Impact of Tax Revenue on Investment in Nigeria

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DOI: 10.56201/wjfir.v7.no2.2023.pg1.27

Abstract
The study examined the Impact of Tax Revenue on Investment in Nigeria for the period of 1999 to 2021. Specifically, the impacts of tax revenue measured by company income tax, value added tax, petroleum profit tax, and custom & excise duties on Investment (proxied by Gross Fixed Capital Formation) were examined. The Benefits Theory of Taxation and Currency Area Theory were adopted for the study. The study employed ex post facto research design. Data was obtained through the Central Bank of Nigeria Statistical Bulletin, Federal Inland Revenue Service (FIRS) Publications, and National Bureau of Statistics Bulletins for the years under consideration. The multiple ordinary least square linear regression model involving ordinary least square (OLS) estimation approach using E-view econometric software version 12 was used to analyze the data so collected. The study made the following findings: that company income tax has significant negative effect on Investment; that there is presence of negative and significant effect of value added tax on Investment; that petroleum profit tax has positive and significant effect on gross fixed capital formation; and that custom and excise duties has positive but significant effect on Investment in Nigeria. It concluded that tax revenue has significant effects on Investment in Nigeria. The study then recommended among others that Nigerian government should pay particular attention to the reduction of the company income tax rate because high tax rate has the tendency of adversely affecting Investment.

Keywords: *Tax Revenue, Investment, Gross Fixed Capital Formation, Company Income Tax, Value Added Tax*

1. INTRODUCTION

Nigeria irrespective of the enormous endowments of mineral resources is in dire need of investible funds to lift its indigent population above the poverty threshold. It is indisputable that the desired investment may not be flowing to the country as expected due to insecurity, political instability, corruption and unstable economic policies (Gidigbi & Donga, 2021). Despite the fact that there is international aid flowing into the country, they are volatile and insufficient. Whenever a general election is being organized in Nigeria, over 50 per cent of the investment fund deposited in the capital market is always withdrawn by the investors (Ejembi, 2015).

Investment is required in the provision of social infrastructures and capital and also in creating wealth for both the immediate and the future generations (Gidigbi & Donga, 2021).

Government in the bid to provide the basic amenities and security to its citizenry introduced compulsory levies, which are in the form of a certain amount or percentage of income on individual, groups, businesses and corporate bodies. The revenue generated from these levies are used by the constituted authorities for the provision of public goods, security, development and social benefit of the people. This compulsory levy is called tax. The origin of Tax cannot be precisely traced to a particular city, town, country or empire but the reality is that ancient cities of Egypt, Athens and Rome practiced taxation (Abomaye-Nimenibo, Micheal & Friday, 2018; Uguru & Adeniran, 2019).

It is pertinent to note that the major duty of every leader the world over is to provide safety, liberty, well-being, and comfort for its citizens (Ofoegbu, Akwu & Oliver, 2016). In a corollary, Section 16(1b) of the 1999 Constitution of the Federal Republic of Nigeria states that "the government has the responsibility of ensuring the maximum welfare, freedom and happiness of its citizens". Furthermore, government is faced on daily basis with increased duties and responsibilities toward their subjects especially in the developing countries like Nigeria as a result of increasing demographic factors and technological advancement. Every government needs adequate and sufficient revenue in order to tackle these responsibilities, functions and duties.

Availability and mobilization of fiscal resources is an important factor that an economy can use for its control and operation. Revenue generated from taxation is not only used in promoting sustainable growth but also a means of reducing poverty in developing countries like Nigeria. Tax revenue, irrespective of the subsisting economic system, is a key factor for the government to achieve budgeted expenditures and helps to meet the expected growth targets for a given period. The nature of the types of tax in a given economy can be used in predicting a growth pattern for economic planning and policy implementation (Romer and Romer, 2010). Taxation provides countries with a stable fiscal environment to enhance economic growth and to finance social and physical infrastructure needed for sustainable development. With the help of interaction with economic growth, a high tax base should be able to reduce the long-term dependency of those nations on aid and improve good governance by promoting the transparency and accountability of countries to their citizens (Maganya, 2020). In reality, taxes can increase the capital cost and decrease citizen's incentives to invest in an economy, up to the level where high rates of tax frustrate domestic and foreign direct investments, hence affecting the long-term growth of the economy negatively. As a result of the effect of tax on disposable income, it sometimes affects household decisions on prudent spending and better savings. Individual households always reject high-taxed activities and accept activities that are relatively taxed at lower rates by the government, which result in decrease growth rate of the economy of the country.

Tax policies and systems in existence in any country are to a large extent the determinant of the healthiness of business ventures in that country. A nation with favourable and progressive tax laws and policies must foster progressive and financially healthy business entities. A successful business environment breeds a flourishing economy because there is no better means of piloting the affairs of an economy if not through bridging the gap between the surplus and deficit entities/organizations. These surpluses are in terms of marketable ideas/products and those that are in need of the ideas/products. It is a general belief that a tax regime should not discourage the

creation of wealth but should act as a precursor for investment (Agbarakwe, 2019). Uguru & Adeniran (2019) summarized taxation as the transfer of income from the individual or corporate entities to the government so as to enable the public to carry out some, if not all, of the country's economic and social objectives. The objectives may be in the form of provision of basic services regularly and particularly in the educational, health, transportation, amenities and capital formation.

A good investment environment, with a working infrastructure, skilled employees, competitive supply chain, and efficient security networks are prerequisite to attracting a share of investment in a competitive environment. Notwithstanding, most of the developing countries cannot make available such good investment environment hence the authorities fall back to tax benefits, that is called tax incentives, in order to attract investment. This means that the government surrendering part of its right to taxpayers, individual and corporate. Eventually, when government tries to mobilize both investment and tax revenue from taxpayers, the likelihood is that the government will face a twofold trade-off. For instance, if governments employ tax incentives to attract investment, the needed positive effects of investment on other domestic sectors and economic growth are sometimes not available, and it is not clear whether the investment that was attracted by the tax incentive wouldn't have been actualized. Inasmuch as tax revenue is important in the provision of better social amenities/services and enhancing a holistic investment environment of a nation, tax incentives creates a first trade-off between tax revenue and investment (Laudage, 2020). The next trade-off happens when government tries to shield their tax base from base erosion and profit shifting by multinational companies. Tax avoidance through profit shifting is now rampant actions by taxpayers and have amounted to about 7 per cent loss to developing countries' tax revenues (Tørsløv, Wier & Zucman, 2018).

Taxation does not exert a significant influence in enhancing economic development in Nigeria because of the country's weak tax administration. Furthermore, low transparency, lack of public knowledge of the imperatives and advantages of taxation, corruption of tax officials, tax evasion, high tax rates and poor tax collection methods are among the major challenges confronting tax administration in Nigeria (Mamuda & Alhassan, 2021). Other factors such as the issue of tax data reliability, high rates of company and personal income taxes also do negatively affect investment in Nigeria.

International investment, in the opinion of Bamidele (2005) is one of the major elements of the globalization phenomenon. In a world of free capital mobility, capital moves across countries in response to real returns on investment. Thus, domestic savings and investment may not be correlated in the sense of the Feldstein-Horioka's postulation. Bamidele (2005) concluded that when domestic savings are invested within a domestic economy, domestic savings and investment were positively correlated for the countries that they studied. Accordingly, the increasing integration of an economy into the world system should manifest in an increased flow of investible funds into the country. In the Nigerian case, this fact is not demonstrated by available data (Ugwuanyi & Uguru, 2010).

