet it is impossible for their liability to be in the alternative. It is imperative that the payee verify: The recipient of the promise must be unequivocally identified inside the document before it may be considered valid[110]. Either the payee's name or their designation can be used to determine who the recipient is. Unless the maker personally endorses the note, it is not considered a pro-note even though it is payable to the maker. In the event that there is an error in either the name of the payee or his designation, the note is nevertheless legitimate provided the identity of the payee can be established through the presentation of evidence[109]. Even in cases where the legal representative of a deceased person is unaware that the individual's name has been listed as a payee, they are nevertheless able to demand payment[112].

## 2.2 Theoretical Framework

This part of the review focuses on the theories that apply to the study of debt and infrastructural development. These theories include the debt overhang theory, the debt crowding out theory, the Keynesian theory. These theories are intended to provide useful insight into the various contexts in which countries are likely to engage in debt servicing in order to enhance their desired infrastructural development goals. For this study, the debt Overhang Theory will be adopted.

### 2.2.1 Debt Overhang Theory

The concept of debt overhang posits that excessive borrowing leads to a buildup of debt, which can result in debt traps and impede economic growth. The debt overhang theory suggests that if there is a probability that the government debt will surpass a country's capacity for repayment in the future, the anticipated debt service costs will deter both domestic and foreign investment. Investors may be discouraged due to the belief that the government will increase taxes on production to service the public debt, leading to a decline in their willingness to make investments today for the purpose of enhancing future output[113].

The buildup of public debt functions as a hindrance to future output and decreases the motivation for savings and investment[114]. According to the idea, the necessity to service debt diminishes the available funds for investment, resulting in a binding constraint on debt that stifles investment and further retards growth. This theory demonstrates that the magnitude of the public debt and the interest paid on it has a substantial impact on economic growth. They do it by either hurting private investment or redistributing state spending. The cost of servicing debt can be a drag on economic expansion because it reduces the amount of money available to the government for investments in physical and human resources[114].

In addition, the theory posits that public debt may have nonlinear impacts on growth via the improvement of capital or the expansion of productivity. A debt overhang exists when the anticipated repayment of external debt is less than its contractual value[115]. According to the debt overhang hypothesis, debt impairs economic growth by acting as a deterrent to investment and causing illiquidity. The debt stock, or the amount of debt, refers to a nation's ability to repay its debt in the long run, which is crucial for economic growth because of the disincentive posed by the debt overhang.

The burden of debt service, which involves the flow of debt repayments, is a short-term

concern that affects economic growth by contributing to the liquidity problems caused by the debt overhang. The resources utilized for servicing the large public debt are seen as a waste, as they could have been used to invest in key industries that support growth[100]. The cost of servicing large public debt may consume a substantial portion of a government's limited revenue, leading to economic distortions and slow rates of growth in developing countries.

The accumulation of excessive levels of debt is one of the primary factors contributing to the slowed growth of economies in highly indebted nations. In underdeveloped countries, the high cost of servicing public debt can seriously deplete the revenue of the indebted nation, hindering its ability to return to a path of growth, even with the implementation of strong reform programs. If a country's debt level surpasses its capacity for repayment, a larger portion of its future output will likely be allocated towards servicing the debt, thereby discouraging investment and growth[99]. The expectation of high tax rates on domestic economic returns for foreign creditors is a significant factor that deters investment and growth in such situation [115].

The existence of a debt overhang makes it impossible for private investment programmes to be carried out as a result of the unpredictability and negative effects on incentives that this situation generates along the way[116]. The burden of large debt also adds to capital flight since it presents risks such as devaluation, greater taxation, and the necessity to maintain the true value of financial assets. In consequence, capital flight diminishes domestic savings and investment, so reducing economic growth, the tax base, and the capacity to service debt. The redirection of foreign currency toward the payment of debt reduces an economy's capacity for imports, as well as its competitiveness and investment levels, which in turn retards economic expansion[117].

The anchor theory of this study is debt overhang theory since it suggests that large borrowing

leads to high debt, which in turn leads to debt traps and a slowdown in economic growth. The theory directly relates to Nigeria's situation. Although the country is not among the ten most indebted countries in the world, however, the incidence of public debts (domestic and external debts) is high with visible small infrastructures.

### 2.2.2 Debt Crowding Out Theory

According to the theory of debt crowding out, an increase in a country's budget deficit can cause a reduction in public savings if there is not also an increase in private savings to make up the difference[118]. This can happen if the country makes higher payments on its debt. As a result, this could either cause an increase in interest rates or a reduction in the amount of credit that is available for private investment, thereby stifling economic expansion. When the government borrows more money in order to finance higher spending or lower taxes, it discourages investment in the private sector by raising interest rates, which in turn makes borrowing more expensive. If additional borrowing leads to an increase in demand for money and loanable funds, and subsequently higher prices, the interest rate-sensitive private sector is likely to reduce investment due to a decrease in return rates. This is due to the increased demand for money and loanable funds, causing higher prices. A decline in fixed investment by businesses will negatively impact long-term economic growth potential, also referred to as potential production growth[101].

This crowding-out effect is mitigated by the fact that increased government spending, as a result of the multiplier effect, leads to an increase in demand for products produced by the private sector, which in turn stimulates fixed investment through the acceleration effect[101]. The financing of government deficits through domestic and foreign borrowing may lead to higher interest rates, reduced disposable income, and elevated wages, which in turn decrease the profitability of businesses and thus private investment. It is possible that as a consequence

of this, private investment will be inhibited or crowded out, and an economy's production level will fall[119].

The Keynesian school of economic thought held that an expansion of government spending has the potential to boost aggregate demand for goods produced by the private sector by means of the fiscal multiplier, which in turn would encourage the expansion of private investment. A decrease in private sector savings is the result of increased government spending that is financed by borrowing. This is for the following two primary reasons: To begin, when the government engages in expansionary fiscal policy, private sector savers purchase government bonds, which results in a reduction in the amount of savings available to fund private sector investment. Additionally, increased government borrowing has a tendency to drive interest rates higher, and interest rates that are higher than normal tend to discourage private investment. In addition, because it pushes the cost of taxes onto future generations, current borrowing reduces opportunities for private investment[120].

Classical economists hold the belief that excessive public debt is harmful to the economy. This is particularly true if heightened public borrowing undermines the fiscal discipline of the budgeting process and hinders the private sector's ability to obtain credit. The repayment of public debt, much of which is denominated in foreign currency, crowds out economic growth by undermining private investment and deterring potential foreign investors. On the other hand, according to the Ricardian equivalence hypothesis, the actions taken to maintain fiscal stability have no effect on the rate of economic growth[101].

This theory is founded on the supposition that shifts in the amount of money the government spends and receives are balanced by corresponding shifts in the amount of money individuals save[102]. According to the monetarist point of view, an increase in public spending will, after an initial period of transition that is relatively brief, displace or crowd out an equal amount of

spending by the private sector. When there are only so many funds available, private companies and the government go head-to-head in the bond markets[121].

The production, profit, and transaction demand for money all go up when there is an increase in government spending but there is no corresponding increase in the money supply[103]. In the event that the quantity of money remains unchanged, higher levels of transactional demand for money and higher levels of supply of debt on the market will cause interest rates to rise. The rise in interest rates causes a reduction in spending by businesses and possibly even by the government[122].

The crowding-out theory predicts that the expansion of the public sector will, invariably, come at the expense of the expansion of the private sector of the economy, unless there is an increase in the amount of money available during the process[104]. Because of the crowding out effect, the government's ability to exert influence over the economy through the use of fiscal policies is made more difficult[123].



### 2.2.3 The Keynesian Theory

Keynes considers fiscal policy to be the most effective policy for bringing about growth in any economy because it serves the interests of the general public as a whole[124]. John Maynard Keynes believed that when the government engages in public borrowing to fund its expenses, it withdraws unused funds from the private sector; however, this does not affect the level of consumption that private individuals engage in[125]. When the government in the economy reinvests these funds, it leads to a multiple increase in aggregate demand, which in turn causes an increase in output and employment[126]. As a result, the macroeconomic performance

of the economy is amenable to being influenced by the use of public borrowing[108.109,110]. On the other hand, the impact that public borrowing has on investment can be thought of as an indirect effect[127].

The reduction in resources that are available for investment as a result of debt servicing acts as the transmission mechanism through which debts affect economic growth. Additionally, a country's public debt can function as an unstated tax on the resources it produces, thereby placing a burden on future generations. This burden takes the form of a reduced flow of income from a lower stock of private capital, and it can act as an implicit tax[128,129]. This, in turn, may result in an increase in long-term interest rates, a reduction in capital accumulation, and a crowding out of private investments that are necessary for increased productivity. Because it results in investments being made, debt does not result in costs being incurred by either present or future generations. This is because debt generates investments.

According to this theory, an increase in debt, which stimulates demand, leads to a proportionately greater increase in investment through an effect known as the accelerator[130]. This, in turn, causes issues to arise in the manufacturing process. Monetary restraint, which results in a decrease in money, would result in a high interest rate, would stratify investment, and would consequently cause a fall in real income. Even though the impact of inflation on its relationship with interest rates was not explicitly stated, this does not change the fact that it exists.

On the other hand, one could deduce that prices are headed in the direction of an increase because, in Keynes's view, high interest rates would discourage investment and full income, which would, in turn, mean that the productive capacity of firms and society would be low[131]. By implication, the Keynes theory or model considers external debt to be funds sourced by the government to boost its current economic output level, and it is considered to be an

acronym for foreign direct investment (FDI)[120]. However, a rate of interest that is always the same. Keynes considers fiscal policy to be the most effective policy for bringing about growth in any economy because it serves the interests of the general public as a whole. When the government engages in public borrowing to finance its expenditures, unemployed funds are withdrawn from private pockets; however, this does not affect the level of consumption that private individuals engage in. When the government in the economy reinvests these funds, it leads to a multiple increase in aggregate demand, which in turn causes an increase in output and employment[132].

As a result, the macroeconomic performance of the economy can be influenced through the use of public borrowing[115]. On the other hand, the impact that public borrowing has on investment can be thought of as an indirect effect. The reduction in resources that are available for investment as a result of debt servicing acts as the transmission mechanism through which debts affect economic growth[133]. Additionally, a country's public debt can function as an unstated tax on the resources it produces, thereby placing a burden on future generations. This burden takes the form of a reduced flow of income from a lower stock of private capital, and it can act as an implicit tax[133]. This, in turn, may result in an increase in long-term interest rates, a reduction in capital accumulation, and a crowding out of private investments that are necessary for increased productivity[134].

The Keynesian theory serves the general public's best interests because it considers fiscal policy to be the most important factor in fostering economic growth[124]. When the government takes out loans to pay for its expenditures, according to the Keynesian theory, idle funds are taken out of people's pockets and saved in such a way that their overall consumption level is unaffected[135]. When the government invests these funds in the economy, it causes a chain reaction of increased aggregate demand, which in turn causes an increase in employment and

output. Therefore, the use of public borrowing will serve as an alternative option for the purpose of influencing the performance of the macroeconomic activities of the economy[136]. Through the use of the transmission mechanism, the increase in debt has an effect on the decrease in resources that are available for investment as a result of debt servicing[137].

According to the Keynesian theory, the accumulation of capital is an economic growth catalyst that encourages the taking out of external loans while simultaneously injecting funds to increase economic activity. This contributes to an increase in the country's overall GDP. Therefore, the Keynesian theory provides support for a beneficial correlation between high levels of external debt and rising rates of economic growth[138].

## 2.3 Review of Empirical Studies

This section reviews past studies on external debt, tax revenue and infrastructural development, including past findings, conclusions and methodologies.

### 2.3.1 External Debt and Government Expenditure on Road for Infrastructural Development

According to the findings of literature, both the current and lagged coefficients show a positive and significant relationship between domestic debt and infrastructural development[139]. In contrast, both the current and lagged coefficients of foreign debt exhibit a negative association with infrastructure development, but this link is not statistically significant during the research period. Increases in the federal government's domestic debt are associated with a rise in infrastructure development, according to the research (at least in the short run), whereas increases in the federal government's external debt have not yet resulted in any improvement in infrastructural development.

According to literature that there is a relationship between domestic debt and infrastructure

over a short period of time[140]. The analysis found a positive relationship between the federal government's domestic debt and its capital spending, but no such relationship between the federal government's capital spending and its international debt. In the near term, at least, the results suggest that higher levels of domestic debt leads to higher levels of capital investment (infrastructure development), but higher levels of foreign debt have not been associated with higher levels of capital expenditure. This is because domestic debt is issued by the federal government (infrastructural development).

A study investigated the relationship between government spending and economic growth in Nigeria using time series data for a period of 32 years (1980-2011) and with the assistance of the Granger Causality test, the Johansen Cointegration Test, and the Error Correction Mechanism, he came to the conclusion that there exists a long-run equilibrium relationship between government spending and economic growth in Nigeria. The authors of the study[141] used the regression technique to analyses quarterly time series of external debt, external debt service, and real gross domestic product. They were interested in determining how the reduction of external debt would affect economic growth in Nigeria. After applying the Chow test to the result of the regression, they discovered that there was a structural break in the relationship between economic growth and external debt in Nigeria during the period of 1975 to 2005[142].

In another study, it was indicated that public spending, specifically investment in infrastructure and human resources, is a crucial factor in promoting economic growth and development in Nigeria. By employing a disaggregated public expenditure level and the Gregory-Hansen structural breaks cointegration technique, the study highlights the importance of government investment in social and community services for the overall growth of the economy[143].

In conclusion, several studies have analyzed the relationship between public spending, public debt, and economic growth in Nigeria, and the results are mixed. While some studies suggest a positive relationship between domestic debt and infrastructure development in the short-run, others suggest that external debt has not made a significant contribution to infrastructure development. However, all of these studies highlight the importance of government spending in promoting economic growth and development.

### 2.3.2 External Debt and Government Expenditure on Transport for Infrastructural Development

A study conducted in Tanzania on the impact of government spending on economic growth, public investment in physical infrastructure and human capital positively contributed to economic growth. Using information on the Nigerian economy from 1970 to 2010[157]. A similar study investigated the severity of the public debt crisis and its effects on economic progress. Their research spanned the years 1970 through 2010. In order to evaluate the association between per-capita GDP and other macroeconomic variables, they employed the error correction modeling framework in conjunction with co-integration approaches (foreign reserve, debt stock, investment, and debt service payment). According to the test results, political instability may reduce the rate of development, but other variables are responsible for the country's underdevelopment. So, they recommended that Nigeria's public debt be reduced to an extremely manageable level in order to avert the country's economic development catastrophe[111]. This conclusion contradicts the findings of the previously cited studies, which demonstrated a positive correlation between government capital expenditures and economic growth[158]. Yet, it underlines the need for more investigation and understanding of the various components of government expenditure and their individual impact on economic growth, as well as a nuanced approach to the relationship between government

expenditure and economic growth.

The research examined the relationship between a country's level of government spending and its rate of economic growth for 115 nations between 1950 and 1980. Using both cross-sectional and time series data, he was able to confirm that government spending has a favourable effect on economic growth[162]. In contrast, 163 found, utilizing a three-variable multiple regression model, that capital expenditure had a negative and non-significant impact on Nigeria's economic development from 1987 to 2010. This study spanned the years 1987 through 2010.

Using Nigeria as a case study, the research evaluates the impact of state debt on economic growth. The emphasis of the study is the effect of public debt on the various facets of economic growth. The study examined the long-term relationship between debt and its impact from two distinct perspectives: the influence's value and its proportional impact. The authors of this study reached the following results using an upgraded Cobb Douglas model for the analysis using the co-integration approach to capture the long-run impact of debt variables on economic growth. Although the impact of borrowed funds and the budget deficit coefficient are favourable in the short term, the results indicate that the overall impact of debt on economic growth in the long-run is negative and rather large. This is the case despite the fact that debt has good short-term effects[164].

According to a study finding, the impact of borrowed funds had a beneficial influence on the Nigerian economy in the short term; however, the impact of debt had a negative impact on economic growth in the long term due to inadequate debt management. The results provided are consistent with that of a study that examined whether or not public debt contributed to Malaysia's economic growth between 1991 and 2013[165]. Their research also examines whether or not other metrics of debt burden, such as the budget deficit, budget expenditures,

external debt payment, and government spending, have an impact on economic development as a whole. According to the study's conclusions, an increasing national debt has a negative long-term impact on GDP. In addition, they determined that the budget deficit, government consumption, and payment of external debt are all functions that decline as GDP increases.

Similarly, a study examined the relative impact of foreign debt and foreign aid on Pakistan's economic growth using annual time series data from 1970 to 2010. Foreign debt was proven to be more effective than foreign help. According to the results of the Augmented Dickey-Fuller test conducted on the study's data, the variables are stationary at first difference. They employed the standard least squares technique. According to their analysis, the long-term link between GDP and foreign debt is negative, whereas the long-term association between GDP and foreign aid is positive. Hence, there is a unidirectional causal relationship between GDP and foreign debt, whereas GDP is not caused by foreign aid[166].

However, another study analysed the possible link between public debt and economic growth in Nigeria between 1970 and 2010 using a Vector Autoregressive (VAR) model in conjunction with Augmented Dickey Fuller and Philip Perron to evaluate the stationarity of the time series data. This analysis focused on the years 1970 to 2010.. The co-integration test demonstrated that the relationship between public debt and economic growth is of a long-term character. According to the results of the VAR model, there is a bidirectional causal relationship between public debt and economic development in Nigeria. This was determined by examining the link between the two variables. They concluded that public debt and economic growth have a relationship over the long term and that this relationship is a positive one if the government is honest with the loans it acquires and uses the funds for the expansion of the economy rather than for its own personal gain[167]. In the research conducted by another author, the Error Correlation Model was applied to analyse the relationship

between Nigeria's external debt and economic development between 1975 and 2006. Their research studied the negative impact that external debt has on economic growth. The findings of the empirical research reveal that, at least in the near term, there is a negative association between the current amount of external debt in Nigeria and economic development[168].

High debt levels have a negative impact on economic growth as a result of their influence on the accumulation of capital and the overall factor productivity of an economy. They conclude that the average impact of external debt on per capita GDP growth is negative when the net present value of debt is greater than 160–170 percent of exports and 35–40 percent of GDP throughout the period of 1969–1998. This result was reached after discovering that external debt had a negative effect on per capita GDP growth during this time period. Based on their findings, it appears that a doubling of an economy's total foreign debt reduces the growth of per capita physical capital and total factor productivity by around one percentage point. In terms of its contribution to growth, the influence of debt on growth happens one-third of the time through the capital accumulation channel and two-thirds of the time through the total factor productivity growth channel. In addition, their study has led them to the conclusion that the link between debt and the various components of economic growth is nonlinear and negative only for highly indebted economies.



### 2.3.3 External Debt and Government Expenditure on Agriculture for Infrastructural Development

A study conducted investigated the effect that Nigeria's major external debt burden has on a number of important macroeconomic variables[169]. In order to determine the quantitative impact as well as the relative significance of the explanatory variables, an application of the econometric method of co integration technique was carried out. They came to the conclusion

that the major macroeconomic variables do, in fact, have a relationship with one another over the long run. According to the findings, a positive relationship exists between economic growth and the external debt burden, inflation, exports, and direct investments from foreign countries.

A panel fixed effects model was used to estimate the effect of external debt as a share of Gross Domestic Product (GDP) on economic growth in the East African Community[170]. This was done by comparing the growth of GDP to the growth of external debt (EAC). They not only used the approach of the Levin-Lin-Chu (LLC) test to investigate the properties of the data with respect to Unit roots, but they also used the Hausman Specification test to validate the panel-effect model. The LLC test is named after the three researchers who developed it. They made the discovery that the external debt of EAC nations has a negative and significant effect on the GDP growth rate per capita in those nations[170].

In other to study the connection between high levels of external debt and rapid economic expansion in Nigeria, the Augmented Dickey Fuller (ADF) test and Ordinary Least Square Regression were two of the econometric methods that were utilized in the process of fitting the time series data from 1981-2012 that were utilized for the study into the regression equation. The outcome of the OLS model revealed that external debt has a fairly significant positive relationship with gross domestic product. This was shown by the fact that the relationship was positive[171].

An empirical study was conducted to investigate the link between Nigeria's domestic debt and the country's level of poverty (1986-2012). Utilizing the Technique of the Ordinary Least Square, the Vector Auto Regression (VAR), Cointegration, and Granger's Approach to Causality: Using the cointegration technique, estimated results revealed that there is a long-run relationship between domestic debt in Nigeria and poverty as measured by real gross

domestic product (RGDP), per capita gross domestic product (GDPPC), and basic secondary school enrolment[172].

Between 1994 and 2008, a study used the Ordinary Least Squares Method (OLS), Error Correction, and parsimonious models to conduct an analysis of quarterly data in order to investigate the relationship between domestic debt and economic growth in Nigeria. The findings of the study indicate that the domestic debt holdings of the government are significantly higher than the recommended minimum of 35 percent of bank deposits; more specifically, the average for the time period under consideration is 114.98 percent of bank deposits, which demonstrates that private investments are being crowded out. According to the findings, high levels of debt have a dampening effect on economic expansion. The findings of previous studies[173] are in line with those of another studies[174].

A research conducted under the title Domestic Debt and the Nigerian Economy. Their objective was to investigate the empirical relationship that exists between domestic debt and economic growth in Nigeria. The relationship between domestic debt and economic growth in Nigeria was investigated in this study using OLS regression techniques and time series data spanning the period from 1986 to 2005. The study came to the conclusion that domestic debt has had a negative impact on the expansion of the economy[175]. On the other hand, another study used the ordinary least square (OLS) method in their research to investigate the influence of Pakistan's net external liabilities on the country's rate of economic expansion. They used time series data spanning 1973–2012, so in order to solve the data problem, they turned to a variety of other statistical tools, such as unit root, amongst others. According to the findings of their research, gross domestic product has a significant positive association with net external liabilities, education enrollment, exports, and gross capital formation[176].

The research undertaken by an author contradicts the results discovered by 176. Using the

ADF-Unit Root Test, the authors checked the stationarity of the time series data used in the study from 1981 to 2008; they then utilised the co-integration estimation, which demonstrates the long-run association between foreign debt and the growth rate of GDP per capita. In conclusion, the authors stated that Pakistan's external debt poses a number of obstacles to the country's economic growth[175].

