



# VALUE-ADDED TAX REVENUE AND ECONOMIC GROWTH PARADOX IN NIGERIA

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<p><b>Received:</b> November 10<sup>th</sup> 2023 <b>Accepted:</b> December 04<sup>th</sup> 2023 <b>Published:</b> January 20<sup>th</sup> 2024</p>	<p>The necessity of economic growth paradox is a conventional wisdom of our time, assumed to lead to more prosperity and be a panacea for any social problem. However, infinite growth is hard to reconcile with a finite planet, and there is a growing body of evidence that suggests that growth is no panacea nor inherently linked to prosperity. The aim of this study is empirically explore the relationship between value added tax nexus and economic growth in Nigeria. the study adopted longitudinal research design and data were collected from central bank of Nigeria statistical bulletin, National Bureau of statistics, federal inland revenue statistic, annual report of central bank of Nigeria from 1994-2021 and the collected were analyzed using descriptive statistics, ordinary least square regression analysis, unit root test, co-integration test and error correction model with the aid of e-view version II. The results indicate that input tax positive and significantly relate to gross domestic product. In the same vein, output tax positively relates to gross domestic product. The study therefore concludes that the exist a strong relationship between value-added tax revenue and economic growth in Nigeria and recommends that the mono-product economy of Nigeria should be diversified along the line of taxation since there exist a positive relationship between taxation and economic growth in Nigeria. In addition, the drift from direct to indirect form of taxation as entrenched in the New National policy should be deemphasized as there exists a negative and insignificant relationship between value-added tax revenue and economic growth in Nigeria</p>

**Keywords:** Value-added tax, input tax, output tax, economic growth, gross domestic product growth

## INTRODUCTION

Economic growth, from the early period of economic history, engaged the attention of man and his governments. As for back as 17<sup>th</sup> and 18<sup>th</sup> centuries, writers like Adam Smith, David Ricord, John Stuart mill, as well as state theorist like Karl Marx, Friedrich list Karl Bucher, Rostro, and Neo Classical economists such as Arthur Lewis(1978). Lewis (1978) have all been preoccupied with the quest for unearthing the forces and processes that cause a change in the material progress of man. This is also applicable to successive governments and states in these modern times. In Nigeria for instance, the broad objective of the national economic policy has been the desire to promote sustainable economic growth for the vast majority of Nigerians through the adoption of various monetary and fiscal policies. Unfortunately, her economic growth has been characterized by fits and starts and the prospects

of her rapid economic growth appear unachievable as reflected in her inability to realize sustainable full growth potentials and to significantly reduce the rate of human development index and value added tax (Adebeti, Adesina & Sanni, 2021; Abiola & Asiweh, 2022; Nwaiwu & Benvolio, 2023).

Value Added Tax (VAT) stands as one of the most crucial fiscal policy instruments utilized by governments worldwide to generate revenue for public expenditure and foster economic development. Introduced in Nigeria in 1993, VAT has become a significant source of revenue for the government, contributing to the funding of public services and infrastructure (Ajayi & Opebiyi,2020). Over the years, the effectiveness of VAT in promoting economic growth has been a subject of considerable debate among policymakers, economists, and researchers (Raynor, 2018; Agbo & Nwadiolor, 2020; Nwaiwu & Okoro, 2018).Nigeria's adoption of VAT



stemmed from the need to diversify revenue sources and reduce reliance on oil revenue, which had proven to be volatile due to fluctuations in global oil prices. The VAT Act of 1993 established the legal framework for the imposition and collection of VAT on the supply of goods and services. Initially set at a rate of 5%, VAT has undergone several amendments, with the most recent increase occurring in 2020, when the rate was raised to 7.5% (Nguyen, 2019; Đurović-Todorović, Milenkovic & Kalas, 2019; Owolabi & Okwu, 2021).

According to Karran (1985), Amah and Nwaiwu (2018), the performance of VAT revenue in Nigeria has been noteworthy, with consistent growth recorded over the years. According to data from the Federal Inland Revenue Service (FIRS), VAT collections have increased significantly, reflecting both the expansion of the tax base and improvements in compliance and enforcement mechanisms. However, despite the growth in VAT revenue, questions persist regarding its impact on economic growth and development (Hakim, 2020; Nnadozie, 2022; Owolabi & Okwu, 2021).

The relationship between VAT revenue and economic growth is a complex and multifaceted issue that requires careful examination. While proponents argue that VAT contributes to government revenue, which can be channeled into productive investments, critics raise concerns about its regressive nature and potential adverse effects on consumer spending and business investment (Adebeti, Adesina & Sanni, 2021; Amah & Nwaiwu, 2020). Moreover, the extent to which VAT revenue translates into tangible improvements in economic indicators such as Real Gross Domestic Product (RGDP), inflation rate, and employment rate remains a subject of empirical investigation. Previous studies on the relationship between VAT revenue and economic growth in Nigeria have primarily focused on analyzing the impact of VAT on government revenue mobilization and fiscal sustainability (Ajayi & Opebiyi, 2020). However, there is a gap in the literature concerning the specific linkages between VAT revenue, input tax, output tax, and key economic indicators such as RGDP, inflation rate, and employment rate. While some studies have explored the relationship between VAT revenue and economic growth, few have delved into the implications of input tax and output tax dynamics on broader macroeconomic outcomes.