A cross examination of the growth of Nigerian economy and the percentage of investment (Gross Fixed Capital Formation to Gross Domestic Product) will facilitate the understanding of the problem. For instance, Akani and Tony-Obiosa (2020) explained that Nigerian Gross Fixed Capital Formation was 11.63%, 10.23%, 8.15%, 10.48% and 11.02% of Gross Domestic Product between 2016 and 2018 when compared with 43% in Mauritania in 2017, 32% in India and 58%

in Bhutan. The economic growth rate of Nigeria within the period is also nothing to write home about.

In Nigeria, extant studies (Obida & Abu, 2010; Anyanwu, 2011; Babatunde, 2012; Moses, Anigbogu, Okoli & Anyanwu, 2013; Okonkwo, Egbunike & Ude, 2015; Orji, Anthony-Orji, Nchege & Okafor, 2015; Olaniyi, Ajayi, & Oyedokun, 2018; and Mgbakogu, 2020; Craig, Adetola and Maminu, 2020; Maganya, 2020; Gidigbi & Donga, 2021; Mamuda & Alhassan, 2021; Ihenyen & Ogbise, 2022), either investigated the impact of investment on economic growth of Nigeria or other explanatory variables like manufacturing firms, tax policy incentives, and social development on investment (dependent variable). Therefore, there is no known scholar to the knowledge of the researcher who has done an empirical study on tax revenue and investment in Nigeria. Hence, there is need to carry out a study that will provide empirical evidence on the nature of the impact of tax revenue (using company income tax, value added tax, petroleum profit tax and custom & excise duties as proxy) on investment (using Gross Fixed Capital Formation as a proxy) in Nigeria. This therefore, motivated the researcher to carry out this study. The broad objective of the study is to determine the impact of tax revenue on investment in Nigeria.

Statement of Research Hypotheses

The research hypotheses were formulated in null as follows:

$H0_1$ - Company income tax has no significant impact on investment in Nigeria.
$H0_2$ - There is no significant effect of value added tax on investment in Nigeria.
$H0_3$ - Petroleum profit tax has no significant impact on investment in Nigeria.
$H0_4$ - Custom and excise duties has no significant impact on investment in Nigeria.

2. REVIEW OF RELATED LITERATURE

2.1 Conceptual Review

2.1.1 Tax Revenue

The World Bank (2000) defines tax as a compulsory transfer of resources to the government from the rest of the economy. Bhartia (2009) reiterated that tax is a mandatory fee expected from individuals and organizations to the administration without any corresponding utilitarian value expected. Tax is a compulsory levy imposed on individuals and corporate identities regardless of the status (Nightingale, 2002; Soyode & Kajola, 2006; Nwokoye & Rolle, 2015). The Institute of Chartered Accountants of Nigeria (2014) defines tax simply as a compulsory levy paid to government in line with relevant extant laws. Furthermore, tax is a compulsory payment levied by the constituted authority on the income, profit, consumption, or wealth of individuals, group of persons and corporate entities (Ofoegbu *et al*, 2016; Uguru & Adeniran, 2019).

In the view of Ibanichuka, Akani & Ikebujo (2016), tax generates very valuable income to the government. Revenue generated from taxation is one of the major sources of income to the government of both the developing and developed economies hence it is a panacea in the development effort of any given economy, Nigeria inclusive. Nzotta (2007) therefore, opined that taxes constitute key sources of revenue to the federation account shared by the three tiers of government in Nigeria.

2.1.2 Investment

Investment is broadly categorized into four major sub-divisions namely, the private domestic investment, the public domestic investment, the foreign direct investment and portfolio investment (Osho & Efuntade, 2019). The combination of private investment and public investment is usually referred to a Gross Fixed Capital Formation. Investment is a catalyst for economic growth and development of any country; it is a many-sided actor in the economic scene. Investment contributes to the growth of the economy through the accumulation of physical capital and increasing the growth of the productive capital of a country (Ugwuanyi & Uguru, 2010). Its simultaneous performance as income generator and capacity generator is often believed to be the foundation of modern growth theory. The need for capital inflows into an import-dependent economy like Nigeria is crucial. With crude oil as the major source of foreign earnings in Nigeria before now, the monolithic structured economy became continuously deficient in investment capital.

During the past four decades, it has become apparent that efforts to increase investment in Nigeria have had varying results. This development has been attributed to inconsistent macroeconomic policies. Policy implementation has been highlighted as a source of weakness. This atmosphere of policy summersault and uncertainty has made it difficult for economic agents to take important investment decisions. This situation has led to massive divesting in Nigeria by foreigners and Nigeria alike since the early 1980s.

2.1.3 Gross Fixed Capital Formation (GFCF)

Gross fixed capital formation is also referred to as gross domestic investment and it is made up of cost incurred on additions to the non-current assets of the economy plus net changes in the level of inventories. It is used to explain the net capital accumulation during an accounting period for a particular country. Capital formation refers to additions of non-current assets or capital stock like plants and machinery, equipment purchases, tools, transportation assets, commercial and industrial buildings, road construction and electricity. Inventories on the other hands are stocks of goods held speculatively by organizations to ensure that both temporary and unexpected fluctuations in production or sales are forestall. As a country whether developed or developing, there is need for capital goods in order to replace the ones that are utilized in the production of goods and services. Fundamentally, the rate of capital formation in an economy determines the growth rate of the economies aggregate income. Osho and Efuntade (2019) categorized gross fixed capital formation into gross private domestic investment and gross public domestic investment. The gross private domestic investment consists of investment by private individuals and private firms while gross public investment comprises investment by government and public enterprises (Adekunle & Aderemi, 2012).

The gross fixed capital formation enhances sustainable economic growth of a country on both the demand-side and the supply-side. This is due to the fact that an essential part of the government capital expenditures are incurred on the renewal of the firms' fixed capital (Akani & Tony-Obiosa, 2020). Bearing in mind that gross fixed capital is one of the major production factors, it is then pertinent to quantify its efficiency.

2.1.4 Companies Income Tax in Nigeria

Company Income Tax in Nigeria was introduced in 1961 and regulated by Company Income Tax Act (CITA) CAP.60. Law of Federal Republic of Nigeria, 1990 (as amended). In Nwaiwu & Macgregor (2018), Company Income Tax (CIT) is a form of tax on a company's total profit at the rate of 30%. The government of Nigeria reduced the company income tax rate from 45% to

40% (1987 to 1991), then the rate was further reduced to 35% (1992 to 1995), and it was finally reduced to 30% (1996 to date), to stimulate investment (Olaleye, Riro & Memba, 2016). Company income tax is described as tax payable on the profit of any company at a rate of 30% in every year of assessment.

CIT is charged at the rate of 30% of total profit on all companies operating in Nigeria except those companies that are specifically exempted by the Act. Company income tax is administered by the Federal Inland Revenue Service (FIRS) using the enabling Act (CITA) as guide. The contribution of the company income tax to the economy of Nigeria cannot be overemphasized (Uguru & Adeniran, 2019).