In their analysis, they employed the Granger Causality Vector Error Correction (GCVEC) method, which established a unidirectional association between external debt and GDP per capita growth rate. They concluded that this indicates a negative link between the growth rate of per capita GDP and external debt. According to the findings of 164, there is a correlation between high external debt levels and sluggish economic growth. He focused on the impact of Nigeria's foreign debt on the country's economic growth, conducted empirical research using a simple regression analysis using the least square method of parameter selection, and concluded that Nigeria's external debt has a fairly large negative impact on economic growth. Using a time series econometric approach, examined the link between Bangladesh's external debt and Gross Domestic Product from 1972 to 2010. The result shows a considerable positive association between Gross Domestic Product (GDP) and External Debt[177].



### 2.3.4 External Debt and Infrastructural Development with Inflation Rate, Exchange Rate and Interest Rate as Moderating Variables

A study evaluated and analysed the effect of external debt service payment patterns on economic growth and development in Nigeria using the Ordinary Least Square regression approach. The study concluded that there is a complex link between the factors and used this

information to draw his conclusions (i.e. both positive and negative relationships) [178]. Comparatively, another study employed multiple regression to explore the effect of various forms of domestic debt on economic growth in Nigeria. The results of the Granger causality test indicate a unidirectional association between economic growth and FGN Bonds and a bidirectional relationship between Treasury bills and economic growth. Other domestic sources of debt were shown to have no meaningful relationship with the Nigerian economy's growth[179].

In contrast, a study conducted uses Nigeria as a case study in his research to determine whether or not external debt promotes economic growth in emerging nations. Finding a weak and insignificant relationship between the two variables in Nigeria, he concluded that there is no causal relationship between external debt and economic growth. It was determined that the correlation between the two variables was weak. Due to the impossibility of establishing a causal link between external debt and economic growth in the case of Nigeria, the authors conclude that there is no substantial relationship between the two variables[126]. Both the national debt and governmental expenditures of Nigeria was studied. The qualitative research approach was employed to obtain secondary time series data spanning 35 years (1980-2015) for this study[180].

The study's data were evaluated utilising econometric estimating techniques, including co integration, the vector error correction model, and the Wald test. The outcomes of the study indicated that there is no long-term correlation between public debt and public spending in Nigeria. In addition, the analysis discovered that government capital and recurrent expenditures have a substantial positive correlation with Nigeria's public debt. On the basis of these findings, the study called for the deployment of planning programming budgeting systems (PPBS) and zero-based budgeting (ZBB) rather than the current practice of

incremental budgeting in our public finance systems at both the federal and state levels (IB). A study into the relationship between Nigeria's external debt and economic growth. Utilizing the co-integration test and the error correction test, a 1980-2012 empirical analysis of the topic in Nigeria was done[181]. This study's findings supported the common idea that external debt and economic growth are related.

It was also determined that Nigeria does not have an overwhelming debt overhang problem. In-line the findings of the study, it is suggested that development activities in Nigeria be financed through increased export earnings, which should be driven by an export-led growth strategy, as well as investment in human capital, as these are the best long-term alternatives to external debt.

Researchers examined the influence of external borrowing and foreign aid on Nigeria's economic growth from 1980 to 2013 using annual time series data. The study spanned the years 1980 through 2013. They employed GDP as a measure of economic growth, and exogenous variables such as external debt, foreign aid, exchange rate regime, and foreign reserve were used to determine the model's output. Various econometric techniques were utilised, including multiple regression utilising Ordinary Least Square (OLS), Johansen Co-integration, Augmented Dickey Fuller (ADF), and the Error Correction Method (ECM)[182].

Positive and substantial factors linked with external debt positively influence economic growth in Nigeria, whereas positive and insignificant factors related to foreign aid favourably influence economic growth in Nigeria. In addition to a few other statistical tools, researchers utilised the method of ordinary least squares to extend the study on the effect of external debt on Nigeria's economic growth from 1985 to 2015. The study included the years 1985 through 2015. The exchange rate and the external reserve were employed as control variables, whereas the total amount of external debt and the amount being paid to service that debt

comprised the key independent variable. The Gross Domestic Product was also employed as the dependent variable in this study. The data analysed shows that the payment of debt service had a marginally negative influence on Nigeria's economic growth, but the stock of external debt had a significantly beneficial effect[183].

The external reserve and exchange rate are both included in the control variable, which had significant impacts on GDP. Because of this, the research suggested taking on additional external debt in order to finance the development of infrastructure. Another study used the vector error correction method to research the effect of Sudan's external debt on the country's economic growth from 1969 to 2015. The study covered the years 1969 through 2015. The study used both the currency exchange rate and the amount of foreign direct investment as controlling factors. The GDP served as the dependent variable in this study, and the ratio of the external debt to exports served as the proxy for the external debt, which served as the primary variable in this study's explanation[137].

Therefore, the results showed that the external debt to export ratio had a positive effect on Sudan's economy, while the control variables (the exchange rate and FDI) employed had a negative effect on GDP growth in Sudan. This was due to the fact that the control variables exerted a negative influence on the growth of Sudan's economy. A co-integration analysis and an error correction methodology was used in a research to investigate the effect of Ghana's external debt on economic growth in the country[184].

For the purpose of this study, annual time series data were collected from 1970 all the way up until 2017. According to the findings, a higher level of external debt had a beneficial effect on Ghana's economic expansion in both the medium and short terms. An analysis of Zimbabwe's public debt, as well as the country's economic growth, was conducted. The method of research utilized for the study was quantitative. The World Development

Indicators database served as the source for the collection of secondary time series data spanning the span of thirty-six years, from 1986 to 2016. Inferences were drawn from the study's data after they were collected. The findings of the study indicated that there is a significant negative relationship between Zimbabwe's high levels of external debt and the country's rising rate of economic growth. According to the results of the study, both the exchange rate and inflation rate were found to have significant negative relationships with economic growth in Zimbabwe[185]. On the other hand, the study found that external exerts a substantial positive relationship with economic growth.

In light of the findings, the authors proposed that the government should increase its efforts to boost sources of domestic revenue in order to finance its growth plans; this is because the accumulation of external debt weighs down on economic growth. Additionally, the authors suggested that the need to diversify the economy is essential, and that the government should develop new sectors that are capable of generating revenue in order to contribute to economic growth. An investigation into Tanzania's public debt as well as the country's economic growth was carried out. As secondary time series data spanning forty-five years were compiled, the quantitative research approach was selected as the appropriate method for this study. The data that was collected for the study was analyzed using both the co-integration method and the vector error correction mechanism (VECM) approach[186].

The VECM estimate revealed that there is an inverse relationship between the country of Tanzania's public debt and the country's overall economic growth over the course of the study period. In addition, the results of a Granger causality test demonstrated that there is no direct link between the level of public debt and the rate of economic expansion. Based on these findings, the study proposed that the government and policymakers should put an end to the gradual accumulation of external borrowing over time and prevent the concealment of the

motivation behind external debt; external debts should be used only for productive investments of the highest priorities that would help in yielding returns for economic reasons (productive purposes), rather than for social or political reasons.

Another study used a variety of econometric approaches in order to conduct an empirical investigation into the relationship between Ukraine's external debt and the country's economic growth from 2006 to 2016. The results show two factors that are detrimental to economic expansion are a high level of external debt and macroeconomic instability. The study went on to reveal that the debt burden that is prevalent in other emerging economies is also present in Ukraine, which has prevented the country from experiencing the economic growth that was anticipated[138]. Using annual time series data that covered the years 2010 through 2017, the effect that Jordan's high level of external debt had on the country's rate of economic growth was investigated[187]. The empirical finding showed that having a lot of debt from outside sources had a significant detrimental effect on economic growth. As a result, the study recommended looking into foreign direct investment as a potential additional source of funding.

A similar study focused on the external debt burden and infrastructural development nexus in Nigeria by using data spanning between the periods of 1981 to 2020 and employing the use of autoregressive distributed lag model (ARDL) and granger causality test as the major statistical techniques of analysis. This was accomplished by using data spanning between the periods of 1981 to 2020. Based on the findings, the coefficient of error correction term demonstrates that approximately 70% of the disparity between the actual and the long run or equilibrium value of infrastructural development is either corrected or eliminated each year. This occurs because the actual value is closer to the long run or equilibrium value[188].

Another study investigated the Nigerian government's efforts to obtain debt relief in 2005 as

well as the country's ongoing crisis with its external debt. The purpose of the study is to investigate effective methods of debt management in order to forestall the occurrence of future debt crises. It argues that the country's slow economic growth and development were caused by the country's enormous external debt and that this debt was responsible. According to the findings, a lack of fiscal discipline, which was due to a lack of integrity and accountability, excessive dependence on oil revenue, and poor project analysis and implementation were factors responsible for the Nigerian debt crisis in the past. These factors contributed to the over-dependence on oil revenue[189].

Another study focused on the relationship between external public debt servicing and fluctuations in receipts and exchange rates in Nigeria from 1981 to 2013. Their research covered the period from 1981 to 2013. According to the results of the research conducted, external debt receipts as well as external debt servicing have positive relationships, both in the short run and the long run, with changes in the value of the naira. According to the findings of the study, a positive influence on the exchange rate is exerted by external public debt receipts, whereas a negative influence is exerted by external public debt servicing[190]. Using the method of ordinary least squares, the impact that the government's debt had on the rate of economic growth in Nigeria between the years 1986 and 2013 was investigated[106]. According to the findings of the study, the impact of government debt on economic growth over the time period under consideration has been insignificant. The study also found that the external debt, which has been enormous over the years, has contributed minimally to the real gross domestic product.

According to the findings of the study, if the pattern of consistent borrowing is not stopped, the economy will continue to decline, which will result in the adoption of surplus budgeting and the ignition of a number of negative economic outcomes, including increasing levels of

poverty due to factors like high rate of unemployment, falling total investment, diminishing reserves, rising exchange rates, and higher inflation. It is therefore recommended, among other things, that the government should only resort to borrowing as a last resort in order to revitalize the economy.

Furthermore, if required, the loans should come from within the economy so that when the principal and interest are repaid, there would be a crowd-in effect, which will further speed up the nation's economic activity. Researchers conducted research to determine how the external debt of Nigeria affected the country's economic growth[191]. It makes use of the variance decomposition as well as the impulse response from the Vector Auto Regression (VAR). The results of the two-stage processing of the data show that the causation between external debt and economic growth is weak in the context of Nigeria. As a consequence, external debt cannot be used to forecast either an improvement or a slowdown in the rate of economic growth in Nigeria. Because of this, it is impossible to predict changes in GDP based on changes in external debt.

In order for debt to be a positive force for growth in Nigeria, the country's leaders need to adhere to strict budgetary guidelines and maintain a high level of responsibility when managing the country's public funds. Another research looked into the effects that Nigeria's high external debt has on the country's economy. The data collection came from the secondary source, and the methods of analysis used were regression and granger causality. The findings of the regression analysis revealed that both the total amount of external debt and the total amount of interest paid on that debt have a negative relationship with GDP[192].

The Granger causality test demonstrates that there is a unidirectional causal relationship between GDP and external debt service. This relationship runs from GDP to external debt service. Additionally, the Granger causality test demonstrates that there is a unidirectional

causal relationship between GDP and external debt. This relationship runs from external debt to GDP. It suggests that a nation's external debt should be primarily incurred for economic reasons rather than for social or political reasons, as this would result in an increase in the nation's overall productivity.

The study on the influence that Nigeria's external debt has on the country's economic growth[193]. For the purpose of this study, empirical research was conducted in Nigeria using the co-integration test and the error correction test from 1980 to 2012. The results of this study provided evidence in support of the conventional view regarding the relationship between external debt and economic growth. In addition, the study came to the conclusion that Nigeria does not have a debt overhang problem. According to the findings of the study, it is recommended that development activities in Nigeria be financed by increasing earnings from exports, which should be led by an export-led growth strategy, as well as investments in human capital, as these can be the best alternative to external debt in the long run.

In a separate but related study, debt servicing and economic growth in Nigeria. The study used the ordinary least square multiple regression method to determine whether or not debt payments to Multilateral Financial creditors, London Club creditors, Paris Club creditors, Promissory notes holders and other creditors (Non-Paris Creditors) have an inverse relationship with gross domestic product (GDP) and gross fixed capital formation at current prices (GFCF) from 1981 to 2004. According to the findings of the study, the payment of debt to creditors of the London Club, creditors of the Paris Club, holders of promissory notes, and other creditors has a significant impact on the GDP and the GFCF. Debt payment to creditors of the Paris Club and debt payment to holders of promissory notes are positively related to GDP and GFCF, whereas debt payment to creditors of the London Club and other creditors showed a negative significant relation to GDP and GFCF. Consequently, GDP and

GFCF have increased[178].

Using econometric models, a study investigated the relationship between Nigeria's external debt and economic growth from 1975 to 2006. The study covered the period between 1975 and 2006. The findings of the error correction estimates indicated that the country of Nigeria's high level of external debt has a corrosive effect on the country's rate of economic expansion. They stated that Nigeria needs to be concerned about the country's absorptive capacity, noting that consideration about low debt to GDP and low debt service/GDP capacity ratios should guide future debt negotiations[168]. A second study on the effect of external debt relief on sustainable economic growth and development in Nigeria. In this study, he used Chi-square, Regression, and Correlation analysis to test the relationship between external and internal debt stock in relation to debt relief. In this study, he found that there is a relationship between external and internal debt stock in relation to debt relief, that debt relief affected the economic growth of the economy, and that gradual debt relief was associated with more sustainable economic growth[194].

The authors of the study conducted used the regression technique to analyses quarterly time series of external debt, external debt service, and real gross domestic product. They were interested in determining how the reduction of external debt would affect economic growth in Nigeria. This was the conclusion reached after analyzing the data from the regression. According to the findings of the study, the reduction in Nigeria's external debt made additional resources accessible for the country's economic expansion. The researchers also suggested that Nigeria move toward discretionary concessional borrowing[155]. A study conducted used information pertaining to the Nigerian economy for the years 1970 to 2010 in order to investigate the severity of the external debt crisis and the impact it had on economic growth[111]. In order to investigate the link between GDP per capita and the other

macroeconomic variables, they used an error correction modelling framework in conjunction with co-integration analysis techniques (foreign reserve, debt stock, investment, debt service payment). According to the results of the test, the underdevelopment of the country was due to a combination of political instability, which may slow the country's rate of development, and other factors that are independent of politics. As a result, they suggested that Nigeria's external debt should be brought down to an extremely manageable level so that the country's economic development crisis could be avoided.

The analysis of the effect of external debt on infrastructure development in Africa over the 2003-2018 periods was done in a study[195]. It employs fixed-effects Driscoll and Kraay's estimator and Lewbel's estimator after the second-generation unit roots test. The estimations establish that the effect of external debt on the level of infrastructure in Africa is negative, but for a sustainable level of debt around 99%, the positive impact of the debt on infrastructure is observed. While the effect of external debt is positive when mobile cellular per habitant and ICT index are utilized as the dependent variables, similar results were found when transportation, electricity, and water and sanitation indexes were used as the dependent variables. These findings suggest that governmental policies should be supported that increase infrastructure investment and ensure sustainable debt.

According to the finding of the study Infrastructure development has been found to be a driver of economic growth. In light of the increased levels of public external debt contraction over the last few years, how would the Zambian government approach the process of budget allocation towards infrastructure development in response to the debt servicing charges? Another study examines the effects of public external debt servicing on infrastructure spending in Zambia using time series data from 1970 to 2014 and the Auto Regressive Distributed Lag Model or Bounds Testing Approach to Cointegration as emphasized by

Pesaran et al. to test for long-run equilibrium relationship. The study takes into consideration that at some point during this period, the Highly Indebted Poor Countries Initiative was implemented which saw a large sum of Zambia's external debt cancelled. The World Development Indicators and Africa Development Indicators databases served as the primary sources for the secondary data. The regression results show that debt servicing is found to have a negative impact on infrastructure spending in Zambia[196].

The study examines the effect of Nigeria's external debt on economic growth. The study's information is gathered from secondary sources. Data are collected for factors such as Gross Domestic Product, External Debt Services, External Borrowing, External Reserve, and Exchange Rate. The scope of this study spans the years 1985 through 2015. The ADF unit root test demonstrates that none of the variables are stationary at level but are stationary at first difference. The Johansen cointegration test reveals a long-run link between external debt and the growth index (GDP). It also demonstrated that at least one stochastic trend drives the link between the variables. The causation test demonstrates unidirectionality between external debt and GDP[198].

A study conducted by researchers uses a structural vector auto-regression generalized economic growth model augmented with a debt variable to characterize the dynamic impact of innovations to external public debt-to-GDP ratio on per capita GDP growth, investment, trade openness, exchange rate and inflation in Nigeria over the period 1970–2014. Using Blanchard and Perotti identification techniques to arrive at economically interpretable variance decompositions and impulse response functions, the results show that external debt shocks have long-lived negative impacts on economic growth and investment, as consistent with the debt overhang hypothesis[199].

Moreover, innovations to external debt were found to have short-lived positive impacts on

inflation, negative impacts on trade openness, but insignificant effects on the exchange rate. The implication is that attainment of sustainable levels of economic growth and external debt is guardedly sketchy at the moment and could remain elusive if aggressive measures are not undertaken at reducing the debt burden, encouraging domestic savings vis-à-vis domestic investment, and channeling borrowed funds towards the provision of basic infrastructure and goods that would not inflate the economy or hamper external competitiveness but, rather increase the level of economic activities and improve the well-being of citizens.

A study carried out, provides an empirical contribution to the national discourse by assessing the impact of foreign debt on the Nigerian economy. The main finding of this study, which employs a dynamic variation of the auto-regressive distributed lag model, is that the economy is negatively impacted in the long term by the accumulation of foreign debt and related service payments. The policy implication is that government should always ensure that external debt accretion is sustainable and used for infrastructure development[202].

Another author studied to determine empirically the degree of the relationship between external borrowings and fulfilling the Sustainable Development Goals, the relationship between external debt and sustainable development in Nigeria (SDG) Zero Hunger and the SDGs 3: Good health and general wellbeing[203]. Secondary data for the period 2003 to 2019 were extracted from publications of the Debt Management Office (DMO) of Nigeria, the National Bureau of Statistics, the International Monetary Fund (IMF) and the World Bank. The study formulated two hypotheses and tested them using Spearman's Rank Correlation tool. The findings showed that there is no meaningful connection between Nigeria's external debt and sustainable development. The study argues that the accumulated external debts in Nigeria are not properly utilized for sustainable developmental projects that reduce the high poverty index and low life expectancy of its populace. It therefore, recommends the adoption

of debt management strategies targeted at gradual liquidation of Nigeria's external borrowing to avoid debt overhang. This should be done through a reduction in excessive government spending especially expenditures on non-productive sectors of the economy. Hence, judicious financial management on long-term programs to lower poverty and increase life expectancy must be implemented if Nigeria is to join other United Nations member states in achieving the 17 SDGs by the year 2030.

The author investigates the impact of external borrowing and debt servicing on human capital development (HCD) in Nigeria from 1960-2019. To achieve this objective, this paper collect data from the archives of the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS) and the debt management office (DMO) for various years. The Ordinary Least Squares (OLS) regression technique was used to test eight hypotheses. Results revealed that external debt servicing has an inverse relationship with HCD whereas external borrowing has a significantly positive impact on HCD. All other variables in the model contributed to the increase in public spending on education and health. The study recommends among others that prior to any request for funding that would require internal or external financing at both levels of government, nonpartisan feasibility assessments should be conducted. This will involve the communities where such projects are sited to supervise the execution of such projects. Additionally, it is advised that the federal government limit its borrowed funds to financing viable capital investments that can yield sufficient returns to eventually pay off the debt[204].

Similar study used data from 1981 to 2020 to examine the relationship between Nigeria's external debt burden and its infrastructure development using the Autoregressive Distributed Lag Model (ARDL) and the granger causality test. A yearly adjustment or elimination of the disparity between the actual and the long run or equilibrium value of infrastructure

development is shown by the coefficient of error correction term. Long-term infrastructural development is found to be negatively influenced by external debt, domestic debt, and inflation rate, while being positively influenced by the exchange rate and interest rate. Long-term effects on infrastructure development were also identified for domestic debt and the exchange rate, but not for external debt, inflation, or interest rates. Additionally, the results of the Granger Causality Test indicate that while there is no connection between Nigeria's external debt and the country's infrastructure development, there does appear to be a unidirectional correlation between domestic debt and infrastructural growth in Nigeria[206].

The author analysed the effects of Nigeria's debt load on the country's infrastructure development from 1986 to 2019. The research incorporated annual time-series data and used Fully Modified Ordinary Least Squares (FMOLS) estimate techniques to probe the interplay between the variables. Domestic debt was found to have a positive and statistically significant link with infrastructure development via both the present and lagged coefficients, while external debt was found to have a negative and non-significant relationship through both coefficients. The findings imply that rising federal debt at the domestic level is associated with increased infrastructure development (in the short run), whereas rising federal debt at the external level has not been associated with any such improvement in infrastructural development. In conclusion, the Granger Causality test established the unit and bidirectional nature of the link. Therefore, the study determined that external debt has not materially contributed to the development of Nigeria's infrastructure and that Nigeria's massive external debt profile, even before the debt forgiveness of 2005/2006 to date, is not justifiable and uncalled for[207].

The study assessed how government borrowings impacted infrastructure growth in Nigeria. The federal government of Nigeria has been allocating capital expenditures for infrastructural

development. Quantitative data for the three variables of the study came from the Central Bank of Nigeria's statistic bulletin, the only form of primary data used in the study. Ordinary Least Squares (OLS) Regression analysis was used to examine the data and establish the connection between the variables. According to the results of the analysis, there is a causal link between the variables, but only in the short term. The research also shows that there is a positive correlation between federal government capital spending and domestic debt, but no correlation between capital expenditure and international debt. The findings imply that in the near run, higher levels of federal government debt lead to higher levels of capital expenditure (Infrastructure development), whereas higher levels of federal government debt owed to foreign countries have not led to rises in capital investment (infrastructural development)[205].

