

IMPACT OF FISCAL POLICY ON ECONOMIC GROWTH IN NIGERIA

BY

UNIGWE Sophia Chinenye

17020301011

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CERTIFICATION

I certify that this work was carried out by UNIGWE SOPHIA CHINENYE at the Department of Economics, Mountain Top University, Ibafo, Ogun State, Nigeria under my supervision.

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PROF BABASANYA

(supervisor)

DEDICATION

This project is dedicated to God Almighty, for His mercy and grace upon my life. He has been my helper, my strength from the beginning till this very moment of completing my Bachelor of Science degree Programme in Economics. I ascribe all glory to His Holy name.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In every economy, the government major source of revenue is Tax and the money gotten from there is always channelled to provide both social and economic infrastructure which includes; electricity, schools, hospitals, pipe-borne water, good roads, reduction in poverty rate to promote economic growth and development. The duty of funding these huge tasks is the major difficulties confronting the government. Based on the inadequate resources of the government, it is essential to involve the citizens, hence the burden of tax on all taxable individuals and companies to expand government financial position is essential.

Tax is an instrument employed by the federal, state and local government from eligible persons for generating public funds (Anyafor,1996). Alongside the use as a source of raising revenue for government, fiscal policy is used as a means of regulating the economy, reallocating wealth and making preferred modes of consumption patterns and investment decisions, in particular (Oyebode,2010). However, the main task in tax administration in this 21st century is the need to improve the frontiers of accountability, professionalism and public understanding of the importance and advantages of fiscal policy in our personal and corporate lives which includes; promoting economic activity, facilitating investment and savings, and establishing a strategic competitive edge (Kiabel and Nwokah, 2009).

According to Emmanuel (2010), he discoursed that many economies around the world have realised and recognised that no nation can effectively develop without the tax system being developed. Okafor, (2012) supported the levy of taxes as a social engineering tool to boost overall or sectoral economic growth. Over the years, tax income in Nigeria has accounted for a modest fraction of overall government revenue. This is because of the fact that majority of money for development purposes is obtained from oil. Crude oil exports have continued to

provide for more than 80% of overall federal government revenue, with the remaining 20% generated by non-oil sectors in prior years. (Odusola, 2006).

It is clear that the role of tax revenue in promoting economic growth and development in Nigeria is underappreciated, owing to poor administration, a lack of general public awareness of the imperatives and maximum benefits of taxation, corruption of tax officials, tax avoidance and evasion by taxpayers, and tax officials' collusion with the taxing population, and poor tax collection methods, etc. The need for government at all levels to generate adequate revenue from internal sources has thus become a matter of extreme urgency and importance; this need highlights the eagerness on the part of local, state, and federal governments to seek new sources of revenue in order to innovate the mode of collecting revenue from existing sources.

Despite the fact that there is a petroleum profit tax which has been the major source of income tax to the Nigerian economy and company income tax being the main basis of income from the non-oil revenue, the economy is still faced with poor performance of national institutions such as road, transportation, politics and financial systems. As a result, the goal of this study is to look into the impact of taxation on the growth and development of the Nigerian economy. As a result, the research aims to delve further into both the short-run dynamics and the long-run link between tax income and economic growth and development in Nigeria.

According to Ogbonna and Ebimobowei (2012), 'The amount of income earned for the supply of infrastructure in a given country determines its political, economic, and social growth and development.' They also claimed that a well-structured tax system will improve the creation of money for the country's meaningful growth and development. According to Kiabel and Nwokah (2009), an increase in the cost of administering government attached with the

continuous decrease in revenue had all levels of government in Nigeria with the task of developing strategies to broaden the country's economic base.

One of such policies is known as taxation. The study is therefore to evaluate the relationship between incomes from taxation and economic growth.

1.2 Statement of the Problem.

The primary requirement of every contemporary government is to produce sufficient money. Taxation is one of the most important sources of revenue. for the government. It is essential to know that no tax system succeeds without the tax payer's co-operation.

Ezeali and Nwoba, (2012) Economic growth and development has been an on-going problem in Nigeria since independence as several efforts channelled towards economic recovery have failed to produce important results. There still continue in Nigeria the issue of unemployment, high mortality rate caused by poor health care system, brain drain as a result of poor educational funding, lack of serious infrastructures, high inflation rate, insecurity etc.

The presence of all these bulging problems and recent drop in the costs of crude oil in the global market need an assessment of the effect that revenue from taxes has on economic growth and development. Also the determination by the administration of the Federal Inland Income Service (FIRS) and the many tax changes implemented by the government to increase revenue through taxes, as well as the projected effect on economic growth, necessitates a thorough analysis of the impact of fiscal policy on Nigeria's economic growth..

The function of taxation in Nigeria lacks in our system. According to (Odusila, 2006), the system is unequal and dominated by oil income, and during the last two decades, oil revenue has accounted for at least 70% of revenue, implying that tax revenue has never played a solid role in the country's fiscal management.

Presently, according to the Minister of Finance and Coordinator of Nigerian Economy Okonjo-Iweala, she stated that, Nigeria has a massive infrastructure gap, which is stifling economic growth and development by at least 2% each year. The minister also indicated that around US\$14.2 billion per year is necessary to overcome the infrastructure deficit, with approximately \$10.5 billion required for national infrastructure alone. (The Financial Times: 2014). Some countries have influenced their economic growth and development through revenue from tax. For example, Canada, Netherland, United Kingdom and United State.

1.3 Research Questions

The following questions will direct the course of this study

1. To what extent does revenue affects economic growth in Nigeria?
2. What is the implication of government expenditure on economic growth in Nigeria?

1.4 Objectives of The Study

The broad objective is to examine the impact of tax on economic growth in Nigeria.

The other specific objectives are to:

- i. Examine how revenue affect the growth of the Nigerian economy in Nigeria.
- ii. Examine the impact of government expenditure on economic growth in Nigeria.

1.5 Research Hypothesis

In order to test for validation or rejection, the following hypothesis shall be carried out.

H01: There is no impact of revenue on economic growth in Nigeria.

H02: There is no impact of government expenditure on economic growth in Nigeria.

1.6 Significance of the Study

The importance of this study cannot be overemphasised as fiscal policy is very vital and important sector in the economy. one among the most popular often debated concerns in Nigeria is how to fix the country's economic problems and establish an industrial foundation that can guarantee self-sustaining economic growth and development.

This research study will afford us the chance to know the roles taxation plays in Nigeria economy, ascertain how government has been using tax generated revenue to improve an economy's growth and development.