2.1.5 Value Added Tax in Nigeria

Omodero, Okafor, Azubuike & Ekwe (2016) in Uguru & Adeniran (2019) described Value Added Tax (VAT) as a tax on conspicuous consumption, which the burden is borne by the end user but gathered at every phase or level of manufacturing and allocation. VAT was first introduced in France in 1954 by Maurice Laure who was the director of French tax authorities. In Nigeria, Lawrence (2015) explained VAT as a consumption tax which was introduced to replace sales tax through the 1992 budget speech by General Ibrahim Badamosi Babangida, the then Head of State of Nigeria. The commencement of VAT in 1993 symbolizes the end of the sales tax which was introduced in 1986. Abomaye- Nimenibo *et al. (*2018) observed that member countries of European Economic Council (EEC) have also adopted the VAT since 1967 as a kind of tax that generates revenue. The major objective of VAT system is to boost government revenue base and to make funds available for accelerated economic growth and development (Umeora, 2013). The income effect of VAT on aggregate consumption is obviously negative due to the fact that increase in the VAT rate will reduce the disposable income of the consumers. As an addendum to the income effects, a variation in the VAT rate has a substitution effect, which suggests that even when the government lowers the income tax rate so as to offset the reduction in citizens' income as a result of the increase in the VAT rate, aggregate consumption will vary (Bumpei, 2011; Uchime & Anichebe, 2019).

2.1.6 Petroleum Profit Tax

The Federal Government of Nigeria observed the importance attached to oil exploration and production and came up with the taxation of profit of companies engaging in such operation as it became inevitable under a tax Act different from the companies income tax Act (Success, Success & Ifurueze, 2012). This Act referred to as the Petroleum Profit Tax Act (PPTA) became effective 1st January, 1959 since export of oil to the international market started in 1958and it was first amended in January 1967 by the Federal Military Government through decree No 1 of 1967 and last in 2007 (Yahaya & Bakare, 2018).

The major legislation governing petroleum operations in Nigeria is the Petroleum Profit Tax Act (PPTA) of 2007 and its principal fiscal instrument is the Petroleum Profit Tax (PPT). The Act provides for the imposition of Petroleum Profits Tax on the chargeable profits of companies involved in the upstream activities of exploration, drilling, extraction and transportation of crude oil (Yahaya & Bakare, 2018). Petroleum Profits Tax is chargeable at the rate of 65.75% for the first five years of taxable operation and 85% thereafter. The Petroleum Profits tax rate was 18.9% in 1970 and it rose to 80.7% between 1971 and 1974. The rate was 82.3% from 1975 to 1989 and it peaked at 85% in 1990 till date. It seems that Nigeria have the highest Petroleum Profits tax rate in the world (Appah, 2010).

This high rate of PPT has been defended as a way to capture the resource rent tax from the operations of the oil firms. Other oil producing countries charge resource rent tax differently from PPT and as a result reduce the Petroleum Profits tax rate. Some of the examples that always come to mind is South Africa that charges 30% Petroleum Profits tax and 40% resource rent tax; Uganda charge 30% Petroleum Profits tax rate and resource rent tax of 0-80%; Malaysia is 38% Petroleum Profits tax rate and resource rent tax rate of 70%. Meanwhile, South Africa, Ghana, Uganda, Tanzania and Zambia are some of the African oil producing countries with resource rent rate (Sunley, Baunsgaard & Simard, 2002).

There is no gain saying that taxation on petroleum profits has contributed immensely to the total tax revenue generation to the Nigerian government. PPT helps to re-distribute wealth between the industrialized economies represented by the international oil companies (IOCs) that have the technology, expertise and capital needed to develop the industry and the poor and emerging economies who are the host governments where the petroleum is extracted. The major investors in the petroleum industry are the international oil companies (IOCs).

2.1.7 Customs and Excise Duties

In the view of Uguru & Adeniran (2019), Customs and Excise Duties (CED) are the totality of import and export duties collected by the customs and excise department. Customs and excise duties are forms of indirect tax which is levied on both imported and exported goods and services (Akhor, Atu & Ekundayo, 2016). CED is one of the oldest forms of modern taxation as it was introduced in 1860 as import duties (Ekeocha, Ekeocha, Malaolu & Oduh, 2012). Excise taxes are charges imposed by government on specific commodities produced in a country at differing rates. Customs and excise duties are good fiscal instruments for protecting domestic companies in their infant state and regulate business activities, income redistribution and checking inflation.

2.2 Empirical Review

Muhammed & Jumbo (2012) examined the impact of taxes on investment and economic growth in Pakistan. While using the Ordinary Least Square method for estimating the growth model, the Johansen‘s co-integration test was employed in estimating the investment model. Findings showed that Pakistan taxes do not directly impact on economic growth but it does indirectly influence investment.

Babatunde (2012) investigated the determinant factors of FDI in the oil and gas sector. The study analyzed the effect of some selected factors like tax incentives, availability of natural resources, macro-economic stability, market size, openness to trade, infrastructural development and political risk have an impact on FDI in the oil and gas sector. Secondary data for 21 years from the Central Bank of Nigeria annual statistical bulletin was used and Karl Pearson coefficient of correlation ‘r’ statistical method of analysis was employed in analyses. The results revealed that there is significant impact of tax incentives, availability of natural resources and openness to trade on FDI in the oil and gas sector in Nigeria. The study recommends that in particular attention should be given to institute new regulations to encourage the type of FDI needed to support the economic objectives of infrastructural development.

Moses, *et al.*, (2013) investigated the impact of domestic investment on FDI inflows in Nigeria for a period of four decade {1970-2009}. The study employed a decomposed, single-linear econometric model. The findings revealed that private and public domestic investments, human capital and market size, are negatively related to FDI inflows, while trade openness and natural resource are positively linked to FDI. Therefore, the study recommends that government should

boost FDI through fostering qualitative domestic expenditure in upgrading the nation's infrastructure facilities in all sectors.

Okonkwo, *et al.*, (2015) investigated the effect of foreign direct investment on Nigeria's economic growth for the period of 1990 to 2012. The ordinary least squares (OLS) estimation techniques was used in analyzing the secondary data generated. The finding shows that export assumes a positive sign which implies that there is a positive relationship between economic growth and export from Nigeria. The study recommends that the Nigerian government should establish favorable economic and political policies that will encourage a continuous flow of foreign direct investment and exportation of goods and services in Nigeria.

Orji, *et al.*, (2015) examined the impact of foreign direct investment on the Nigerian manufacturing sector over the period of 1970 to 2010. The classical linear regression model was used in the analysis of data. The findings showed that FDI impacted negatively on the manufacturing sector. The paper then recommends that the government should formulate competitive policies that will enhance proper functioning of conducive economic environments suitable to attract the prospective foreign investors in Nigeria.

Nwokoye & Rolle (2015) examined the investment implication of the series of tax reforms in Nigeria with special focus on the tax reforms of 2003 and National tax policy of 2012. Annual time series data was used from 1981 to 2012. The Ordinary Least Square result shows that VAT and CIT significantly stimulate investment in Nigeria. The study therefore recommends that policies should be formulated towards redressing high rates of taxes in Nigeria because of its adverse affect tendency on investment.

Egbetunde & Fadeyibi (2015) investigated the investment – growth nexus in Nigeria, for the period 1981-2012. The study employed the Vector Error Correction Model (VECM), and finds that there is a long run relationship between investment and economic growth in Nigeria. It then recommends that the government should invest sufficiently so as to enhance economic progress and sustainable development in Nigeria.

Nwakoby & Alajekwu (2016) examined the effect of private sector investment on economic growth in Nigeria from 1986 to 2014. Using a time series data and co-integration test, the result revealed that private sector investment and economic growth have long run significant effect on one another. The study concludes economic growth would be enhanced in Nigeria through an improvement and strengthening of private sector investment. The study then recommends that in order to boost economic growth in Nigeria more emphasis should be place on encouraging private investment through domestic and foreign financing.