Debt is a result of borrowing. Therefore, borrowing by the government implies either public debt or government debt. Therefore, the term "debt" refers to the financial resources used by an organization that were neither given to nor in any manner belonged to its owners[208]**.** The difference between domestic saving and investment—which might grow over time in absolute terms — is what causes debt. The nation must borrow more money in order to keep up a steady flow of net imports as the difference grows, the debt mounts, and interest rates rise. Additionally, it needs to borrow money to refinance aging debt[209]**.** Public borrowing or public debt is seen as a significant source of revenue for the government. Government may turn to borrowing if revenue from taxes and other sources is insufficient to pay for expenditures. In times of financial crisis and emergencies like war, droughts, etc., such borrowings may be more required[210]**.**

It is said that public debt is the accumulation of deficits brought on by an excess of government spending relative to its revenue (majorly tax and return on investment). In order to raise funds for initiatives they see necessary for spurring development, countries around

the world typically turn to borrowing at some point[211]. Countries borrow because they are unable to amass sufficient domestic savings to engage in economic activity. These international borrowings by nations are intended to supplement domestic savings and enable such nations to engage in economic activities.

Therefore, second and third-world nations, such as Nigeria, frequently engage in external help and outright borrowing since they lack the autonomous resources to bring about the kind of dramatic infrastructure development required to compete with first-world nations[212]. Some academics have claimed that no government can function successfully and efficiently on its own; instead, it needs assistance. The total amount of debt owed by a country's government at any given time is considered that country's national debt. Therefore, Nigeria's central government's debt is that portion of the total resources (monetary) mobilized by the federal government over a specific period that was not produced by the government's revenue generation drive but was instead loaned from another party (both inside and outside the country) for the augmentation of the available resources in order to meet the nation's development or emergency needs[213].

Public debt is typically raised both domestically and outside. Public debt that is floated domestically is referred to as internal debt, whilst loans that are floated internationally are referred to as external debt[214]. The national debt can be divided into two categories: internal and foreign. Funds borrowed from domestic sources are referred to as internal debt. Sold-off securities, bonds, and bills are used to finance this kind of debt. Money borrowed from foreign lenders is known as external debt. Private sources, other nations, and the International Monetary Fund may all be considered in this (IMF). Government bonds or other types of securities serve as the vehicle for governmental debt. The government and the lenders enter into a contract when they create such securities. The government incurs a duty to repay the

principles and interest as agreed upon when it issues securities, raising a public loan. As a method of public borrowing, the Indian government issues treasury bills, post office savings certificates and National Saving Certificates[215].

Some academics divided debts into internal and external categories. Domestic debts, usually referred to as domestic debts, are obligations that a borrowing government incurs locally. In order words, they are those loans raised from within the national boundary of a country. The definition of external debt in the Nigerian economy is debt owed to nonresidents or nationals and payable in foreign currency, products, or services. Nigeria experienced domestic financial constraints, just like other developing nations. Due to this restriction, external debt is now a necessary addition to local resources for fostering sustainable economic growth in these developing nations. This is feasible if the financial gains from such projects outweigh the cost of the debt's interest. But heavy external debt frequently restrains economic expansion[216]. The burden of debt on indebted nations has caused money to be diverted into debt servicing rather than essential economic projects[217].

The debt problem in Nigeria has reached a critical level. Considering that Nigeria is still one of the world's poorest countries, the debt crisis is particularly dire. When compared to the total sum of N2,207.7 billion in 2006, shortly after the Paris debt cancellation, Nigeria's debt record has galloped to a staggering sum of N8.32 trillion as of the end of the third quarter of 2013; of which foreign debt accounts for N1.29 trillion or $8.26 billion and domestic debt amounts to N7.03 trillion. Despite the Parish Club's debt cancellation in 2005, this event has taken place (DMO, 2013). From the outset of its modern history, Nigeria was classified as a debtor nation. By contrast, Nigeria's economy was quite robust. She had no right to borrow money. In fact, she fought and won a 30-month civil war between 1967 and 1970 without the aid of a foreign loan. General Yakubu Gowon (1966-1955), the military dictator of Nigeria,

famously observed that the country didn't have cash flow problems in the early 1970s; rather, her concern was how to spend the money in her vault[218].

Surprisingly, the nation's vault quickly started to dry up. She later realized that she had to take out international loans in order to stay afloat. Despite the contradiction of being an oil-exporting nation, it began joining the League of Debtors in 1981. Up until 1978, Nigerian government borrowing was not essential due to the country's plenty of petrodollars as a result of the 1973 OPEC oil price windfall. The administration has set the limit on external borrowing at a manageable N1.0 billion up until this point. With Olusegun Obasanjo's decision to raise the foreign debt threshold from N1.0 billion to N5.9 billion in 1978, Nigeria's meeting with other debtor countries officially began[219].

She quickly became embroiled in a dire foreign debt issue that jeopardized her country's ability to advance economically, politically, socially, and culturally. Poverty accompanied this debt problem. It moved up in a swing. For instance, poverty increased dramatically from 28% in 1980 to 66% in 1996 before finally leveling off at roughly 70% in 2000. Simply put, according to the UNDP, 65 million Nigerians were making less than $1 a day. As a result, only a small number of people controlled the majority of the country's wealth, while 3 million Nigerians annually enter the unproductive labor force[220].

History shows that the early 1980s, following the rise in oil prices in the 1970s, marked the beginning of the debt load on less developed nations. The world community's responses to "oil price stocks" gave rise to it. A key obstacle to the growth and development of African nations has been their mounting debt, which is one of the crises' lasting effects. An industrial sector that was excessively dependent on imported commodities with very little value added was made possible by faulty incentive structures[221].

As a result, Nigeria's economy gradually grew dependent on crude oil, which by the start of the 1980s accounted for about 22% of the country's GDP, 81% of its government revenue, and over 96% of its export revenue. The availability of credit facilities rapidly decreased as the full extent of the debt situation became apparent.

The lack of medium- to long-term financing caused a number of projects to be put on hold, while the lack of short-term financing further depleted the country's foreign exchange reserves by preventing it from using the conventional method of financing imports. Additionally, it led to an expedited degradation of terms of trade as suppliers increased prices to account for a risk premium against payment delays, aggravating the obligations and challenges associated with making payments[222]. It is believed that debt relief can increase economic efficiency when a nation has a debt overhang. Before the release, the nation's debt was in such a pitiful condition that paying down its debts required enslaving labor, which was worse than when Nigeria was ruled by colonial powers. Nigeria received debt relief from her creditors in 2005.

But the question is how our economy has been affected by receiving a $18 billion debt reduction. Have we done better since receiving assistance from an upgraded capital infrastructure and an open socioeconomic and political environment? How has the nation's borrowing behavior changed since then? If one were to compare these two points side by side, one would undoubtedly conclude that the country has not had any significant good effects. It is regrettable that ten years after debt relief, crucial economic sectors including education, power, transportation, and currency rates, among others, are still expected to provide proof or sources of such debt reduction.

In fact, they claim that several research cast doubt on the effect of reducing external debt, particularly with regard to economic growth. Despite the Paris Club's debt cancellation for

Nigeria, the proof of faster economic growth remains tenuous[225]. It is argued that the results in areas such as education and health, as well as the exchange rate, external borrowing, and debt servicing, should show evidence or sources of the impacts of such debt relief. If not, one might wonder where the resources that were previously used to service these debts have gone, or what has become of the government's promise to reduce poverty if the debt is relieved?[226].

Infrastructure development entails creating the essential frameworks needed for a community and civilization to function. Typically, this refers to infrastructure like roads, sewage, electrical grids, telecommunications, renewable energy, and so on (www.hhrd.org). According to a group of academics, costs associated with capital projects including roads, airports, healthcare, education, national telecommunication, and electricity production are referred to as capital expenditures. Capital expenditures, or costs for capital projects, lead to improvements in a country's infrastructure. As a result, every nation's ability to enhance its infrastructure will undoubtedly have an impact on its economy[227].

Therefore, in this analysis, capital spending by the government has been combined with infrastructure development. In order to have a significant impact on the nation's infrastructure at any one time, the central authority of any country must deploy enormous financial resources. This is why national economic managers, despite a tight economic schedule, work to amass some capital (via savings) in order to gather significant resources over time to start making significant capital investments (infrastructure development) in the economy. There is a claim that any society's economic development and growth include capital accumulation. When a portion of current revenue is saved and invested in order to increase future output and incomes, it occurs[228]. According to some academic authorities, capital accumulation includes all of the institutions and mechanisms that are employed within a specific ownership

structure of the means of production to extract surplus from the economy as well as to mobilize and direct the surplus in order to increase the economy's productive capacity.

For instance, highways make it possible to convey raw materials to factories. The fundamental physical infrastructure of a nation or community, including its roadways, utilities, water supply and sewage systems. These systems are thought to be crucial for facilitating economic productivity. Infrastructure development frequently demands a big initial investment, but there are usually huge economies of scale[229]. According to a study, growth performance in Nigeria has a long-term relationship with external debt, domestic debt, and debt servicing. At p 0.05, the economy showed evidence of a positive relationship between growth indicators and foreign borrowed funds as well as domestic debt, but at p 0.05, debt service negatively influenced economic growth[231].

Researchers examined the effect of foreign borrowing on the Nigerian economy by using the value of external debt from the CBN statistical bulletin and the prime lending rate as proxies for external debt and the real gross domestic product (RGPD) as a proxy for economic growth using OLS estimating tools. From the results of the test, it was found that foreign borrowed funds and the prime lending rate caused an economic growth fluctuation of about 12.3%. However, they urge the government to start and create measures that would deal with the external debt that is the root of the problem. In light of this, he suggested that fundamental policies be implemented in order to limit the amount of external debt that is incurred[232].

Whether foreign-borrowed funds are a tool for or a threat to the expansion of the Nigerian economy was the subject of research. Data for this study were obtained using OLS estimating techniques from the CBN statistical bulletin. The government should maintain good debt management in order to encourage future growth because findings show that external

borrowed money is favorably associated to economic growth[233]. Another group of researchers looked into how foreign borrowing impacted the expansion of the Nigerian economy. The study covered the period from 1970 to 2010 and used data from CBN statistics bull[234].

The GDP was utilized as a stand-in for growth, and five additional variables served as stand-ins for debt indicators. The analytical approach included three separate estimating tools, and the results show that foreign-borrowed funds directly contribute to Nigeria's economic expansion. The relationship between Turkey's economic development and external debt was investigated by two scholars. External debt was found to have a unidirectional causal relationship with economic growth using VAR estimating techniques and data spanning from 2003 to 2014[235].

Other academics conducted studies to see whether the crowding out effect and debt overhanging have an impact on the development of specific poor African countries. Eight countries in Africa with significant foreign debt were evaluated from 1991 to 2010 in order to meet study objectives. The findings show that because poor African nations cannot service their foreign debt, they are unable to borrow abroad and must instead turn to domestic borrowing, which attracts a large number of private investors[236]. Two academics looked into how foreign borrowing impacted the expansion of the Nigerian economy. Data for the study were taken from the CBN statistics bull and covered the years 1970 to 2010. The analytical approach included three separate estimating tools, and the results show that foreign-borrowed funds directly contribute to Nigeria's economic expansion. Findings show that foreign-borrowed fund stock slows Nigeria's economic growth by raising debt service costs over the level that can be sustained. However, there was no connection between foreign borrowing and economic development[237].

Using an augmented production function, a study examined the relationship between sub-Saharan African countries' foreign debt and economic development from the debt crisis years of 1980 to 1990. The study's main goal was to determine whether the debt overhang theories were causally related. The theories are chosen that the debt servicing requirements for foreign borrowed funds have negative effects on emerging countries that make economic expansion through investment nearly impossible[238].

Another study used lease square regression analysis using CBN statistical bulletins to examine the empirical trend of foreign borrowed funds on the development and expansion of the Nigerian economy. The results of the research show a feedback relationship between the level of income in the overall economy and the burden of foreign debt. According to the study, a country's currency value will decline, its economic workforce will shrink, the level of poverty will rise, and there will generally be economic imbalances. Following this, they suggested that borrowed money be used to make productive investments whose returns would be adequate to pay off the debt and therefore promote economic growth[239].

Using vector auto-regression (VAR), impulse response, and variance decomposition, a study looked at how borrowing from abroad affected the growth of the Nigerian economy. Results support the notion that there is a tenuous connection between foreign-borrowed funds and the Nigerian economy, suggesting that excessive borrowing from abroad may not have a substantial impact on economic performance. The results of the study also show that borrowing money from outside does not reliably indicate whether things will get better or worse in Nigeria. On this note, he proposed that the Nigerian authority's motto should be a strong sense of fiscal discipline and the correct frame of mind when allocating borrowed funds in order to ensure prudent use and so boost the sustainable performance of the overall economy[240].

A researcher hypothesized that deficit financing is a recurring pattern in the Nigerian economy after conducting a study on "deficit financing and its influence on private sector investment: the Nigerian experience." Over 90% of Nigerian budgets since independence are in deficit. Deficit financing appears to have a beneficial impact on inflation and a negative impact on investment in developing countries, especially Nigeria. When there is a deficit, the government typically seeks ways to finance it by taking out loans from commercial banks or from non-banking individuals, as well as through issuing short-term bonds and monetary instruments. Long-term deficit financing discourages private investment, which has a negative overall effect on the economy. The proportionate impact of deficit financing on private investment in Nigeria was calculated using secondary data from the CBN statistical bulletin, the National Bureau of Statistics bulletin, and econometric models. The results showed a conflict between deficit financing and investment over the review period, indicating that deficit financing in Nigeria discourages private investment. In order to support the private investor, he advises that the government should reorient its fiscal policy to discourage excessive public spending and maintain a small budget deficit. Additionally, it is advised that deficits be financed via the capital market 33 in order to prevent the crowding-out effect.

In a paper titled "Relationship between Fiscal Deficit and Public Debt in Nigeria: an Error Correction Approach," several academics hypothesized a connection between Nigeria's fiscal deficit and public debt. In order to examine the causal relationship and proportional impact of both categories of debt on the fiscal deficit, public debt was broken down into domestic and external debt. Time series information was gathered from Statistical Bulletins that the Central Bank of Nigeria issued between 1970 and 2011. The unit root test results showed stationarity of the fiscal balance, income, exchange rate, public debt and its components, and rate of interest series at their first difference; they are I(1) series, with the exception of the inflation rate, which was I(0). Granger causality results for pairs of variables show that there is a

bidirectional relationship between fiscal balance and public debt, including its domestic component, whereas external debt is the only source of causality for fiscal deficit. At a 5% level of significance, the Johansen integration results likewise supported the existence of integrating linkages. Furthermore, error-corrected estimations showed that the fiscal balance in Nigeria had a substantial positive connection with debt over the long and short terms.

The findings demonstrated that a 1% rise in public debt caused a 1.85% increase in the fiscal deficit. Additionally, a 1% increase in the fiscal deficit led to a 0.8% increase in the national debt. They added that domestic debt affects the fiscal deficit more than overseas debt does. In order to finance the budget deficit, they came to the conclusion that Nigeria's government should take into account an adequate ratio of domestic and external debt[241].

There is a strong correlation between budget deficit financing and economic growth in Nigeria, according to a study on "the impacts of budget deficit financing on the development of the Nigerian economy." In Nigeria, there was a direct correlation between GDP and inflation and an inverse link between GDP and unemployment. The results also demonstrate a substantial inverse relationship between government revenue and GDP, as well as a significant association between GDP and government spending.

In order to assess the relationship between GDP as the dependent variable and the independent variables of government budget deficit financing, unemployment, inflation, BOP, government financing, and government revenue, six research hypotheses were developed. The CBN statistical bulletin was used to gather secondary information. To estimate the equations created for the investigation, the ordinary least square regression technique was applied. They suggested that the government should avoid openness in the creation and implementation of budgets in order to be accountable to the voters. Therefore, it is important to implement an effective internal control system to enable the early identification of fraud in

the budgetary process. Law enforcement organizations including the Economic & Financial Crime Commission (EFCC), Independent Corrupt Practices Commission (ICPC), and the police. should also swiftly bring those charged in the case to justice. The huge deficit amount demonstrates that fiscal authorities typically underestimate the cost of budgetary items. The ineffective planning and evaluation brought on by economic planners' inexperience leads to excessive deficit spending. A key contributing factor may also be the government's attitude of lack of transparency. Therefore, in order to reduce the deficit funding to the absolute minimum of 35, the government should demonstrate a high level of transparency in its governance[242].

With the Nigerian economy in mind, a study on deficit finance and its inflationary impact on developing economies came to the conclusion that it appears to have a favorable inflationary influence on developing economies, notably Nigeria. When there is a budget deficit, the government finds ways to finance it by taking out loans from commercial and merchant banks or from the general population who does not have access to banking services, as well as through issuing short-term bonds and monetary instruments. Increased risk occurs in an economy when fiscal policies are pursued using deficit financing. They looked at how much Nigeria's Gross Domestic Product (GDP) has been impacted by deficit financing, how it has affected the country's ongoing price increases for goods and services as a result of extra-budgetary spending, and the efficacy of the strategic measures taken to end Nigeria's ongoing deficit financing.

The investigation led them to draw the conclusion that Nigeria should cut back on, and perhaps even stop, extra-budgetary expenditure in order to lessen the consequences of deficit funding's crowding out and prevent future debt crises[243]. Public debt and economic growth have a long-term relationship, and they are positively related if the government is sincere

with the loan it receives and uses the money for the growth of the economy rather than using it for its own personal gain, according to a study titled "Public debt and economic growth in Nigeria: evidence of Granger casualty." Using a Vector Autoregressive approach, he investigated the relationship between governmental debt and economic growth in Nigeria between 1970 and 2010. (VAR).

A study was conducted on "Fiscal Policy and Nigerian Economic Growth." Whereby it was investigated to see if fiscal policy had any empirical effect on achieving sustainable economic growth in Nigeria. They came to the conclusion that fiscal policy has not been successful in fostering sustainable economic growth in Nigeria using the Solow growth model evaluated using the Ordinary Least Square approach. Inconsistencies in policy, a high level of corruption, wasteful spending, poor policy implementation, and a lack of feedback mechanisms for implemented policies — all of which are present in Nigeria and are actually capable of reducing the effectiveness of fiscal policy — made it impossible to draw this conclusion, even though the results appear to refute the Keynesian postulate that active policy is necessary to stimulate economic activity. So, in order to move Nigeria's economy toward sustainable growth and development, they advised the government to eliminate unproductive foreign borrowing, wasteful expenditure, and an unchecked money supply and implement specific measures that would boost and sustain productivity across the board[245].

According to estimates, Nigeria needs N10.63 trillion ($67 billion) for improvements to its electricity sector, hospitals, schools, and bridges. According to the Africa Infrastructure Country Diagnostic (AICD) Report for 2011, Nigeria needs to invest $14.2 billion year for the next ten years to fix its infrastructure problems. To overcome the funding difficulty, she used Public Private Partnerships (PPP) and Private Finance Initiatives (PFI). The PFI and PPP models for public project financing are relatively new in Nigeria, which presents a

"knowledge" barrier. Despite the fact that PFI/PPP structures are growing in popularity in Nigeria, recent events have revealed that there is a lack of awareness and a thorough understanding of the many challenges in these areas. The vast amount of funding needed for Nigeria's current and future infrastructure development was thought to indicate that conventional funding methods are no longer adequate because the traditional fund providers, namely the various levels of government, do not have such resources at their disposal[246].

In order to prevent the budgetary imbalances, especially the rising public debt, from getting any worse, the Fiscal Responsibility Act was put into place in 2007. He suggested that limitations be imposed on the combined debt of the federal, state, and local governments in accordance with Section 42 of the Act and that rules be made in accordance with Section 55 of the Act to carry out the Act's requirements. Setting boundaries, restrictions, and deadlines for their fulfillment is crucial, especially with regard to the public debt, debt payments, borrowing, and deficit. Incentives should be given to the States that are adhering to debt and deficit targets, and lastly, federal agencies like the CBN, Security and Exchange Commission (SEC), Ministry of Justice, Ministry of Finance, DMO, Office of the Accountant General, and the Nigerian Stock Exchange (NSE) should no longer process, approve, or recognize public debt that does not comply with the provisions of the FRA[247].

The outcome demonstrated that there was no significant causal association between inflation and the budget deficit ($F = 0.9$, $P > 0.005$), while there was a causal relationship between inflation and the budget deficit ($F = 3.6$, P 0.05). This suggests that there is a one-way causal relationship between Nigeria's budget deficit and inflation. Additionally, the outcome demonstrated that the Nigerian economy's exchange rate changes, which are caused by the budget deficit, both directly and indirectly affect inflation[248].

In a study entitled "Fiscal/Monetary Policy and Economic Growth in Nigeria: A Theoretical Exploration," three different academics examined the relationship between fiscal and monetary policies and economic growth and development in Nigeria. They contended that limiting the government's fiscal irresponsibility will require far more than simply enshrining fiscal policy guidelines in our statutes. This is due to the abundance of inactive laws and regulations in the statute books. It mentions that in Nigeria, there is a modest long-run equilibrium relationship between fiscal policy variables and economic development. They advise that in order for the government to make any significant headway toward fiscal responsibility, some formidable pro-stability stakeholders must arise who are able to confront the administration's economic irresponsibility[249].

The relationship between domestic debt and economic growth in Nigeria was the subject of research titled "Domestic Debt and the Growth of Nigerian Economy." To evaluate quarterly data between 1994 and 2008, the researcher used the Ordinary Least Squares Method (OLS), Error Correction, and sparse models. His findings demonstrate that domestic government debt holdings are far higher than the healthy threshold of 35 percent of bank deposits, with an average of 114.98 percent of bank deposits over the study period showing indications of the crowding out of private investments. Of course, the analysis confirms that debt levels have a detrimental impact on economic growth. He advised the government to keep the ratio of its debt to its bank deposits below 35%, increase the use of tax revenue to fund its projects and divest itself of any projects the private sector can handle while creating an environment that is conducive to private sector investors, including tax breaks, subsidies, guarantees, and most importantly, improved infrastructure[250].

