

Impact of Selected Tax Revenue Components on the Growth Rate of the Nigerian Economy (1995–2022): An ARDL Analysis

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Abstract

The growth rate of an economy is crucial for an adequate understanding of its health. A negative growth rate is possible even with some level of GDP growth. Therefore, this study specifically investigated the impact of selected tax revenue components on the growth rate of the Nigerian economy for the period 1995–2022. Data were sourced from the Central Bank of Nigeria (CBN) statistical bulletin, the Federal Inland Revenue Service (FIRS) and the National Bureau of Statistics. The study employed the Auto Regressive Distributed Lag (ARDL) technique to estimate the model's parameters. The major findings of the study indicate that value-added tax (VAT), and company income tax (CIT) have positive and significant impacts on the growth rate of the Nigerian economy (GDPGr) in the long run and short run respectively while petroleum profit tax (PPT) had positive and significant impact on GDPGr only in the long run. Conversely, capital gains tax (CGT) had a positive but non-significant impact on GDPGr both in the short run and long run respectively. Based on the findings of this study, the study recommended, amongst others, the spread or increase in vat able items as well as fighting corruption to a standstill in the oil sector in order to enhance the performance of PPT and VAT in both the short-run and long run. Provision and sustenance of basic infrastructure such as power and sensitization of the citizens on the consequences of CGT payment evasion would make the impact of CIT and CGT stronger on GDPGr.

Keywords: Taxation, Tax Revenue, Nigerian Economy, Growth Rate, Value Added Tax.

Introduction

One of the primary goals of every meaningful government of an economy is to achieve sustainable economic growth and development. Economic growth is the most powerful instrument for reducing poverty and improving the quality of life in developing countries. Both cross-country research and country case studies provide overwhelming evidence that rapid and sustained growth is critical to making faster progress (ADB, 2008c). Growth can generate virtuous circles of prosperity and opportunity. Strong growth and employment opportunities improve incentives for parents to invest in their children's education by sending them to school. This may lead to the emergence of a strong and growing group of entrepreneurs, which should generate pressure for improved governance. Strong economic growth therefore advances human development, which, in turn, promotes economic growth (Anderson, 2019). Economic growth is described as a constant increment in the production capacity of a country (as evaluated by reviewing the current year's gross

national product to the previous year's), as well as an increment in per capita national output, measured by shifting the country's production possibility frontier outwards (Salami, 2015). The government's role in achieving economic growth for both developed and developing countries are critical, and taxation, as an instrument of fiscal policy, can be a beneficial tool needed by the government in stimulating economic growth (Edewusi & Ajayi, 2019).

The government is saddled with enormous responsibilities which are influenced greatly by the income generated by the government from different sources which includes taxes (World Bank, 2021). To finance its operations, the Nigerian government is primarily reliant on taxes. Individuals or companies must pay a tax to the government, which is normally levied by the government. Taxes are significant sources of revenue and a major source of income to the government (Ayuba, 2014). Taxes are considered different from other sources of government revenue because it is a compulsory charge. In the 19th century, the main purpose for which tax was imposed was for revenue to the government but today, it is seen to be used for different purposes other than fiscal purposes. Taxation being a major source of funding to all three tiers of government are very important in helping the government achieve its macroeconomic objectives. According to Abomaye-Nimenibo (2020), taxation is a process established by the government to exert control over tax and tax collection. It is thus considered as the redistribution of wealth from the private to the public sectors of the economy to help the nation in achieving some of its economic and social objectives which include providing essential facilities and services like proficient health care services, quality road, among others. Tax revenue is one of the major sources through which government generates financial resources needed to meet the constitutional needs of its citizens. The increasing responsibilities of modern-day government have made it imperative for all governments regardless their socio-political tendencies to generate enough revenue so as to meet her challenges. These challenges which are beyond private interest consideration range from the provision of quality education, assurance of the safety of settlement, provision of infrastructural facilities, and the protection of its territorial boundaries against internal and external belligerence (Dibia & Onwuchekwa, 2019).

The importance of tax revenue cannot be over-emphasized as it has attained a specific role in the development and sustenance of a country's economy. Tax plays a multiplicity of roles in the growth and development of a nation. It is not only used to generate revenue for the government but is also used as a tool by the government to carry out some of its fiscal policies. Such policies could be to reduce the inequalities of wealth and income in society, control inflation, and discourage the consumption of certain products. Hence, it is clear that tax is seen as the power that keeps a nation moving and also a necessity for the existence and prosperity of a nation, and the air it breathes to the natural man (Uzonwanne, 2018). Taxation is the art of charging citizens with compulsory payment, while tax itself is seen as a mandatory payment to be made by every citizen of a state. This payment of tax is called

a civic duty (Abomaye-Nimenibo, 2018). Taxes are frequently levied to limit the creation of certain products and services, protect new businesses and local businesses, and reduce the level of income disparity in society, also to regulate business, and keep inflation under control (Edewusi & Ajayi, 2019). Due to the significance of tax in bringing revenue to the government for various uses, its ability to affect consumption patterns lead to the growth of the economy, exert influence on economic variables, and its ability to affect consumption patterns, the government of every nation will strive to maximize the revenues from tax (Asaolu, 2018). The primary goal of a tax system is to produce adequate incomes to cover the government's vital expenditures on commodities, and tax is widely regarded as the most effective instrument for improving the public sector's capabilities and debt repayment (Okoye & Ezejiofor, 2014). Aside from the problems seen in the taxation system at present time, the purpose of collecting tax has not only been for revenue generation for the state but also a means for the reallocation of wealth as well as regulation of the economy (Ojo, 2008). As a result, a tax system is regarded as a powerful tool that the government can employ to aid socioeconomic development (Mathew, 2014).