Olaleye, Riro and Memba (2016) examined the effect of Company Income Tax incentives on Foreign Direct Investment in Listed Nigerian Manufacturing Companies. The study adopted descriptive research design and primary data obtained from administration of the questionnaire. The regression analysis was used to test the hypotheses. The results showed strong positive linear relationships between reduced company income tax incentives and foreign direct investment. The study then recommends that there is need to conduct a cost benefit analysis for tax incentives available to various sectors of the economy. The benefits accrued in terms of increase in level of investments should exceed revenue forgone by the government through tax exemptions and allowance**.**

Olaniyi, *et al.*, (2018) ascertained the impact of tax policy incentives on the inflows of foreign direct investment in Nigeria. It examined in specific terms the impact of company income tax incentives, petroleum profit tax incentives, value added tax incentives, and custom and excise

duties incentives on inflow of foreign direct investment into Nigeria from 1994 to 2016. The study adopted ex-post facto research design and multiple regression and correlation methods were used to analyze the secondary data obtained from Central Bank of Nigeria database. The findings of the study showed that custom and excise duties and value added tax incentives had significant effects on foreign direct investment, while companies income tax and petroleum profit tax incentives showed insignificant impact on foreign direct investment in Nigeria. It then recommended that the government should look at the best rate of tax (VAT and CED) that will yield the optimal level of FDI into Nigeria.

Yahaya and Bakare (2018) evaluated the effect of petroleum profit tax and company income tax on Nigerian economic growth. Fully Modified Least Square (FMOLS) Regression Technique was used to estimate the model for a period of 34 years (1981-2014). The Finding shows that petroleum profit tax (PPT) and company income tax (CIT) have positive significant impact on gross domestic product (GDP) in Nigeria. The study concluded that PPT and CIT serves as the major source of revenue hence contribute to the economic growth of Nigeria. The study recommends that government should show transparency and accountability for the revenue generated from petroleum profit tax thereby investing in the provision of public goods.

Uchime & Anichebe (2019) examined the effect of taxation on domestic investment in Nigeria using time series data from 1995 to 2017. The estimation technique adopted in the study was the Ordinary Least Square (OLS) Technique. And the results showed that taxation has long run relationship with domestic investment in Nigeria. PIT, VAT and GDP have no significant negative effects on domestic investment in the long run, while CIT has a significant positive effect on domestic investment. Following from the findings, the study recommended that government should effectively utilize revenue derived from taxation in the provisioning of necessary public goods.

Joseph, Omodero and Umeonu (2019) examined the impact of tax revenue on economic growth of Nigeria from 2000 to 2017. The study used exploratory and ex-post facto designs to source secondary data from Federal Inland Revenue Services (FIRS), UNCTAD, FDI/MNE database, World Bank Report, United Nations Development Programme (UNDP) reports, CBN statistical bulletin. The study employed Ordinary Least Squares (OLS) regression technique to test the formulated hypotheses. The finding reveals that tax revenue has significant impact on economic growth. Also, there is positive relationship between foreign direct investment and Gross Domestic Product. The study then recommended that functional tax structures which will guarantee the payment of tax by all taxable taxpayers and the revenue generated be appropriately remitted should be established in Nigeria to broaden the revenue source of the country.

Akinleye, Olarewaju and Fajuyagbe (2019) examined the effect of corporate taxation on the investment policy of quoted manufacturing firms in Nigeria. Secondary data sourced from annual reports of the selected firms were analyzed through static panel least square regression techniques. The finding revealed that company income tax (CIT) is positively related to the investment decision of the quoted manufacturing firm. The study recommended that the government of Nigeria should encourage and improve manufacturing investment decision by establishing a desirable corporate income tax policy. The needed investment decision should be focused on new capital, facilitates the enforcement of new production techniques and therefore should be designed for the development of manufacturing firms in Nigeria.

Osho and Efuntade (2019) examined the impact of taxation on investment, social and economic development in Nigeria. The study adopted the social political theory of taxation, expectancy theory, benefits-received theory and ability to pay theory. The secondary data was sourced from relevant literatures, Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics publications. The Ordinary Least Square Linear Regression model was used to test the secondary data so collected. The results show that VAT and personal income tax are statistically significant to gross domestic product and Gross Fixed Capital Formation (GFCF) while company income tax is insignificant. The study concluded that, tax revenues are tools of both capital formation and economic growth to enhance investment, social and economic development of the country. It was then recommended that in order to ensure sustainable investment, there should be sufficient tax revenue generated, that should be efficiently and judiciously utilized.

Ewa, Adesola and Essien (2020) determined the impact of taxation proceeds on the development of Nigerian economy. The proxy for tax income streams are Income tax from companies' profits, income tax from petroleum companies profits and Value Added Tax while economic development was measured by Gross Domestic Product for the period between1994 and 2018. With the application of Ordinary Least Square statistical tool through the help of SPSS 20.0, the findings revealed a positive relationship with a high coefficient of determination of the variation in economic development attributable to the tax income streams that were studied. The study further revealed the existence of significant effect of taxes from CIT and VAT on Gross Domestic Product Growth, but there is little or no significant impact of taxes on profits of Petroleum companies on Gross Domestic Product growth in Nigeria which is attributable to the restriction by Organization of Petroleum Exporting Countries production ceiling on Nigeria's production/sales and the global price shocks of crude oil over the period under study

Maganya (2020) investigated the effect of taxation on economic growth in Tanzania for the period of 1996 to 2019. The study explored the recently developed technique of Autoregressive distributed lag model (ARDL) bounds testing procedure to test the secondary data collected. Different preliminary tests and the pair-wise Granger causality test were conducted. The findings revealed that domestic goods and services (TGS) taxes are positively related to GDP growth and are statistically significant. Also, income taxes were found to be negatively related to GDP growth and to be statistically significant. The pair-wise Granger causality results indicated that there is bidirectional Granger causality between TGS and GDP growth. The study recommended that government should aim at growing, nurturing and sustaining tax base to positively drive economic growth in the country.

Adegbie, *et al*. (2020) investigated the effect of non-oil taxes on economic growth and development of Nigeria. The study employed *ex post facto* research design to generate 76 observations from 1994 to 2017 obtained from CBN statistical bulletin and National Bureau of Statistics. The secondary data obtained were analyzed using descriptive and inferential statistics employing multiple regressions statistics. The study found that custom and excise duties, capital gain tax, company income tax, tertiary education tax and value added tax) have significant effect on economic growth. It was concluded that non-oil taxes significantly influenced both economic growth and economic development in Nigeria. The study then recommends that Nigerian government should endeavour to uphold the current strong commitment towards enhancing non-oil tax revenue and also make sure that the tax payers' money are effectively utilized to boost non-oil tax revenue collection, which will invariably result in economic growth and development in Nigeria.

Adeusi, *et al.* (2020) examined the effect of non-oil revenue on economic growth in Nigeria. The proxy for non-oil revenue are Value Added Tax, Companies Income Tax, Personal Income Tax and Custom & Excise Duties, while Gross Domestic Product was used to measure economic growth in Nigeria. The secondary source of data collection method was used in generating data from the Federal Inland Revenue Service Statistical bulletin and the National Bureau of Statistics for the period spanning 1994 to 2018. The study employed descriptive statistics and Ordinary Least Square (OLS) regression techniques to analyze the data collected. The study outcomes showed that indirect taxes (Custom & Excise Duties and Value Added Tax) have more significant positive effect on the Nigerian economic growth than direct taxes (Companies Income Tax and Personal Income Tax). Also, direct taxes have significant but negative effect in the long run on the Nigerian economic growth. It is then recommended that simple and transparent tax legislations be enacted to guide the tax regimes in Nigeria so that any form of illicit strategic tax behaviour by taxpayers will be avoided. Also, relevant tax authority should formulate strategies to reinforce the controls on the significant variables identified in this study.