The relationship between fiscal deficits and inflation was investigated in research titled "An Empirical Analysis of Fiscal Deficits and Inflation in Nigeria." Although their theory

suggests that budget deficits cause inflation, empirical research on the topic hasn't been as clear-cut. They revisited the problem in the context of Nigeria, a developing nation, using data from 1970 to 2006, a time when persistent inflationary patterns persisted. They used a modeling strategy that uses structural analysis and co-integration methods. The findings show a slight but favorable correlation between Nigeria's fiscal deficits and inflation. Additionally, we could not discover any compelling evidence connecting earlier fiscal deficit levels to inflation in Nigeria at the time. Instead, we find that the money supply and inflation have a positive long-term connection in the Nigerian economy, indicating that the money supply is procyclical and tends to increase at a higher rate than the inflation rate[251].

In a study titled "The Crowding out Effect of Budget Deficits on Private Investment in Nigeria," the researcher found that budget deficits had started to recur in the Nigerian economy. Without fully taking into account the effect it will have on the pace of investment in the private sector, Nigeria's budget has recorded fiscal deficits for up to thirty-nine years. Where we can find the money to make up the difference between expenditure and revenue is the main point of disagreement. Will it be raised internally, through a higher tax rate or the sale of fiscal instruments, or will it be financed externally? He did the study taking this into consideration. He illustrated in the paper how budget deficits drown out private investment in Nigeria's economy. He used an analytical framework that makes use of the Granger Causality test and ordinary least squares (OLS) to evaluate private investment and budget deficits. The study supports the claims that budget deficits discourage private investment and that feedback from private investment increases budget deficits. Following the findings, he advised stakeholders to cut down on recurrent spending and boost capital spending in order to promote and create an atmosphere that is favorable for private investment to flourish, which will assure economic growth.

The expansionary effect of fiscal policy is stronger when the budget deficit is financed by money production as opposed to borrowing; it is recommended that budget deficits be financed through money creation[252]. It was decided to do a study on "Who Owes What and To Whom, Public Debt, Ricardian Equivalence, and Governmental Form." The two linked questions of whether or not public debt permits the burden of government to be passed on to future generations and whether or not its formation has a positive net wealth effect were hypothesized to be the main topics of interest in the postwar literature on public debt[253].

In a study on the effect of external debt on economic growth in Nigeria, it was discovered that while debt servicing was detrimental, external debt was beneficial. This was due to the fact that borrowed capital increases capital formation and has a favorable effect on economic growth. On the other hand, a high debt-service ratio indicates capital flight, which worsens a nation's performance and lowers real GDP. Additionally, it supports the theoretical predictions that the debtor nation loses resources as a result of debt service. They came to the conclusion that total debt stock, less debt service, still leaves a robust positive balance, to enhance capital accumulation that positively impacts economic growth[254].

In a study that focused on debt servicing and economic growth in Nigeria, the ordinary least square multiple regression method was used to test the hypothesis that, between 1981 and 2004, the gross domestic product (GDP) and the gross fixed capital formation at current prices (GFCF) had an inverse relationship with the debt payments made to creditors from the Paris Club, the London Club, the Paris Club, promissory note holders, and other creditors (non-Paris creditors). The study found that the GDP and GFCF are significantly impacted by debt payments to London Club creditors, Paris Club creditors, Promissory note holders, and other creditors. Debt repayment to London Club creditors and other creditors exhibited a

substantial negative relationship to GDP and GFCF, whereas debt repayment to Paris Club creditors and promissory note holders showed a positive relation to GDP and GFCF[255].

Between 1975 and 2006, econometric research examined the connection between Nigeria's external debt and economic growth. The results of the error-correction estimations showed that Nigeria's economic growth was hindered by its external debt. They noted that Nigeria's capability for absorption is cause for concern, and that the country's low debt-to-GDP and debt-service-to-GDP ratios should serve as a compass for debt negotiations in the future. Chi-square tests, regression analysis, and correlation analysis were used to investigate whether or not there was a connection between the size of a country's external and internal debt loads and the likelihood of receiving debt relief. It was shown that debt relief affects economic growth, that incremental reforms and investments are advantageous, and that there is a relationship between external and internal debt stock in relation to debt relief. The effect of reducing Nigeria's external debt on economic growth was studied using a regression analysis of quarterly data on foreign debt, external debt service, and real gross domestic product. Using Chowtest on the regression result, they found that the correlation between economic growth and external debt in Nigeria between 1975 and 2005 had suddenly and significantly broken down. After discovering that the reduction in foreign debt boosted the resources available for economic growth in Nigeria, the research recommended switching to discretionary concessional borrowing. Also, it acknowledged the real sector as the centre of value creation, rather than the negative effects of inadequate management and debt payments on economic growth in low-income, non-sustainable debtor countries[258].

According to the study, our macroeconomic indicators in the 1980s and 1990s had a negative trend, which increased the debt burden during that time[259]. This was due to factors such as debt utilization, diffusion in the management of loans, poor documentation, inadequate

external debt accounting, and politics in the management of debt. A study was conducted to examine the relationship between external debt and economic development using time series data for the years 1970 through 2009. The lack of a long-term relationship between external debt and economic growth in Nigeria, he concluded, suggests that an increase in external debt may cause a decline in GDP. He advises the government to tighten policies that will lead to improved management of Nigeria's external debts, among other things, in order to achieve his recommendations[260].

In a study from 1981 to 2013, the relationship between Nigeria's external state debt servicing and receipts and exchange rate variations was examined. The study's conclusions demonstrated that there are both short- and long-term correlations between the servicing of external debt and changes in the value of the naira. According to the study's findings, foreign public debt servicing has a negative impact on exchange rates whereas external public debt receipts have a positive impact[262]. Using the conventional least squares method, three researchers looked at the impact of government debt on economic growth in Nigeria between 1986 and 2013. The study shows the effect of government debt on economic growth over the studied period was negligible, with external debt, which has grown significantly over time, barely making a dent in real gross domestic product.

According to the study's findings, if the trend of persistent borrowing is not reversed, the economy will continue to deteriorate, leading to rises in unemployment, declines in total investment, falling reserves, an increase in exchange rates, higher inflation, and ultimately an increase in poverty. This will happen as a result of surplus budgeting. Therefore, it is advised, among other things, that borrowing should be the government's last resort when trying to revive the economy. If necessary, loans should be obtained from within the economy so that,

once the principal and interest on the loans are repaid, there will be a crowd-in effect that will further speed up economic activity in the nation[263].

The effect of Nigeria's external debt on economic growth was examined in a study. It makes use of the vector auto regression's variance breakdown and impulse response (VAR). According to the results of the two-stage data processing, the relationship between external debt and economic growth in Nigeria is tenuous, and as a result, external debt cannot be utilized to predict whether economic growth will pick up or slowdown in Nigeria. Therefore, changes in external debt cannot be used to anticipate changes in GDP. Fiscal restraint and a strong sense of responsibility in managing public monies should be the watchwords of Nigerian leaders if debt is to foster progress in that country[264].

A study looked into how Nigeria's economy was affected by its external debt. While applying the regression and Granger causality methods of analysis, secondary source data was gathered. The results of the regression analysis demonstrated a negative link between GDP and external debt, including the service of that debt. The Granger causality test demonstrates that GDP and external debt service have a unidirectional causal link that runs from GDP to external debt service, and that external debt and GDP have a unidirectional causal relationship that goes from external debt to GDP. It suggests that external debt should primarily be incurred for economic reasons rather than social or political ones because doing so will boost national production[265].

The study advised the government to limit the amount of external debt it accrues over time, while internal debt accumulation would greatly aid in the growth of the economy[266]. The effect of Nigeria's external debt on economic growth was examined in a study. The cointegration test and the error correction test were used to empirically investigate the problem for Nigeria from 1980 to 2012. The study's findings confirmed the conventional

wisdom that external debt and growth are related. The analysis also revealed that Nigeria's debt overhang issue does not exist. The study's conclusion is that the greatest long-term alternative to external debt is financing development activities in Nigeria through increasing export profits driven by an export led growth strategy and investment in human capital[267].

Especially during the pre-SAP era, the majority of loans obtained by the Nigerian government were used to finance development projects. It was also during this time that Nigeria started to borrow money to help with its balance of payments crisis. The era of careless borrowing from external sources, which is now a ritual, was brought on by the succeeding governments as a result of their exposure to it. A scholar claims that this led to a significant worsening of the external debt profile and a payment problem, necessitating the need for debt refinancing, rescheduling, and restructuring. A country's trajectory of economic progress is hampered by a high debt profile. Principal and interest payments, for instance, drain resources from the nation and increase government spending on less productive economic endeavors[268].

A professor claimed that developing countries' ability to participate in the global economy had been severely constrained by their exposure to external debt and the liabilities that came with it, and that these obligations now provide a barrier to economic growth and development. Unfortunately, determining the extent of their external debt is one of the biggest problems most sub-Saharan African nations face. Nigeria's external debt increased from N2.3 billion to N633.1 billion between 1980 and 1990, exceeding the sustainability barrier as the ratio of the rise in external debt to real gross domestic product increased. Total debt to GDP, a measure of debt burden, increased from 19.9% in 1980 to 108.2% in 1994, but it then fell between 53.5% in 1995 and 32.5% in 1997. Returning to an upward trend from 1998 to 2006, the debt burden. After that, the burden dropped as a result of the nation receiving a $18 billion in debt

relief in 2006. Debt overhang results from the debt burden threshold during the review period being higher than 30%, which violates the debt sustainability requirement. It is further shown that between 1980 and 1982, Nigeria's debt burden was within the acceptable range, but that beginning in 1983, the oil crisis and the introduction of SAP-induced debt policies caused it to start rising. Investment, particularly in the private sector of the economy, has been driven out as a result of the rising domestic debt burden. The domestic debt load has, on the general, been manageable from 1994 to 2014.

Because of the alleviation, the overall debt stock's increasing tendency, which had been caused by SAP-induced policies since 1986, has begun to decline. After then, the growth was added up, and in 2014, the total stock reached almost 35 percent of the GDP. From N2.3 billion in 1980 to N328.5 billion in 1990, N3176.3 billion in 2000, and N896.8 billion in 2010, the amount of external debt rose. The tragedy of exposing the nation to external shocks caused by the external debt overhang theory was further compounded when it climbed to N1631 billion in 2014, or around 41.8 percent of the real GDP ratio. The primary causes include budgetary imbalances, insufficient GDP growth, excessive government expenditure, a sustained rise in general prices, and a decline in public revenue since the start of the oil crisis in early 1980. Nigeria's growing debt load has drawn the attention of the International Monetary Fund in 2015, which has warned that the cost of servicing the nation's debt might reach 35% of revenues within the next four years.

The estimated N2.2 trillion deficit in Nigeria's 2016 budget is anticipated to be funded primarily through borrowing. The deficit would be covered by a mix of N900 billion in foreign borrowing and N984 billion in domestic borrowing, or 36.5 percent of the whole budgeting estimate. This will add to the economy's burden, lower revenue, and jeopardize the nation's overall development. The relationship between public debt and economic growth and

development in developing economies has been the subject of some empirical research[269]. According to some academics, the significant allocation of limited economic resources to the payment of public debt obligations in developing nations has stifled economic growth and progress over time. They came to the conclusion that the rapid growth in the stock of external debt and the obligations associated with debt servicing seriously hampered the economy's performance because a sizable portion of the available resources were being used to pay off debts accrued in the past, leaving little room for new investments[270].

External debt and debt service payments have a negative and a positive impact on economic growth, respectively, according to a study on the "external debt and Nigeria's economic growth nexus, problems arising" that used simple regression analysis of the ordinary least squares. The cost-benefit analysis, project prioritization, economic absorption capacity, productive self-financing investment, accountability as well as probity in handling government resources, and debt sustainability should form the fundamental standards for contracting domestic or external loans and advances, he advised. This is because the burden of debt has a negative impact on economic development[271].

Between 1999 and 2007, a study conducted a critical review of foreign debt management and Nigeria's debt profile. Using a qualitative descriptive style of data analysis, it was discovered that, if properly managed within a certain limit, Nigeria's debt appeared sustainable in respect to GDP. use the neo-classical theory of economic development[6]. A study looked into the relationship between Nigeria's economic performance and its external public debt. They used the ordinary least squares (OLS) methodologies and discovered that there was an inverse link between economic performance and foreign debt and commitment[272]. This was confirmed in a different study that used the co-integration

technique in Egypt between 1980 and 2006 and came to the conclusion that there is a strong inverse link between external debt and economic growth in the nation[273].

A study looked into Nigeria's infrastructure development and debt burden. For the years 1986 to 2019, annual time-series data were taken from the CBN statistical bulletin. At a significance level of 5%, a multiple regression test based on ordinary least square (OLS) was used. The study's findings showed that domestic debt and infrastructure development have a positive and statistically significant relationship under both current and lagged coefficients, while external debt and infrastructure development have a negative relationship under both current and lagged coefficients during the study period. The results suggest that while the federal government's external debt has not improved Nigeria's infrastructural development during the study period, an increase in domestic debt increases infrastructure development over the near term[5].

Using a dynamic multivariate method, some researchers looked at the connections between government, debt repayment, and economic growth in Zambia from 1979 to 2017. Real gross domestic product (RGDP) was estimated in their model as a function of public debt stock, fiscal balance, and savings as a percentage of GDP. Descriptive statistics were used to examine the data, and multiple regression was used to test the hypotheses with E-Views 9.0 at the 5% level of significance. The empirical findings suggested a one-way causal relationship between Zambia's economic development and state debt[2].

A researcher examined how Nigeria's national debt affected investment. The study sought to determine how public debt factors affected investment in Nigeria. Information was taken from CNB bulletins and Bureau of Statistics publications. Descriptive statistics were used to evaluate the data in a descriptive manner, and regression model techniques were used to test the hypotheses at a 5% level of significance. The analysis's findings suggested that Nigerian

investment would be negatively affected. Using data for the years 1982 to 2017, a group of academics looked at the impact of state debt on economic growth in Nigeria. Data were taken from the Bureau of Statistics' annual publications and the CBN Statistical Bulletin. The descriptive statistics were used to analyse the data, and multiple regressions that were anchored on OLS were used to test the proposed relationship. The results of the test indicated that internal debt had a positive impact on growth while external debt had a noteworthy negative impact on growth[277].

External debt and economic expansion in a developing country were the subjects of a study. Finding out how public external debt determinants affected economic growth in a rising economy was the study's main goal. Data were obtained through secondary sources, and descriptive statistics were used to examine them. To test the hypotheses, multiple regressions anchored on ordinary least square approach were used. The outcome demonstrated that variables related to foreign public debt have an adverse connection with economic growth over the analyzed period of **77**. Similar research looked at the relationship between external debt and Nigeria's economic growth from 1981 to 2014. The results of the hypothetical test showed that, for the time period covered by the study external debt is inversely correlated with economic growth[1].

Researchers looked into the connection between Nigeria's public debt and economic expansion. The RGDP, foreign debt, domestic debt, and domestic private savings were the variables used in the study. Data for the years 1980 to 2015 were gathered from the CBN statistical bulletin and Bureau of Statistics publications. The data was examined using descriptive statistics. To evaluate the proposed hypotheses, multiple regressions anchored on ordinary least square (OLS) were used at the 0.05 level of significance. The results indicated that Nigeria's economy has grown significantly negatively since 1979[278].

Using data with time series qualities for the years 1970–1995, a researcher looked for evidence demonstrating the impact of the debt overhang crisis on the Kenyan economy. His research shows that debt service does not negatively affect economic development. However, it did point to some crowding-out of private investment[43]. According to a researcher's findings, the degree of productivity of various components is not significantly impacted by external debt. In the case of emerging nations, it was discovered that a greater growth rate typically goes hand in hand with a lower level of external debt and that public external debt, as opposed to private external debt, drives the negative effect.

The study's findings also showed that in industrialized economies, there is no correlation between public external debt and economic growth[2]. In his research on the issue of external debt in Africa, the scholar concentrated on Nigeria and Morocco. The work's submission included the statement that investment is significantly influenced by foreign debt. Additionally, he discovered that the sampled countries' debt increase is considerably accounted for by fiscal expenditure, the balance of payments, and the global interest rate. He continued by outlining potential solutions to the aforementioned issues, including privatization, a prolonged program of export promotion, as well as the reorganization and expansion of capital markets[2]. The impact of external debt on the expansion of the Sudanese economy from 1978 to 2002 was studied. The growth rate of real export earnings was used to measure the effectiveness of export promotion strategies, while inflation served as a stand-in for the effects of macroeconomic policy. He comes to the conclusion that real export has a positive and large impact on economic growth, but inflation and external debt dictate economic growth[3].

Many Researchers analysed time series data for Nigeria between 1062 and 2006. After analysing the behaviour of donor agencies throughout time as a result of numerous bilateral

and multilateral agreements, they determined that the accumulation of external debt hampers Nigeria's economic growth. The study analysed countries that were privileged to receive foreign help until the early 1980s, but found it difficult to attract a bigger aid inflow as a result of political changes, resulting in a twin deficits situation. In examining the impact of increased foreign aid and external debt on economic growth in these nations, a strong positive correlation was discovered between external debt and economic prosperity, whereas a negative correlation was observed between fiscal deficit and economic growth[4].

For the years 1970–2003, a study looked at the dynamic impact of debt service, labor, and capital stock on economic growth in Pakistan. The productivity of labor and capital was found to be negatively impacted by servicing external debt, which inhibits economic growth[288]. It was discovered that thirteen countries have granger causality when looking at the short-run relationship between external debt and economic growth rate for 27 Caribbean and Latin American countries between 1970 and 2003[289].

Additionally, two researchers examined a set of data on Nigerian debt and discovered both a negative and positive relationship with GDP. Another pair of researchers looked at the impact of foreign debt management on Nigeria's economic expansion[290]. For the period 1970–2009, an OLS multi regression analytical approach was utilized to examine the relationship between external debt and economic development, and the error correction model was employed to examine the long- and short-term dynamics. The empirical finding showed a substantial correlation between Nigeria's external debt and economic development. Due to the negative, albeit minor, effects of debt servicing on Nigeria's GDP, the country's external borrowing contributed to GDP[279].

A study looked at the effects of external borrowing over multiple generations on the Nigerian economy's productivity from 1981 to 2014. We test the study hypotheses using the co-

integration technique and the granger causality test, and it was revealed that external debt has a positive and significant impact on the Nigerian economy, suggesting that using loans to finance manufacturing, production, and infrastructure projects will boost economic wellbeing and encourage economic growth. They advise the government to direct borrowed funds to specific industries like manufacturing, entrepreneurship, and production when they are expected to boost economic growth[290]. A study examined the impact that foreign debt has on the Nigerian economy. The traditional perspective holds that economic growth will eventually respond negatively to external debt, whereas the Ricardian equivalence hypothesis places an emphasis on the influence of external borrowing on economic growth being neutral.

In Nigeria, the main justification for incurring external debt has been that it should be put to use as investment capital. The cointegration test and the error correction test were used to empirically investigate the problem for Nigeria from 1980 to 2012. Their findings confirmed the conventional wisdom regarding the relationship between external debt and growth and established that Nigeria's debt overhang issue does not exist. Increased funding for Nigerian development initiatives is one of their suggestions.

According to a survey of the literature that is currently available, much research has been done on the relationship between foreign debt and economic growth, however the control factors frequently have little impact on this association. Additionally, there are contradictory results because external debt and economic progress have been proven to have a mixed (sometimes negative) relationship[2]. A study looked at how service of the growing stock of external debt affected the growth of human capital. Time series data spanning 30 years (1986-2015) were analyzed using the previously developed models in an ex-post facto research methodology. To evaluate the hypotheses, the Ordinary Least Square (OLS) regression technique was employed. The study discovered that the stock of foreign debt and

the servicing of external debt both had large negative effects on the growth of human capital, whereas the stock of external debt obtained through the Paris Club and multilateral creditors had negligible negative effects[3].

A study was conducted with the goal of determining how Nigeria's external debt affected the expansion and development of capital formation. The Autoregressive Distributed Lag (ARDL) modeling was applied to time series data for the years 1980 to 2013. Savings emerged as the sole variable having a bidirectional causal relationship among the variables, but the influence of external debt on capital creation has been demonstrated to be negative and statistically significant. Despite being weak (92), interest rate was shown to be statistically significant[264].

Using Nigeria as a case study, a study looked at the effects of foreign borrowing on the economic development of emerging countries. Data for the time series between 1985 and 2015 was taken from the Statistical Bulletin of the Central Bank of Nigeria. The analysis found a significant positive relationship between economic growth and exports, capital investment, and debt service payments. However, a substantial inverse association was reported between external debt and exchange rate and economic growth[274]. A study on the effect of external debt on the economic growth of Nigeria was undertaken in order to quantify economic growth as a function of the ratio of foreign debt to export, inflation, and exchange rate proxy as the exogenous factors. Data were collected during the years 1970 to 2010. The outcome demonstrated that Nigeria's economy has benefited from external debt[263].

Three academics examined Nigeria's experience between 1980 and 2013 in relation to external debt and economic growth. The study made use of secondary data and performed an ordinary least squares analysis on it. The analysis found that while there was a short-term positive association between external debt and GDP, there was a long-term negative link[253]. A study that looked at the ARDL bound testing approach to examine the effect of foreign

debt on economic growth in Nigeria discovered a long-term relationship between the variables, namely that production is negatively impacted by external debt[241]. According to a study that used the VEC model to evaluate the relationship between external debt and economic growth in Nigeria, the stock of external debt had a positive impact on growth while the servicing of external debt had a negative influence[222]. Researchers that looked at the relationship between external debt and economic growth in Nigeria using the Vector Auto-Regression (VAR) method discovered that the growth of real GDP per capita is negatively impacted by external debt.

Additionally, a one-way causal relationship between real GDP and the stock of external debt and the payment of external debt service and real GDP was discovered. The impact of external debt on economic growth in Nigeria from 1986 to 2016 was determined through a study. Examining whether external borrowings and their key influences, such as the exchange rate, gross fixed capital formation, and inflation rate, have aided the expansion of the Nigerian economy is the focus of the study. The outcome demonstrates evidence of a statistically significant positive association between economic growth and the explanatory variables, specifically foreign debt, exchange rate, and inflation rate[232].