Literature has established that taxation serves a multiplicity of roles. However, the major target of taxation is to achieve economic growth. The government's role in achieving economic growth for developing countries is critical, and taxation, as an instrument of fiscal policy, can be a beneficial tool used by the government in stimulating economic growth (Edewusi & Ajayi, 2019). The correlation between taxation and economic growth is a contested subject as taxation has an impact on the economy, firms and individual decisions are also affected by tax (Mdanat, 2018). Nigeria continues its recovery from the 2016 recession, sustaining an estimated 2 percent growth rate in 2019. The collapse of global oil prices during 2014–16, combined with lower domestic oil production, led to a sudden slowdown in economic activity. Nigeria's annual real GDP growth rate, which averaged 7 percent from 2000 to 2014, fell to 2.7 percent in 2015 and to -1.6 percent in 2016. Growth rebounded to 0.8 percent in 2017, 1.9 percent in 2018, and then plateaued at 2 percent in the first half of 2019. In 2020, Nigeria experienced its deepest recession in four decades, but growth resumed in the fourth quarter as pandemic restrictions were eased, oil prices recovered, and the authorities implemented policies to counter the economic shock. As a result, in 2020 the Nigerian economy experienced a smaller contraction (-1.8 percent) than had been projected when the pandemic began (-3.2 percent) (NDU, 2021). Over the years in Nigeria, the Gross Domestic Product of Nigeria has been fluctuating with obvious records of negative growth rates at some points. Despite the tax revenue reported by the government over the years, the revenue has been insufficient in meeting its social and public spending which is important to enhance economic growth. Hence, the objective of this study is to investigate the impact of selected tax revenue components on the growth rate of the Nigerian economy for the period 1995-2022, other specific objectives include to investigate: (1) the long-run impact of VAT, CIT, PPT, and CGT on Nigeria's GDP growth rate; (2) short-run dynamics via error correction modeling; and (3) policy implications for sustainable growth.

The fluctuating pattern of economic growth is worrisome coupled with the deficit financing of the budget over many decades. This presupposes that Nigeria is unable to mobilize domestic resources for developmental goals. A good number of policies have been implemented in order to boost economic growth and notable amongst them is the taxing policy of the government. Taxation is a mechanism through which the government seeks to realize some of its economic objectives. The major objective of fiscal policy through tax mechanisms is to achieve a sustainable level of economic growth through income redistribution, price stabilization etc. There are various types of taxes imposed by the government. They include value added tax, petroleum profit tax, company income tax, capital gains tax, personal income tax and so many others.

Although, there are ample studies that investigated one or more types of taxation on economic growth such as Monica and Kazeem, (2022), Egiyi (2021), however, these studies were only interested in the aggregate income instead of the growth rate of the aggregate income. This study investigated disaggregated tax revenue on the growth rate of income with a view to determining which component of taxation contributes more to the growth rate of income. The study is of a view that in order to resolve the divergent conclusions reached by previous empirical studies on the contribution of taxation on the growth of the Nigerian economy the various components of taxation need to be disaggregated.

The rest of the paper is organized as follows: Section 2 is a sketch of prior studies. Section 3 presents the empirical framework. The empirical analysis and results are discussed in Section 4 while Section 5 consists of the conclusion and policy implications of the findings.

Literature Review

The Solow-Swan Growth Model

This study found the Solow–Swan Growth Model valuable to this study. This growth theory is an economic model of long-run economic growth set within the framework of neoclassical economics. It attempts to explain long-run economic growth by looking at capital accumulation, labour or population growth and increases in productivity, commonly referred to as technological progress. At its core is a neoclassical (aggregate) production function, often specified to be of Cobb Douglas type, which enables the model "to make contact with microeconomics". The model was developed independently by Robert Solow and Trevor Swan in 1956 and superseded the Keynesian Harrod-Domar Model.

This model is criticized based on some of its unrealistic assumptions. However, its major advantage is its ability to allow the measurement of how much the nation's rate of technological growth has affected its economic output, which is the major focus of this present study. This theory is relevant to the Nigeria situation. This theory fits into this present study because taxation is investigated with a view to determining whether it contributes to the rate of growth of the economy other than the postulation of the Solow and Swan. The model is specified as a single good (output) produced using two factors of

production, labour (L) and capital (K) in an aggregate production function that satisfies the Inada conditions, which imply that the elasticity of substitution must be asymptotically equal to one.

$$Y_{(t)} = K_{(t)}^{\alpha} [A_{(t)}L_{(t)}^{1-\alpha}] \quad (1)$$

Where: t denotes time, $0 < \alpha < 1$ is the elasticity of output/income with respect to capital and $Y_{(t)}$ represents total production/income $A_{(t)}$ refers to labour-augmenting technology while AL represents effective labour. Since the production function $Y(K, AL)$ has constant returns to scale, it can be written as output per effective unit of labour:

$$y_{(t)} = k_{(t)}^{\alpha} \quad (2)$$

Empirical Issues

Moniica and Kazeem (2022) examined the effect of Value Added Tax (VAT) on economic growth in Nigeria between 1994 and 2020 using consumer price index (CPI) as a threshold. A technique of Threshold Vector Autoregressive (TVAR) was employed and the results reveal that a VAT above the 10 percent threshold value endangers the economy while a VAT below the 7.59 percent threshold value does not harm the economy; rather, it improves people's well-being.

Egolum and Celestine (2021) ascertained the effect of Value Added Tax on Economic Development in Nigeria from 1994-2018. Two hypotheses were formulated in line with the objective of the study. Time series research design was adopted and the data for the study were obtained from CBN statistical bulletin, Federal Inland Revenue bulletin and Joint tax board bulletin for the period under study. Pearson coefficient of correlation and simple regression analysis were applied for the test of the hypotheses formulated with the aid of E-Views 9.0 statistical software. Findings showed that Value Added Tax has a positive and statistically significant relationship with economic development (proxy by Gross Domestic Product and Total Government Revenue) at 5% significant level.

Nwaso (2021) examined the impact of value added tax on the Nigerian economy. The data used was secondary data, sourced from Federal Inland Revenue Service (FIRS) and Central Bank of Nigeria statistical bulletin. Multiple regression of ordinary least square (OLS) method of analysis was used. The result from the study revealed the following: that value-added tax had positive and significant impact on gross domestic product in Nigeria, while petroleum profit tax had negative and insignificant impact on gross domestic product in Nigeria. The study therefore concludes that value added tax had positive and significant impact on the Nigerian economy which is in line with IbaKhalidun's theory of taxation which recognizes the positive impact of value-added tax on the economy.