Craig, Adetola and Maminu (2020) examined the effect of tax revenues on capital expenditures in Nigeria Economy. By adopting longitudinal research design, secondary data was collected for the study from Federal Inland Revenue Service, Central Bank of Nigeria statistical bulletin and National Bureau of Statistics spanning 1989 to 2018. The collected data were analyzed using a linear regression method By adopting longitudinal research design and the findings showed a statistically significant positive effect of non-oil revenue on capital expenditure. Also, the result showed that the relationship between the oil tax revenues, total tax revenues and capital expenditure are not statistically significant. Conclusion was made that revenue generated from tax has no impact on capital expenditure allocation. It then recommended that Government should utilize the revenue generated from oil and non-oil tax revenues to invest in other domestic sectors so as to expand the revenue base of the economy.

Mkadmi, Bakari and Othmani (2021) examined the impact of tax revenues and domestic investments on social and economic well-being in Tunisia over the period 1976 to 2018. This study adopted the co-integration analysis and Vector Error Correction Model. The results revealed that domestic investment has a negative impact on economic growth of Tunisia in the long run. However, the impact of tax revenues is positive and that domestic investment and economic growth influence positively on tax revenues. Meanwhile, tax revenue and economic growth do not have any effect on domestic investment in the long run. It recommended that government should encourage immediate intervention to take the necessary measures before the situation causes a greater damage on the economy.

Mamuda and Alhassan (2021) evaluated the impact of tax revenue on the economic growth of Nigeria. The study adopted an exploratory design and secondary data was sourced from Central Bank Statistical Bulletin. The multiple regression models was used to analyze the data collected. The findings showed a positive relationship between tax revenue and economic growth. Therefore, it recommended that tax revenue generated from the taxpayers should be properly utilized so that the economic growth of Nigeria will improve. Furthermore, investment opportunities should also be made available to the Nigerian citizens by the government to enhance the growth of the economy.

Ihenyen and Ogbise (2022) investigated the relationship between Nigerian tax revenues and economic growth in Nigeria. The dependent variable, economic growth, was regressed against the independent variable, tax revenue, using petroleum profit tax, company income tax custom &

excise duties and value added tax as proxy. The study employed multiple linear regression analysis to analyze the data using the Microsoft Excel package. The result revealed that petroleum profit tax, company income tax and value added tax have a positive impact on Nigeria's economic growth, while custom and excise duties have a negative impact. However, the overall result between tax revenue and Nigeria's economic growth showed that there is a significant correlation. The study recommends that government should thoroughly educate the importance of taxes for the entire population.

Table 1: Summary of Empirical Review

S/N	Author(s)/Year	Topic	Methodology	Findings
1.	Muhammed & Jumbo (2012)	Impact of Taxes on Investment and Economic Growth in Pakistan	Ordinary Least Square Method	Pakistan taxes do not directly impact on economic growth but it does indirectly influence investment
2.	Babatunde (2012)	The Impact of Tax Incentives on Foreign Direct Investment in the Oil and Gas Sector in Nigeria	Karl Pearson coefficient of correlation 'r'	There is significant impact of tax incentives, availability of natural resources and openness to trade on FDI in the oil and gas sector in Nigeria
3.	Moses, Anigbogu, Okoli & Anyanwu (2013).	Domestic Investment and Foreign Direct Investment Flows In Nigeria.	Decomposed, single-linear econometric model	Private and public domestic investments, human capital and market size, are negatively related to FDI inflows, while trade openness and natural resource are positively linked to FDI.
4.	Okonkwo, Egbunike, & Udeh, (2015)	Foreign Direct Investment and Economic Growth in Nigeria	Ordinary least squares (OLS) estimation techniques	Export assumes a positive sign which implies that there is a positive relationship between economic growth and export from Nigeria
5.	Orji, Anthony-Orji, Nchege & Okafor (2015)	Manufacturing Output and Foreign Direct Investment in Nigeria: A New Evidence	Classical linear regression model	FDI impacted negatively on the manufacturing sector.
6.	Nwokoye & Rolle (2015)	Tax Reforms and Investment in Nigeria: An Empirical Examination	Ordinary Least Square	VAT and CIT significantly stimulate investment in Nigeria
7.	Egbetunde & Fadeyibi (2015)	Investment and Economic Growth in Nigeria: Evidence from Vector Error Correction Model	Vector Error Correction Model (VECM)	There is a long run relationship between investment and economic growth in Nigeria

8.	Nwakoby & Alajekwu (2016).	Effect of Private Sector Investment on Economic Growth in Nigeria	Co-integration test	Private sector investment and economic growth have long run significant effect on one another
9.	Olaleye, Riro & Memba (2016)	Effect of Reduced Company Income Tax Incentives on Foreign Direct Investment in Nigerian Manufacturing Companies	Regression analysis	Positive linear relationships between reduced company income tax incentives and foreign direct investment
10.	Olaniyi, Ajayi & Oyedokun, (2018)	Tax Policy Incentives and Foreign Direct Investment in Nigeria	Multiple regression and correlation methods	Custom and excise duties and value added tax incentives had significant effects on foreign direct investment, while companies income tax and petroleum profit tax incentives showed insignificant impact on foreign direct investment in Nigeria
11.	Yahaya & Bakare (2018)	Effect of Petroleum Profit Tax and Companies Income Tax on Economic Growth in Nigeria	Modified Least Square (FMOLS) Regression Technique	Petroleum profit tax (PPT) and company income tax (CIT) have positive significant impact on gross domestic product (GDP) in Nigeria
12.	Uchime & Anichebe (2019)	Effect of Taxation on Domestic Investment in Nigeria	Ordinary Least Square (OLS) Technique	Taxation has long run relationship with domestic investment in Nigeria. PIT, VAT and GDP have no significant negative effects on domestic investment in the long run, while CIT has a significant positive effect on domestic investment
13.	Joseph, Omodero & Omeonu (2019)	The Role of Tax Revenue and Foreign Direct Investment in Promoting Economic Progress in Nigeria	Ordinary Least Squares (OLS) regression technique	Tax revenue has significant impact on economic growth. Also, there is positive relationship between foreign direct investment and Gross Domestic Product

14.	Akinleye, Olarewaju & Fajuyagbe (2019)	Assessing the Effects of Corporate Taxation on the Investment Policy of Manufacturing Firms in Nigeria	Static panel least square regression techniques	Company income tax (CIT) is positively related to the investment decision of the quoted manufacturing firm.
15.	Osho Efuntade (2019)	Impact of Taxation on Investment, Social and Economic Development in Nigeria	Ordinary Least Square Linear Regression model	VAT and personal income tax are statistically significant to gross domestic product and Gross Fixed Capital Formation (GFCF) while company income tax is insignificant
16.	Ewa, Adesola, & Essien (2020)	Impact of Tax Revenue on Economic Development in Nigeria	Ordinary Least Square statistical tool	The existence of significant effect of taxes from CIT and VAT on Gross Domestic Product Growth, but there is little or no significant impact of taxes on profits of Petroleum companies on Gross Domestic Product growth in Nigeria
17.	Maganya (2020)	Tax Revenue and Economic Growth in Developing Country: An Autoregressive Distribution Lags Approach	Autoregressive distributed lag model (ARDL) bounds testing procedure	Domestic goods and services (TGS) taxes are positively related to GDP growth and are statistically significant. Also, income taxes were found to be negatively related to GDP growth and to be statistically significant.
18.	Adegbie, Nwaobia & Osinowo (2020)	Non-Oil Tax Revenue on Economic Growth and Development in Nigeria	Multiple regressions statistics	Custom and excise duties, capital gain tax, company income tax, tertiary education tax and value added tax) have significant effect on economic growth
19.	Adeusi, Uniamikogbo, Erah and Aggreh (2020)	Non-Oil Revenue and Economic Growth in Nigeria	Ordinary Least Square (OLS) regression techniques	Indirect taxes (Custom & Excise Duties and Value Added Tax) have more significant positive effect on the Nigerian economic growth than direct taxes (Companies Income Tax and Personal Income Tax)