Using annual data for the years 1975 to 2006 and the econometric analysis approach, a study examined the impact of external debt on the expansion of the Nigerian economy. According to the error correction estimate, Nigeria's economic growth is adversely correlated with external debt[246]**.** A study assessed the impact of government borrowing on Nigeria's infrastructure development. The federal government of Nigeria's capital spending has been used as a proxy for infrastructure development. With the help of the Ordinary Least Squares (OLS). The study also demonstrates that there is a correlation between federal government

capital spending and domestic debt that is positive, while there is none at all between capital spending and international debt.

Nigeria's external debt was first contracted from the World Bank in 1958 when a loan of $28 million US dollars was requested for the construction of a railway and other economic projects[234]. Also in the early 1970s, as Nigeria began to undertake significant reconstruction projects following the civil war, loans were obtained by various levels of government. The necessity to pay the rising deficit gap brought on by wasteful spending is another factor contributing to the worsening debt position in Nigeria. This signaled the start of the end of the oil boom era, which was characterized by mounting fiscal deficits caused by declining foreign exchange earnings.

The Paris Club of Creditor Nations granted the nation a loan in 1964 for the construction of the Niger Dam in the amount of US$13,1,000,000. When Nigeria turned to the International Capital Market (ICM) in 1978 for the much-discussed "giant loan" of $1 billion, the structure of Nigeria's debt, which had previously primarily consisted of loans with lenient repayment conditions, was altered. Nigeria's debt increased to around $39.9 billion in 2002, primarily as a result of interest, fees, penalties, and the drop in oil prices. The debt difficulties caused slow economic growth in Nigeria as well as significant levels of unemployment, poverty, and security issues. The nation's social, educational, health, and other infrastructures suffered significant degeneration[214].

At this point, Nigeria stepped up her efforts to obtain debt relief. Nigeria's problem with external debt stems back to the colonial era, when foreign loans were obtained to supplement the meager internal revenue (IGR) for development[216]. Concessional debts from bilateral and multilateral sources with extended repayment terms and lower interest rates made for around 78.5% of the overall debt stock between 1958 and 1977[2]. Nigeria's external debts grew over

time as a result of a proportionate lack of foreign currency to fund her developmental demands, according to the African Forum and Network on Debt and Development (AFRODAD) in 2007. Government spending was severely impacted by the decline in oil prices in the late 1970s, necessitating government borrowing to support the balance of payments and finance projects. As a result, the country's debt level climbed to US$2.2 billion in 1980. However, it had increased to $33.4 billion by 1991, and rather than declining, it was rising, especially in light of the unachievable debt servicing system and political leaders' insatiable drive to seek loans for the implementation of dubious projects[232].

The entry of state governments into the external loan market, the decline in the share of loans from bilateral and multilateral creditors, the ensuing rise in borrowing from private sources at higher rates, and the inability to manage external debts prudently as a result of corruption and improper handling of oil revenue are additional factors that contributed to this sharp increase. Nigeria became more appealing to predatory foreign creditors as oil production revenues rose, which resulted in successive governments borrowing heavily and placing a significant external burden on the nation. The federal and state governments repaid all kinds of loans owed to both private and multilateral creditors. Due to the resulting debt burden, significant amounts of oil revenue were used each year to pay off the accrued foreign loans. It is difficult to divorce Nigeria's history of massive indebtedness from its decades of misgovernance and the ongoing irresponsibility of its leaders[214]. Between 1983 and 1988, Nigeria's inability to pay her import bills led to the accumulation of trade arrears of US$9.8 billion, with the accrued interest totaling US$1.0 billion being recapitalized. Nigeria's external debt increased once again to $33.1 billion in 1990.

Furthermore, Nigeria's external debt reached a peak of US$19 billion in 1985, which made debt servicing and rescheduling difficult. Prior to it, Nigeria had had a rise in oil revenue that

was abruptly followed by a decrease. Nigeria, for example, received $25 billion from oil exports in 1980; however, this amount fell to $12 billion in 1982 and then to $6 billion in 1986. Throughout this time, government spending was still substantial, and many of the projects were financed by borrowing from outside sources. Nigeria's total debt as of the end of 2004 was close to $36 billion, of which $31 billion was payable to the Paris Club of Creditors and the other amounts were owed to multilateral, commercial, and other non-Paris Club of Creditors[246].

In 1958, Nigeria's debt servicing obligations were light and manageable, but eventually became a difficult bargain. The Paris Club, one of Nigeria's creditors, wanted $3 billion per year in debt service payments in 2003, which brought things to a head. Nigeria had a total debt of $33.4 billion in 2004, and when other measures failed to provide the desired results, the nation turned to debt relief in an effort to address the debt crisis and the ensuing economic crisis[248]. External borrowing unquestionably provides the benefit of promoting growth, but the degree will depend on how the resources acquired are put to use. In fact, Nigeria has few opportunities to find sufficient funding for growth on the domestic market because of the low level of capital formation in the nation, which is brought on by the low level of income and the typically high prevalence of poverty. In order to complement domestic savings when faced with a lack of capital, it is widely anticipated that developing nations will take on external debt [249]. Additionally, foreign debt is preferable to domestic debt since international financial institutions like the International Monetary Fund (IMF) impose interest rates that are roughly half as high as those found in the local market. However, whether or not external debt would be advantageous to the borrowing country depends on whether the borrowed funds are utilized for consumption or for the productive sectors of the economy[272].

According to the early contributors, a developing nation's economic growth is likely to be boosted by borrowing at affordable rates. If managed effectively, such debts can be of considerable assistance to emerging nations, helping to boost their economies' overall resources over a particular time period[231]. In order to achieve a level of economic welfare that would not otherwise be possible, borrowing is preferable when it is utilized to fund investments that are anticipated to generate a sufficient rate of return or to smooth consumption in the face of an uneven aggregate supply. To yield a return greater than the cost of debt servicing, investments financed with debt must be profitable and well-managed[231].

To lower the nation's debt load to a manageable level in the past, many debt management measures were used. A case-by-case, market-based technique known as the rescheduling strategy was created to help bankrupt countries delay their obligations. The obligations owed by Nigeria have been rescheduled four times: in 1986, 1989, 1991, and 2000[248]. Rearranging is meant to have the impact of extending the payback duration and enhancing the payment methods. Due to Nigeria's inability to make all of the required Paris Club payments on time each year, the country's debt nevertheless grew despite these rescheduling arrangements. The high interest rate, disadvantageous terms, recapitalization of accrued interest, and penalty therefor, among other factors, contributed significantly to the capital expansion in the debt stock as a result of this strategy[213]. The Baker Plan, the Brady Plan, the Toronto Terms, the London Terms, and the Naples Terms were a few of these initiatives. The Heavily Indebted Poor Countries (HIPC) program was another debt management initiative that aimed to achieve total cancellation or forgiveness for the world's poorest countries only if they met the set criteria.

When Nigeria was excluded from the group of (HIPC) countries that were then eligible and qualified to get a minimum of 67.0 percent reduction in their debt stocks, Nigeria followed

the "Evian Approach." Under the Evian Approach, debtor nations are permitted to request that the Paris Club restructure their loans in a way that takes into account their unique financial requirements[222]. However, it entails performing a Debt Sustainability Analysis (DSA) for a nation, which includes determining the nation's immediate and long-term financial requirements. The Paris Club will explore long-term alternatives including decreasing the country's debt stock if the DSA indicates that the debt position is unsustainable[215].

Other measures taken by the government to address Nigeria's debt overhang issue include I an embargo on new loans and directives to state governments to keep their external borrowing to a minimum. The goal of the embargo was to stop the growth of the country's overall debt stock and reduce the burden of new debt. (ii) Debt restructuring, in which the burden of an existing debt is lessened through refinancing, the issue of collateralized bonds, and the provision of fresh funds. Maximum borrowing restrictions (iii). Limits on repaying debt service; debt restructuring; and (iv) (vi) A scheme for debt conversion. (vii) The buyback of debt. Debt consolidation (viii) and a campaign for debt forgiveness (ix). In order to ensure proper coordination of the nation's debt recording and management activities, including debt service forecast, debt service repayments, and advice on debt negotiation as well as new borrowings, the debt management functions were consolidated into the Debt Management Office (DMO) in 2000[290].

Many Sub-Saharan African (SSA) nations' inability to meet their social demands and pay off their debt is attributed to the fact that the borrowed money was not put to good use. African political leaders towards capital flight, which was used to finance international investment in the main sectors rather than domestic investment 326, diverted a sizeable portion of the loaned money. The former president Olusegun Obasanjo asked "...how did we arrive to the

point where our debt burden became a challenge to peace, stability, progress, and development?" in response to Nigeria's debt relief. We can pinpoint political sleaze, poor governance, abuse of office and power, criminal corruption, mismanagement and waste, misplaced priorities, fiscal indiscipline, weak control, monitoring, and evaluation mechanisms, and a community that openly tolerated corruption and other shady and illegal methods of primitive accumulation without labouring the point[18].

The fundamentals of external borrowing involve three phases of the debt cycle: in the first phase, debt increases to fill resource gaps; in the second phase, the country produces surplus resources, but probably not enough surpluses to cover interest payments; and in the third phase, the country must produce enough surpluses to pay interest and amortization. Highly indebted nations have the distinctive experience of being stuck in phases I and II for protracted periods of time. Many emerging nations, like Nigeria, have had their economic independence and sovereignty eroded by these circumstances. To the disadvantage of the local population and in favor of their countries, the creditor nations have imposed policies that are essentially anti-people, fostered the tying of developing countries' economies to the global economy, and worsened poverty. It is said that SSA countries were burdened with a high external debt burden as a result of their incapacity to handle borrowed cash as a result of financial irresponsibility, embezzlement, and corruption[327].

They stated that it was challenging to achieve rapid and sustainable growth and development due to the debt crisis, which was exacerbated by the extreme poverty and structural deficiencies in the majority of these countries' economies. Nigeria's debt problems were caused by, among other things, poor management of oil revenue during the oil boom era and a high level of corruption in the handling of borrowed money. A lot of politically motivated

white elephant projects were also started, but eventually abandoned by succeeding administrations after wasting a lot of money on them[274].

Nigeria's negotiation under the Policy Support Instrument (PSI) resulted in an agreement in principle to grant the country a debt relief of 60% (or $18.5 billion), as long as it agrees to pay $6 billion up front and another $6 billion six months later. The crisis that prompted the debt relief was acute in Nigeria between the 1950s and 2004. Nigeria's gross domestic product (GDP) increased little over this time, but it transferred on average not less than 6% of its GDP to its external creditors for debt servicing[272].

As a result of this weight on the debt-export ratio, which calculates the proportion of debt in export revenues, the debt crisis became extremely serious and upsetting. Nigeria received a $18 billion in debt relief on May 25th, 2005. The entire amount of this debt relief program was $18 billion, or a 60% write-off in exchange for a $12.4 billion payment of arrears and the buyback of[234]. It resulted in a $18 billion debt reduction on Nigeria's $33 billion Paris Club debt, a 60 percent overall debt reduction and a 76 percent debt reduction for the portion of the debt stock that was not in arrears; additionally, it was the first time the Paris Club permitted a discounted debt stock buyback[209].

(MDGs). The net payment Nigeria must now make to its creditors has been lowered by roughly $4 billion annually, or on average just under 2 percent of GDP, thanks to the debt relief package. The amount of foreign transfers that must be made less frequently will directly improve Nigeria's fiscal status and output. Without the debt relief, Nigeria's already drastically reduced budget would have had to be used to pay the full interest and amortization on all public commercial debt[225]. Nigeria was predicted to be able to maintain its level of foreign debt, profit from the investments made with the borrowed money, and pay off its obligations without negatively impacting the country's development and growth. By

providing funding for urgent infrastructure requirements, the relief will promote a private sector-driven economy and job growth, which will increase employment across the board. Due to the debt relief, Nigeria is no longer classified as a nation with "bad and questionable debts," which will enhance its credit standing with other nations.

In order to enhance foreign direct investment (FDI), which will expand the industrial base and generate wealth, the sociopolitical and investment environment must improve. In order to increase the competitiveness of private firms, Export Credit Guarantee Agencies will be confident in resuming insurance coverage for exports of goods and services as well as investment capital. The accomplishment of macroeconomic stability, fiscal viability, an increase in (FDI), rekindled confidence among international investors, and an improvement in the standard of living of the populace are only a few of the anticipated advantages of debt reduction[226]. This enormous sum would be made available right away to finance important priority sectors, such as health, elementary education, water, food, security, power, and other infrastructure to boost the economy. In order to implement the National Economic Empowerment and Development Strategy (NEEDS) and achieve the Millennium Development Goals, as well as to reaffirm its status as the continent's economic and political powerhouse, significant savings from debt relief are required[5].

The worldwide financial and economic crisis of 2009, which was sparked by the collapse of the sub-prime lending market in the United States, erased the benefits of the debt cancellation that were supposed to materialize in a few years. The crisis had a remarkable impact on Nigeria's exchange rate, which skyrocketed from roughly N120/$ in the final quarter of 2007 to more than N150/$ (a rise of about 25%) in the third quarter of 2009[265]. Due to the ongoing decline in crude oil prices, which fell from an all-time high of US$147 per barrel in July 2007 to a low of US$45 per barrel in December 2008, Nigeria's foreign profits have sharply

decreased. Statistics readily available demonstrate that Nigeria's external borrowing has increased since the debt reduction in 2005.

The amount of outstanding foreign debt for the nation rose from $3,545 million in 2006 to $3,654 million in 2007, and then to $3,720 million and $3,947 million, respectively, in 2008 and 2009[338]. The capacity of a nation to fulfill its obligations under its external debt is referred to as external debt sustainability. It evaluates a nation's immediate and long-term needs. If a nation is able to pay its current and future foreign debt service commitments in full, without resorting to debt rescheduling or the buildup of arrears, and without sacrificing development, it is considered to have achieved external debt sustainability. According to an IMF examination of debt sustainability completed in 2002, Nigeria's debt must first be reduced by 67 percent in terms of debt service payments before being reduced by 67 percent in terms of debt stock (IMF 2004). However, a study reveals that the country's macroeconomic policies caused the accumulation of debt that was unsustainable based on the strength of her exports. They discovered that macroeconomic policy combined with poor trade policy, which lasted from 1970 to 1988, resulted in a borrowing rate that Nigeria could not sustain[266].

International creditors like the World Bank entice Nigeria to take out more loans because of the benefits they derive from doing so, as their service fees rise above the amount actually borrowed, while Nigeria experiences significant capital flight as a result of the yearly debt payment[254]. According to a survey, the cost of servicing these debts over time can be up to 100% higher than the amount that was actually borrowed. For example, Nigeria's actual borrowing was estimated at $10 billion for the roughly 20 years prior to the Paris Club's 2005 debt write-off, despite the fact that the country spent over $35 billion annually on debt service throughout that time and still had nearly $36 billion in debt[243]. In 2005, the United

Kingdom (UK) received $12.4 billion from Nigeria as part of the debt deal with the Paris Club, which is more than the UK government spends on aid to all of Africa in five years and more than the G8 countries committed to the continent's conditional aid in ten years. This is because the external loans regime has ensured that more resources are leaving Nigeria for industrialized countries[247].

Nigeria has always been dependent on foreign creditors due to its ongoing external borrowing, which eats up a sizable portion of the annual national budget to pay off debt. However, nine years after it received relief from its debt burden that had been accumulated over the years by successive governments, a new debt burden has begun to emerge as a result of renewed frivolous borrowings, the method of which the House of Representatives described as "dubious, shady, and corrupt" As of April 2013, Nigeria's external debt load totaled $10.4 billion, devouring $923 million of the country's annual budget.

**The Moderating Effect of Tax Revenue**

Tax been a source of government revenue is critical to the attainment of public sector mandate. Specifically, when tax is created, collected, and administered efficiently the potential that government will be able to meet its present governance need to its people high very high. According to tax literature, the relevance of tax is to ensure that public authorities have the resources they need to provide citizens with social amenities and security, and to foster economic growth and prosperity[38]. Most governments' revenue bases are built on taxation[39]. Taxation is the economic pivot point between the state and its citizens, and tax money is the lifeblood of the social compact. A nation's tax policy is the primary means through which public and private sectors allocate resources within the country. Taxes are levied for the purposes of controlling enterprises, reducing income inequality, lowering inflation, and protecting nascent industries.

For tax collection to be as efficient as possible, the tax system must encourage economic growth and development in a number of ways. Through the efficient and effective use of tax income, which in turn encourages voluntary compliance, a healthy tax system supports and drives commerce. In light of the fact that taxation continues to be one of the most stable ways in which states raise money to fund public expenditures, it is incumbent upon the appropriate authorities to implement tax policies that streamline tax administration while simultaneously fostering economic expansion[44]. The position this study is advocating for is that revenue generated from tax when dully administered can enhance the effect external borrowing has on infrastructural development.

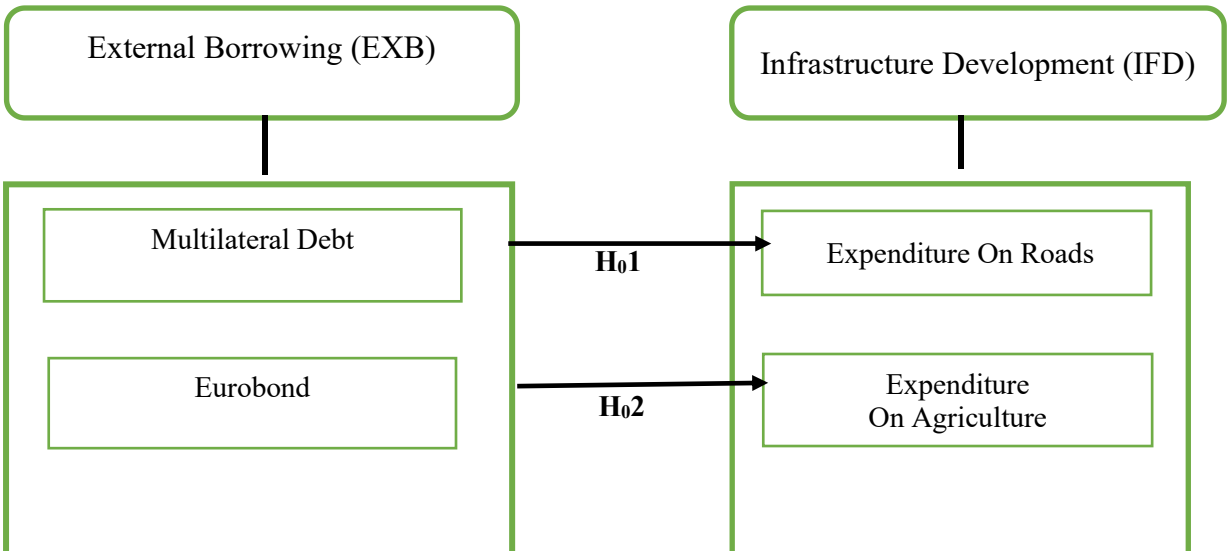
Extant literature has positioned the possible outcome of external borrowing on infrastructural development and economic growth and prosperity however empirical discussion of the moderating effect of tax revenue remain sparse. The majority of the studies on tax revenue have positioned it effect on economic growth and development and organisational performance including for manufacturing, service and small and medium enterprises in different research context. Been one of first study to thread this path of examining the moderating effect of tax revenue on the interaction between external borrowing and infrastructure development, we adopt the theoretical explanation as to what may happen.

Many scholars in management research have supported and generally applied the notion that no tactic is comprehensively superior, i.e., the performance effect of external borrowing is context-specific. They arrived at this submission, mostly by adopting the contingency perspective which has been established within the interaction perspective. When contingency theorists assert that there is a relationship between two variables ... which predicts a third variable... they are stating that an interaction exists between the first two variables", hence accentuating the attractiveness of the interaction perception in organisational studies.

According to the interaction perception, the effect that an independent variable (external borrowing) has on a dependent variable (infrastructure development) is contingent on the level of a third variable (tax revenue), termed here as the moderator. In line with this position advanced by the interactionist perspective, which addresses fit as a moderator, this study posits that the fit between tax revenue as a contingent factor is a prerequisite for high infrastructure development. That is because tax revenue if created, collected, and administered efficiently, should enhance infrastructure development.



## 2.4 Conceptual Framework



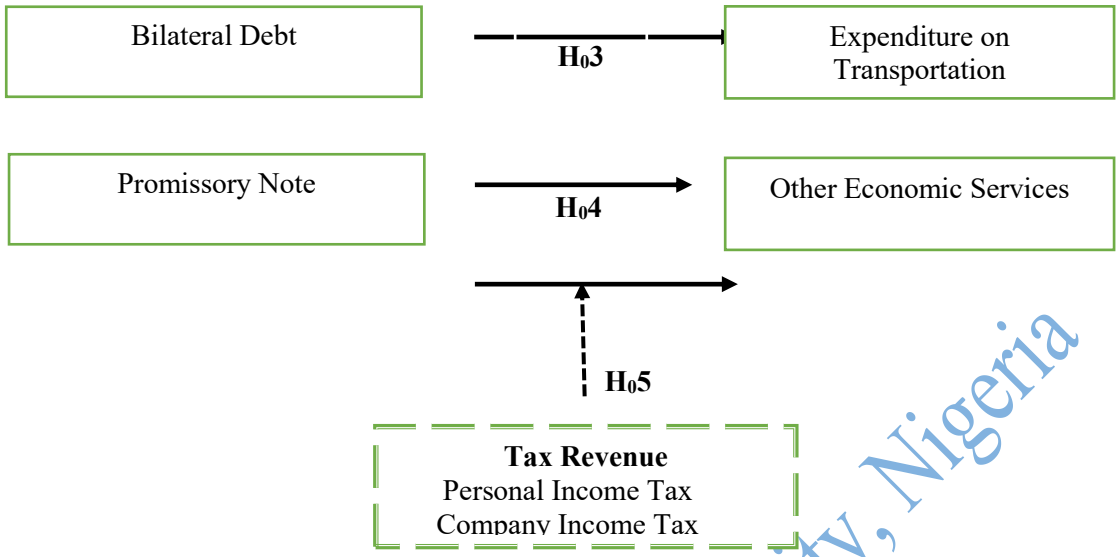



Figure 2.1: Research Conceptual Model

Source: Researcher's Conceptual Model, (2022)

The conceptual model presented in Figure 2.1 presents the Independent and the Dependent variables used in this study. X represents the independent variable, which is external borrowing. The sub-variables of X are multilateral debt, Eurobond, bilateral debt, and promissory notes. The dependent variable infrastructural development is represented by Y and its sub-variables namely government expenditure on roads, transport and agriculture are represented by $y_1$, $y_2$, and $y_3$, respectively. The moderating valuables (Z) are represented by tax revenue.