Inimino, Otubu and Akpan (2018) examined value-added tax and economic growth in Nigeria from 1994 to 2015. The econometrics methods of Co-integration and ECM were employed as the main analytical techniques. The Co-integration result revealed the existence of a long-run relationship among the variables. The Parsimonious Error Correction result revealed that value-added tax, exchange rate, and interest rate have a significant relationship with economic growth in Nigeria during the period of study. While

private domestic investment has no significant relationship with economic growth in Nigeria during the studied period. Also, the coefficient of the parsimonious ECM has the appropriate sign that is negative and statistically significant. Meaning that the short-run dynamics adjust to the long-run equilibrium relationship. The study, therefore, concluded that VAT revenue impacted economic growth in Nigeria positively during the period of study.

Omondi (2019) analyzed the effect of value-added tax /sales tax on economic growth in Kenya for the period 1973 to 2010. The study adopted econometric exposition based on its ability to determine the strength and direction of relationships between variables. The ordinary least square technique was used to estimate the model. The empirical result indicates that a positive and insignificant relationship exist between value-added tax and economic growth in Kenya. A positive and insignificant correlation between VAT Revenue and GDP means there are some problems inhibiting its potency. The study concluded that the effect of value-added tax on the economy is not large enough to influence economic growth.

Adegbie; Jayeoba and Kwabai (2016) evaluated the impact of VAT on Nigerian economy. Ex-post-facto, descriptive and analytical research approach were adopted for the work. Data of VAT and GDP were obtained from 1994-2015, and analyzed to determine the relationship that has been existing between them. It was discovered that VAT has a positive relationship with GDP. The coefficient of the model indicates that a 1% increase in VAT will lead to a 0.88% increase in GDP. This shows a perfect positive correlation between VAT and GDP. It therefore becomes imperative for a reform in VAT. In conclusion, VAT is due for a total reform in rate and clear definition of exempted goods and services.

Izedonmi and Okunbor (2018) empirically examined the contribution of VAT to the development of the Nigerian economy. Time series data on the Gross Domestic Product (GDP), VAT Revenue, Total Tax Revenue, and Total (Federal Government) Revenue from 1994 to 2016 sourced from the Central Bank of Nigeria (CBN) were analyzed, using both simple regression analysis and descriptive statistical method. Findings showed that a positive and insignificant correlation exists between VAT Revenue and GDP. Both economic variables fluctuated greatly over the period though VAT Revenue was more stable. The paper, therefore, recommends that all identified administrative loopholes should be plugged for VAT Revenue to continue to contribute more significantly to the economic growth of the country.

Yakubu and Jibrin (2018) center their study on analyzing the impact of value added tax (VAT) on economic growth of Nigeria. Data was analyzed with the use of Johansen Co integration test. The result shows that value-added tax have a positive impact on the economic growth of Nigeria. The researcher draw conclusion that the policymakers in Nigeria should continue this fiscal policy with other macroeconomic indicator pursuing this policy will enhance the Nigerian economy positively, more specifically in time of economic crisis in the world.

Osho and Omotayo (2018) examined the impact of company income tax on gross domestic products in Nigeria. The motive of the study was to examine how company income tax revenue has contributed to gross domestic products in Nigeria. Secondary data was obtained from relevant literatures, Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics publications. Ordinary Least Square Linear Regression model is used to test the related data extracted from the Central Bank of Nigeria Statistical Bulletin and National Bureau of Statistics. Findings revealed that company income tax revenue has a positive and significant effect on gross domestic products in Nigeria. The study concluded that company income tax revenue plays a crucial role in the economy activity and making funds available in the government purse that can be used to adequately execute massive projects to the benefit of the citizens of the country. It is recommended that Government should endeavour to support companies by providing basic public amenities to all nooks and crannies of the country as this will boost the level of tax compliance in Nigeria.

Solanke, Igbekoyi, Olurankinse, and Alade (2019) carried out a research work on the effect of company income tax on Nigerian economic growth with the purpose of showing relationship between taxation and economic growth. In the research, Cointegration Approach, Error Correction Approach and Multi Regression Model were used. The instrument for this study was secondary data mainly from Company Income Tax and sourced from Statistical Bulletin and Publications of Central Bank of Nigeria and National Bureau of Statistics from 1960- 2014 respectively. The analyses and test revealed good relationship between contribution of Company Income Tax (CYT) and Gross Domestic Product (GDP) of Nigeria because it had fixed significant of 1% during first differentiation when using the Augmented Dickey Fuller (ADF) test and concluded that Company Income Tax (CYT) had significant contributions on the GDP. The study further concluded that government should ensure taxes were properly accounted by communicating to the general public.

Festus and Samuel (2017) explored the relationship between company income tax in Nigeria and economic development of the nation. Primary and secondary data were applied in carrying out this research work. Chi-square and Multiple Linear Regression analysis was used to analyze the primary and secondary data respectively. The findings reveal that there is a significant relationship between company income tax and Nigerian economic development, tax evasion and avoidance are major hindrances to revenue generation, non-compliance with tax laws on the part of the tax payers is a hindrance and ineffective tax administration has given enough loop holes to poor generation of this major source of income. They recommended among others the computerization of the integrated tax operations for enhancement in revenue collections.

Peter and Musa (2018) examined the impact of company income tax on economic growth in Nigeria. The analyses were performed using data from CBN bulletin, NSE fact book and FIRS annual report for an eleven-year period (2007-2017). The study employed multiple regression analysis techniques based on the SPSS 20 version for the analysis of data, where Gross Domestic Product (GDP), the dependent variable and proxy for economic growth,

was regressed as a function of company income tax (CIT), and the independent variables and descriptive statistics were used to analyze the data. The findings indicated that company income tax has a significant influence over economic growth in Nigeria. It is therefore recommended that the policies of company income tax should be reviewed to block the loopholes that encourage tax avoidance that most companies capitalize on to avoid tax and, full implementation of tax reforms agenda of 2003. The integrated tax office (ITO) introduced in 2004 should be adequately computerized and staffed with quality and experienced staff.