1.7 Scope and Limitation of the Study

This study covers a period of 49 years, that is 1970-2019. This study will be based on the empirical findings on the influence of fiscal policy on economic growth within this specific period. This research makes making use of secondary data and is limited to the data made available in Nigeria during the stated period.

1.8 Plan of the Study

This study shall be split into five chapters. Chapter one talks about the introduction of the topic and is sub-divided into 8 parts. Chapter two talk about the literature review of the topic, terms related to this study are defined, theories related to fiscal policy are discussed in addition to other empirical studies that offer some insight on the positive impact of this topic to economic growth. Chapter three talks about the methodology used for the evaluation of this study.

Chapter four contains data presentation, analysis, results and interpretations of results. The fifth chapter contains the conclusion, recommendations and suggestions for further reading based on my findings.

CHAPTER TWO

LITERATURE REVIEW

This chapter discusses the conceptual, theoretical and empirical issues which are related to fiscal policy and how it affects economic growth. This chapter is divided into three main sections, the conceptual review, theoretical review and empirical review of literatures.

2.1 Conceptual Review

2.1.1 Concept of Fiscal Policy

Fiscal policy can be defined to the government's management of the economy through the changes of its income and spending abilities and actions to achieve certain desired macroeconomic objectives. Fiscal policy is also the reliance on government expenditure and taxation to affect the flow of economic activity in a country. Fiscal policy remains an important tool used by the government to stabilize the macroeconomic conditions of the country.

Dornbusch & Fischer, (1990), explains that a government's increase in spending and a reduction in taxes move the economy away from recession, while a reduction in government spending and an increase in tax move the economy towards recession. Omitogun & Ayinla, (2007), believed that with the assistance of government budget, fiscal policy could be implemented. It means that budgets cannot be seen as only an administering tool used by the government sector but as an important measure of determining the economic life of a country.

Medee & Nembee, (2011), explains that the achievement of desired macroeconomic objectives of the government involves the use of the fiscal policy. Where taxation, borrowing, and spending, are used in the manipulation and control of aggregate demand, employment, and output according to Anyanwu (1993), fiscal policy strives to improve economic conditions that will be favourable to growth in the long or short term. It is obvious that economic development is possible when fiscal policy is implemented in conjunction with other measures, it promotes economic stability and smoothness.

In recent years, the Nigerian tax system has experienced considerable modifications. However, the tax system is basically structured in such a way as to contribute to economic growth through income generation. Consequently, the issue of incidence, taxes can be structured into direct and indirect. There are several elements of direct taxation. Personal income tax [PIT], petroleum profit tax [PPT], corporate income tax [CIT], and educational tax [ET] are some examples. The Personal Income Tax Act of 2004 presently governs the PIT. The PPT is governed by the Petroleum Profit Tax Act [PPTA] of 1990. PPT is charged on a petroleum company's earnings in the upstream section of the business. In Nigeria, companies are taxed under the Companies Income Tax Act, which was enacted in 1961 and amended in 2007. The Federal Inland Revenue Services is in charge of administering the CIT. In Nigeria, education tax is governed by the Education Tax Act No. 7, which was enacted in 1993. All businesses must pay the tax at a rate of 2% of their assessable profit, as established by the Company Income Tax Act. Therefore, the education tax and the corporate income tax are assessed. The Customs and Excise Management Act of 1990 governs the CED. The tax is imposed on all imported products and services into Nigeria. The tax, commonly known as import taxes, is administered by the Nigeria Customs Service. Currently, tariffs varied from 2.5 percent to 100%, depending on the commodity. According to Olawunmi and Ayinla (2007), they investigated the importance of fiscal policy in attaining Nigeria's long-term economic growth by employing a slow growth model calculated using the Ordinary Least Square (OLS) technique.

It has been noted that Nigeria's fiscal strategy has not been efficient in supporting long-term economic growth.

2.1.3 Concept of Economic Growth.

Economic growth is one of the main macroeconomic goals and it is used to check how healthy the economy is. Economic growth is measured by using gross domestic product, GDP.

Gross domestic product can be defined as the sum of total monetary worth of generated products and services in a country over a given period of time.

Economic growth is referred to as an increase of an economy's ability to produce overtime the goods and services needed to improve the well being of her people (Anyanwu, 1995).

Economic growth can also referred to as a continuous procedure through which the productive capability of a given economy grows with time. in order to increase the level of national income overtime (Todaro, 1977). Speedy growth of the economy has always been a major fixation of economists around the world, particularly in developing nations still driving towards development.

2.2 An Overview of Fiscal Policy and Economic Growth in Nigeria

The International Monetary Fund (2009) and CBN (2007) stated that economic growth is the gradual rise in the amount of products and services produced in an economy. It is traditionally calculated as the percentage rate of increase in real gross domestic output, or real GDP (RGDP). Growth is often measured in real terms. The economic growth drivers in a country as posited by Dwivedi (2008) are the quality of the labour force, natural resources, capital formation, technological development.

The measure of fiscal policy to accomplish economic objectives growth will depend on the transparency and accountability of the fiscal institutions, appropriate combination of fiscal strategy and political stability.

2.2.1 Direct Taxation and Economic Growth

Myles (2000) empirically ascertained that direct tax policy is a stimulant to economic growth. Barry and Jules (2008) found that direct taxes impacted negatively on economic growth in the US. Margalioth (2003) reported that direct taxation is harmful to growth in

endogenous growth models. The results of Mamatzakis (2005) hold that direct taxes have significant positive impact on economic growth in South Africa. Tosun and Abizadeh (2005) reported that the share of personal income tax responded positively to economic growth. McCarten (2005) found that the ratio of direct tax to GDP and the ratio of direct tax to total tax stimulated real GDP growth in Pakistan. Tosun and Abizadeh (2005) reported that corporate income taxes are the most harmful to growth as well as personal income taxes. Lee and Gordon (2005) using cross-country data found that statutory corporate tax rates are significantly and negatively correlated with cross-sectional differences in average economic growth rates having controlled for other determinant of economic growth.