## 2.5 Summary of Gap in Literature Reviewed

Reviewing relevant literature is crucial for any academic study because it establishes the context for new findings, reveals the existence of a research challenge, and gives justification for the study's intended contribution to existing knowledge. In addition, it broadens the researcher's perspective by exposing the researcher to the works that other researchers have done on the topic. The issues that prompted this study bothers on infrastructure deficit in Nigeria. Infrastructural investment is globally acknowledged as a vital precursor to economic development, rise in living standards and human capital development index. Infrastructural development involves improvement in qualities and quantities of infrastructures such as electricity, water supply and sanitation, information, communication technology, roads, bridges, transportation, rail, solar energy, cyber route and facilities, airports, and nuclear infrastructures[1]. But how can this be attained when most developing countries have inadequate funds to meet their growing infrastructural investment needs? To answer this question, developing countries seeks domestic and foreign borrowings, to buffer this trajectory.

Unfortunately, developing countries continue to lag behind developed economies in terms of quality, quantity and accessibility of dividends of infrastructural development despite huge

incidence of external borrowings[2]. In fact, most developing countries have shown interest in infrastructural investment by borrowing huge amounts of funds from foreign financial institutions, international development partners and developed countries[1]. However, when this is compared to the infrastructures on the ground, a huge infrastructural deficit (inadequacy of infrastructures in relation to the country's population) exist[2].

Finance experts have opined that with appropriate funding, such infrastructural deficit can be developed and made to improve economic activities which have a positive ripple effect on the living standard of the citizen. While this sounds logical, it is imperative to undertake empirical investigate to determine to what extent funding drive infrastructural development can. Although funding can be obtained internally and externally to address developmental challenges, yet researchers seem to have mixed thoughts on funding domestic investment through external borrowing[5, 6,17,18,19,20,21]. Some researchers claim it is insufficient, while others affirm its sufficiency. They contend that external borrowing will only support infrastructure development if it is used wisely for profitable purposes[7,17,20]. Those who advocate internal borrowing argue that it offers result to the economy and create less international burden on the need to pay back in foreign currency. This debate suggests that there is not consistency in finance literature regarding the relevance of debt for infrastructural development. Hence, the need to address this concern.

Also, this study argues for tax revenue because of its relevance as a source of revenue to the government. The advocacy is that if government channel appropriate strategy to tax creation and collection with an efficient and transparent administration it can lower government debt exposure and enhance the provision of infrastructural amenities in the country. The argument needs to be examined empirically. Although several studies have positioned the value of debt to infrastructural development, likewise how tax revenue can bolster economic growth

through infrastructural development in developed and emerging economies. However, nothing concrete is known about how external debt interact with tax revenue to address infrastructural deficit in Nigeria. This narrative suggest gap in literature that need to be addressed by examining the effect of external debt on infrastructural development in Nigeria while considering the moderating effect of tax revenue.

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# Chapter Three

# Methodology

The chapter focuses on the methodology used in the study. It puts forward a description of the procedures and approaches the study adopted. The chapter also describes the statistical methods used in data analysis.

## 3.1 Research Design

In this study, the *ex-post facto* research design was utilised as a quantitative approach to explore the relationship between external debt, tax revenue, and infrastructure development. This research design is particularly advantageous when the study aims to validate its objective by using pre-existing data, also known as secondary data[1]. The decision to use the *expo-facto* design in this study is based on its successful implementation in previous literature concerning the topics of external debt, tax revenue, and infrastructure development.

## 3.2 Population of the Study

The federal government of Nigeria is this study's unit of analysis given the issues under investigation are macroeconomic variables that the government is solely responsible for: external debt/borrowing, tax revenue, and infrastructural development.

## 3.3 Sample and Sampling Technique

The nature of the data for the study is a time series trend from 1991-2022 periods. This time frame was selected using a purposive sampling technique to collect as relevant, reliable and valid data as possible.

### 3.4 Description of Research Instrument

This study utilized a secondary source of data. Secondary sources which exist in the form of processed and collated data found in reports of government institutions and organizations such as CBN and the National Bureau of Statistics were used. The collection of secondary data aids the researcher in avoiding and assessing inherent errors and biases common with primary data sources.

### 3.5 Validity of Research Instrument

Validity is the degree to which a research instrument measures what it is supposed to measure. This is the accuracy to which an instrument measures what it claims to be measuring[2]. This study ensured that the research instrument examined all its construct of interest, measures the characteristics of variables and measured what the research intends to measure

### 3.6 Reliability of Research Instrument

The reliability of a research instrument concerns the extent to which the instrument yields the same results on repeated trials[3]. The reliability of the research instrument is the measure of the dependability and the internal consistency of the items of the instrument of data collection.

### 3.7 Administration of Research Instruments and Method of Data Collection

This study utilized a secondary source of data. Secondary sources which exist in the form of processed and collated data found in reports of government institutions and organizations such as CBN and the National Bureau of Statistics were used. The collection of secondary

data aids the researcher in avoiding and assessing inherent errors and biases common with primary data sources. The study obtained external debt, government expenditure on road and construction, agriculture, transportation and communication and other economic services, tax revenue, inflation rate, interest rate and exchange rate from World Bank development indicators (WDI), and Central Bank of Nigeria Statistical Bulletin of various years covering the periods under study.

**Table 3.1: Measurement of Variable**

| S/N | Variable | Nature of Variable | Measurement of variable |
|---|---|---|---|
| 1 | External borrowing | Independent | Promissory notes, bilateral loans, multilateral funding, and Eurobonds |
| 2 | Infrastructure development | Dependent | Government expenditure on road, transport, on agriculture, government expenditure on social and community services |
| 3 | Tax revenue | Moderating | Personal income and Company income tax |
| 4 | Interest rate, inflation rate, & exchange rate | Control | Interest rate, inflation rate, & exchange rate |

Source: Researcher's Compilation (2022)



### 3.8 Method of Data Analysis

This study employed descriptive and inferential statistics to achieve its aim. Descriptive statistics were used to describe the data set from 1991 to 2022. Inferential statistics was used to test the hypotheses formulated in the introductory chapter of this study.

More specifically, the study adopted Autoregressive Distributed Lag (ARDL) model framework. The ARDL approach yields consistent estimates of the long-run coefficients that are asymptotically normal, irrespective of whether the underlying regressors are I(1) or I(0),

and also works well with small samples[4]. This will help to test the hypotheses and consequently substantiate the effect of external borrowing on infrastructure development in Nigeria. More so, the technique will be used to establish whether or not tax revenue moderates the interaction between external borrowing and infrastructure development in Nigeria. It is important to note that the secondary data to be collected was subjected to some pre-estimation tests including unit root test of stationarity, correlation analysis, and cointegration test to ensure that the result of the hypotheses test does not happen by chance, and is not misleading. The result of the hypotheses will be significant at a probability value of 0.05 and the analysis was done using EViews statistical platform appropriate for the analysis of secondary data. The model specification was formulated for hypotheses 1-5.

**Model I**

The first model analyses the effect of external borrowing on government expenditure on road construction in Nigeria. The model is therefore specified as:

$$EXROAD = f(extborrowing, exc, inf, int) \ldots\ldots\ldots\ldots\ldots (3.1)$$

The econometric representation of the first model becomes

$$LNEXROAD_t = \alpha_0 + \alpha_1 LNextborrowing_t + \alpha_2 LNexc_t + \alpha_3 inf_t + \alpha_4 int_t + \mu_t \ldots\ldots\ldots (3.2)$$

where:

$LNEXROAD_t$ = natural logarithm of government expenditure on road and construction

LNextborrowing = natural logarithm of external borrowing

LNexc = the natural logarithm of exchange rate

inf = inflation rate

int = interest rate

$\alpha_0$ = Constant of the regression model.

$\alpha_1$=Coefficient of external borrowing

$\alpha_2$= Coefficient of exchange rate

$\alpha_3$= Coefficient of inflation

$\alpha_4$= Coefficient of interest rate

μ= Error term

**Model I**

The second model analyses the effect of external borrowing on government expenditure on agriculture in Nigeria;

The model is therefore specified as:

AGRIC=f ($extborrowing, exc, inf, int$)……. (3.3)

The econometric representation of the model becomes

$$LNAGRIC_t = \beta_0 + \beta_1 LNextborrowing_t + \beta_2 LNexc_t + \beta_3 inf_t + \beta_4 int_t + \mu_{2t} \ldots\ldots\ldots (3.4)$$

Where:

$LNAGRIC_t$ = natural logarithm of government expenditure on agriculture

LNextborrowing = natural logarithm of external borrowing

LNexc = the natural logarithm of exchange rate

inf = inflation rate

int = interest rate

$\beta_0$= Constant of the regression model.

$\beta_1$= Coefficient of log of external borrowing

$\beta_2$= Coefficient of log of exchange rate

$\beta_3$= Coefficient of inflation

$\beta_4$= Coefficient of interest rate

$\mu_2$= Error term

**Model III**

The third model analyses the effect of external borrowing on government expenditure on transport and communication in Nigeria;

The econometric representation of the model becomes

$$LNTRANSPORT_t = \gamma_0 + \gamma_1 LNextborrowing_t + \gamma_2 LNexc_t + \gamma_3 inf_t + \gamma_4 int_t + \mu_{3t} \ldots\ldots\ldots (3.5)$$

Where:

$LNTRANSPORT_t$ = natural logarithm of government expenditure on transport and communication

LNextborrowing = natural logarithm of external borrowing

LNexc = the natural logarithm of exchange rate

inf = inflation rate

int = interest rate

$\gamma_0$ = Constant of the regression model.

$\gamma_1$=Coefficient of log of external borrowing

$\gamma_2$= Coefficient of log of official exchange rate

$\gamma_3$= Coefficient of inflation

$\gamma_3$ = Coefficient of interest rate

μ3=Error term

**Model IV**

The third model analyses the effect of external borrowing on government expenditure on social and community services in Nigeria;

The econometric representation of the model becomes

$$LNSOCIAL_t = \theta_0 + \theta_1 LNextborrowing_t + \theta 2 LNexc_t + \theta_3 inf_t + \theta_4 int_t + \mu_{4t} \ldots\ldots\ldots (3.6)$$

Where:

$LNSOCIAL_t$ = natural logarithm of government expenditure on social and community services

LNextborrowing = natural logarithm of external borrowing

LNexc = the natural logarithm of exchange rate

inf = inflation rate

int = interest rate

$\theta_0$ = Constant of the regression model.

$\theta_1$=Coefficient of log of external borrowing

$\theta_2$ = Coefficient of log of official exchange rate

$\theta_3$= Coefficient of inflation

$\theta_4$ = Coefficient of interest rate

μ4=Error term

**Model V**

The fifth model analyses the interactive effect of tax revenue and external borrowing on infrastructural development in Nigeria. The econometric representation of the model is given as:

$$LNINFRA_t = \theta_0 + \theta_1 LNexb_t + \theta 2 LNtr_t + \theta_3 LNexb * tr_t + \theta_4 inf_t + \mu_{5t} \ldots\ldots\ldots (3.7)$$

Where:

$LNINFRA_t$ = natural logarithm of infrastructural development proxy with federal government capital expenditure

LNextborrowing = natural logarithm of external borrowing

Lntr = natural logarithm of tax revenue

LNexb*tr = the natural logarithm of interaction of external borrowing and tax revenue

inf = inflation rate

$\theta_0$ = Constant of the regression model.

$\theta_1$=Coefficient of log of external borrowing

$\theta_2$ = Coefficient of log of tax revenue

$\theta_3$= Coefficient of logarithm of interaction of external borrowing and tax revenue

$\theta_4$ = Coefficient of inflation rate

μ4=Error term

**Table 3.2: Data Sources and Definition**

| S/N | Variables | Label | Description | Source |
|---|---|---|---|---|
| **1.** | Dependent Variable | Expenditure on Road Construction | Expenditure on Road Construction | Central bank of Nigeria Statistical Bulletin (2021) |
| **2.** | Dependent Variable | Expenditure on Agriculture | Expenditure on Agriculture | Central bank of Nigeria Statistical Bulletin (2021) |
| **3.** | Dependent Variable | Expenditure on Transport and | Expenditure on Transport and Communication | Central bank of Nigeria Statistical |

| | | | | |
|---|---|---|---|---|
| | | Communication | | Bulletin (2021) |
| **4.** | Dependent Variable | Expenditure on Social and Community Services | Expenditure on health, education, security, power, and water | Central bank of Nigeria Statistical Bulletin (2021) |
| **5.** | Dependent Variable | Infrastructural development | Infrastructural development facilities | Central bank of Nigeria Statistical Bulletin (2021) |
| **6.** | Independent Variable | External Borrowing | International borrowings | Central bank Statistical Bulletin (2021) |
| 7. | Moderator | Tax Revenue | Company and Personal income tax | World Development Indicators (WDI) |
| 8. | Control Variable | Inflation | Persistent rise in price of goods and services | World Development Indicators(WDI) |
| 9. | Control Variable | Interest Rate | This refers to annual official interest rate of Nigeria | World Development Indicators(WDI |

| | | | | |
|---|---|---|---|---|
| **10.** | Control variable | Exchange Rate | This refers to the rate of exchange of one country's currency (naira) to another country's currency (dollars) | Central bank Statistical Bulletin (2021) |

Source: Author's Illustration (2022)

Pre-Estimation Tests

**Unit Root Test**

The unit-root test was adopted to test the time-series properties of the data. The Augmented-Dickey Fuller test was employed in testing the unit-root properties of the data.

**Co-integration Test**

In order to investigate the cointegration relationship between the variables of interest, the Autoregressive Distributed Lag (ARDL) bounds test was applied. This cointegration approach, proposed has several key advantages: First, this method tests for cointegration between variables integrated of order zero i.e. I(0) and order one i.e. I(1) [1]. The Bound test for cointegration was used to determine whether there is long-run relationship between the variables of interest. The co-integration test was tested at 5% level of significance. It is based on the null hypothesis of no cointegration against alternative hypothesis of cointegration as set below which can be determined using the Wald or F-statistics. If co-integration is established, we can proceed to run an ARDL model.

**Auto-Regressive Distributed Lag Method (ARDL)**

In analyzing the effect of external borrowing on infrastructural development in Nigeria, an Autoregressive Distributed Lag (ARDL) model framework was employed. The ARDL approach yields consistent estimates of the long-run coefficients that are asymptotically normal, irrespective of whether the underlying regressors are I(1) or I(0), and also works well with small samples.

Similarly, the test is based on a single ARDL equation, rather than on a VAR, thus reducing the number of parameters to be estimated. Finally, it estimates simultaneously the long-run and short-run parameters. Five ARDL models are estimated in analyzing the effect of external borrowing on infrastructural development in Nigeria. If there is evidence in support of a long run relationship or cointegration among the variables, the long run models will be estimated as:

$$LNEXROAD_t = \alpha_0 + \alpha_1 LNextborrowing_{t-1} + \alpha_2 LNexc_{t-1} + \alpha_3 inf_{t-1} + \alpha_4 int_{t-1} + \mu_{t-1} \ldots\ldots\ldots (3.8)$$

$$LNAGRIC_t = \beta_0 + \beta_1 LNextborrowing_{t-1} + \beta_2 LNexc_{t-1} + \beta_3 inf_{t-1} + \beta_4 int_{t-1} + \mu_{2t-1} \ldots\ldots\ldots (3.9)$$

$$LNTRANSPORT_t = \gamma_0 + \gamma_1 LNextborrowing_{t-1} + \gamma_2 LNexc_{t-1} + \gamma_3 inf_{t-1} + \gamma_4 int_{t-1} + \mu_{3t-1} \ldots\ldots\ldots (3.10)$$

$$LNSOCIAL_t = \theta_0 + \theta_1 LNextborrowing_t + \theta 2 LNexc_t + \theta_3 inf_t + \theta_4 int_t + \mu_{4t} \ldots\ldots\ldots (3.11)$$

$$LNINFRA_t = \theta_0 + \theta_1 LNexb_t + \theta 2 LNtr_t + \theta_3 LNexb * tr_t + \theta_4 inf_t + \mu_{5t} \ldots\ldots\ldots (3.12)$$

While the short run error correction ARDL model will be specified as:

$$\Delta LNEXROAD_t = \alpha_0 + \alpha_1 \Delta LNextborrowing_{t-1} + \alpha_2 \Delta LNexc_{t-1} + \alpha_3 \Delta inf_{t-1} + \alpha_4 \Delta int_{t-1} + \alpha_4 ECM_{t-1} + \mu_{t-1} \ldots\ldots\ldots (3.13).$$

$$\Delta LNAGRIC_t = \alpha_0 + \alpha_1 \Delta LNextborrowing_{t-1} + \alpha_2 \Delta LNexc_{t-1} + \alpha_3 \Delta inf_{t-1} + \alpha_4 \Delta int_{t-1} + \alpha_4 ECM_{t-1} + \mu_{t-1} \ldots\ldots\ldots \quad (3.14)$$

$$\Delta LNTRANSPORT_t = \alpha_0 + \alpha_1 \Delta LNextborrowing_{t-1} + \alpha_2 \Delta LNexc_{t-1} + \alpha_3 \Delta inf_{t-1} + \alpha_4 \Delta int_{t-1} + \alpha_4 ECM_{t-1} + \mu_{t-1} \ldots\ldots\ldots \quad (3.15)$$

$$\Delta LNSOCIAL_t = \alpha_0 + \alpha_1 \Delta LNextborrowing_{t-1} + \alpha_2 \Delta LNexc_{t-1} + \alpha_3 \Delta inf_{t-1} + \alpha_4 \Delta int_{t-1} + \alpha_4 ECM_{t-1} + \mu_{t-1} \ldots\ldots\ldots \quad (3.16)$$

$$\Delta LNINFRA_t = \alpha_0 + \alpha_1 \Delta LNexb_{t-1} + \alpha_2 \Delta LNtr_{t-1} + \alpha_3 \Delta LNexb * tr_{t-1} + \alpha_4 \Delta inf_{t-1} + \alpha_4 ECM_{t-1} + \mu_{t-1} \ldots\ldots\ldots \quad (3.17)$$

## Endnotes


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# Chapter Four

## Results and Discussion of Findings

This chapter presents the data analysis and presentation. The structure of the chapter includes the presentation of data, research questions, hypothesis testing, and discussion of findings.

### 4.1 Presentation of Data

Some preliminary tests are conducted to summarize the data, give information about the order of integration of the variables employed as well as test whether or not cointegration exists among the variables.

**Table 4.1: Descriptive Statistics**

| | LNAGRIC | LNEXTBORR | INF | LNINFRA | LNROAD | LNSOCIAL | LNTAX | LNTRANSP | LNEXC | INT |
|---|---|---|---|---|---|---|---|---|---|---|
| Mean | 0.962 | 6.444 | 19.826 | 5.035 | 1.771 | 2.675 | 26.436 | 1.016 | 3.527 | 17.479 |
| Median | 1.955 | 6.451 | 12.876 | 5.733 | 1.974 | 3.331 | 26.237 | 2.079 | 4.626 | 16.939 |
| Maximum | 4.339 | 9.671 | 72.835 | 7.833 | 5.328 | 5.716 | 27.620 | 4.500 | 5.991 | 31.650 |
| Minimum | -4.361 | 0.846 | 5.388 | 1.411 | -2.356 | -3.506 | 23.355 | -3.449 | -0.494 | 8.917 |
| Std. Dev | 2.992 | 2.135 | 17.678 | 2.063 | 2.615 | 2.317 | 0.754 | 2.569 | 2.028 | 4.930 |
| Skewness | -0.592 | -0.823 | 1.706 | -0.513 | -0.135 | -0.596 | -1.418 | -0.442 | -0.728 | 0.293 |
| Kurtosis | 1.931 | 3.134 | 4.567 | 1.820 | 1.606 | 2.484 | 8.198 | 1.781 | 2.273 | 3.475 |
| Jarque-Bera | 4.138 | 4.436 | 20.557 | 3.973 | 3.276 | 2.741 | 56.972 | 3.686 | 4.306 | 0.924 |
| Probability | 0.126 | 0.109 | 0.000 | 0.137 | 0.194 | 0.254 | 0.000 | 0.158 | 0.116 | 0.630 |

Source: Author's Computation (2022)*

Table 4.1. summarises the basic features of the data. All variables have positive mean values, with tax revenue having the highest at 26.436 and government expenditure on agriculture having the lowest at 0.962. Variables also exhibit marked disparities between their maximum and minimum values, with inflation having the highest disparity.

In terms of their disparity from the average points, the standard deviation value is relatively low for tax revenue. The table also presents the result of other statistics like the skewness, Kurtosis, and Jarque–Bera tests. Skewness is a measure of the asymmetry of the distribution of the series around its mean. The skewness of a normal distribution is zero, while positive and negative skewness imply long right tails and long left tails respectively. The skewness test shows that all the variables, except inflation and interest rate are negatively skewed.

For the kurtosis test, it measures the presence of outliers in the dataset. The results indicate that most of the variables are not normally distributed as they failed to comply with the benchmark of 3.0 for the Kurtosis statistic. Government expenditure on agriculture, road construction, social and community service, transportation, as well as exchange rate and infrastructure development are statistical distributions less than 3(platykurtic), while other variables are statistical distributions which are greater than 3 (leptokurtic).



### 4.2. Test of Hypotheses

**Correlation Matrix**

The correlation matrix shows the association between variables. It explains the degree of association existing among the variables, whether positive or negative. It is also used to know the level of multicollinearity in the model analyzed and to summarize data for analysis that are more advanced.