20.	Craig, Adetola and Maminu (2020)	Tax revenue and capital expenditure in Nigeria	Linear regression method	A statistically significant positive effect of non-oil revenue on capital expenditure. Also, the relationship between the oil tax revenues, total tax revenues and capital expenditure are not statistically significant.
21.	Mkadmi, Bakari, & Othmani (2021)	The Impact of Tax Revenues and Domestic Investments on Economic Growth in Tunisia	Co-integration analysis and Vector Error Correction Model	Domestic investment has a negative impact on economic growth of Tunisia in the long run. However, the impact of tax revenues is positive and that domestic investment and economic growth influence positively on tax revenues. Meanwhile, tax revenue and economic growth do not have any effect on domestic investment in the long run
22.	Mamuda & Alhassan (2021)	Tax Revenue and its Impact on the Economic Growth of Nigeria	Multiple regression models	A positive relationship between tax revenue and economic growth
23.	Ihenyen & Ogbise (2022)	Effect of Tax Revenue Generation on Economic Growth in Nigeria	Multiple linear regression analysis	Petroleum profit tax, company income tax and value added tax have a positive impact on Nigeria's economic growth, while custom and excise duties have a negative impact.

Source: Researcher's Compilation 2023

2.3 Theoretical Framework

This study adopted eclectic theoretical approach viz: benefits theory of taxation and currency area theory. Therefore, this study was on the two theories as stated below:

2.3.1 Benefits Theory of Taxation

The benefit theory came into existence after the 'ability to pay theory' and was developed by Thomas Hobbes (1588-1679), John Locke (1632-1704) both of whom are English philosophers and Hugo Grotius (1583-1645) a Dutch jurist in the seventeenth century (Otu & Theophilus, 2011; Adegbie, *et al*. 2020). The theory had being applied to such subjects as tax progressivity, corporation taxes, and taxes on property or wealth. The benefits theory of taxation stipulates that government should levy tax on individual based on the benefits the individuals achieved from the services (social goods) rendered by the government. This theory assumed that there is a mutual relationship between the taxpayers and the government. It is the civic responsibility of the

taxpayers to pay their taxes, while government is the end user of funds contributed by taxpayers and hence, must use tax payers' money for the benefit of the payers. This is found in the CIT, VAT, PPT and CED relationship with investment, where taxes collected is a reflection of the benefits received in investment in social goods. The government must provide some specific social goods and services (investment) to the citizens and the society then contribute to the cost of these amenities provided in proportion to the benefits received. It then means that those people or group of people who receive more benefits from the social services (investment) financed by taxpayers should be made to pay more tax. The tax revenue so received by the government is ploughed back through investment for the sustainability of the country economic growth.

2.3.2 Currency Area Theory

The Currency Area Theory (CAT) was propounded by Aliber in 1970 based on the existence of different currency areas. Aliber observed that multinational firms from countries with strong currencies can borrow at lower cost, which enables them to engage in risky investments in weak currency areas. He did not try to create a general theory of foreign direct investment the theory tried to explain multi-national enterprises (MNEs) using financial market relations such as exchange risk and the market's preferences for holding assets denominated in selected currencies (Orji, *et al.*, 2015). Aliber was of the view that the financial market enables MNEs to have advantages over host country firms and also obtainable in all firms whose assets and borrowings are based in selected currencies.

This theory is relevant to the study because foreign direct investment is measured in a currency where the firm is based and most MNEs in Nigeria are from countries whose currencies are stronger than that of Nigeria (the weak currency area).

3. METHODS

3.1 Research Design

This study adopted an *ex-post facto* design in order to achieve the objective of the study. *Ex-post facto* design was adopted because of the variables involved, which can only be estimated through the collection of secondary data. The basic purpose ex post facto research is to discover or establish causal or functional relationships among variables. A functional relationship is explained in Agha (2011) as one in which it has been demonstrated that a change in one variable is accompanied by a change in the other, but the relationship is probably based on a complex system of interactions rather than being directly causal.

The study was based in Nigeria with emphasis on tax revenue (using companies income tax, value added tax, petroleum profit tax and custom & excise duties as proxy) and investment (using gross fixed capital formation as a proxy) as the dependent variable for the period of 1999 to 2021. The investment under study covers areas such as foreign direct investment, private investment, domestic investment and portfolio investment.

The study employed secondary data which were obtained from Central Bank of Nigeria (CBN) Statistical Bulletins, Federal Inland Revenue Service (FIRS) Publications, World Bank Annual Reports and National Bureau of Statistics Bulletins for the years under consideration.

3.2 Model Specification

The explicit representation of the base line model as specified by the researcher for the purpose of determining the impact of tax revenue on investment in Nigeria is stated as follows:

$$GFCF = \propto + \beta_1 CIT + \beta_2 VAT + \beta_3 PPT + \beta_4 CED + \mu \quad \ldots\ldots\ldots\ldots \quad \text{Equ (1)}$$

Where

GFCF = Gross Fixed Capital Formation (dependent variable)

CIT = Companies income tax

VAT = Value added tax

PPT = Petroleum profit tax

CED = Custom and excise duties

$\beta_{1 \ldots} \beta_4$ = Slopes of coefficient of the explanatory variables

$\propto$ = constant

μ = error term.

3.3 Description of Model Variables

The dependent variable is investment represented by Gross Fixed Capital Formation (GFCF) while the independent variable is tax revenue, which is represented by Companies Income Tax (CIT), Value Added Tax (VAT), Petroleum Profit Tax (PPT), and Custom & Excise Duties (CED).

***Gross Fixed Capital Formation (GFCF)*:** This is also referred to as gross domestic investment and it is made up of cost incurred on additions to the non-current assets of the economy plus net changes in the level of inventories.

***Companies Income Tax (CIT)*:** Company Income Tax is a form of tax on a company's total profit at the rate of 30%. It is a tax payable on the profit of any company at a rate of 30% in every year of assessment. The government of Nigeria reduced the company income tax rate from 45% to 40% (1987 to 1991), then the rate was further reduced to 35% (1992 to 1995), and it was finally reduced to 30% (1996 to date).

Value Added Tax (VAT): Value Added Tax is a tax on consumption, which the burden is borne by the end user but gathered at every phase or level of manufacturing and allocation. The current rate of VAT in Nigeria under the Finance Act 2020 is 7.5%.

***Petroleum Profit Tax (PPT)*:** Petroleum Profit Tax is a tax imposed on the chargeable profits of companies involved in the upstream activities of exploration, drilling, extraction and transportation of crude oil. Petroleum Profits Tax is chargeable at the rate of 65.75% for the first five years of taxable operation and 85% thereafter.

Customs and Excise Duties (CED): Customs and Excise Duties are the totality of import and export duties collected by the customs and excise department. Customs and excise duties are forms of indirect tax which is levied on both imported and exported goods and services.