The omission of input tax and output tax considerations in previous studies represents a significant gap in the literature on VAT and economic growth in Nigeria. Understanding the dynamics between input tax, output tax, and economic indicators is essential for policymakers to formulate effective tax policies that support sustainable economic development. By

examining the impact of VAT revenue alongside input and output tax on RGDP, inflation rate, and employment rate, this dissertation seeks to provide insights that can inform evidence-based policymaking and contribute to the existing body of knowledge on fiscal policy and economic growth in Nigeria.

One of the primary challenges in assessing the relationship between VAT revenue and economic growth in Nigeria is the lack of comprehensive analysis that considers the various dimensions of VAT, including input tax and output tax dynamics. Previous studies have predominantly focused on examining the overall impact of VAT on government revenue mobilization, with limited attention given to its implications for economic indicators such as Real Gross Domestic Product (RGDP), inflation rate, and employment rate.

Since to date, many empirical studies have explored the long-run nexus between value added tax and economic growth paradox world wide. On the other hand, Agbo and Nwadiakor (2020) indicates that there is linkages between value added tax and economic growth, while Ajayi and Opobiyi (2020); Enokela(2020); Nwiau(2023) used a huge growth literature and revealed that value added tax had a negative relationship with economic growth adversely. The relationship between value added tax and economic growth paradox has been a subject of interest to many researchers, professional accountancy body and policy makers. Meanwhile, Myles (2020), Omodero(2020) has put more attention to the relationship between value added tax and economic growth in 45 states in the United State of America and found a negative relationship between taxes and economic growth in most of the states. Moreso, Owolabi and Okwu (2021) found relatively high tax low growth regime to a relatively low tax-high growth regime is associated with a significant and with a lower increase in income inequality. Wibowo (2023), Scally (2023) has focused on the relationship between tax structure and economic growth for 21 OECD countries and found a similar result as Wibowo (2023), and Scully (2023). However, Angelopolous etal (2017) has found a contradictory result, the empirical findings regarding to the effect of tax rates and labour income tax rates being negatively related to growth, whereas capital income and corporate income tax rates being usually positively related.

According to Todorovia, Milenkovic and Kalos (2019), Shama(2022), Nnadozie (2022). Input tax, output tax and total value added tax are three of the potential sub-variables that influence human development index of a country for example, most of the law and middle income countries will tend to increase the tax rate to reduce the



high inflationary conditions in order to improve the nation's fiscal policy. In the cause of a developing country such as Nigeria, Brown and Nwaiwu (2021), Nwaiwu and Benvolio (2023), Bestman (2023), Khan and Senhadji (2023) found a negative effect of value added tax on human development index. The level of taxes has different effect on growth and other indicators caused by the macroeconomic variables, such as extent of corruption, which is adversely affected by the value added tax rate in the African countries (Cura, 2024). High VAT rate in a country will force the government to increase the taxes on goods and services by increasing the price and stabilizing the consumption and aggregate expenditure. Johansen, Heady, Amald, Brags and Vartia (2020) found that a causal relationship between value added tax and economic growth is generally supported in the 60 countries making up the three higher income groups.

The present study differs from the foregoing list of studies in that we employ data from a developing economy not often featured centrally in the existing literature. Furthermore, the study is a longitudinal data series, 1984-2023, which is in sharp contrast to earlier Nigerian studies which employed data covering a much short time period. To this aim, the study outlines a modeling framework that links value added tax one that captures the macroeconomic realities of the Nigerian economy over the period reflected by the data. The rest of the paper is organized as follows. The section three describes the methodology adopted for the empirical analysis. Section four presents the empirical results and discussion of the investigation. Section five ended with concluding remarks and recommendation, limitation and suggestion for further studies.

## **LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT**

Theoretical Framework for understudy economic growth and tax paradox. Although nexus of value added tax can, in theory, help to promote economic growth paradox, there is as yet no robust empirical evidence that this causal relationship is quantitatively very important. A growing body of evidence exists in the economics; accounting and finance literature pointing to the relationship between nexus of value added tax and economic growth paradox. The literature/framework for understudy growth over the long-term is rooted in two main theories that relates to possible sources of growth and tax paradox. These are the growth theory and benefit received theory.