**Table 4.17: Correlation matrix**

| | INF | INT | LNAGRIC | LNEXC | LNEXTB | INFRA | LNROAD | LNSOCIAL | LNTAX | LNTRAN |
|---|---|---|---|---|---|---|---|---|---|---|
| INF | 1 | | | | | | | | | |
| INT | 0.373 | 1 | | | | | | | | |
| LNAGRI | -0.238 | 0.316 | 1 | | | | | | | |
| LNEXC | -0.203 | 0.369 | 0.980 | 1 | 0.937 | | | | | |
| LNEXT | -0.083 | 0.472 | 0.886 | | 1 | | | | | |
| LNINFR | -0.281 | 0.241 | 0.982 | 0.963 | 0.864 | 1 | | | | |
| LNROA | -0.297 | 0.155 | 0.962 | 0.948 | 0.826 | 0.951 | 1 | | | |
| LNSOCI | -0.283 | 0.208 | 0.950 | 0.945 | 0.853 | 0.955 | 0.951 | 1 | | |
| LNTAX | -0.199 | -0.006 | 0.535 | 0.542 | 0.511 | 0.546 | 0.577 | 0.547 | 1 | |
| LNTRA | -0.261 | 0.319 | 0.970 | 0.967 | 0.860 | 0.958 | 0.956 | 0.950 | 0.530 | 1 |

Source: Author's Computation (2022)

The correlation analysis explains the level of association between the variables employed in the study. There is a mixed order of correlation among the variables. While some variables exhibit positive correlation, others show negative correlation.

The Table shows that interest rate has a positive correlation with inflation, while government expenditure on agriculture has a negative correlation with inflation, but is positively correlated with interest rate. Exchange rate has a positive correlation with government expenditure on agriculture and interest rate, but is negatively correlated with inflation. External borrowing is positively correlated with all variables except inflation. Similarly, infrastructure development exhibits positive correlation with all variables, except inflation.

Government expenditure on road construction, social and community service, transport and communication sector is all positive correlated with all variables with the exception of inflation. Tax revenue is also seen to exhibit positive association with all variables employed, except inflation and interest rate. However, the results are preliminary analyses which are subject to empirical validation.

**Unit Root Test**

The unit root test is essential in order to ensure that the variables are estimated in their stationary forms to avoid spurious result. To do this, the Augmented Dickey-Fuller (ADF) is employed. The essence is to test the null hypothesis of unit root or non-stationary stochastic process. To reject this, the ADF statistic must be more negative than the critical values at 5% significance level.

**Table 4.18: Unit root test result**

| Variables | ADF Test Statistic at level ($I_0$) | ADF Test Statistic at first difference ($I_1$) | Decision Value |
|---|---|---|---|
| INF | -3.009 | ---------- | I (0) |
| INT | -2.307 | -6.844 | I (1) |
| LNAGRIC | -2.187 | -8.777 | I (1) |
| LNEXC | -2.138 | -5.369 | I (1) |
| LNEXTB | -1.491 | -4.863 | I (1) |
| LNINFRA | -0.891 | -6.781 | I (1) |
| LNROAD | -1.408 | -6.264 | I (1) |
| LNSOCIAL | -1.165 | -11.118 | I (1) |
| LNTAX | -5.387 | --------- | I (0) |
| LNTRANSPORT | -1.548 | -8.409 | I (1) |
| CRITICAL VALUES | | | |
| 1% | -3.615 | -3.621 | |
| 5% | -2.941 | -2.943 | |
| 10% | -2.609 | -2.610 | |

Source: Author's Computation (2022)

Note: ** and * indicate statistic at level I (0) and level at first difference I(1) respectively

Table 4.18 shown above reports unit root test for all variables using the ADF Test. Inflation and tax revenue are integrated of order zero 1(0), while exchange rate, external borrowing,

infrastructural development, interest rate, government expenditure on road construction, transport and communication, social and community services, agriculture are integrated of order one I (1). This justifies our choice of ARDL methodology as variables exhibit a mix of integration order 1(0) and 1(1).

**Ho1**: External borrowing does not have a significant influence on government expenditure regarding road construction in Nigeria

**Table 4.2: ARDL Result for Model I**

| **Dependent Variable: LNROAD** | | | | |
|---|---|---|---|---|
| **Selected Model: 2,4,4,0,3** | | | | |
| Variable | Coefficient | Standard Error | T-Statistics | Probability |
| **LONG RUN ESTIMATES** | | | | |
| **LNEXTBORR** | -0.258 | 0.138 | -1.961 | 0.050* |
| **LNEXC** | 1.661 | 0.130 | 12.813 | 0.000*** |
| **INF** | 0.013 | 0.004 | 3.145 | 0.005*** |
| **INT** | -0.123 | 0.020 | -6.046 | 0.000*** |
| **C** | -0.009 | 0.338 | -0.028 | 0.978 |
| **SHORT RUN ESTIMATES** | | | | |
| **D(LNROAD (-1))** | 0.276 | 0,109 | 2.518 | 0.021** |
| **DLNEXTBORR** | 0.277 | 0.157 | 1.760 | 0.094* |
| **DLNEXTBORR(-1)** | 0.170 | 0.177 | 0.963 | 0.347 |
| **DLNEXTBORR(-2)** | -0.147 | 0.181 | -0.815 | 0.425 |
| **DLNEXTBORR(-3)** | 0.439 | 0.234 | 2.086 | 0.051* |

| | | | | |
|---|---|---|---|---|
| **DLNEXC** | 0.489 | 0.234 | 2.086 | 0.061* |
| **DLNEXC(-1)** | -1.612 | 0.309 | -5.221 | 0.000*** |
| **DLNEXC(-2)** | -0.911 | 0.302 | -3.012 | 0.007*** |
| **DLNEXC(-3)** | -1.557 | 0.239 | -6.496 | 0.000*** |
| **DINT** | 0.079 | 0.018 | 4.312 | 0.000*** |
| **DINT(--1)** | 0.135 | 0.026 | 5.203 | 0.000*** |
| **DINT(-2)** | 0.135 | 0.022 | 5.985 | 0.000*** |
| **CointEq(-1)*** | -1.120 | 0.128 | -8.758 | 0.000*** |
| $R^2$ = 0.862 | | | | |
| Adjusted $R^{2.}$ = 0.793 | | | | |
| D.W. Statistics = 2.253 | | | | |

Note: ***, ** and * indicate probability value at 1%, 5% and 10% respectively.

Source: Author's Computation (2022)

The ARDL above result depicts the short and long run relationship existing among the variables. In the long run, external borrowing and interest rate exhibit significantly negative influence on government expenditure on road construction, as a percentage increase in both variables is seen to reduce expenditure on road construction by 0.26 and 12.3 percent respectively. Conversely, exchange rate and inflation have a significantly positive relationship with expenditure on road construction. A percentage increase in exchange rate will increase expenditure on road construction by 1.66 percent. Similarly, a percentage increase in inflation, will increase expenditure on road construction by 1.3 percent.

Short run estimates reveal that one-year lagged value of expenditure on road construction

significantly influences current expenditure on road construction. A percentage increase in the one year lagged value of road construction will increase current expenditure on road construction by 0.27 percent. External borrowing in the current and three lagged period has a significantly positive influence on road construction, with a percentage increase in external borrowing in these periods leading to an increase in expenditure on road construction by 0.27 and 0.44 percent.

Exchange rate in the current period has a positive influence on expenditure on road construction, as a percentage increase in the current value of exchange rate increases expenditure on road by 0.49 percent. Conversely, the one, two and three lagged values of exchange rate exert a negative influence on expenditure on road construction, as a percentage increase in exchange rate in these periods reduce expenditure on road by 1.61, 0.91 and 1.56 percent respectively.

Interest rate in the current, one and two lagged periods have significantly positive relationship with expenditure on road construction. A percentage increase in interest rate in these periods will increase government expenditure on road construction by 7.9, 13.5 and13.5 percent respectively. The error correction term is statistically significant, negative, but greater than one. This indicates an oscillatory convergence.

**Post Estimation Diagnostic Test on Model I**

Some diagnostic tests are carried out after estimating the ARDL result to validate findings.

**Table 4.3: Breusch-Godfrey Serial Correlation Test**

| | | | |
|---|---|---|---|
| F-Statistic | 0.711 | Prob. F (2,8) | 0.505 |

Source: Author's Computation (2022)

Since the probability value (0.505) is greater than 0.05, we conclude that there is no evidence of serial correlation in the model.

**Table 4.4: Breusch-Pagan Godfrey Heteroskedasticity Test**

| | | | |
|---|---|---|---|
| F-Statistic | 0.387 | Prob. F(21,10) | 0.973 |

Source: Author's Computation (2022)

Since the probability value (0.973) is greater than 0.05, we conclude that there is no evidence of heteroskedasticity in the model.

**Ho2:** There is no significant effect of external borrowing on government expenditure regarding agriculture in Nigeria

Results of the ARDL of model II are reported in this section. This explains the effect of external borrowing on government expenditure on agriculture in Nigeria; The short and long-run estimates are presented using the ARDL framework.

**Table 4.5: ARDL Result for Model II**

| **Dependent Variable: LNAGRIC** | | | | |
|---|---|---|---|---|
| **Selected Model: 4,4,4,4,0** | | | | |
| Variable | Coefficient | Standard Error | T-Statistics | Probability |
| **LONG RUN ESTIMATES** | | | | |
| **LNEXTBORR** | -0.436 | 0.127 | -3.421 | 0.003*** |
| **LNEXC** | 1.982 | 0.153 | 12.911 | 0.000* |

| | | | | |
|---|---|---|---|---|
| **INF** | 0.023 | 0.008 | 2.723 | 0.000*** |
| **INT** | -3.486 | 0.019 | -0.811 | 0.429 |
| **C** | -3.486 | 0.398 | -8.746 | 0.000*** |
| **SHORT RUN ESTIMATES** | | | | |
| **D(LNAGRIC(-1))** | 0.328 | 0.137 | 2.398 | 0.029** |
| **D(LNAGRIC(-2))** | 0.224 | 0.118 | 1.909 | 0.074* |
| **D(LNAGRIC(-3))** | 0.228 | 0.096 | 2.371 | 0.031** |
| D(LNEXTBORR) | -0.041 | 0.163 | -0.249 | 0.806 |
| D(LNEXTBORR(-1)) | 0.364 | 0.178 | 2.043 | 0.058* |
| D(LNEXTBORR(-2)) | -0.499 | 0.173 | -2.880 | 0.010** |
| D(LNEXTBORR(-3)) | 0.497 | 0.141 | 3.509 | 0.003*** |
| D(LNEXC) | 1.748 | 0.277 | 6.303 | 0.000*** |
| D(LNEXC(-1)) | -1.493 | 0.330 | -4.5170 | 0.000*** |
| D(LNEXC(-2)) | 0.476 | 0.284 | 1.672 | 0.114 |
| D(LNEXC(-3)) | -0.565 | 0.272 | -2.074 | 0.054* |
| D(INF) | -0.001 | 0.004 | -0.312 | 0.759 |
| D(INF(-1)) | -0.025 | 0.005 | -4.5613 | 0.000*** |
| D(INF(-2)) | -0.0135 | 0.005 | -2.671 | 0.017** |
| D(INF(-3)) | -0.028 | 0.005 | -5.417 | 0.000*** |
| **CointEq(-1)*** | -1.0300 | 0.1786 | -5.7662 | 0.000*** |
| $R^2$ = 0.91 | | | | |
| Adjusted $R^{2.}$ =0.85 | | | | |
| D.W. Statistics =2.22 | | | | |

Note: ***, ** and * indicate probability value at 1%, 5% and 10% respectively.

Source: Author's Computation (2022)

The long run estimate reveals that external borrowing has a negative and significant influence on government expenditure on agriculture. A percentage increase in external borrowing will reduce government expenditure on agriculture by 0.43 percent. On the other hand, exchange rate and inflation have significantly positive association with government expenditure on agriculture. A percentage increase in exchange rate and inflation will increase government expenditure on agriculture by 1.98 and 2 percent respectively.

For the short run estimates, one, two and three lagged values of government expenditure on agriculture significantly and positively influences the current value of government expenditure on agriculture. A percentage increase in these values will increase the current value of government expenditure on agriculture by 0.3, 0.2 and 0.2 percent respectively. External borrowing in the one, two and three lagged periods also significantly influence government expenditure on agriculture. A percentage increase in external borrowing in the one and three lagged periods will increase expenditure on agriculture by 0.36 and 0.49 percent respectively. Conversely, a percentage increase in external borrowing for the two lagged period will reduce government expenditure on agriculture by 0.49 percent.

Exchange rate in the current and two lagged periods exert positive influence on government expenditure on agriculture, as a percentage increase in exchange rate for these periods will increase government expenditure on agriculture by 1.75 and 0.48 percent respectively. On the other hand, exchange rate in the one and three lagged periods exert negative influence on government expenditure on agriculture, as a percentage increase in exchange rate in these

periods will reduce expenditure on agriculture by 1.49 and 0.56 percent respectively.

Inflation in all the periods negatively influence government expenditure on agriculture as a percentage increase in inflation in the current, one, two and three lagged periods will reduce government expenditure on agriculture by 0.1, 2.0, 1.0 and 2.0 percent respectively. The error correction term is statistically significant, negative, but greater than one. This indicates an oscillatory convergence.

**Table 4.6: Breusch-Godfrey Serial Correlation Test Model II**

| | | | |
|---|---|---|---|
| F-Statistic | 0.860 | Prob. F (2,11) | 0.444 |

Source: Author's Computation (2022)

Since the probability value (0.44) is greater than 0.05, we conclude that there is no evidence of serial correlation in our estimation.

**Table 4.7: Breusch-Pagan Godfrey Heteroskedasticity Test Model II.**

| | | | |
|---|---|---|---|
| F-Statistic | 1.842 | Prob. F(16,13) | 0.109 |

Source: Author's Computation (2022)

Since the probability value (0.11) is greater than 0.05, we conclude that there is no evidence of heteroskedasticity in our estimation.

**Ho3:** External borrowing has no significant effect on government expenditure, transport and communication in Nigeria

ARDL results to estimate the effect of external borrowing on government expenditure regarding

transport and communication in Nigeria. The short and long-run estimates for all variables are presented using the ARDL framework.

**Table 4.8: ARDL Result for Model III**

| **Dependent Variable: LNTRANSPORT** | | | | |
|---|---|---|---|---|
| **Selected Model: 4 ,2, 4, 4, 3** | | | | |
| Variable | Coefficient | Standard Error | T-Statistics | Probability |
| **LONG RUN ESTIMATES** | | | | |
| LNEXTBORR | -0.483 | 0.068 | -7.110 | 0.000 |
| LNEXC | 1.593306 | 0.073 | 21.589 | 0.000 |
| INF | -0.019890 | 0.005 | -4.063 | 0.001 |
| INT | 0.016690 | 0.014 | 1.148 | 0.269 |
| C | -1.524080 | 0.219 | -6.962 | 0.000 |
| **SHORT RUN ESTIMATES** | | | | |
| D(LNTRPORT(-1)) | 0.536 | 0.105 | 5.075 | 0.000 |
| D(LNTRPORT(-2)) | 0.809 | 0.104 | 7.771 | 0.000 |
| D(LNTRPORT(-3)) | 0.326 | 0.079 | 4.103 | 0.000 |
| D(LNEXTBORR) | -0.154 | 0.125 | -1.227 | 0.239 |
| D(LNEXTBORR(-1)) | 0.274 | 0.142 | 1.936 | 0.072 |
| D(LNEXC) | 0.729 | 0.196 | 3.721 | 0.002 |
| D(LNEXC(-1)) | -1.735 | 0.246 | -7.049 | 0.000 |
| D(LNEXC(-2)) | 0.346 | 0.201 | 1.716 | 0.107 |
| D(LNEXC(-3)) | 0.970 | 0.188 | 5.162 | 0.000 |

| | | | | |
|---|---|---|---|---|
| D(INF) | -0.003 | 0.004 | -0.655 | 0.522 |
| D(INF(-1)) | -0.002 | 0.003 | -0.696 | 0.497 |
| D(INF(-2)) | 0.008 | 0.004 | 1.961 | 0.069 |
| D(INF(-3)) | -0.016 | 0.004 | -3.842 | 0.002 |
| D(INT) | 0.019 | 0.020 | 0.954 | 0.355 |
| D(INT(-1)) | -0.066 | 0.018 | -3.578 | 0.003 |
| D(INT(-2)) | -0.160 | 0.019 | -8.292 | 0.000 |
| CointEq(-1)* | -1.475 | 0.162 | -9.064 | 0.000 |
| $R^2$ = 0.95 | | | | |
| Adjusted $R^{2.}$ = 0.92 | | | | |
| D.W. Statistics = 2.42 | | | | |

Note: ***, ** and * indicate probability value at 1%, 5% and 10% respectively.

Source: Author's Computation (2022)

The ARDL above result depicts the short and long run relationship existing among the variables. In the long run, external borrowing and inflation exert significantly negative influence on government expenditure on transport and communication. Exchange rate on the other hand, has a positive and significant relationship with expenditure on transportation and communication.

Short run estimates reveal that government expenditure on transport and communication in the one, two and three lagged periods have positive association with the current value of expenditure on transport and communication. An increase in the one, two and three lagged values of the expenditure on transport and communication by 1 percent, will increase the current expenditure on transport and communication by 0.54, 0.81 and 0.33 percent respectively. External borrowing

in the current period has no significant effect on government expenditure on transport and communication. On the other hand, external borrowing in the previous period has a positively significant influence on expenditure on transport and communication. A percentage increase in external borrowing in the one lagged period will increase government expenditure on transport and communication by 0.27 percent.

Exchange rate in the current and three lagged periods significantly influence government expenditure on transport and communication. A percentage increase in exchange rate in these periods will increase expenditure on transport and communication by 0.73 and 0.97 percent respectively. Conversely, exchange rate in the one lagged period has a significantly negative association with government expenditure on transport and communication as a percentage increase in exchange rate in this period reduces government expenditure on transport and communication by 1.73 percent.

Inflation in the second and third previous periods have significant effects on government expenditure on transport and communication. The relationship in the second previous period is positive as a percentage increase in inflation in this period will increase expenditure on transport and communication by 0.8 percent. On the other hand, the relationship between inflation in the third previous period and expenditure on transport and communication is negative, as a percentage increase in inflation in this period will reduce expenditure on transport and communication by 1.6 percent.

Interest rate in the one and two lagged periods exert significantly negative influence on government expenditure on transport and communication. A percentage increase in interest rate in these periods will reduce expenditure on transport and communication by 6.6 and 16 percent

respectively. The error correction term is statistically significant, negative, but greater than one. This indicates an oscillatory convergence.

**Post Estimation Diagnostic Test on Model III**

Some diagnostic tests are carried out after estimating the ARDL result to validate findings.

**Table 4.9: Breusch-Godfrey Serial Correlation Test**

| | | | |
|---|---|---|---|
| F-Statistic | 0.892 | Prob. F (2,8) | 0.433 |

Source: Author's Computation (2022)

Since the probability value (0.433) is greater than 0.05, we conclude that there is no evidence of serial correlation in the model.

**Table 4.10: Breusch-Pagan Godfrey Heteroskedasticity Test**

| | | | |
|---|---|---|---|
| F-Statistic | 1.067 | Prob. F(21,10) | 0.457 |

Source: Author's Computation (2022)

Since the probability value (0.457) is greater than 0.05, we conclude that there is no evidence of heteroskedasticity in the model.

**Ho4:** There is no significant effect of external borrowing on government expenditure regarding social and community services in Nigeria

The short and long-run estimates for all variables are presented using the ARDL framework.

**Table 4.11: ARDL Result for Model IV**

| **Dependent Variable: LNSOCIAL** | | | | |
|---|---|---|---|---|
| **Selected Model: 2.1.2.2.4** | | | | |
| Variable | Coefficient | Standard Error | T-Statistics | Probability |
| **LONG RUN ESTIMATES** | | | | |
| LNEXTBORR | -0.213 | 0.105 | -2.022 | 0.050 |
| LNEXC | 1.271 | 0.105 | 12.104 | 0.000 |
| INF | -0.001 | 0.005 | -0.246 | 0.807 |
| INT | -0.073 | 0.019 | -3.761 | 0.001 |
| | | | | 0.004 |
| C | 1.176 | 0.373 | 3.153 | |
| SHORT RUN ESTIMATES | | | | |
| C | 3.174 | 0.481 | 6.604 | 0.000 |
| D(LNSOCIAL(-1)) | 0.265 | 0.163 | 1.629 | 0.121 |
| D(LNEXTBORR) | -0.035 | 0.168 | -0.211 | 0.835 |
| D(LNEXC) | -0.534 | 0.324 | -1.647 | 0.117 |
| D(LNEXC(-1)) | -0.927 | 0.279 | -3.323 | 0.004 |
| D(INF) | -0.006 | 0.006 | -1.032 | 0.316 |
| D(INF(-1)) | -0.023 | 0.007 | -3.299 | 0.004 |
| D(INF(-2)) | -0.018 | 0.006 | -2.872 | 0.010 |
| D(INF(-3)) | -0.035 | 0.009 | -4.044 | 0.001 |
| D(INT) | -0.125 | 0.032 | -3.802 | 0.001 |
| D(INT(-1)) | 0.087 | 0.026 | 3.359 | 0.003 |

| | | | | |
|---|---|---|---|---|
| D(INT(-2)) | 0.104 | 0.031 | 3.312 | 0.004 |
| D(INT(-3)) | 0.096 | 0.029 | 3.224 | 0.005 |
| CointEq(-1)* | -1.254 | 0.207 | -6.043 | 0.000 |
| $R^2$ = 0.76 | | | | |
| Adjusted $R^{2.}$ = 0.63 | | | | |
| D.W. Statistics = 2.39 | | | | |

Note: ***, ** and * indicate probability value at 1%, 5% and 10% respectively.

Source: Author's Computation (2022)

The ARDL result shown above depicts the short and long run relationship existing among the variables. In the long run, all variables except inflation exhibit significant influence on government expenditure on social and community services. While exchange rate exhibits a positive relationship, external borrowing and interest rate have negative effect on government expenditure on social and community services. A percentage increase in exchange rate will increase government expenditure on social and community services.by 1.27 percent. Conversely, a percentage change in external borrowing and interest rate will reduce government expenditure on social and community services.by 0.21 and 7.30 percent respectively.