2.2.2 Indirect Taxation and Economic Growth

The relationship between indirect taxation and economic growth has been examined severally by different researchers. Few, if any have examined this line of research in Nigeria. Chelliah (1989) observed that an increase in indirect taxation compared to direct taxation reduces economic growth more than direct taxation does. Their research finding supports the position of Harbenger (1964). Aamir et al (2011)'s research findings had it that increasing revenue from indirect taxes is more conducive for economic growth in the long run in Pakistan. Ajakaiye (1999) found that VAT has a negative effect on economic growth in Nigeria. In a more broad study, Romer and Romer (2000) resolved that progressive taxation affords policy makers the opportunity to pursue counter-cyclical fiscal policies which drives economic growth. Specifically, they are of the view that VAT can only increase growth when enforcement and implementation procedures are effective. This position was strengthened by McCarten (2005). According to Bird (2003), the most effective tax for developing countries is one that produces the largest amount revenue in the least costly and disproportionate manner. He identified broad based VAT as an ideal tax that suits the situation. Emran and Stiglitz (2005) argued that the recent resolution that favours the gradual reduction and the

subsequent elimination of sales taxes in favour of VAT as an instrument of indirect taxes in developing economies is worrisome. According to him, it is built on a fragile result derived from an incomplete model that relegates the presence of active informal sector.

2.3 Theoretical Review

2.3.1 Theories of Fiscal Policy

There are series of theories propounded to explain the reasoning behind people's actions and reactions to tax compliance and tax rules which invariably impact the pool of available revenue to the government for the execution of policies and programs. This section explains alternative theories of fiscal policy and these theories are explained below;

2.3.1.1 Cost of Service Theory

The cost of service theory is a theory of fiscal policy. This theory believes that tax is comparable to price, so if a person does not use the service of a state, he should not changed any tax. The majority of the state's expenditure cannot be fixed for each individual since it cannot be precisely determined. The cost of service theory enforces some restriction on government service, since the objective of the government is to provide welfare to the poor. If the idea is followed, the state will not engage in welfare services such as medical treatment, education, and social amenities. etc. (Jhingan, 2009).

2.3.1.2 Benefit Received Theory:

The cost of service hypothesis states that, the cost acquired by the government in providing services must be met collectively by individuals who are receiving the services (Jhingan, 2009). The limitations of the cost service theory led to the birth of the benefit received theory of fiscal policy. Citizens, according to this notion, should pay taxes with the same percentage to the benefits a person receives the greater the state's actions, the more he/she should pay to the government. This theory states that there is an exchange relationship between the tax payer and the government. The failure This idea has been rendered obsolete by the

inability to quantify the advantages obtained by an individual from government services inapplicable. (Ahuja,2012).

2.3.1.3 Ability to Pay Theory:

Citizens are the most popular and widely accepted principle of equity or justice in fiscal policy. of a particular country should pay taxed to the government in accordance with their ability to pay. This theory also states that taxes should be levied on the basis of taxable capacity of an individual. The economist believes that trouble arises from the ability to pay and have not agreed the precise measure of a person's ability to pay. The main points are;

i. **Ownership of Property:** Some economists believe that owning a specific item is a good way to assess one's ability to pay. This notion is categorically rejected on the grounds that if a person makes a high income but does not spend it on real estate, he will be exempt from taxation. In contrast, if another individual making a living purchases property, he will be taxed. Despite the economist's opinion that it is odd and unjust.

ii. **Tax on the Basis of Expenditure:** It is stated by some economists that the ability to pay taxes should be judged by the expenditure which a person incurs. The greater the expenditure, the higher the tax and the lower the expenditure, the lower the tax. The viewpoint is unreliable and biased in every respect. A person with a large family must spend more than a person with a small family. If we use expenditure as a measure of one's capacity to pay, the former, who already has a large number of dependents, will have to pay more taxes than the latter, who has a small family. The economist also thinks this is unjustifiable.

iii. **Income as the Basics:** Most economists agree that income should be used to determine a person's ability to pay. It appears quite reasonable and fair that if one person's income is higher than another's, the former should be required to contribute more to the government's support than the latter. As a result, in the contemporary tax systems of the world's countries, income has been regarded as the best test for determining a person's ability to pay.

2.3.1.4 Proportionate Principle:

J.S. Mill and other classical economists proposed the notion of proportional taxation to meet the sense of fairness in fiscal policy. According to these economists, if taxes are charged in proportion to individual incomes, equal sacrifice will be extracted. The contemporary economist, on the other hand, agrees with this viewpoint. They contend that as income rises, so does the marginal usefulness of income. The equality of sacrifice can only be achieved if those with high incomes are taxed more heavily and those with low incomes are taxed less heavily. In all current tax systems, they favour a progressive taxation structure.

2.3.1.5 Socio-Political Theory:

According to the socio-political theory of fiscal policy, the primary considerations in taxation should be social and political aims. According to the notion, a tax system should not be designed to benefit individuals, but rather to address the problems of society as a whole (Bhartia, 2009).

2.4 Empirical Review

The relationship between the fiscal policy and economic growth and development has been examined severally by different researchers with mixed results. The outcomes of the investigations however have shown that tax revenue has a significant relationship with economic variables (Popoola, Jimoh and Oladipo, 2017).

Olugbenga and Owoye (2007) in their study, they looked at the link between Over a five-year period, government spending and economic development in thirty (30) OECD countries were examined of 1970-2005 and found that a long-run relationship exists between expenditure by government and economic growth.

Onodje (2009) carried out an empirical research on the effects of fiscal policy shocks on private consumption to the Nigerian situation. It examines whether government expenditure shocks and tax revenue shocks have Keynesian effects.

Taiwo and Agbatogun (2011) in their paper analyze the implications of government spending on the growth of Nigeria economy over the period of 1980-2009. Using the Johansen cointegration, unit root test and error correction model, it was discovered that total capital expenditure, inflation rate, and current government revenue are significant variables to improve growth in Nigeria.

Oseni and Onakoya (2012), the researchers aimed at testing the argument that only three fiscal policy variables (productive expenditure, distortionary tax and fiscal deficit) contribute to growth by using annual time series data of Nigeria from 1981 to 2010. The study finds that in the case of Nigeria, four fiscal variables (productive government expenditure, unproductive government expenditure, distortionary taxes, non-distortionary taxes, government budget deficit) contributes to the growth either positively or negatively.

Ude and Agodi (2014) investigated the time series roles of non-oil revenue variables on economic growth in Nigeria for 1980-2013. They discovered that non-oil revenue variables analysed are: agricultural revenue and manufacturing revenue and interest rate have significant impact on economic growth and development in Nigeria.

Macek (2014) Similarly, the influence of fiscal policy on economic growth and development was examined in Organization for Economic Co-operation and Development (OCED) countries using time series secondary data for the period of 2000-2011. He adopted a mathematical multiple regression model to capture the linearity correlation between variables of the study.

For instance in the study by Wambaiand Hanga, (2013) on In confronting Kano's hidden economy, they discovered that the government's attitude toward taxes has to change and suggests a tax structure that focuses on promoting simplicity, predictability, and neutrality.