### **Benefit Theory of Tax**

According to the renowned economists; Knut and Lindahl (1967) tax should be paid for consumed public

commodities by individuals based on benefits received. In other words, tax is directly proportional to state derived activities (Bhartic, 2009). This simply connote that the more profits an individual enjoys from government activities, the more such individual should pay to the government. A true picture of this theory is the taxes collected in every local authority, such as market place, bus stop among others, which in the long run will be used to develop various social services which results to social benefit to the citizenry. Thus, the public service enjoys is a function of tax revenue derived from the benefit people enjoy. The theory has been subjected to various criticisms on the ground that:

- (i) Benefit is absolutely on abstract issue and there is no logical method to gauge the extent of advantage and its money value
- (ii) If benefits accumulated to an individual are the premise of tax collection, the poor must pay higher on the grounds that in a welfare economy, the poor get a larger number of advantages than the rich. This is plainly out of line and as such an inadmissible suggestion
- (iii) The equitable distribution of wealth, the main objective of most of the modern governments will be defeated if this principle is followed.

### **Optimal Theory of Tax**

The Atkinson – Stiglitz Theorem (1976) made a case for direct taxation as the optimal tax system to be adopted by countries all over the world. But this theorem laid down some assumptions which be met before the direct tax system can be regarded as optimal for a country, thus;

- i) There are two types of households who differ only on their wage rates such that wage rate of one household is greater than the other. This difference does not exist in factor endowments.
- ii) There are only two goods along with labour and that households have identical weakly separable utility functions.
- iii) The utility function is strictly concave, and both goods as well as leisure are normal (Ajayi & Opebiyi, 2020).

Atkinson – Stiglitz (1976) saw their analysis as being more useful in shaping the structure of the argument regarding the choice of optimal tax structure than in providing policy advice. In a theoretical view, the theory agrees to the fact that taxation can indeed affect economic growth and therefore can be accepted as a policy advice to countries on the optimal tax mix which they can employ for better working of the economy. Since the realities of the Nigerian socio-economic background are contrary to the assumptions



of the theory, the study can infer that indirect taxation should be the optimal tax system for Nigeria.

### **Conceptual Framework**

The study has developed the following schematic representation of the conceptual framework. In doing so, the data for determining the most control variables that should have to be included in the study were chosen according to the characteristics that they create more relationship between indirect tax and economic growth.

### **Economic Growth Paradox**

The concept of economic growth paradox has been regulated by some to the vocabulary of the biological sciences. This is because growth can only be ascribed to living being. In this regard, Kuznets (1955) stressed that growth is a concept whose proper domicile is in the study of organic units, and the use of the concept in economics is an example of the irrelevant employment of analogy differently (Ajayi & Opebiyi, 2020). But in recent times, the position of Kuznets has been seriously undermined may be because it was founded on a wrong premise. According to Myles (2000), economic growth is basis of increased prosperity. And since incremental growth is not restricted to organic units, the Kuznets (1995) position of economic growth is the increase in output or per capita income over time. He further described economic growth as means of analyzing the economic performance of advanced countries over time.

The concept of economic growth has been rooted on different theoretical ranging from the neo-classical growth theory of Solow (1950) which believed that taxes can hamper economic growth. Rather than long run tax implication, it proposed a transitory growth (Hall & Jengenson 1967). The endogenous growth mode was a direct affront on the neo-classical theory of economic growth. The endogenous growth theory advanced a steady which presupposes the policy changes can result in savings (King & Rebol, 1990). According to the endogenous growth theory, government policy, including taxation, can permanently result to increase in per capita output where there is high level of innovation. The implication of the theory is that taxes and other fiscal policies of government can persistently increase per capita output (Lucas, 1990; Mencloza, Milesi-Ferretti & Asea, 1990). Beyond the neo-classical and the endogenous theory of economic growth lies the unified and the new theory of economic growth. The unified theory of economic growth was propounded by Galar (2005) as an offshoot of the endogenous growth theory.

### **Gross Domestic Product**

Gross domestic product is an internationally recognized measure of economy size and strength. It is important to have up-to-date data so the rebasing is in the right direction. It is expected to make planning and investment decisions more robust and informed. For example the performance of the government in revenue collection, capital spending, external debt and budgeting can be benchmarked against similar economies. Nigeria GDP was recently rebased from about USD 270 billion to USD 510 billion for 2013. The increase of about 90% was attributed to new sectors of the economy such as telecommunications, movies, and retail which previously not captivated or under reported. As a result of the rebasing, Nigeria is now the largest country in Africa and 26 largest in the world. However, Nigeria needs more than GDP rebasing to stimulate the economy. While it is important to have up to date statistics, this will not of its own lead to economic prosperity or change on the ground (Herbert, Nwaorgu & Nwaiwu, 2017; Olabisi, Akinbode & Alebiosu, 2018).