3.4 Method of Data Analysis

The data analysis involved the use of descriptive statistics tests. Descriptive statistics was carried out in order to determine the characteristics of the research variable such the mean, standard deviation, minimum and maximum amongst others. Multiple regression test anchored on Ordinary Least Square (OLS) was performed using *E-View* econometric software version 12 to ascertain the statistical significance of the hypothetical relationship between the dependent and the independent variables. Multiple ordinary least square linear regression was evaluated using the conventional probability values (P-Value).The decision rules were anchored on the conventional probability values (p-value) associated with the regression outcome of the research base line model.

4. RESULTS AND DISCUSSIONS

4.1 Descriptive Statistics

Table 2 describes the statistical attributes of the variables - dependent variable [Investment proxied by Gross Fixed Capital Formation (GFCF))] and independent variables [Companies income tax (CIT), Value added tax (VAT), Petroleum profit tax (PPT) and Custom and excise duties (CED)].

Table 2: Descriptive Statistics

%	GFCF	CIT	VAT	PPT	CED
Mean	23.40952	688.7200	507.1214	1326.855	111.6248
Median	24.70000	600.6000	481.4000	1349.500	29.90000
Maximum	38.30000	1747.990	1605.170	2666.370	467.6800
Minimum	14.20000	46.20000	47.80000	71.10000	1.100000
Std. Dev.	7.248579	573.8342	408.1036	772.0024	135.7514
Skewness	0.334703	0.351827	0.988970	0.066767	1.070013
Kurtosis	2.084422	1.676914	3.616842	2.033637	3.298004
Jarque-Bera	1.125589	1.964975	3.756148	0.832728	4.084954
Probability	0.569615	0.374379	0.152884	0.659440	0.129707
Sum	491.6000	14463.12	10649.55	27863.96	2344.120
Sum Sq. Dev.	1050.838	6585713.	3330970.	11919755	368569.0
Observations	21	21	21	21	21

Source: Extracted from E-Views 12 Output

The Gross Fixed Capital Formation (GFCF), which measures the level of investment in Nigeria, has a mean value of 23.40952 with minimum and maximum values of 14.20000 and 38.30000, respectively. This reveals that the investment in Nigeria has pursued expansionary policy over the study period. Given that the mean value lies between the minimum and maximum values suggests data consistency. The fluctuation of the ratio is relatively low given the standard deviation (7.248). The value of the Jarque-Bera Statistics (1.125) alongside corresponding probability value (0.569) shows that the ratio is from a normal population. This is important

because, being the dependent variable, it is assumed to be normally distributed under the ordinary least square framework.

The Companies income tax (CIT), Value added tax (VAT), Petroleum profit tax (PPT) and Custom and excise duties (CED) are tax revenue indicators. The basic descriptive statistics for the ratio of Companies income tax (CIT), Value added tax (VAT), Petroleum profit tax (PPT) and Custom and excise duties (CED) shows that the minimum and maximum values are in line with appriori expectations. However, deviation of the independent variable from normality is less of concern given that the focus of OLS assumption is on the dependent variable and errors.

4.2 Correlation Matrix

Table 3: Correlation Matrix of the dependent and independent Variables

Variables	GFCF	Tax Revenue Indicators		Tax Revenue Indicators	
		CIT	VAT	PPT	CED
GFCF	1.000†				
CIT	-0.809† -8.923↓ 0.000‡	1.0000†			
VAT	-0.84† -10.035↓ 0.000‡	0.947† 19.106↓ 0.000‡	1.000†		
PPT	-0.527† -4.017↓ 0.000‡	0.519† 3.930↓ 0.000‡	0.476† 3.512↓ 0.001‡	1.000†	
CED	-0.679† -5.997↓ 0.000‡	0.647† 5.496↓ 0.000‡	0.745† 7.239↓ 0.000‡	0.674† 5.911↓ 0.000‡	1.000†

Note: †, ↓ and ‡ represent correlation coefficient, standard error and probability values, respectively

Source: Extracted from E-Views 12 Output

Table 3 presents the correlation of the variable used in this study. The correlation coefficient between Gross Fixed Capital Formation (GFCF) and all other independent variables, apart from the dependent variable (GFCF), are higher than 50%. For instance, the correction coefficient between GFCF and CIT, VAT, PPT and CED are -0.809, -0.840, -0.527, and -0.679, respectively. It is important to note that the coefficients are statistically significant at 1% level as the probability value for the standard error is 0.000. This shows that the selected independent variables can track the direction of dependent variable (GFCF). However, the negative relationship between the dependent variable and tax revenue indicators suggests negative response of GFCF to changes in investment indicators.

Furthermore, the correlation coefficients among the independent variables are statistically significant at 1% level and relatively big as all are below 50%.

4.3 Granger Causality

Granger causality is a statistical concept of causality that is based on prediction. The test is used to determine whether one variable is useful in forecasting another and also shows whether the independent variables are truly exogenous in the system. It is expected that the independent variables used in this study can determine the behaviour of the dependent variable. Based on this expectation, the Granger causality is conducted among the variables to actually see the extent the independent variables can influence the behaviour of investment in Nigeria. The null hypothesis is that one variable of interest does not granger cause the other and the hypothesis cannot be rejected if the probability value of the F-Statistic is not more than 10%. The result of the granger causality test is presented in Table 4.

Table 4: Granger Causality Test Results

Null Hypothesis:	Obs	F-Statistic	Prob.
Causality between GFCF and Tax Revenue Indicators			
CIT does not Granger Cause GFCF	21	4.8256	0.0137
GFCF does not Granger Cause CIT		2.1126	0.1353
VAT does not Granger Cause GFCF	21	8.5309	0.0009
GFCF does not Granger Cause VAT		1.3373	0.2750
PPT does not Granger Cause GFCF	21	2.7297	0.0784
GFCF does not Granger Cause PPT		4.8453	0.0135
CED does not Granger Cause GFCF	21	3.0517	0.0593
GFCF does not Granger Cause CED		3.4069	0.0438

Source: Extracted from E-Views 12 Output

Specifically, the null hypotheses that "CIT does not Granger Cause GFCF" and "VAT does not Granger Cause GFCF" cannot be accepted at 5% and 1% level of significance. The implication is that CIT and VAT can influence GFCF. On the other hand, the null hypotheses that "GFCF does not Granger Cause CIT" and "GFCF does not Granger Cause VAT" are accepted at all conventional levels of significance. This implies that investment in Nigeria cannot influence tax revenue indicators. Given this unidirectional causality, CIT and VAT are truly exogenous. This buttresses the importance and appropriateness of ARDL model than VAR model as VAR model assume that the variables are all endogenous.

Furthermore, the null hypotheses that "PPT does not Granger Cause GFCF" and "CED does not Granger Cause GFCF" cannot be accepted at 10% significance level. This means that variations in GFCF can be influenced by PPT and CED. Similarly, the null hypotheses that "GFCF does not

Granger Cause PPT" and "GFCF does not Granger Cause CED" cannot be accepted at 5% level of significance. This feedback effect implies that the causality is bidirectional for tax revenue indicators such as PPT and CED.