Etale and Bingilar (2016) examined the impact of companies' income tax and value-added tax on economic growth (proxy by gross domestic product) in Nigeria. Secondary time series panel data was collected for the period 2005 to 2014 from the Statistical Bulletin of the Central Bank of Nigeria (CBN). The study employed Ordinary Least Squares (OLS) technique based on the computer software Windows SPSS 20 version for the analysis of data, where gross Domestic product (GDP), the dependent variable and proxy for economic growth, was regressed as a function of company income tax (CIT) and value-added tax (VAT), the independent variables. The results of the analysis showed that both company income tax and value-added tax have significantly positive impact on economic growth. Based on the findings, the study recommended that government should strengthen the tax administration system to broaden the tax income, and embark on tax education to ensure voluntary tax compliance.

Wonders and Mohamed (2019) carried out a study on the impact of petroleum profit taxes on economic growth in Nigeria from 1981 to 2018. An expo-facto research design with two (2) objectives and one (1) baseline theory anchored this empirical paper. The population of the study is Nigeria with a tax history of forty (40) years from 1981 to 2020. The study adopted an interval scale of measurement and the preceding year basis of sampling, with a sample size of nine (9) years from 2010 to 2018. The source of data was secondary, obtained from the Central Bank of Nigeria, National Bureau of Statistics, OECD Statistics, and World Bank Group. The study adopted univariate analysis and bivariate analysis for data analysis with MS Excel 2019 and SPSS Statistics 26. The study found that PPT has no significant relationship with per capita income and that PPT has no significant relationship with employment. The study concluded that: given high levels of oil price stability and production boom, petroleum profit tax might not significantly contribute to per capita income and the employment rate for economic growth, with a correlation of less than 10%. The study recommended that government should reduce the tax incentives granted to petroleum companies in Nigeria, and increase the tax rate of non-petroleum companies, which will increase government revenue from petroleum taxes, during times of oil price volatility and production cuts.

Osasu and Emife (2019) examined the impact of petroleum profit tax on Nigeria's economic growth. To accomplish this goal, the *expo facto design* was used, relevant data were obtained from the Annual Statistical Bulletin of the Central Bank of Nigeria and the Annual

record from the Office of the National Bureau of Statistics for the span of twenty-two years (1994 to 2015). In analyzing the collected data, the study used the ordinary least square statistical method. The report shows that petroleum income tax, foreign direct investment has a positive and significant impact on Nigeria's economic growth. Consequently, it is recommended that incentives available to investors in the petroleum industry are not good enough to reduce the effect of the social crisis on the risk premium of investors, revenue from petroleum profit tax should be properly utilized to enhance the level of infrastructural development among others.

Yahaya and Bakare (2016) 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 over a 34 years period (1981-2014) while Augmented Dickey Fuller Unit Root Test and Single Equation Co-integration Test were carried out. It was found that petroleum profit tax (PPT) and company income tax (CIT) have positive significant impact on gross domestic product (GDP) in Nigeria with the Adjusted R^2 of 87.6% which directly enhanced growth in Nigeria. The study then concluded that PPT and CIT serves as the major source of revenue to the Nigeria economy, and contribute to the growth of Nigeria economy. Based on these findings, the Study recommends that government should transparently and judiciously account for the revenue it generates through petroleum profit tax by investing in the provision of infrastructural facilities, FIRS should properly monitor the activities of companies to achieve optimum collection of taxes payable to the government as CIT. Revenue accrue to government through PPT and CIT should be judiciously used to develop the economy

Ngu (2019) examined the effect of capital gains tax on total tax revenue and economic growth in Nigeria. In achieving this objective, the ex-post facto research design was adopted and secondary data were collected from the Federal Inland Revenue Service annual reports, CBN statistical bulletins, and the National Bureau of Statistics. The simple regression technique was adopted and analyzed using Eviews to establish the effect of the independent variables (capital gains tax, interest rate, and inflation rate) on the dependent variables (Total Tax Revenue and Gross Domestic Product) from 2005-2018. Findings indicate an insignificant positive relationship between capital gains tax and total tax revenue/economic growth in Nigeria. The study concluded that capital gains tax has not significantly contributed to total tax revenue and economic growth in Nigeria. Therefore, it is recommended that the administration and collection mechanisms of capital gains tax should be strengthened to ensure the tracking and collection of this form of tax in any part of the country where capital assets are disposed. Furthermore, there should be a comprehensive review of the Capital Gains Tax Act to ensure conformity with global best practices and to keep the Act in pace with current economic realities.

Taiwo and Adejare (2016) assessed the impact of Capital Gain Tax on Economic growth in Nigeria. It also evaluated the significant components of Economic growth in Nigeria. Data were gotten from Central bank of Nigeria (CBN) Statistical Bulletin and Federal Inland Revenue Service Bulletin from 2006 to 2015. Pearson product-moment correlation and

multiple regressions were employed to analyze the relationship between the dependent variable (Economic growth) and independent variables (Capital Gain Tax, Exchange rate and Inflation rate). Findings show that there is a positive significant impact of Capital Gains Tax on Economic growth in Nigeria ($P > |t| = 0.014$; $p \leq 0.05$) with the adjusted R^2 @ 60.3%. Also, Capital Gain Tax and Exchange rate have positive significant correlation 0.8547*; and 0.7830* respectively with Economic growth in Nigeria. In conclusion, Capital gain tax had positive significant impact on Economic growth but the level of significance is very low in Nigeria. It is now recommended that Government should increase the rate of Capital gain tax in Nigeria so that the revenue generated from this medium will be elevated in order to cater for the well-being of the citizen in the country.

Omesi and Barisua (2019) examined the effect of capital gains tax on the economic development in Nigeria from 2011 – 2016. Data for the study were obtained mainly from secondary sources, the statistical data based and Bulletin of the Central Bank of Nigeria (CBN) and the website of the Federal Inland Revenue Services (FIRS). Simple regression was employed in determining the functional relationships existing between the variables in the model. Ordinary least square (OLS) method was used to compute the formulated hypotheses. The result showed that capital gains tax contributes significantly to the total tax revenue of government and by extension the economic development of Nigeria. It is therefore recommended that government should be transparent and use revenue generated through capital gains tax for the development of the economy, as tax payers would be willing to pay. The government on the other hand should be able to develop the economy to justify the collection of tax payers' money.