### **Value Added Tax**

Value added tax is another form of indirect tax applied at each stage of production to the value added. Value added tax is a consumption chain and borne by the final consumer of the product or service. Each person is required to charge and collect value added tax at a flat rate of 7.5% on all invoiced amounts on all goods and services produced in Nigeria. Value added tax was introduced by the federal government of Nigeria in January, 1993. It was believed by many Nigerian that the tax was introduced as a means of avoiding taking loans from international agencies and came into effect on January 1, 1994 to replace the sale tax (Ocheie, 2010). Taxable persons are obliged to register under value added tax act. The tax is at a single rate of 7.5% percent of taxable goods and services. Supply of all goods and services except those specifically exempted are subject to value added tax. Non-resident companies, which transact business in Nigeria, are also required to register for value added tax and render value added tax returns using the address of the company in Nigeria with whom they have subsisting contract. A taxable person, whether Nigerian resident outside Nigeria, who falls or refuses to register for value added tax administration within six months of engaging in any economic activity in the territory of Nigeria is liable to pay a penalty of 67.00 for the first month that the failure occurs and a further penalty of 34 for each subsequent months in which the failure continues (Emmanuel, 2013)

### **Input Tax**



Input tax VAT refers to the value-added tax (VAT) levied on the purchase of goods and services by businesses for use in their production process. Under the VAT system, businesses are generally allowed to deduct the input tax they incur on their purchases from the output tax they charge on their sales, resulting in a net tax liability or refund. Input tax represents a significant component of the VAT system, as it ensures that taxation is imposed at each stage of the production and distribution chain, thereby minimizing the possibility of tax cascading.

Input tax VAT serves several key roles within the VAT system. Firstly, it facilitates the neutrality of VAT by ensuring that businesses are not subject to double taxation on their inputs. By allowing businesses to recover the VAT paid on their purchases, input tax ensures that only the value added at each stage of production is subject to taxation. This promotes efficiency and avoids distortions in resource allocation, as businesses can effectively manage their costs and invest in productive activities (Ajayi & Opebiyi, 2020).

The calculation and treatment of input tax VAT involve several considerations. Businesses must maintain accurate records of their input tax expenditures, including VAT invoices and receipts, to support their claims for input tax deductions. The input tax claimed must relate directly to the taxable supplies made by the business in the course of its economic activities. Additionally, businesses must adhere to VAT regulations regarding the timing of input tax claims and any restrictions or exemptions that may apply to certain types of inputs.

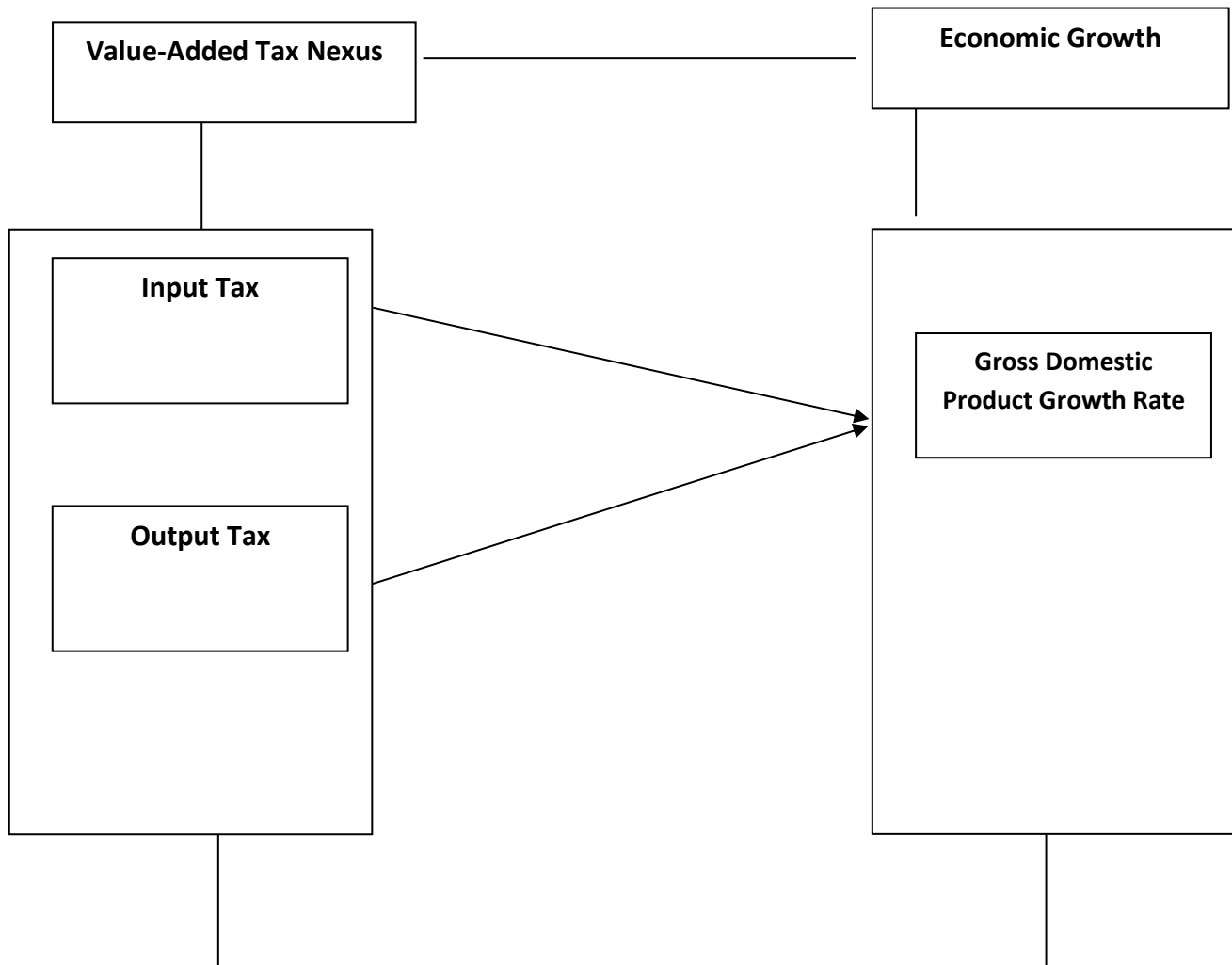
For businesses, input tax VAT represents both a cost and a potential tax credit. While the payment of input tax increases the cost of acquiring inputs for production, the ability to deduct input tax from output tax liabilities reduces the overall tax burden. Effective management of input tax VAT is therefore essential for