Worland Emeka (2012) Using the three stage least square estimation technique, this study discovered that tax revenue stimulates economic growth through infrastructural development, it highlights the channels through which tax revenue impacts on economic growth in Nigeria, and it also discovered that tax revenue has no dependent effect on growth through infrastructural development and forecasting.

2.5 Summary of Literature Review

From the start of the literature review, it is quite obvious that there is an agreement among various authors on the definition of concepts used in this study. The theoretical aspects also opened us up to different theoretical underpinnings talking about how fiscal policy has enhanced growth.

After making empirical enquiries from various literatures, it was discovered that various authors came up with similar answers concerning how the fiscal policy has been faring since independence. The empirical review also examined the factors that affects the fiscal policy and also addressed ways in which the government can help to revamp the fiscal policy effectively.

2.6 Gaps in the Literature

By assessing the various related literatures to this study, we can see that a lot of emphasis are made on the effect of fiscal policy on economic growth in Nigeria, the challenges faced by the generation of tax and how it affects fiscal policy with little or no reference to the actual connection between fiscal policy and economic growth. Study shows that most of the related literatures that discuss the relationship between fiscal policy and economic growth have not been able to capture the recent development in this country.

Therefore, this study aims at finding out how fiscal policy has affected economic growth in respect to the recent coronavirus pandemic which led to the global shut down of all economies.

CHAPTER THREE

RESEARCH METHODOLOGY

This chapter specifies the methodology used in carryout this research, it also explains the method the researcher will use to carry out this research design, theoretical framework, sources of data collected, data analysis estimation techniques, and model specification.

3.1 Research Design

The research design in this study, the reason being that, this design is a quasi-experimental design which examines how the independent variable affects the dependent variables. This study examines how fiscal policy affects the economic growth in Nigeria given the available data. It employs the use of historical analysis to check the activities of taxation during the time frame of the study.

3.2 Theoretical Framework

To set up the model specification, this study follows the Ex-post design and was used to obtain data from the Federal Board of Inland Revenue and Statistical Bulletin to regulate the impact of taxation on economic growth. The statistical method for analysing data is the Ordinary Least Square (OLS) regression method, co-integration test, Augmented Dickey-Filler test and descriptive statistics will be used to determine the relationship between the variables.

3.3 Sources of Data Collection

In the course of this study, data was accumulated via collection of secondary data in accordance with the information of this study. Secondary data are the data that are accumulated by other people for various purposes.

The data was sourced from several Central Bank of Nigeria (CBN) publications from the World Development Indicators (WDI) and other related journals from the internet. The variables to be used in this study includes:

SYMBOLS	VARIABLES	DEFINITION	SOURCE
GDP	Gross Domestic Product	Gross Domestic Product can be defined as the total monetary or market value of all the finished goods and services produced within a country's borders during a specific period of time.	World Bank
GXP	Government Total Expenditure	Government Expenditure includes all government consumption, investment, and transfer payments. Government spending can be a useful economic policy tool for government.	Central Bank of Nigeria Statistical Abstract
TAX	Taxation	Tax can be defined as a compulsory contribution to the state revenue levied by the government on worker's income and business profits, or added to the cost of some goods, services, and transactions.	World Bank
RIR	Real Interest Rate	Real Interest Rate can be defined as an interest rate that	World Bank

		has been adjusted to remove the effects of inflation to reflect the real cost of funds to the borrower and the real yield to the lender or to an investor.	
INV	Investment	Investment can be defined as the act of allocating resources, usually money, with the expectation of generating an income or profit.	World
POPG	Population Growth	Population Growth can be defined as the increase in the number of people in a population.	World
HEALTH	Health	Health can be defined as a state of complete physical, mental, social well-being and not merely the absence of disease or infirmity	Centr Statis
EDU	Education	Education can be defined as the process of receiving or giving systematic instruction, especially at a school or university.	Centr Statis

3.4 Data Analysis Techniques and Estimation Technique

The data collected for this study was analysed using the time series. The Regression analysis of the Ordinary Least Square (OLS) is the estimation technique that is employed in this study in order to analyse if there is a relationship between fiscal policy and economic growth. The research work is carried out using statistical and econometric instruments of multiple regression to aid in data analysis and presentation.

I. Test for Stationarity

In order to do any expressive policy analysis with the results of this study, it is important to differentiate between correlations that is developed from sheer trend (spurious) and one related to a primary causal relationship. To realize this, all the data used in the study are initially tested for unit root to establish that they are stationary. By stationary, what is intended is that (Guajarati, 2007) the mean and the variance of the time series data are the same no matter what point they are measured; that is, they do not vary with time. The test would help to detect spurious regression on the time series and it will also help in good forecasting. To know whether or not the time series data is stationary at any level, a unit root test using Augmented Dickey-Fuller (ADF).

II. Co-integration Analysis

The use of the Ordinary Least Square (OLS) method of estimation becomes unacceptable when the time series data of the regressor and the regressed variable are not integrated of order zero (0). Given such a scenario, a co-integration analysis can be used to examine the long run relationship between the two variables that are not integrated of order zero (0). Co-integration analysis refers to a group of variables that move together, although individually they are non-stationary, meaning that they are likely to go upwards over time.

III. Diagnostic Tests

It is necessary to ascertain that the model used in this study is adequate and equally conforms to the criteria that defines a good model in order to prevent misleading assumptions about the estimated parameters, certify reliable forecasts, and ensure the acceptability of the regression results. In order to achieve this, diagnostic test that is, various statistical tests will be carried out. These tests comprise the student t-test, used to test the statistical significance of the individual estimated parameters in the regression model; the F-test, used to ascertain that all the estimated parameters are jointly significant when tested together; the coefficient of determination, which measures the goodness of fit of the regression line; and other tests such as Durbin Watson test for serial correlation.

3.5 Model Specification

In order to present a model reflecting the effect fiscal policy has on economic growth, Gross Domestic Product can be seen as the dependent variable, while Government Total Expenditure, Tax, real interest rate, Investment, Population Growth, Health and Education are the independent variables. The model can be written as :

$$\text{GDP} = f(\text{GEXP}, \text{TAX}, \text{RIR}, \text{INV}, \text{HEALTH}, \text{POPG}, \text{EDU}) \quad (1)$$

Where: GDP = Gross Domestic Product

GEXP = Government Total Expenditure

RIR = Real Interest Rate

INV = Investment

POPG = Population Growth

EDU = Education

HEALTH = Health

TAX = Tax

The above function can be represented in a linear econometric format using certain parameters as thus:

$$GDP = a_0 + GEXP \sum p_{ait} + RIR \sum p_{ait} + INV \sum p_{ait} + POPG \sum p_{ait} + EDU \sum p_{ait} + U_{it} \quad (2)$$

3.6 Justification of Variables

The variables for the analysis were selected based on the date and purposes of the research. Each section describes the study's dependent and independent variables as follows:

3.6.1 Dependent Variables

The dependent variables include Gross Domestic Product and Economic Growth, which is proxy.