Omesi (2019) empirically examined the effect of capital gains tax on the economic development in Nigeria from 2011 – 2016. Data for the study were obtained mainly from secondary sources, the statistical data based and Bulletin of the Central Bank of Nigeria (CBN) and the website of the Federal Inland Revenue Services (FIRS). Simple regression was employed in determining the functional relationships existing between the variables in the model. Ordinary least square (OLS) method was used to compute the formulated hypotheses. The result showed that capital gains tax contributes significantly to the total tax revenue of the government and by extension the economic development of Nigeria. It is therefore recommended that government should be transparent and use revenue generated through capital gains tax for the development of the economy, as tax payers would be willing to pay.

Adegbie and Fakile (2020) carried out a study which aimed at ascertaining the statistical correlation between Company Income Tax (CIT) and the development of the Nigerian economy covering a period of 49 years spanning from 1981 – 2019. The Gross Domestic Product (GDP) was employed in the study as a proxy for economic development, and this was estimated against total revenue generated from CIT. Primary and secondary data were utilized in the study and these data were analyzed using the Chi-square and multiple regression analysis. The result of the analysis depicts that Company Income Tax has a

significant impact on economic development proxy as GDP. The study revealed that tax evasion and tax avoidance are the major factors responsible for dwindling in the level of revenue generated.

Akhor and Ekundayo (2016) analyzed the link between revenue from indirect taxes and economic growth in Nigeria. The study focused on value added tax and custom and excise duty as the explanatory variables while real gross domestic product was adopted as the dependent variable. The study covered a 21-year period (1993 – 2013) and relied on secondary data which were collated from the statistical bulletins of the Central Bank of Nigeria (CBN) over the years. Analysis of data was based on descriptive and inferential statistics which included correlation analysis, co-integration test and the regression analysis via the Error Correction Model (ECM). The result from the analytical procedure suggests that revenue from value added tax and customs and excise duties had negative effect on economic development. Specifically, it was observed that the relationship between VAT and economic development, though negative, was significant, whereas, the relationship between customs and excise duties was weak.

Kalas, Mirovic and Andrasic (2017) with the regression method instrument conducted a study in the United States of America and examined the effect of taxes on economic growth. The study covered a period of 20 years from 1996 to 2016. The study utilized the Personal Income Tax and Company Income Tax as proxies for tax revenue while growth and Social Security Contributions on GDP were deployed as proxies of economic growth. The study employed the use of correlation matrix and other relevant statistical techniques in data analysis. The result revealed that Company Income Tax and GDP are not significantly correlated.

Worlu and Emeka (2012) studied the relationship between tax revenue and economic development in Nigeria covering a period of 27 years spanning from 1980 – 2007 focusing on the on infrastructural development. Data employed in the study were secondary data, collated from Central Bank of Nigeria (CBN) Statistical Bulletin, Federal Inland Revenue Service (FIRS) and relevant articles. The analysis was carried out using the three stage least square estimation technique. The result revealed that tax revenue enhances economic growth via infrastructural development. Additionally, the study suggested that no independent relationship exists between tax revenue and economic growth through foreign direct investment and development of infrastructure.

Adereti, Adesina and Sanni (2019) examined the relationship between Value Added Tax and economic growth in the Nigerian economy. The study employed time series data on both the dependent and independent variables such as Gross Domestic Product (GDP), VAT Revenue, Total Tax Revenue and Total Federal Government Revenue ranging from 1994 – 2018. The study's methodology comprised of a combination of descriptive and inferential statistics. The outcome of the study suggested a positive relationship exists between revenue generated from VAT and Gross Domestic Product (GDP).

Mustapha and Benedict (2020) examined the impact of direct tax on the economic growth of Nigeria for the period of 1970-2020. The objectives that guided this study include: to

establish the impact of companies' income tax (CIT) on economic growth of Nigeria from 1970-2020; and to investigate the impact of petroleum profit tax (PPT) revenue on economic growth of Nigeria from 1970-2020. The study used data from Federal Inland Revenue Services, Central Bank of Nigeria (CBN), and the National Bureau of Statistics (NBS). They used Ordinary Least Square (OLS) Model, Augmented Dickey-Fuller (ADF), linear and multiple regression as data analysis tools. The finding of the study indicated a positive impact of companies' income tax on the economic growth of Nigeria (R-Square = 0.0562, Prob> F = 0.0940). Furthermore, there was a positive impact of petroleum profit tax on the economic growth of Nigeria (Rsquared = 0.1013, Prob> F = 0.0229). The study concluded that both CIT and PPT have a positive impact on the economic growth of Nigeria. The study recommended that the federal government of Nigeria should come up with diversification mechanisms that will avert overdependence on oil revenue (petroleum profit tax) since when oil prices fluctuate, it can have detrimental effects on the economic growth of the country. The study further recommended that government should begin to emphasize tourism, agriculture, and telecommunications to expand its tax base.

Methodology

Model Specification

The study deployed multivariate linear regression method for the analysis of the impact of taxation on the growth rate of the Nigerian economy. The analysis will focus on the explanatory variables partly in line with reviewed literature. The model of Christian (2020) was modified to replace GDP with GDP growth rate (GDPGR) as well as included some key variables identified in the growth theory adopted in an effort to investigate the impact of taxation on the growth rate of the Nigerian economy this is because government expenditure influences demand, inflation reflects macroeconomic stability, labor productivity proxies human capital, GFCF proxies investment. The model is expressed in a linear functional form as below:

$$GDPGR = f(VAT, CIT, PPT, CGT, GEX, INF, LabP, GFCF) \quad (3.1)$$

The explicit panel econometric model is specified thus:

$$GDPGR = \beta_{0t} + \beta_1 VAT + \beta_2 CIT + \beta_3 PPT + \beta_4 CGT + \beta_5 LGEXP + \beta_6 INF + \beta_7 LabP + \beta_8 GFCF + \mu_{it} \quad (3.2)$$

Where:

$GDPGR$ = GDP growth rate; VAT = Value Added Tax; CIT = Company Income Tax; PPT = Petroleum Profit Tax; CGT = Capital Gains Tax; GEX = Government expenditure; INF = Inflation rate; $LabP$ = Labour Productivity; $GFCF$ = Gross Fixed Capital Formation; β 's = structural Parameters to be estimated; μ = Stochastic Error Term.