businesses to optimize their tax position and maintain competitiveness in the market. This may involve strategies such as careful selection of suppliers, monitoring of input tax claims, and compliance with VAT regulations.

#### **Output Tax**

Output tax VAT refers to the value-added tax (VAT) charged by businesses on the sale of goods and services to their customers. As part of the VAT system, businesses are required to collect output tax from their customers and remit it to the tax authorities, reflecting the value added by the business in the production and distribution process. Output tax constitutes a significant source of revenue for governments, contributing to funding public services and infrastructure.

Output tax VAT plays a crucial role in the operation of the VAT system, serving as the primary mechanism through which VAT revenue is generated. Businesses act as agents of the government in collecting output tax from consumers and remitting it to the tax authorities. By imposing VAT on the final consumption of goods and services, output tax ensures that taxation is borne by end-users in proportion to their consumption levels. This helps to achieve a more equitable distribution of the tax burden across the population. The calculation and collection of output tax VAT involve several steps. Businesses must determine the appropriate VAT rate applicable to their sales transactions, based on the nature of the goods or services supplied and any exemptions or reduced rates specified in VAT legislation. Output tax is then calculated as a percentage of the selling price or value of the taxable supplies made by the business. Businesses are responsible for issuing VAT invoices to their customers, clearly indicating the amount of output tax charged.



Source: Input Tax (Agbo, Nwadiolor, 2020), Output tax (Ayeni & Afolabi, 2020), Gross Domestic Product (Enokela, 2020).

**Figure 1: Operational framework of Value-added tax nexus and economic growth in Nigeria.**



### **Empirical Review**

The empirical literature on the indirect tax and economic growth is vast. This section looks at some of the empirical studies that have been done on the area of value added tax, customs and excise duty, gross domestic product and employment rate with different methodology, results and discussion, conclusions and recommendations.

Ihaboya and Mgbane (2022) conducted study on value-added tax revenue and economic growth in Nigeria. The aim of this study is to investigate the indirect tax and economic growth dynamics against the backdrop of the paucity of empirical literature in developing countries with Nigeria as reference point. The study adopted a combination of cointegration and error correction mechanism after series of diagnostic tests which helped to check the adequacy of the specified model. The Engel-Granger two step procedures was used to test the short run dynamic behavior of the model while the autoregressive distributed lag was used to correct the discrepancies between short and long run impact of the explanatory variables. The result of the diagnostic tests shows the adequacy of the specified model. The study found a negative and insignificant relationship between value-added tax revenue and economic growth in Nigeria. The ratio of total indirect tax to total tax revenue reported a negative coefficient of (0.5817). The ratio of total tax to total federal revenue reported a robust t-value of (19.9276) and a positive coefficient of (2.0882) at the 1% level of significance. Against the above result, it was recommended that emphasis should be shifted from indirect tax as a growth driver in Nigeria. Jing and Xing (2021) conducted a study on tax structure on economic growth: Empirical evidence from OECD countries. The aim of the study is to identify whether the tax structure affects economic growth by showing empirical evidence from OECD countries. This study estimates the influence of changes in the structure of tax revenue neutral to the level of income per capita in the long run by using panel data for 17 OECD countries over the period 1970-2004. In contrasts to study done before, they did not find solid footing for the different types tax terms' impact on growth. They also do not have clear evidence to explain the consumption tax on income tax or personal income tax demand on corporate personal tax. The only robust result appears to be that shifts in tax revenue towards property taxes are associated with a higher level of income per capita in the long run. This study used physical capital, human capital, population growth, tax revenue (GDP), personal income tax, corporate income tax, consumption tax and property tax as the variables. Based on the findings of the research, it shows that the shifts in the total tax

revenue towards the property taxes may be associated with a higher steady-state level of the income per capita. In addition, this result also remains robust after the authors used different sample, different regressors and different specification of the time effects. The results also find that there is no strong evidence for favouring the personal income tax over the corporate income tax or for the favouring the consumption tax over income tax.