3.6.2 Independent Variables

These variables include the value of Government Total Expenditure, Real Interest Rate, Investment, Tax, Education, Population Growth and Health.

CHAPTER FOUR

PRESENTATION AND DISCUSSION OF RESULTS

Introduction

This chapter presents the results of the econometric analysis of this study. Fundamentally, it is divided into eight sections. Section 4.2 focuses on the result of the unit root test that is conducted in the study to observe the time series of the variables in question. In section 4.3, the VAR lag order selection criteria results are examined. Section 4.4 reveals the test for cointegration among the variables using the bound test approach. Section 4.5 This chapter is rounded off with section 4.6 which presents the summary of the discussion of the finding.

4.2 Descriptive Statistics

	GDP	GXP	INV	POP	RIR	TAX	HEALTH
Mean	3.940971	1593.098	49.7929	2.601897	-1.39452	1.76E+09	56.09619
Median	4.430627	220	51.80118	2.586117	1.318497	1.52E+09	3.172204
Maximum	25.00724	9714.84	67.87079	3.031979	18.18	6.63E+09	388.3671
Minimum	-13.1279	0.41	27.30118	2.285762	-65.8572	0	-10.9155
Std. Dev.	6.358854	2397.118	12.13332	0.147922	14.21432	1.57E+09	96.76599
Skewness	0.102	1.592676	-0.32578	0.923754	-2.18215	1.39417	1.726538
Kurtosis	5.120852	4.743533	1.790543	4.674102	10.03608	4.192943	5.038629
Jarque-Bera	9.457559	27.47163	3.931894	12.94981	142.82	19.21465	33.49945
Probability	0.008837	0.000001	0.140023	0.0015423	0	0.000067	0
Sum	197.0485	79654.92	2489.645	130.0949	-69.7258	8.80E+10	2804.81
Sum Sq. Dev.	1981.316	2.82E+08	7213.66	1.07217	9900.297	1.20E+20	458819.2
Observations	50	50	50	50	50	50	50
<i>Source: Author's computations using E-views 10.</i>							

Mean: The mean is used to measure the average distribution value. Here, we have 50 observations i.e, the data span from 1970-2019. The average values of Gross Domestic Product, government total expenditure, investment, population growth, real interest rate, taxation and health are 3.94, 1593, 49.79, 2.60, -1.39, 1.76 and 56.09, and respectively.

Standard deviation: Standard deviation measures the dispersion of the data set from the mean. It can be thought of as a measure of dispersion. Large values of standard deviation means greater variability in the data. The standard deviation as revealed in the table above of GDP is 6.35, GXP is 2397, INV is 12.13, POP is 0.14, RIR is 14.21, TAX is 1.57, and HEALTH is 96.76.

Skewness: Skewness is the measure of asymmetry in a distribution when the distribution is slab-shaped, the mean, the median and mode values are the same or nearly the same. The mean is below the median for skewed-right distributions, the median is the next greatest and the mean is the largest. GDP, INV with skewness of 0.10 and -0.32 respectively show that the distributions are positively skewed and normally distributed since its value is approximately zero, while GXP, POP, RIR, TAX and HEALTH with skewness of 1.59, 0.92, -2.18, 1.39 and 1.72 respectively shows that the distribution is positively skewed and not normally distributed. In summary, the results showed that all the variables are positively skewed.

Kurtosis: This tests the weight or lightness of the variables' data distribution tails. The normal standard distribution has a kurtosis of 3. Positive values represent heavy-tails (i.e, a lot of data are in your tails), whereas the negative values indicate light-tails (i.e, no data is in your tails). INV with kurtosis value of 1.79 which is less than 3 implies that the data distribution is very thin and almost flat, while the GDP, GXP, POP, RIR, TAX and HEALTH indicates a thin tailed distribution which means the distribution are higher than the normal distribution.

4.3 Correlation Analysis

	GDP	TAX	POP	AGRIC	GXP	RIR	INV	EDU
GDP	1	0.045643	-0.23025	-0.36571	0.020162	0.259161	0.002807	0.024395
TAX	0.045643	1	0.209865	0.201546	0.755672	0.282897	0.414564	-0.09685
POP	-0.23025	0.209865	1	0.098588	0.078912	-0.02496	-0.06517	-0.09565
AGRIC	-0.36571	0.201546	0.098588	1	0.454141	0.249415	0.528139	-0.05068
GXP	0.020162	0.755672	0.078912	0.454141	1	0.379884	0.720725	-0.05368
RIR	0.259161	0.282897	-0.02496	0.249415	0.379884	1	0.44528	0.002585
INV	0.002807	0.414564	-0.06517	0.528139	0.720725	0.44528	1	0.111654
EDU	0.024395	-0.09685	-0.09565	-0.05068	-0.05368	0.002585	0.111654	1

Correlation helps to measure the strength of a linear association between variables. This table shows the result of the correlation analysis between dependent variable and independent variables. Results shows that GDP is positively correlated with TAX, AGRIC, GXP, RIR, INV while GDP has a negative correlation with EDU and POP.

4.4 Unit Root Test

Augmented Dickey- Fuller unit root test has been used to test the order of integration and to solve the problem of non-stationary of variables. Empirical research regarding the time series implies that the time series beneath is static. This subsection shows the essence of the test of normality as calculated using the T-statistics and P-value of the Augmented Dickey-Fuller root unit test.