Unit Root/Stationary Test

This study used unit root technique to test or examine whether a variable's mean value and variance varies over time. It is necessary in time series variables in order to avoid the

problem of spurious regression. The Augmented Dickey Fuller (ADF) test was used for the analysis. Augmented Dickey-Fuller (ADF) test is used to test existence of unit root when there is autocorrelation in the series and lagged terms of the dependent variable are included in the equation. The following three models represent pure random walk, random walk with drift and random walk with drift and trend used in Augmented Dickey-Fuller tests:

$$\begin{aligned}\Delta\psi_t &= \Omega\psi_{t-1} + \sum_{i=1}^p \beta_i \Delta\psi_{t-i} + \varepsilon_t \\ \Delta\psi_t &= \alpha_0 + \Omega\psi_{t-1} + \sum_{i=1}^p \beta_i \Delta\psi_{t-i} + \varepsilon_t \\ \Delta\psi_t &= \alpha_0 + \Omega\psi + \beta_2 t + \sum_{i=1}^p \beta_i \Delta\psi_{t-i} + \varepsilon_t\end{aligned}\quad 3.3$$

Where: $\Omega = (\lambda - 1)$ The null hypothesis is $H_0 : \Omega = 0$ and the alternative hypothesis is $H_a : \Omega < 0$

Decision Rule

If ADF test statistic (t-statistic of lagged dependent variable) is absolutely greater than the critical value, we reject the null hypothesis and conclude that the series is stationary (there is no unit root) but if otherwise, we accept the null hypothesis and conclude that the series is not stationary (there is unit root).

Data and Sources

Variables	Description	Source
EG	Growth Rate of GDP	Central Bank of Nigeria(CBN) Statistical Bulletin, 2022
VAT	Value added Tax	Central Bank of Nigeria(CBN) Statistical Bulletin,2022
CIT	Company Income Tax	Federal Inland Revenue Service (FIRS)
PPT	Petroleum Profit Tax	Federal Inland Revenue Service (FIRS)
CGT	Capital Gain Tax	Central Bank of Nigeria(CBN) Statistical Bulletin,2022
GEX	Government Expenditure	Central Bank of Nigeria(CBN) Statistical Bulletin,2022
INF	Inflations rate	Central Bank of Nigeria(CBN) Statistical Bulletin,2022
GFCF	Gross Fixed Capital Formation	Central Bank of Nigeria(CBN) Statistical Bulletin,2022
Labp	Labour productivity	National Bureau of Statistics

Source Researcher's compilation, 2024

Time series data are often assumed to be non-stationary and thus, it is necessary to perform a unit-root test to ensure that the data are stationary. The test was employed to avoid the problem of spurious regression. Therefore, the Augmented Dickey-Fuller (ADF) unit root test was used to determine the stationarity of the data to complement each other. The decision rule based on the ADF test is that its statistic must be greater than Mckinnon Critical Value at a 5% level of significance and in absolute terms. The results of the unit-root test are reported in table 4.1 below.

Table 4.1: Unit Root Test Result

Variable	Phillip Perron Statistic	Critical Value	Level of Significance	Order of integration	ADF	Critical value	Level of Sig	Order of Integr ation
GDPGr	-3.77407	-3.56288	5%	1(1)	-7.0692	-2.9862	5%	I(1)
VAT	-7.9573	-2.64167	1%	1(1)	-2.0298	-1.9550	5%	I(1)
CIT	-7.03622	-2.64167	1%	1(1)	-5.6658	-1.9550	1%	I(1)
PPT	-2.28575	-1.95168	5%	1(1)	-6.3162	-1.9550	5%	I(1)
CGT	-7.78337	-2.64167	1%	1(1)	-7.1309	-1.9550	1%	I(1)
GEX	-5.12432	-2.64167	1%	1(1)	-4.6786	-3.6449	1%	I(1)
INF	-3.43106	-2.76041	5%	1(0)	-2.3697	-1.9590	5%	I(1)
GFCF	-8.45794	-2.64167	1%	1(0)	-2.029	-1.9550	5%	I(0)
LabP	-6.45927	-2.64167	1%	1(1)	-5.665	-1.9550	1%	I(1)

Source: Researchers computation, 2024 using E-views 10.

Table 4.1 presents the unit root test using both Phillip Perron and ADF test statistic, it is clearly observed that both tests confirmed that almost all the variables are stationary at first difference, except for GFCF that is stationary at levels (that is, integrated of order zero).

Correlational matrix

The correlation coefficient is a statistical measure that calculates the strength of the relationship between the relative movements of two variables and its values range between -1.0 and 1.0. A correlation of -1.0 shows a perfect negative correlation, while a correlation of 1.0 shows a perfect positive correlation. A correlation of 0.0 shows no relationship between the movements of the two variables a number greater than 1.0 or less than -1.0 means that there was an error in the correlation measurement. The closer the coefficient is to 1, the stronger the correlation and vice versa. The table is presented and summarized in the table 4.3.