Ibukunoluwa (2021) conducted a research, value added tax and economic growth in Nigeria. The aim of the study focused on value added tax and economic growth in two ways. First, value added tax and gross domestic product as proxies for value added tax; and economic growth and value added tax and gross national income as the second set of proxies. Furthermore, value added tax is viewed from the angle of output and input tax and how the net is remitted to the government for fiscal responsibilities. Two hypotheses are generated and tested to examine the relationship between the variables. The results showed a clear significant yet positive effect on GDP. Although the exact extent to which this has on GDP is unknown, there is evidence that there is a strong correlation between value added tax and gross domestic product. For value added tax and gross national income, the growing proportion of both variables was disproportional even though value added tax values explicitly presented a higher growth rate than GNI. This is viewed as a positive trend that can help key stakeholders in Nigeria, including analysts, to predict realistic values of value added tax's effect on economic growth. Furthermore, the study recommended more stable and robust value added tax system that is less bureaucratic and centralized, increasing the value added tax rate with corresponding welfare and social amenities.

Dil (2021), conducted a research indirect tax; Trend and structure of Nepal. The aim of the study tries to analyse the trend and structure of indirect tax in Nepal and examine the contribution of indirect tax in gross domestic product of Nepal. This study has been based on secondary data published by the government of Nepal covering a period between 2002/03 – 2019/20 fiscal year. Descriptive method of analysis has been adopted in the study. During the study period, the percentage contribution of indirect taxes to gross domestic product ranges from 6.60 to 14.45. the percentage contribution is observed to be increasing along with the fluctuation trend till 2018/19 but decreased in 2019/20 as compared to earlier years.

Furceri and Karras (2019), researched to investigate the effects of changes of taxes on economic growth by using an annual data from 1965-2017 for panel of



twenty-six economies. The main variable of this study is growth and the growth rate of real GDP per capita. The study also uses other variables such as tax rate and income tax. The findings show that the effect of an increasing in tax on real GDP per capita is negative and persistent where an increasing in the total tax rate which measures as the total tax ratio to GDP by 2% of GDP has a long –run effect on real GDP per capita of -0.5% to -1%. Besides, their findings also imply that the increase in social security contributions or taxes on goods and services has a large negative effect on per capita output than the increase in the income tax.

Ngugen (2019) conducted a study, impact of direct and indirect tax on the economic growth of Vietnam. The aim of the study is to investigate the impact of direct and indirect tax on economic growth of Vietnam. Data of the study were collected from the period of 2003-2017. The data collected were analysed using ordinary least square regression analysis. The results show that tax has a positive impact on the economic growth of Vietnam. The impacts of direct tax and indirect tax on the economy are contrasting. Indirect tax has an optimistic effect on economic growth, whereas direct tax has an indistinguishable impact on the economic growth of Vietnam. The results also indicate that there has not been enough evidence to conclude that indirect tax has more guidance on the economy as compared to direct tax. The Vietnamese tax system should be reformed to stimulate sustainable economic growth.

Bazgan (2018) study the impact of indirect tax and economic growth in the Romanian economy. The aim of the study is to analyse the impact of indirect taxes on economic growth in the Romanian economy. Data were sourced through secondary means, and the data collected were analysed using unit root test, cointegration, error correction model with the aid of e-view version 10. The results as analysed indirect taxes will positively impact economic growth in the Romanian economy even from the first quota of estimation of any optimistic change in the structure of indirect taxes. Although the endogenous variables presented in the VAR model are relevant to describe the analysed econometric model the changes in indirect and direct taxes should not be regarded as the only factors that may influence economic growth due to the fact that the macroeconomic variable of economic growth could be affected by many other decisive factors.

Dangal (2018) highlighted that the different areas of indirect tax, customs duties, excise duties and value added tax made the average contribution of 33.95%, 18.86% and 47.09%, respectively which shows the dominance of value added tax over other fields of indirect tax. If the study look at the global context, the

growth of excise duties is essential, and there is a good sign of it during the study time. The growth in excise duties indicates that there is good production of domestic products in the country, less external dependency on very necessary goods, and the possibility of sustainable development has increased.

Lakuma and Sserumjogi (2018) on the value added tax gap analysis in Uganda shows that the compliance gap is estimated to be between 39 percent and 30 percent of potential value added tax revenues during the period 2009/10-2016/17, and peaking in 2010/11 in that country. The estimated gap is higher than the typically observed levels in sub-Saharan countries and near to the levels in Latin American countries. The estimated compliance gap increased to 64 percent of potential revenue in 2010/11, largely due to the significant reduction in imports during the 2010/11 election season, the lag effects of the global financial crisis, the effects of rebasing the economy from 2005/06 to 2009/10 and potential loss of information during the switchover from a manual value added system to an electronic tax system. The gap has since gradually decreased to 30 percent of potential value added tax revenues. The size of compliance gap relative to GDP was between 2.3 percent and 3.6 percent of GDP.

Previous studies have primarily focused on analyzing the overall impact of VAT on government revenue mobilization, with limited attention given to the specific dynamics of input tax and output tax. There is a lack of comprehensive analysis that examines the interactions between input tax, output tax, and their respective effects on economic indicators such as Real Gross Domestic Product (RGDP).