Short run estimates reveal that external borrowing has no significant effect on government expenditure on social and community services. However, one lagged value of exchange rate has a significant and negative influence on government expenditure on social and community services. A percentage increase in exchange rate in this period will reduce government expenditure on social and community services by 0.93 percent. Inflation in the one, two and three previous periods have significant and negative association with government expenditure on

social and community services. A percentage increase in inflation in these periods will reduce government expenditure on social and community services by 2.30, 1.80 and 3.50 percent respectively.

Interest rate has significant influence on government expenditure on social and community services for all the periods recorded in the short run analysis. While interest rate in the current period exhibits a negative relationship, other values of interest rate are positive. This means that a percentage increase in the current value of interest rate will reduce government expenditure on social and community services by 12 percent, while a percentage increase in the one, two and three lagged periods of interest rate will increase government expenditure on social and community services by 8.0, 10.0 and 9.0 percent respectively. The error correction term is statistically significant, negative, but greater than one. This indicates an oscillatory convergence.

**Post Estimation Diagnostic Test on Model IV**

Some diagnostic tests are carried out after estimating the ARDL result to validate findings.

**Table 4.12: Breusch-Godfrey Serial Correlation Test**

| | | | |
|---|---|---|---|
| F-Statistic | 1.067 | Prob. F (2,8) | 0.367 |

Source: Author's Computation (2022)

Since the probability value (0.367) is greater than 0.05, we conclude that there is no evidence of serial correlation in the model.

**Table 4.13: Breusch-Pagan Godfrey Heteroskedasticity Test**

| | | | |
|---|---|---|---|
| F-Statistic | 0.769 | Prob. F(21,10) | 0.707 |

Source: Author's Computation (2022)

Since the probability value (0.707) is greater than 0.05, we conclude that there is no evidence of heteroskedasticity in the model.

**Hypothesis 5:** What is the moderating effect of tax revenue on the relationship between external borrowing and infrastructural development in Nigeria?

The short and long-run estimates for all variables are presented using the ARDL framework.

**Table 4.14: ARDL Result for Model V**

| **Dependent Variable: LNINFRA** | | | | |
|---|---|---|---|---|
| **Selected Model: 4.3.2.4.4** | | | | |
| Variable | Coefficient | Standard Error | T-Statistics | Probability |
| **LONG RUN ESTIMATES** | | | | |
| LNEXTBORR | 8.850 | 6.388 | 1.385 | 0.052 |
| LNTAX | 5.122 | 2.566 | 1.996 | 0.000 |
| LNEXTBORR*LNTAX | -0.312 | 3.246 | -2.269 | 0.007 |
| INF | 0.038 | 0.035 | 1.082 | 0.001 |
| | | | | 0.004 |
| C | -133.799 | 67.454 | -1.983 | |
| SHORT RUN | | | | |

| ESTIMATES | | | | |
|---|---|---|---|---|
| D(LNINFRASR(-1)) | -0.434 | 0.117 | -3.692 | 0.005 |
| D(LNINFRASR(-2)) | -0.285 | 0.121 | -2.359 | 0.043 |
| D(LNINFRASR(-3)) | 0.257 | 0.124 | 2.080 | 0.067 |
| D(LNEXTBORR) | 29.662 | 5.082 | 5.837 | 0.000 |
| D(LNEXTBORR(-1)) | -13.920 | 5.703 | -2.441 | 0.037 |
| D(LNEXTBORR(-2)) | 12.146 | 2.200 | 5.521 | 0.000 |
| D(LNTAX) | 8.502 | 1.666 | 5.103 | 0.001 |
| D(LNTAX(-1)) | -4.160 | 1.698 | -2.450 | 0.037 |
| D(LNEXTBORR*LNTAX) | -1.116 | 0.192 | -5.814 | 0.000 |
| D(LNEXTBORR(-1)*LNT | 0.516 | 0.216 | 2.392 | 0.040 |
| D(LNEXTBORR(-2)*LNT | -0.459 | 0.083 | -5.513 | 0.000 |
| D(LNEXTBORR(-3)*LNT | -0.009 | 0.002 | -3.496 | 0.007 |
| D(INF) | -0.005 | 0.002 | -1.871 | 0.094 |
| D(INF(-1)) | -0.011 | 0.003 | -3.546 | 0.006 |
| D(INF(-2)) | -0.006 | 0.003 | -1.949 | 0.083 |
| D(INF(-3)) | -0.003 | 0.002 | -1.215 | 0.255 |
| CointEq(-1)* | -0.351 | 0.046 | -7.632 | 0.000 |
| $R^2$ = 0.89 | | | | |
| Adjusted $R^{2.}$ = 0.77 | | | | |
| D.W. Statistics = 2.92 | | | | |

Note: ***, ** and * indicate probability value at 1%, 5% and 10% respectively.

Source: Author's Computation (2022)

The ARDL result shown above depicts the short and long run relationship existing among the variables. In the long run, external borrowing, tax revenue and inflation significantly affect infrastructural development in Nigeria. A percentage increase in external borrowing will increase infrastructural development by 8.85 percent. Similarly, a percentage increase in tax revenue will increase infrastructural development by 5.12 percent. A percentage increase in inflation is also seen to increase infrastructural development by 3.8 percent. The interaction between external borrowing and tax revenue has significant but negative influence government expenditure on infrastructural development in Nigeria.

Short run estimates reveal that external borrowing in the current, one and two lagged periods significantly affect infrastructural development in Nigeria. External borrowing in the current and two lagged periods have positive association with infrastructural development, while the one lagged value of external borrowing has a negative effect on infrastructural development in Nigeria. A percentage increase in external borrowing in the current and two lagged periods will increase infrastructural development by 29.66 and 12.15 percent respectively. Conversely, a percentage increase in external borrowing in the one lagged period will reduce infrastructural development by 13.92 percent.

Tax revenue has a significant effect on infrastructural development in the current and one lagged period. A percentage increase in tax revenue in the current period will increase infrastructural development by 8.50 percent, while a percentage increase in tax revenue in the one lagged period will reduce infrastructural development by 4.16 percent. The interaction between external borrowing and tax revenue in the current, two and three past periods are significant and negative

predictors of infrastructural development. The interaction between external borrowing and tax revenue in the one lagged period on the other hand is a positive predictor of infrastructural development. A percentage increase in the interaction between external borrowing and tax revenue in the current, two and three past periods will reduce infrastructural development by 1.12, 0.46 and 0.01 percent respectively. Meanwhile, a percentage increase in the interaction between external borrowing and tax revenue in the one past period will increase infrastructural development by 0.52 percent.

Inflation in the current, one and two lagged periods negatively predict infrastructural development. A percentage increase in inflation in these periods will reduce infrastructural development by 0.50, 1.10 and 0.60 percent respectively. The error correction term is statistically significant, negative and less than one. This means that the speed of adjustment from short-run to long –run equilibrium given any shock in the model is about 35 percent.

#### 4.5.1.1 Post Estimation Diagnostic Test on Model V

Some diagnostic tests are carried out after estimating the ARDL result to validate findings.

**Table 4.15: Breusch-Godfrey Serial Correlation Test**

| | | | |
|---|---|---|---|
| F-Statistic | 3.49 | Prob. F (2,8) | 0.089 |

Source: Author's Computation (2022)

Since the probability value (0.089) is greater than 0.05, we conclude that there is no evidence of serial correlation in the model.

**Table 4.16: Breusch-Pagan Godfrey Heteroskedasticity Test**

| | | | |
|---|---|---|---|
| F-Statistic | 1.294 | Prob. F (21,10) | 0.357 |

Source: Author's Computation (2022)

Since the probability value (0.357) is greater than 0.05, we conclude that there is no evidence of heteroskedasticity in the model.

### 4.3 Discussion of Findings

The study examined the effect of external borrowing on infrastructural development in Nigeria, while disaggregating infrastructural development into government expenditure on agriculture, road construction, social and community services, as well as transportation and communication. The last objective examined the interactive effect of external borrowing and tax revenue on total infrastructural development in Nigeria. The ARDL technique was employed for all the objectives given the mixed order of integration of the variables.

For the first objective, which analysed the effect of external borrowing on government expenditure on road construction in Nigeria within the ARDL framework, the long-run estimates indicated that external borrowing and interest rates exhibit a significant negative influence on government expenditure on road construction. This does not conform to a-priori expectation as it is expected that an increase in external borrowing should increase government spending on capital projects like road construction[1]. However, the negative relationship may be connected with the need for monitoring, evaluation, accountability and transparency in the loan disbursement and utilization as this aligns with findings of previous studies, but deviates from findings by another author[2,3,4].

Conversely, a study conducted previously aligns with the finding that exchange rate and inflation

have a significantly positive relationship with expenditure on road construction[5]. Short-run estimates reveal that the one-year lagged value of expenditure on road construction significantly influences current expenditure on road construction. This means that the expenditure on road construction in the previous year, to a large extent influences current expenditure on road construction. External borrowing in the current and three lagged periods has a significantly positive influence on road construction. This again conforms to apriori expectation as it is expected that external borrowing increases productive investment in the infrastructure of a state with both short- and long-term effects.

For the second objective, which estimated the effect of external borrowing on government expenditure on agriculture in Nigeria, the model was also analysed within the ARDL framework and estimates were obtained in both the short and long run.

The long run estimate reveals that external borrowing has a negative and significant influence on government expenditure on agriculture. This still aligns with findings from the first objective analysed by not conforming to a-priori expectations. Reasons for this are not far-fetched, external borrowings invested in the agricultural sector are not properly utilized and monitored. This aligns with the findings of previous studies[2,3]. But deviates from the findings of another study[4]. On the other hand, exchange rate and inflation have a significant positive association with government expenditure on agriculture. The positive relationship between the exchange rate and inflation with government expenditure on agriculture can be explained by the fact that inflation experienced in Nigeria over the years has been classified as imported inflation and as such in a bid to reduce this, the government has been looking inwards to develop the agricultural sector of the country as an import-substitution strategy. An example of this is the Anchor Borrower's Programme of the CBN. This also explains the positive relationship between the exchange rate

and government expenditure on agriculture. Following the huge demand for exchange rates over the years, the government through the CBN banned the importation of certain food items and began to invest heavily in the agricultural sector.

For the short-run estimates, external borrowing in the one, two, and three lagged periods also significantly influence government expenditure on agriculture. This conforms to a-priori expectation as it shows that external borrowing has helped in boosting the level of agricultural development of the country.

The third objective which examined the effect of external borrowing on government expenditure on transportation and communication was also analysed within the ARDL framework. The ARDL result showed that in the long run, external borrowing and inflation exert significantly negative influence on government expenditure on transport and communication. This is justified by the poor utilization and accountability of the funds in this sector, this finding aligns with that of [6,7]. Exchange rate on the other hand, has a positive and significant relationship with expenditure on transportation and communication. This is because a huge part of the transportation and communication infrastructure utilized in the country is imported and as such, despite an increase in exchange rate, expenditure on this sector will still increase.

Short run estimates reveal that government expenditure on transport and communication in the one, two and three lagged periods has positive association with the current value of expenditure on transport and communication. External borrowing in the current period has no significant effect on government expenditure on transport and communication[8].

The fourth objective analysed the effect of external borrowing on expenditure on social and community services. This cuts across expenditure on education, health and other social and

community services. Results showed that in the long run, all variables except inflation exhibit a significant influence on government expenditure on social and community services. The exchange rate exhibits a positive relationship with expenditure on social and community services. This can be justified by the fact that as the exchange rate increases, funds become less available for citizens to travel abroad for education and health purposes, thus motivating the government to spend more on this sector to improve human capital development.

External borrowing and interest rate have a negative effect on government expenditure on social and community services. This does not conform with a-priori expectation because an increase in external borrowing should lead to an increase in social and economic facilities such as health, education, electricity, sanitation and water supply, and many more because of the additional resources[1]. However, the negative relationship may be connected with poor monitoring, evaluation, accountability and transparency in the loan disbursement and utilization.

The last objective examined the effect of the interaction of tax revenue and external borrowing on infrastructural development in Nigeria. The ARDL result shows that in the long run, external borrowing, tax revenue and inflation significantly affect infrastructural development in Nigeria. A negative relationship was established between external borrowing and infrastructural development in the long run. This does not conforms with a-priori expectation as it is expected that governments should take on external loans to improve the living standard of their citizens through the investment of capital on ventures that can fast-track the sustainable development of their economies. A well-utilized external borrowing increases productive investment in the infrastructure of a country. This conforms to findings of studies previously conducted[9,10]. While aligning to submission findings of another study[5].

Similarly, a positive relationship was established between tax revenue and infrastructural development in the long run. This also conforms to theoretical expectations and aligns with empirical findings of a study conducted previously [4]. However, in the long run, the interaction between external borrowing and tax revenue has negative and significant influence government expenditure on infrastructural development in Nigeria. Short-run estimates show that external borrowing has a positive association with infrastructural development in the current and two-lagged periods, corroborating findings by another study[4]. While the one-lagged value of external borrowing has a negative effect on infrastructural development in Nigeria, corroborating findings of a previously conducted study[11].

Tax revenue has a positive significant effect on infrastructural development in the current and one lagged period. This corroborates the fact that sufficient revenue generation and collection are vital to the provision of sufficient and sustainable public infrastructural development[12]. Similarly, the interaction between external borrowing and tax revenue in the one-lagged period is a positive predictor of infrastructural development. This means that both external funds and internally generated revenue stimulate infrastructural development in Nigeria. For most developing countries like Nigeria, external borrowing poses major challenges, particularly in the context of fluctuating foreign exchange rate regimes to the provision of adequate public infrastructure[13]. This is because the maintenance and servicing of external debts ultimately require sufficient income to be able to honour matured obligations -interest and the principal. As such, emphasis on external borrowing must be accompanied by the availability of sufficient tax revenue.

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# Chapter Five

# Conclusion

This chapter discusses the summary of the findings, conclusions and recommendations of the study. The findings of this study concisely summarize the contributions of the study to knowledge whilst also emphasizing respective implications of findings, limitations to study as well as suggestions for further studies.

## 5.1 Summary of Findings

The study evaluated the effect of external borrowing on infrastructure development in Nigeria. Moreover, the study assessed the intervening effect of tax revenue on the interaction between external borrowing and infrastructure development in Nigeria. The study further controls macro-economic variables such as interest rate, inflation rate and exchange rate to ensure the result are not misleading. It precisely examined the effect of external borrowing on government expenditure on road construction, agriculture, transport and communication and social and community services such as education, health, security, and water respectively. Secondary data were sourced from World Bank, NBS, and CBN reports from 1981-2021 to achieve the objectives of this study. Following the interpretation of analyses of data collected and findings of the study, the following can be summed up as the major empirical findings of this study:

External borrowing exhibits a significant negative influence on government expenditure on road construction.

External borrowing has a significant negative influence on government expenditure on agriculture.

External borrowing exerts a significant negative influence on government expenditure on transport and communication.

External borrowing has a significant negative effect on government expenditure on social and community services.

The interaction between external borrowing and tax revenue exerts a positive and significant effect on infrastructural development in Nigeria.

## 5.2 Conclusion

Conclusions drawn from this study's empirical findings indicate that external borrowing does have significant effect on infrastructure development in Nigeria. Similarly, tax revenue is crucial because it interacted with external borrowing to influence infrastructure development in Nigeria. The research concluded that the Federal government of Nigeria needs to be systematic in its sourcing for funding to provide infrastructure development facilities. While external borrowing is critical, looking inwardly to create additional tax means needs to be looked into because it is cheaper and the burden imposed by exchange rates fluctuations and interest rates payment on external borrowing is very high and is not sustainable in the light of Nigeria's economic growth and development.

The theoretical foundations for this study came from the Keynesian theory which suggests accumulation of capital by the government as a multiplier effect on economic growth. This means that capital accumulation (which can be sourced through internal and external sources of revenue) should offer the government enough resources to provide developmental infrastructures for the citizens which in turn drives economic growth and prosperity.

This research contributes to the reform agenda by offering empirical evidence to support the ripple effect of external borrowing, and tax revenue generation on government capacity to provide meaningful infrastructure facilities that can improve the quality of life of its citizens. The study provides the Federal government of Nigeria with the strategic information it needs to make evidence-based choices concerning external borrowing and tax revenue.

## 5.3 Recommendations

Based on the findings of this study, the following recommendations are made;

The findings of hypotheses one, two, three, and four posit that external borrowing exerts a significant effect on road construction, agriculture, transport, communication, social and community services in Nigeria respectively. These negative functional relationships are most likely connected to poor utilization and accountability of the funds; Hence, the study call for stringent measure in monitoring, evaluation, accountability and transparency in the loan disbursement and utilization. This like the developed economies should help the country to own significant infrastructure development facilities that can enhance growth and economic prosperity for the citizens and the country at large.

The findings of hypothesis five suggest that the interaction between external borrowing and tax revenue is a significant predictor of infrastructural development. Meaning external funds and internally generated revenue stimulates infrastructural development in Nigeria. Hence, this study recommends that while the federal government is aggressively pursuing external borrowing, it should consider creating more taxable avenues within the country and ensure proper ultilisation and transparent administration of revenue obtained from both sources. This is because, for most developing countries like Nigeria, external borrowing poses major challenges, particularly in the context of fluctuating foreign exchange rate regimes to the provision of adequate public infrastructure. This is because the maintenance and servicing of external debts ultimately require sufficient income to be able to honour matured obligations -interest and the principal. As such, emphasis on external borrowing must be accompanied by the availability of sufficient internal-generated revenue to thrive and a transparent administration of revenue usage.

## 5.4 Contributions to Knowledge

The research has contributed essentially to the body of knowledge in the following ways;

The results of this study have provided further empirical evidence on the impact of government expenditure on critical sectors of the Nigeria economy such as road, transportation, agriculture and other economic services.

Theoretically, the study validates the application of Debt Crowding Out Theory, Debt Overhang Theory, and The Keynesian Theory.

This study also helped to chat a new understanding of the negative impact of external borrowing on government expenditure in the Nigeria context

Furthermore, the findings provide a model linking external borrowing, tax revenue, and infrastructural development in Nigeria

The study provides empirical evidence that external borrowing has a significant negative impact on government expenditure on road construction in Nigeria. This suggests that the government should explore alternative sources of funding for road construction projects, such as public-private partnerships or domestic revenue sources, to reduce the reliance on external borrowing.

The study highlights the negative influence of external borrowing on government expenditure on agriculture. This suggests that the government should consider alternative funding sources for agriculture projects to improve the sector's growth and development. Additionally, the government should implement policies to attract private-sector investments in agriculture, such as tax incentives, to supplement public funding.

The study provides evidence of the negative influence of external borrowing on government expenditure on transport and communication. This suggests that the government should explore alternative sources of funding for transport and communication projects, such as private-sector

partnerships or domestic revenue sources, to reduce reliance on external borrowing.

The study highlights the negative impact of external borrowing on government expenditure on social and community services. This finding suggests that the government should explore alternative funding sources for social and community service projects, such as grants or domestic revenue sources, to supplement external borrowing.

The study shows that in the long run the interaction between external borrowing and tax revenue has a negative and significant effect on infrastructure development in Nigeria. This finding suggests that the government should explore policies that encourage investment in infrastructure projects and promote tax compliance to increase revenue, and must employ stringent measures in the allocation and ultilisation of the revenue available for infrastructure development.

## 5.5 Suggestion for Further Studies

The limitations of this study offer opportunity and suggested for future study.

Future studies may unbundle the social services which include education, health, security to examine the specific influence of external and tax revenue so as to enhance the generalization of this study's findings.

Perhaps a survey design could help collect primary data from the citizens on the infrastructure development facilities they have been exposed too and their value relevance should help in putting citizen feedback into the provision of infrastructure development facilities in Nigeria.

Future studies may consider budget planning, monitoring and evaluation capability of the federal government to see it has any bearing on external borrowing linkage with infrastructure development facilities in Nigeria.

Future study may consider changing the unit of analysis from government accounts to government officials working in critical ministries such as finance and revenue collection and the citizens in qualitative research to seek information on external borrowing and tax revenue and their effect on citizen's access to quality developmental amenities in Nigeria.

A comparative study of the impact of government expenditure on selected African countries will add good flavor to this topical issue.



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## Bio-data

### A. Personal Data

| | |
|---|---|
| Full Name: | Adewinle, Olajide Martins |
| Address: | No. 13, Kiniun-Ifa Strert, Lagos, Nigeria |
| E-mail: | jma@jidemartins.com |
| Phone No: | +2348037462519 |
| Date of Birth: | October 2, 1957 |
| Place of Birth: | Lagos |
| Nationality: | Nigeria |
| Next of Kin: | Ibukunoluwa Adewinle |
| | No. 13, Kiniun-Ifa Strert, Lagos, Nigeria |

### B. Educational Background

**Educational Institutions Attended with Dates and Qualifications**

- PhD Finance - Lead City University (in view)
- MBA Finance - Redeemer University 2018
- MSc Accounting - Charisma University, UK 2014
- B.Sc. Accounting - University of Ado-Ekiti 2004

### C. Working Experience with Dates

- West Africa Petrogas Limited (Chairman/Finance Director) 2020 – till date
- Jimard Oil and Gas (Chief Financial Officer) 2018 – 2020
- Nipco Plc (Group Head, Sales and Distribution) 2011 – 2018
- Oceanic Bank (Public Sector Revenue Accountant) 2005 – 2011

**D. Membership of Academic and Professional Bodies**

i. Associate, Association of National Accountants of Nigeria

ii. Member, Institute of Chartered Accountants of Nigeria

iii. Member, Association of Accounting Technicians

**E. Publications**

i. Adewinle, O. M. & Oyedokun, G. E. (2023). External Borrowing, Government Expenditure and Road Construction in Nigeria. *Osogbo Journal of Management and Social Sciences,* 14(2), 16-32.

ii. Oyedokun, G. E. Adewinle, O. M. (2023). Effect of External Borrowing on Government Expenditure on Agriculture in Nigeria. Nasarawa Journal of Accounting and Finance, 8(3), 115-130

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**Signature** **Date**

**The University Compliance Certification**

This is to certify that this thesis was written by Martins Olajide ADEWINLE with the matriculation number LCU/PG/001880 in the Department of Management and Accounting, Faculty of Management and Social Sciences, Lead City University, Ibadan is in full compliance with the approved University format and style.

…… ……

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