Augmented Dickey-Fuller Test (intercept only)													
Variable	Level						First difference						
	ADF			ADF				ADF			ADF		
	Statistic	Critical values			Prob.	Remarks	Statistic	Critical Values			Prob.	Remarks	
		1%	*5%	10%				1%	*5%	10%			
GDP	-5.6295	-3.5713	-2.9224	-2.5992	0	I(0)	-10.6263	-3.5744	-2.9238	-2.5999	0.0000		
GXP	6.2234	-3.5885	-2.9297	-2.6031	1		2.08806	-3.6056	-2.9369	-2.6069	0.9999		
INV	-1.3435	-3.5713	-2.9224	-2.5992	0.6020	NS	-6.1913	-3.5744	-2.9238	-2.5999	0.0000		
POPG	-4.1762	-3.6105	-2.9390	-2.6079	0.0022		-1.2237	-3.6156	-2.9411	-2.6091	0.6542		
EDU	-7.0000	-3.5713	-2.9224	-2.5992	0		-8.12404	-3.5777	-2.9252	-2.6007	0.0000		
HEALTH	1.1221	-3.6056	-2.9369	-2.6069	0.997		2.8141	-3.6056	-2.9369	-2.6069	1.0000		
RIR	-5.4875	-3.5713	-2.9224	-2.5992	0		-4.8396	-3.6105	-2.9390	-2.6079	0.0003		
TAX	-0.9752	-3.5777	-2.9252	-2.6007	0.7546		-6.7374	-3.5777	-2.9252	-2.6007	0.0000		
AGRIC	-1.86139	-3.5777	-2.9252	-2.6007	0.3472		-7.58526	-3.5777	-2.9252	-2.6007	0		
Augmented Dickey-Fuller Test (Intercept and Trend)													
Variable	Level						First difference						
	ADF			ADF				ADF			ADF		
	statistic	Critical values			Prob.	Remarks	Statistic	Critical values			Prob.	Remarks	
		1%	*5%	10%				1%	*5%	10%			
GDP	-5.6532	-4.1567	-3.5043	-3.1818	0.0001	I(0)	-10.5836	-4.1611	-3.5064	-3.1830	0.0000	I(1)	
GXP	4.7174	-4.1809	-3.5155	-3.1883	1.0000		-0.4830	-4.2119	-3.5298	-3.1964	0.9802	NS	
INV	-1.5758	-4.1567	-3.5043	-3.1818	0.7882	NS	-6.2481	-4.1611	-3.5064	-3.1830	0.0000	I(1)	
POPG	-4.2102	-4.2119	-3.5298	-3.1964	0.0100	I(0)	0.5407	-4.2119	-3.5298	-3.1964	0.9991		
EDU	-6.9435	-4.1567	-3.5043	-3.1818	0.0000	I(0)	-8.0335	-4.1658	-3.5085	-3.1842	0.0000	I(1)	
HEALTH	0.3364	-4.2050	-3.5266	-3.1946	0.9982		0.7557	-4.2050	-3.5266	-3.1946	0.9996		
RIR	-6.1379	-4.2050	-3.5266	-3.1946	0.0000	I(0)	-4.7837	-4.2119	-3.5298	-3.1964	0.0022	I(1)	
TAX	-1.8547	-4.1658	-3.5085	-3.1842	0.6618	NS	-2.0510	-4.2050	-3.5266	-3.1946	0.5563		

SOURCE: Author's Compilation from Eviews 10

The unit root test result shown above is generated using Augmented Dickey-Fuller unit root test statistic and P-value respectively. A variable is said to be integrated of order d , $I(d)$ if it is stationary after differencing the times. The table above, shows the test for stationarity shows that the gross domestic product, population growth, education, real interest rate were stationary at levels, while government total expenditure, and health are stationary at their first difference. There is a mixed order of integration that is $I(0)$ and $I(1)$.

4.5 Lag Length Order Selection Criteria

In evaluating the specified ARDL models, the probable existence of long-run relationship among the variables was tested using the ARDL co-integration technique. Unlike other methods of estimating cointegrating relationships, the ARDL cointegration technique does not involve symmetry of lag lengths, each of the variables can have a different number of lag terms. Following the literature, lag order selection criteria ascribed to Hannan-Quinn information criteria (HIC), the Log Likelihood (LL), the Schwarz information criteria (SIC), Final Prediction Error (FPE) criteria and the Akaike information criteria results are shown below.

LAG LENGTH CRITERIA SELECTION FOR OBJECTIVE ONE						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1340.986	NA	25000000	56.04108	56.19701	56.10001
1	-1225.009	207.7923	3990000000	51.87537	52.65504	52.17001
2	-1148.288	124.6710*	3.22e+16*	49.34534*	50.74874*	49.87569*
LAG LENGTH CRITERIA SELECTION FOR OBJECTIVE TWO						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1610.505	NA	1.93E+24	67.27106	67.427	67.32999
1	-1406.792	364.9868	7.76e+20*	59.44966*	60.22933*	59.74430*
2	-1400.927	9.531081	1.20E+21	59.87194	61.27534	60.40229
Source: Author's Compilation from Eviews 10						
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

The annual data permits us to select 2 lag order. For quarterly data we may put 8 lags. From the output, the chosen lag order is represented by an asterisk symbol distributed between lag 1 and lag.

4.6 Cointegration Test Bound

Having determined the optimal lag length, the next step is to determine the cointegration relationship among the variables. Due to the limitations of the conventional Wald-test F-statistics, Pesaran and Shin (1995, 1998) suggested two critical values (lower and upper bound) to examine the relationship. If the computed F-statistics is lower than the lower bound $I(0)$ the null is not rejected but if the computed F-statistic is greater than the upper bound $I(1)$ it implies that there exists a long run relationship among the variables. However, if the computed F-statistics lies between the lower bound and upper bound the long run association between the variables are inconclusive. Testing for cointegration is a necessary step to establish whether or not a model empirically exhibits meaningful long run relationships. Here, cointegration technique is employed because it can be used regardless of whether the underlying variables are $I(0)$, $I(1)$ or combination of both. Here is the results below;

Results of Bound Test Approach to Co-Integration for Objective one			
Significance	Critical value Bonds		Computed F-statistics
	Lower Bound I(0)	Higher Bound I(1)	14.3524
10%	2.37	3.2	
5%	2.79	3.67	
2.50%	3.15	4.08	
1%	3.65	4.66	

SOURCE: Author's Compilation from E-views 10

Results of Bound Test Approach to Co-Integration for Objective Two			
Significance	Critical value Bonds		Computed F-statistics
	Lower Bound I(0)	Higher Bound I(1)	7.306227
10%	2.2	3.09	
5%	2.56	3.49	
2.50%	2.88	3.87	
1%	3.29	4.37	