Table 4.3: Summary of correlational matrix

	GDPGr	VAT	CIT	PPT	CGT	GEX	INF	GFCF	LabP
GDPGr	1	0.563	0.595	0.472	-0.748	0.343	0.946	0.805	-0.836
VAT	0.563	1	0.733	0.682	0.367	0.053	-0.366	-0.229	-0.579
CIT	0.590	0.733	1	0.792	0.350	0.057	-0.473	-0.358	-0.755
PPT	0.472	0.682	0.792	1	0.438	0.154	-0.326	-0.288	-0.588
CGT	-0.748	0.367	0.350	0.438	1	0.573	-0.731	-0.550	-0.613
GEX	0.343	0.053	0.057	0.154	0.573	1	0.396	0.428	0.202
INF	0.746	-0.366	-0.473	-0.326	-0.731	0.396	1	0.828	0.753
GFCF	0.705	0.229	0.358	0.288	-0.550	0.428	0.828	1	0.691
LabP	-0.736	-0.579	-0.755	-0.588	-0.613	0.202	0.753	0.691	1

Source: Researchers computation, 2024, using E-views 10.

Table 4.3 indicates that VAT, CIT, PPT, GEX, INF and GFCF have positive correlation with GDPGr while CGT and LabP have negative correlation with GDPGr.

ARDL Bound Test for Co-integration

Table 4.4 ARDL F-Bound Test Results

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	4.986985	10%	2.08	3
K	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Source: Researcher's computation, 2024 using E-views 10

From the table 4.4, the value of the F-statistic which shows the joint significance of the lagged level variables is 4.9869 and is greater than the upper bond 1(1) at 5% level of significance. We, therefore, reject the null hypothesis and conclude that a long-run relationship exists between the dependent variable and the independent variable under study.

Analyses of Result

Long Run Estimates

Since we have established that there is a long-run relationship amongst the variables under study, the ARDL model was used to determine the long-run coefficients of the regression model. The estimated long-run coefficients of the model are summarized in table 4.3

Table 4.5.2: Summary of Long Run Coefficients

Variables	Coefficient	Std. Error	t-Statistic	Prob.
VAT	3.168739	0.351652	9.011	0.0404
CIT	4.923703	0.355368	-13.8552	0.0359
PPT	1.15684	0.104801	11.0385	0.0575
CGT	-1.117968	0.028106	-1.7765	0.2160
GEX	6.223492	1.150554	5.4091	0.0164
INF	-1.036178	0.078867	-13.1383	0.0484
GFCF	0.729942	0.052519	13.8986	0.0457
LabP	-10.015237	0.405947	-1.67128	0.6258
C	43.607095	0.535668	81.40701	0.0078
Adjusted R-Square = 0.89; Durbin Watson = 2.07;				

Source: Researchers computation, 2024 using E-views 10.

Table 4.5.2 presents the estimated long run coefficients of the model of the study. The result indicates that Value Added Tax (VAT), Company Income Tax (CIT), Petroleum Profit Tax (PPT), Government expenditure (GEX), inflation (INF) and Gross fixed capital formation (GFCF) are statistically significant, although PPT is only significant at approximately 10% level of significance. Capital Gains Tax (CGT) and Labour productivity (LabP) are not statistically significant. Furthermore, the long-run partial coefficient of VAT is 3.17 implying that a unit increase in VAT will lead to 3.17 units increase in GDP growth rate (GDPGr). This means that VAT exerts a positive effect on GDPGr in the long run. The long-run partial coefficient of CIT is 4.92 implying that a unit increase in CIT, on the average, will lead to 4.92 units increase in GDPGr in the long run. This also means that CIT exerts a positive effect on GDPGr in the long run. The long-run partial coefficient of PPT, GEX, INF and GFCF are 1.15, 6.22, -1.04, and 0.7 respectively. This also implies that a unit increase in PPT, GEX, and GFCF will lead to 1.16 units, 6.22 units and 0.7 units increase in GDPGr respectively while a unit increase in INF leads to a 1.04 decrease in GDPGr all in the long-run. Although CGT and LabP exerted negative influence on GDPGr, however, their influence is not significant.

Short Run Estimates (Error Correction Model)

The aim of error correction model is to reconcile the long run behavior of co-integrated variables with their short run responses. It shows the dynamic error analysis of the co-integrated variables. In error correction model, we specify and estimate the differenced variables alongside one-period lag of the residuals from the co-integrating equation. This is to determine if a short-run disequilibrium can be corrected in the long-run. Thus, the error correction term which shows the speed of adjustment from one period to another is expected to have a negative sign, assume values between 0 and 1 and also be significant at

the 5% to show a strong convergence process to the long-run equilibrium. The result of ECM specification is reported in Table 4.6.

Table 4.6.1 Summary of Short Run Coefficients (Error Correction Regression)

Variables	Coefficient	Std. Error	t-Statistic	Prob.
D(GDPGr(-1))	0.817196	0.013764	59.3726	0.0107
D(VAT)	1.253995	0.027495	45.60893	0.014
D(CIT)	1.558217	0.023488	66.3416	0.0096
D(PPT)	0.0379	0.002046	1.5197	0.4343
D(CGT)	-0.549621	0.012184	-0.10949	0.1141
D(GEX)	0.884177	0.018204	48.56951	0.0131
D(INF)	-0.09124	0.007014	-1.00871	0.3488
D(GFCF)	0.317016	0.009081	34.9098	0.0182
D(LabP)	-5.77467	0.165028	-1.99198	0.1182
CointEq(-1)	-0.346143	0.028458	-12.1634	0.0522
Cointeq = GDPGr- (1.25*VAT+1.55*CIT + 0.037*PPT-0.549*CGT + 0.884*GEX-0.091*INF+0.317GFCF- 0.346*LabP)				

R-squared = 0.787552; Durbin-Watson stat = 2.43638; Adjusted R-squared 0.650086.

Source: Researchers computation, 2024 using E-views 10.

From the Table 4.6.1, it is observed that GDPGR₋₁, VAT, CIT, PPT, GEX, and GFCF all conform to their a priori theoretical expectations in the short run with their coefficients as 0.81, 1.25, 1.55, 0.03, 0.88 and 0.31 respectively, while CGT, INF and LabP did not conform to their a priori theoretical expectation with coefficients of -0.55, -0.09 and -5.77 respectively. This could be explained by the low level of activities of these type of tax in Nigeria, Inflation and labour productivity was negatively signed could be due to erosion of the purchasing power of the workers. Thus, a unit increase in GDPGR₋₁, VAT, CIT, PPT, GEX, and GFCF would lead to an increase in GDPGr by 0.81, 1.25, 1.55, 0.03, 0.88 and 0.31 units respectively. On the other hand, a unit increase in CGT, INF and LabP, on the average, would cause GDPGr to decrease by 0.55, 0.09 and 5.77 units respectively. Results further indicate that the error correction term satisfies the a priori expectation as it assumed a value between 0 and -1, which is correctly signed. Its coefficient is -0.346143 suggesting that the speed of adjustment from the short run back to the long run. if there is disequilibrium in the model is about 35%.