4.4 Cointegration Test Result of investment in Nigeria with Tax Revenue Indicators

The cointegrating relationship and long run/short run parameters of the model are estimated simultaneously. The result of ARDL estimated cointegration relationship between investments proxied by Gross Fixed Capital Formation and Company Income Tax (CIT) is reported, while the result of the cointegration relationship Investment proxied by Gross Fixed Capital Formation and Value Added Tax (VAT) is presented in Table 6. The decision rule is that, if the calculated F-Statistics is below the lower bound I(0), then we reject the null hypotheses of no cointegrating relationship, implying that tax revenue is sustainable in Nigeria. However, if the calculated F-Statistics is above the upper bound I(1) then we cannot reject the null hypotheses. However, if the calculated F-Statistic falls within the lower and upper bounds, the result is inconclusive.

The calculated F-Statistic based on Wald test is approximately 5.628, which is higher than the upper limits of all conventional levels of statistical significance. Therefore, the null hypothesis of no cointegrating relationship between company income tax (CIT) and Investment proxied by Gross Fixed Capital Formation (GFCF) cannot be rejected.

The coefficient of one period lag of the company income tax (CIT) is negative in the long run, which is counter intuitive, as it is expected to be significant and positively related to Investment proxied by Gross Fixed Capital Formation to ensure company income tax is sustainable. Since the sufficient condition for company income tax failed, the alternative Hypothesis which states that company income tax has significant negative effect on Investment proxied by Gross Fixed Capital Formation in Nigeria was accepted at 5% level of significance.

One period lag of value added tax has negative and significant effect on Gross Fixed Capital Formation (GFCF) in the long run, which implies that previous period value added tax tends to increase current position of investment in Nigeria. This relationship is inconsistent with the expected positive relationship, which implies that sufficient condition for value added tax does not hold. Given the failure of the sufficient condition, the null hypothesis is rejected, and the study conclude that value added tax has significant and negative effect on Investment proxied by Gross Fixed Capital Formation in Nigeria in the long run.

The estimated coefficient is 1.6330 suggesting that, holding other variables constant, if petroleum profit tax goes up by one percent, investment in Nigeria will increase by an average of 16.330 percent in the long run. The P-value of petroleum profit tax is 0.0099 at 5% level of significance. Thus the variable is significant at 5% while the t-statistic is less than 2.0. Given our chosen level of significance (5%), the result indicates a very high significant coefficient of 1.6330 and thus counter null hypothesis that the level of petroleum profit tax over the years had no significant effect on gross fixed capital formation in Nigeria. We conclude that petroleum profit tax has positive and significant effect on gross fixed capital formation in Nigeria.

The results also indicate that the estimated coefficient is 0.3937 suggesting that, holding other variables constant, if custom and excise duty goes up by one percent, investment in Nigeria

through gross fixed capital formation will increase by an average of 39.37 percent in the long run.

The P-value of custom and excise duties is 0.0073 at 5% level of significance. Given our chosen level of significance (5%), we counter null hypothesis that the level of custom and excise duties (CED) over the years had no significant effect on gross fixed capital formation in Nigeria. We conclude that custom and excise duties has positive but significant effect on gross fixed capital formation in Nigeria.

4.5 Discussions of Results

The Effect of Company Income Tax (CIT) on Investment in Nigeria.

The findings of this study are not in line with the previous studies such as Olaleye, Riro and Memba (2016) who examined the effect of Company Income Tax incentives on Foreign Direct Investment in Listed Nigerian Manufacturing Companies and the results showed strong positive linear relationships between reduced company income tax incentives and foreign direct investment. But in support of Yahaya and Bakare (2018) who evaluated the effect of petroleum profit tax and company income tax on Nigerian economic growth and found that petroleum profit tax (PPT) and company income tax (CIT) have positive significant impact on gross domestic product (GDP) in Nigeria. The study also supports the finding of Uchime & Anichebe (2019) who studied the effect of taxation on domestic investment in Nigeria using time series data from 1995 to 2017 and found that CIT has a significant positive effect on domestic investment. The study also conform with the study of Akinleye, Olarewaju and Fajuyagbe (2019) who examined the effect of corporate taxation on the investment policy of quoted manufacturing firms in Nigeria and the finding revealed that company income tax (CIT) is positively related to the investment decision of the quoted manufacturing firm. The finding is also in tandem with the outcome of Agbarakwe (2019) that studied on the impact of corporate tax on private sector investment and economic development in Nigeria and found that CIT has significant impact on private sector investment and economic development in Nigeria.

The Effect of Value Added Tax (VAT) on Investment in Nigeria

The finding is in line with the findings of Nwokoye & Rolle (2015) who found that VAT and CIT significantly stimulate investment in Nigeria. And Adeusi, (2020) who examined the effect of non-oil revenue on economic growth in Nigeria and found that indirect taxes (Custom & Excise Duties and Value Added Tax) have more significant positive effect on the Nigerian economic growth than direct taxes (Companies Income Tax and Personal Income Tax).

The Effect of Petroleum Profit Tax (PPT) on Investment in Nigeria

The finding is in line with the study of Yahaya and Bakare (2018) who evaluated the effect of petroleum profit tax and company income tax on Nigerian economic growth and found that petroleum profit tax (PPT) and company income tax (CIT) have positive significant impact on gross domestic product (GDP) in Nigeria. It disagrees with the findings of Olaniyi (2018) who studied the impact of tax policy incentives on the inflows of foreign direct investment in Nigeria and found that companies income tax and petroleum profit tax incentives showed insignificant

impact on foreign direct investment in Nigeria. But agreed with the study of Yahaya and Bakare (2018) who evaluated the effect of petroleum profit tax and company income tax on Nigerian economic growth and found that petroleum profit tax (PPT) and company income tax (CIT) have positive significant impact on gross domestic product (GDP) in Nigeria.

The Effect of Custom and Excess Duties (CED) on Investment in Nigeria

Our result conforms to the findings of Olaniyi (2018) who studied the impact of tax policy incentives on the inflows of foreign direct investment in Nigeria and found that custom and excise duties and value added tax incentives had significant effects on foreign direct investment in Nigeria. The study disagrees with the study of Ihenyen and Ogbise (2022) who investigated the relationship between Nigerian tax revenues and economic growth in Nigeria and found out that petroleum profit tax, company income tax and value added tax have a positive impact on Nigeria's economic growth, while custom and excise duties have a negative impact.

5. CONSLUSION AND RECOMENDATIONS

The study examined the impact of tax revenue on investment in Nigeria for the period of 1999 to 2021. The tax revenue was represented by company income tax, value added tax, petroleum profit tax and customs & excise duties while investment was proxied by gross fixed capital formation (GFCF). Based on the findings using multiple regressions technique, the study concluded that taxes such as company income tax (CIT) and value added tax (VAT) has negative and significant effects on investment while petroleum profit tax (PPT) and custom and excise duties tax (CED) have positive and significant effects on investment. This means that tax revenue has significant effects on investment in Nigeria. From the foregoing analysis and results, it is evident that all the independent variables (company income tax, value added tax, petroleum profit tax, and custom & excise duties) have significant impact on investment in Nigeria.

The study based on the findings above, recommends the following:

i. The Nigerian government should pay particular attention to the reduction of the company income tax rate because high tax rate has the tendency of adversely affecting investment. The tax rate reduction will assist in the growth and development of our industries/companies and the economy at large.
ii. The rate of value added tax should be reduced to a relatively low level so as to boost investment and subsequently translate to economic growth in Nigeria.
iii. Nigerian government should expand the tax yield through restructuring its petroleum sector by making efforts at processing the crude oil and only selling processed oil to the international market. By so doing, the danger of over-reliance on crude oil export receipts to drive the economy will be reduced.
iv. To ensure sustainable investment through custom and excise duties, the government should encourage her citizens to build trust in it through tax accountability, making sure that the promises made to the citizens are fulfilled.

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