SOURCE: Author's Compilation from E-views 10

4.7 Ordinary Least Squares For Objective One

Variable	Coefficient	Std. Error	t-Statistic	Prob.
TAX	6.89E-10	5.58E-10	1.234899	0.2231
POP	-9.83E+00	5.81E+00	-1.690642	0.0977
AGRIC	-0.490811	0.175594	-2.795147	0.0075
C	40.0588	15.27668	2.622219	0.0118
R-squared	0.198398	Mean dependent var		3.940971
Adjusted R-squared	0.14612	S.D. dependent var		6.358854
S.E. of regression	5.875938	Akaike info criterion		6.456227
Sum squared resid	1588.226	Schwarz criterion		6.609189
Log likelihood	-157.4057	Hannan-Quinn criter.		6.514476
F-statistic	3.795039	Durbin-Watson stat		1.449626
Prob(F-statistic)	0.016329			

For Objective Two

Variable	Coefficient	Std. Error	t-Statistic	Prob.
RIR	11.08639	18.83778	0.588519	0.5591
INV	139.534	22.20745	6.283208	0
EDU	-5.62E-05	4.26E-05	-1.318489	0.1939
C	-5294.253	1139.022	-4.64807	0
R-squared	0.541123	Mean dependent var		1593.098
Adjusted R-squared	0.511196	S.D. dependent var		2397.118
S.E. of regression	1.68E+03	Akaike info criterion		17.76275
Sum squared resid	1.29E+08	Schwarz criterion		17.91571
Log likelihood	-440.0687	Hannan-Quinn criter.		17.821
F-statistic	18.08156	Durbin-Watson stat		0.147422
Prob(F-statistic)	0			

Source: Author's compilation from E-view 10

The diagnosis of the regression results, includes the R-squared, F-statistic and Durbin Watson statistic, which are the key indicators for the validation of OLS regression models. The Adjusted R-square measure of goodness of fit is 0.194032, this implies that about 19% changes in economic growth of Nigeria over the period of 1970-2019 are as a result of changes in the independent variables. The F-statistic of the model is 2.685207 and it is statistically significant at the 5% level of significance, this indicates that the model is well specified. The Durbin-Watson statistic value of the model is 1.637034. this value indicates that the model is not correlated with previous period residuals of the model. On the basis of the F-statistic, Durbin-Watson statistic and acceptability of the R-squared and adjusted R-squared, the ordinary least squares regression results can be concluded to be valid.

4.8 Discussion of Findings

This chapter of the research addressed assessment outcomes in line with the study's objectives. There are two specific objectives in this empirical work. The two objectives of examining the effect of revenue on economic growth in Nigeria, examining the impact of government expenditure on economic growth in Nigeria as well as how other factors that determine each variables were achieved by econometric techniques of analysis.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter presents the study's summary, conclusions and recommendations. The summary contains a description of the research problem, the research objectives, the methodology and the findings, and the outcomes demonstrate the overall effects of the findings of the analysis in the light of the hypotheses. In addition, the chapter makes recommendations as well as suggestions for further studies.

5.2 Summary of Findings

This research provides an empirical analysis of the impact of fiscal policy on economic growth in Nigeria for the period between 1970-2019 employing various techniques of econometric analysis. In the course of the study, the main objective was to determine the impact of fiscal policy on economic growth in Nigeria. The study examined government total expenditure, population growth, investment, real interest rate and education which are components of fiscal policy and economic growth proxy as real GDP over the study period (1970-2019). The Ordinary Least Square (OLS) technique was employed to determine the impact of the independent variables on the dependent variables. Stationary test, Autoregressive Distributed Lag co- integration test and Augmented Dickey-Filler unit root test were used to test the hypothesis.

5.3 Conclusion

The goal of this analysis is to establish the effect of fiscal policy on economic growth in Nigeria. For the attainment of the objective, the study uses some economic indicators adopted from the theory used, which includes total government expenditure, population growth, taxation, agriculture, investment, real interest rate, education, foreign direct investment which are components of fiscal policy and also economic growth as real gross domestic product.

Two major findings of this study is that government expenditure, taxation and population growth has a significant role in increasing the economic growth of Nigeria. Similarly, there is an insignificant negative relation between education and economic development. It was suggested that low investment in education may have led to this negative relationship between education and economic growth. However, investment in education as a component of fiscal policy should further be investigated in order to justify the above statement.

5.4 Recommendations

Based on the results of this research, the following recommendations are presented as follows:

Firstly, to ensure efficient growth in the Nigerian economy, there is a need for the government to increase allocation in various sectors rather than focusing on just one sector. This support should be centred on developing fiscal policy. In order to further ensure an uptrend in development of fiscal policy as well as economic growth, Nigerian government should focus on the development of the educational sector by organizing trainings, offering quality teachers, allocating resources and providing infrastructures.

More so, the government should also pay close attention to the agricultural sector as the result shows that it plays a significant role in fiscal policy as well as the development of economic growth.

5.5 Suggestion for Further Studies

This research explored the impact of fiscal policy on economic growth in Nigeria. Specific focuses has also been put on how specific metrics and components of fiscal policy (used in this study) have an impact on Nigeria's economic growth, thereby providing a strong base for further studies. Other fields and components recommended for further analysis include the effect of fiscal policy on the economy through the use of new variables and metrics such as investment, population growth and education.

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APPENDIX

Descriptive

	GDP	GXP	INV	POP	R
Mean	3.940971	1593.098	49.7929	2.601897	-1.3
Median	4.430627	220	51.80118	2.586117	1.31
Maximum	25.00724	9714.84	67.87079	3.031979	18
Minimum	-13.1279	0.41	27.30118	2.285762	-65.
Std. Dev.	6.358854	2397.118	12.13332	0.147922	14.2
Skewness	0.102	1.592676	-0.32578	0.923754	-2.1
Kurtosis	5.120852	4.743533	1.790543	4.674102	10.0
Jarque-Bera	9.457559	27.47163	3.931894	12.94981	14.
Probability	0.008837	0.000001	0.140023	0.0015423	0
Sum	197.0485	79654.92	2489.645	130.0949	-69.
Sum Sq. Dev.	1981.316	2.82E+08	7213.66	1.07217	990
Observations	50	50	50	50	5

Source: Author's computations using E-views 10.