### **Research Question and Hypotheses Development**

The study seeks to provide answers to the following research question (RQ).

RQ1: How does nexus of value added tax relate to economic growth paradox in Nigeria?

The above research question lends a number of hypotheses, stated in the null form and relate with research question 1. Research question 1 yields the following two hypotheses.

H<sub>01</sub>: There is no significant relationship between output tax and gross domestic product rate.

H<sub>02</sub>: Input tax does not significantly relate to gross domestic product rate.

### **METHODOLOGY:**





In terms of research design, the ex-post facto design is considered suitable for this because it is suitable to uncover the changes and effects of past economic events business transaction of the firms in research aim on indirect tax concerns as was presented in annual corporate reports. The study investigates the relationship between value-added tax revenue and economic growth in Nigeria. Therefore, the research population consists of twenty-seven years, spanning from 1994-2023. The sample size is twenty-seven (27) years data from (1994-2020) selected from central bank of Nigeria statistical bulletin, annual reports of central bank of Nigeria, federal inland revenue statistic, National Bureau of statistics and annual abstract of statistics. Purposive or judgemental sampling techniques were adopted.

Data for this empirical study were entirely secondary in nature because its design suggested content analysis of

$$GDP_{it} = f(INP_{it}, OUT_{it}) \tag{i}$$

From the above, the study derives the mathematical model of the equation as thus:

$$GDP_{it} = \beta_{0it} + \beta_1 INP_{it} + \beta_2 OUT_{it} \tag{ii}$$

Converting the mathematical model to econometric model by the application of the constant term, coefficient and error term, the models are represented as thus:

$$GDP_{it} = \beta_{0it} + \beta_1 INP_{it} + \beta_2 OUT_{it} + \mu_{it} \tag{iii}$$

Where:

$GDP_{it}$  = Gross Domestic Product 'i' for the period of time 't'

$INP_{it}$  = Input tax 'i' for the period of time 't'

$OUT_{it}$  = Output tax 'i' for the period of time 't'

$\beta_0$  = Constant 'i' for the period of time 't'

$\beta_1-\beta_3$ , = Regression Slope 'i' for the period of time 't'

$\mu_{it}$  = Error Term 'i' for the period of time 't'

it = for the period of time 't'.

### Apriori Expectation

In the study, gross domestic product and employment rate are employed as proxy's to measure the dependent variable which is economic growth. Each of the above employed measures of economic growth portray the increase in economic growth of the economic entities under value added tax in terms of input taxes and output taxes in Nigeria. In summary, the apriori expectation is stated as follows:

data on historical economic events and business transactions which were reported as indirect tax to justify relationship with economic growth such were obtained from central bank of Nigeria statistical bulletin, annual reports central bank of Nigeria, National Bureau of statistics, annual abstract of statistics from 1994-2023. *Complementary* data were capture from the period reports of federal Inland Revenue service.

### Model Specification

Based on the theoretical underpinning and empirical review of related literature made in the study, the study constructed a model specification that captured the relationship between value-added tax revenue and economic growth in Nigeria. The model is theoretically specified in functional form as thus:

$$\beta_1 > 0, \beta_2 > 0,$$

### Data Analysis Technique

The data analysis is performed with the aid of descriptive statistic techniques and multiple regression models to ascertain the relationship between the variables as expressed by the hypotheses. Other diagnostic test was conducted to establish validity, such include; descriptive statistics, unit root test, co-integration test, error correction estimation.



**Stationarity Test:** Stationarity test is the first step of testing the Stationarity of succession or the order of integration of data because the succession ought to be integrated in similar order, hence it is essential to test the Stationarity of the variables by means of augmented dickey Fuller test in the level and the first difference.

**Johansen Cointegration Test:**

This test was established to observe if there is a long run connection amongst variables in the population. Generally, it is admitted that to establish a

cointegration, the probable ratio must be greater than McKinnon critical values. If the explained variable Y and the set of explanatory variables  $x_1 x_2 - x_n$  are integrated in the order of 1 (1), then there exists a clear combination of the time series.

**RESULTS AND DISCUSSION**

**Presentation of Data**

Data collected on employed variables from secondary sources are presented in the table below.

**Table 1: Data Presentation of Gross Domestic Product Growth Rate (GDPGR), Input tax (INP) and Output tax (OUT)in Nigeria over the study period 1994 to 2023.**

Year	GDPGR	INP	OUT
1994	1.04	5.03	173.65
1995	-0.07	6.26	345.93
1996	4.2	11.29	496.69
1997	2.94	13.91	554.96
1998	2.58	16.21	4,957.65
1999	0.58	23.75	736.63
2000	5.02	30.64	8.3
2001	5.92	44.91	13.6
2002	15.33	52.63	14.1
2003	7.35	65.89	14.81
2004	9.25	96.2	16.04
2005	6.44	87.45	16.76
2006	6.06	110.57	12.46
2007	6.59	144.37	16.49
2008	6.76	198.07	18.71
2009	8.04	229.32	19.27
2010	9.7	275.57	19.5
2011	4.89	318	26.91
2012	4.28	347.69	26.27
2013	5.39	389.53	23
2014	6.31	388.85	24.03
2015	2.65	381.27	23.14
2016	-1.62	397.06	31.74
2017	0.81	473.77	46.8
2018	1.92	533.74	36.35
2019	2.21	564.45	40.94
2020	-1.79	699.37	47.76
2021	1.93	764.816	53.093
2022	1.785	847.631	58.798
2023	1.64	930.446	64.501

**Source:** Central Bank of Nigeria Statistical Bulletin (2023).

**Unit Root Test (Augmented Dickey Fuller)**

To check for intrinsic attributes of the study data, the study employs the unit root/stationarity test.