The implications of these results are undertaken in the section for discussion of results.

Discussion of Findings

In this section of the study, the findings of the specific objectives were discussed with a reference to previous studies conducted with similar or contrary findings.

Value Added Tax (VAT) and Economic Growth Result Discussion

The first objective of the study was to ascertain the impact of value-added tax on economic growth in Nigeria. To actualize this objective, data for the variables were generated and estimated using ARDL technique. It was discovered that Value Added Tax (VAT) contributes positively and significantly to the growth rate of the GDP in Nigeria in both the short run and long run respectively. This finding is in line with the findings of Egolum and Celestine (2021), and Inimino, Otubu, and Akpan (2018) who found that Value Added Tax has a positive and statistically significant relationship with economic growth. The study is also in conformity with the findings of Folake (2021) who examined the impact of value-added tax on economic growth in Nigeria from 1999 to 2019 and found that, in the long run, VAT exerted positive impact on economic growth although while VAT is significant in influencing GDPGr in the present study, it did not in the study by Folake, 2021. In terms of a priori expectation, this study also aligned with the findings of Omondi (2019) who also found that a positive but insignificant relationship exists between value-added tax and economic growth in Kenya. VAT has always been a major source of revenue for Nigeria and it is expected to impact positively on the growth rate of the Nigerian economy. The point of departure of the present study is its emphasis on growth rate of the GDP while previous empirical studies emphasized GDP. Although the positive relationship between some of the independent variables and GDPGr show some contributions to GDP but it does not reveal which variables makes the most contribution to the growth recorded in the economy. This is why this study becomes important.

Company Income Tax (CIT) and Economic Growth Result Discussion

The second specific objective of the study was to ascertain the effect of company income tax on economic growth in Nigeria. It was discovered that Company Income Tax (CIT) has a positive but significant impact on GDP growth rate in both the short and long runs respectively. The finding of this study is in tandem with Osho, Omotayo, and Ayorinde (2018) who found that company income tax revenue has a positive effect on gross domestic product in Nigeria. This study, however failed to confirm the finding of Egiyi (2021) who found a negative relationship between company income tax and economic development in Nigeria. The present study is in direct connection with the findings of Solanke, Igbekoyi, Olurankinse, and Alade (2019) who also found that company income tax exhibited positive relationship with economic growth in Nigeria. CIT is also a major source of revenue for Nigeria and it is expected to impact positively on the growth rate of the Nigerian economy.

Petroleum Profit Tax (PPT) and Economic Growth Result Discussion

The third specific objective of this study was to determine the impact of petroleum profit tax on economic growth in Nigeria. Result indicates that petroleum Profit Tax (PPT) has a positive and significant impact on GDP growth rate in Nigeria in the long run but not in the short run. This implies that it will take quite some time for PPT to make positive impact on

GDPGr in Nigeria. This result be explained by institutional weakness in the system like corruption While the findings of this study failed to confirm the findings of Wonders and Mohamed (2019) who found that petroleum profit tax has no significant relationship with per capita income, nevertheless, it confirmed the findings of Osasu and Emife (2019) who found that petroleum income tax has a positive and significant impact on Nigeria's economic growth.

Capital Gains Tax (CGT) and Economic Growth Result Discussion

The fourth specific objective is aimed at investigating the impact of capital gains tax on growth rate of the Nigerian economy. The result revealed that capital gains tax (CGT) has a negative but non-significant impact on GDPGr in Nigeria. This is not surprising because CGT transactions are most of the times concealed and unaccounted for. Only very few properties pass through taxing authorities when they are sold or ownership is transferred. This study failed to aligns with the findings of Taiwo and Adejare (2016) who concluded that Capital Gain Tax had positive and significant impact on economic growth.

Furthermore, it was observed from both the long run and short run results that CIT, VAT, GEX, and PPT made the most significant impact on the rate of growth of the Nigerian economy. While there is need to consolidate on these variables to achieve higher growth rate, there is the need to redefine CGT in terms of strategy and implementation so as to improve on its impact on GDPGr.

Conclusion and Policy Recommendations

This study has been able to empirically estimate the impact of taxation on the growth rate of the Nigerian economy for the period 1995 to 2022. Findings from this study provide insight into the impact of the different components of tax revenue on the rate of growth of the Nigerian economy. It further provided an insight on which of the tax revenue component made the greatest impact on the rate of growth of the Nigerian economy within the period under investigation. Both the long run and short run results indicate that VAT, and CIT have the ability to make positive and significant impact on the growth rate of the Nigerian economy, however PPT is able to make positive and significant impact on GDPGr only in the long run. CGT failed to make any significant impact both in the long run and short run respectively. From the results of this study, Nigeria needs to cover all loop holes and traces of corruption in order to make these components of tax revenue have increasing impact on the growth rate of the Nigerian economy.

Recommendations

Based on the major findings of the study, the researcher made the following suggestions:

1. We recommend that rather than increase the rate of VAT, it is better to increase vatable items instead in other to increase the revenue from VAT and make its impact on the growth rate of the economy stronger.

2. Government should endeavour to support companies by providing basic infrastructure like power supply, good road, facilitating ease of doing business/registration, avoiding imposition of multiple taxation and unpopular/harsh economic policies that stifle businesses so that the companies can operate at moderate cost while making profits from where CIT could be paid without evasion.
3. Government should eschew corruption in the handling of the oil industry as well as stop crude oil theft and all sabotage in order to make PPT contribute significantly both in the short run and long run respectively.
4. Government should increase the sensitization of the public on the implications of failure to remit the 10% CGT as majority of the citizen are not aware of the consequences.

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