Correlations

	GDP	TAX	POP	AGRIC	GXP	RIR	INV	EDU
GDP	1	0.045643	-0.23025	-0.36571	0.020162	0.259161	0.002807	0.024395
TAX	0.045643	1	0.209865	0.201546	0.755672	0.282897	0.414564	-0.09685
POP	-0.23025	0.209865	1	0.098588	0.078912	-0.02496	-0.06517	-0.09565
AGRIC	-0.36571	0.201546	0.098588	1	0.454141	0.249415	0.528139	-0.05068
GXP	0.020162	0.755672	0.078912	0.454141	1	0.379884	0.720725	-0.05368
RIR	0.259161	0.282897	-0.02496	0.249415	0.379884	1	0.44528	0.002585
INV	0.002807	0.414564	-0.06517	0.528139	0.720725	0.44528	1	0.111654
EDU	0.024395	-0.09685	-0.09565	-0.05068	-0.05368	0.002585	0.111654	1

Stationary Test using Augmented Dickey-Fuller unit root test

Augmented Dickey-Fuller Test (intercept only)												
Variable	Level					First difference						
	ADF	Critical values			Prob. Remarks	ADF	Critical Values			Prob.	Remarks	
	Statistic	1%	*5%	10%		Statistic	1%	*5%	10%			
GDP	-5.6295	-3.5713	-2.9224	-2.5992	0	I(0)	-10.6263	-3.5744	-2.9238	-2.5999	0.0000	
GXP	6.2234	-3.5885	-2.9297	-2.6031	1		2.08806	-3.6056	-2.9369	-2.6069	0.9999	
INV	-1.3435	-3.5713	-2.9224	-2.5992	0.6020	NS	-6.1913	-3.5744	-2.9238	-2.5999	0.0000	
POPG	-4.1762	-3.6105	-2.9390	-2.6079	0.0022		-1.2237	-3.6156	-2.9411	-2.6091	0.6542	
EDU	-7.0000	-3.5713	-2.9224	-2.5992	0		-8.12404	-3.5777	-2.9252	-2.6007	0.0000	
HEALTH	1.1221	-3.6056	-2.9369	-2.6069	0.997		2.8141	-3.6056	-2.9369	-2.6069	1.0000	
RIR	-5.4875	-3.5713	-2.9224	-2.5992	0		-4.8396	-3.6105	-2.9390	-2.6079	0.0003	
TAX	-0.9752	-3.5777	-2.9252	-2.6007	0.7546		-6.7374	-3.5777	-2.9252	-2.6007	0.0000	
AGRIC	-1.86139	-3.5777	-2.9252	-2.6007	0.3472		-7.58526	-3.5777	-2.9252	-2.6007	0	
Augmented Dickey-Fuller Test (Intercept and Trend)												
Variable	Level					First difference						
	ADF	Critical values			Prob. Remarks	ADF	Critical values			Prob.	Remarks	
	Statistic	1%	*5%	10%		Statistic	1%	*5%	10%			
GDP	-5.6532	-4.1567	-3.5043	-3.1818	0.0001	I(0)	-10.5836	-4.1611	-3.5064	-3.1830	0.0000	I(1)
GXP	4.7174	-4.1809	-3.5155	-3.1883	1.0000		-0.4830	-4.2119	-3.5298	-3.1964	0.9802	NS
INV	-1.5758	-4.1567	-3.5043	-3.1818	0.7882	NS	-6.2481	-4.1611	-3.5064	-3.1830	0.0000	I(1)
POPG	-4.2102	-4.2119	-3.5298	-3.1964	0.0100	I(0)	0.5407	-4.2119	-3.5298	-3.1964	0.9991	
EDU	-6.9435	-4.1567	-3.5043	-3.1818	0.0000	I(0)	-8.0335	-4.1658	-3.5085	-3.1842	0.0000	I(1)
HEALTH	0.3364	-4.2050	-3.5266	-3.1946	0.9982		0.7557	-4.2050	-3.5266	-3.1946	0.9996	
RIR	-6.1379	-4.2050	-3.5266	-3.1946	0.0000	I(0)	-4.7837	-4.2119	-3.5298	-3.1964	0.0022	I(1)
TAX	-1.8547	-4.1658	-3.5085	-3.1842	0.6618	NS	-2.0510	-4.2050	-3.5266	-3.1946	0.5563	

SOURCE: Author's Compilation from Eviews 10

Lag length

LAG LENGTH CRITERIA SELECTION FOR OBJECTIVE ONE						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1340.986	NA	25000000	56.04108	56.19701	56.10001
1	-1225.009	207.7923	3990000000	51.87537	52.65504	52.17001
2	-1148.288	124.6710*	3.22e+16*	49.34534*	50.74874*	49.87569*
LAG LENGTH CRITERIA SELECTION FOR OBJECTIVE TWO						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	-1610.505	NA	1.93E+24	67.27106	67.427	67.32999
1	-1406.792	364.9868	7.76e+20*	59.44966*	60.22933*	59.74430*
2	-1400.927	9.531081	1.20E+21	59.87194	61.27534	60.40229
Source: Author's Compilation from Eviews 10						
* indicates lag order selected by the criterion						
LR: sequential modified LR test statistic (each test at 5% level)						
FPE: Final prediction error						
AIC: Akaike information criterion						
SC: Schwarz information criterion						
HQ: Hannan-Quinn information criterion						

Ordinary Least Square Regression Estimates

For Objective One

Dependent Variable: GDP				
Method: Least Squares				
Date: 08/30/21 Time: 01:49				
Sample: 1970 2019				
Included observations: 50				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
TAX	6.89E-10	5.58E-10	1.234899	0.2231
POP	-9.83E+00	5.81E+00	-1.690642	0.0977
AGRIC	-0.490811	0.175594	-2.795147	0.0075
C	40.0588	15.27668	2.622219	0.0118
R-squared	0.198398	Mean dependent var		3.940971
Adjusted R-squared	0.14612	S.D. dependent var		6.358854
S.E. of regression	5.875938	Akaike info criterion		6.456227
Sum squared resid	1588.226	Schwarz criterion		6.609189
Log likelihood	-157.4057	Hannan-Quinn criter.		6.514476
F-statistic	3.795039	Durbin-Watson stat		1.449626
Prob(F-statistic)	0.016329			

For Objective Two

Dependent Variable: GXP				
Method: Least Squares				
Date: 08/30/21 Time: 01:51				
Sample: 1970 2019				
Included observations: 50				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RIR	11.08639	18.83778	0.588519	0.5591
INV	139.534	22.20745	6.283208	0
EDU	-5.62E-05	4.26E-05	-1.318489	0.1939
C	-5294.253	1139.022	-4.64807	0
R-squared	0.541123	Mean dependent var		1593.098
Adjusted R-squared	0.511196	S.D. dependent var		2397.118
S.E. of regression	1.68E+03	Akaike info criterion		17.76275
Sum squared resid	1.29E+08	Schwarz criterion		17.91571
Log likelihood	-440.0687	Hannan-Quinn criter.		17.821
F-statistic	18.08156	Durbin-Watson stat		0.147422
Prob(F-statistic)	0			