**Table 2: Unit Root Output (Augmented Dickey Fuller)**

Variable	ADF T-statistics		Test Critical Values			Probability Level	Order of Integration
	At Level	1st diff	10%	5%	1%		
GDGR	-3.210747**	-8.061512***	-3.639407	-2.951125	-2.614300	0.0000	I(1)
EMP	2.308791	-3.901225***	-3.724070	-2.986225	-2.614300	0.0000	I(1)
INF	2.308791	-3.901225***	-3.724070	-2.986225	-2.614300	0.0000	I(1)
INP	-3.289142**	-4.488818***	-3.632900	-2.948404	-2.612874	0.0067	I(1)
OUT	-1.234499	-5.837602***	-3.632900	-2.948404	-2.612874	0.0000	I(1)
R&D	-1.113621	-6.375632***	-3.724070	-2.986225	-2.614300	0.0000	I(1)

\*\*\* sign at 10%, 5% and 1%, \*\* sign at 10% and 5%.

The above table shows that, at the 1, 5 and 10 percent level of significance, variables employed were not stationary at level (0). This led to the evaluation of stationarity at first difference (1). It was discovered that, all employed variables were statistically significant. This shows that employed variables possessed vital characteristics that converges around their respective

mean and are not random walks. This makes the co-integration/long run test imperative.

**Cointegration Test**

The researcher proceeds to test the long run association/Relationship amongst employed variable I.e. value-added taxation and economic growth in Nigeria.

**Table 3: Cointegration Test (Johansen Cointegration)(Model 1)**

Trend assumption: Linear deterministic trend  
 Series: GDGR INP  
 Lags interval (in first differences): 1 to 2

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.848104	110.7357	69.81889	0.0000
At most 1 *	0.462837	48.54517	47.85613	0.0430
At most 2	0.402923	28.03722	29.79707	0.0787

Trace test indicates 2 cointegrating eqn(s) at the 0.05 level

\* denotes rejection of the hypothesis at the 0.05 level

\*\*MacKinnon-Haug-Michelis (1999) p-values

The study discovers the presence of a long-run relationship in light of the 2 co-integration equation. This shows that, variables converge in the presence of variability as emanating from the environment. This means that, the employed variables significant relationship in light of changes. Due to the presence of a long run relationship, it is advised that there exists a long run relationship.

**Vector Error Correction**

**Table 4. Vector Error Correction Model Output**

System: Error Correction Model  
 Estimation Method: Least Squares

Coefficient	Std. Error	t-Statistic	Prob.
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C(1)	-0.355235	0.183998	-1.930645	0.0671
C(2)	-0.346207	0.218742	-1.582720	0.1284
C(3)	-0.072388	0.151273	-0.478527	0.6372
C(4)	-0.356615	1.696540	-0.210202	0.8355
C(5)	3.137671	1.717206	1.827195	0.0819
C(6)	2.953896	1.206341	2.448641	0.0022
C(7)	2.365948	1.154518	2.049295	0.0060
ECM	-0.455235	0.184001	-2.474089	0.0034

---

Determinant residual covariance 58.99212

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Equation:  $D(GDGR) = C(1)*(GDGR(-1) + 6.21500550595*INP(-1) - 1.74418162057*OUT(-1) + 18.9881552816*DMR(-1) - 18.1648886176*FGR(-1) + 90.8659354521) + C(2)*D(GDGR(-1)) + C(3)*D(GDGR(-2)) + C(4)*D(INP(-1)) + C(5)*D(INP(-2)) + C(6)*D(OUT(-1)) + C(7)*D(OUT(-2)) + ECM$

Observations: 27

R-squared	0.678309	Mean dependent var	0.154061
Adjusted R-squared	0.509804	S.D. dependent var	13.75180
S.E. of regression	9.628182	Sum squared resid	1946.740
Durbin-Watson stat	2.026025		

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The above Vector Error Correction model shows that the Error Correction model displays the right negative sign. Its coefficient of -0.455235 shows that the short run adjustment to the long run can be accounted for backwards by 45.52 percent. All predictor variables

jointly account for roughly 67.83 percent of variation in the criterion variable.

**Vector Error Correction Model**

We carry out this test to check bilaterally whether the lags of the excluded variable affect the endogenous variable.

**Table 4.6: Pairwise Granger Causality Output**

VEC Granger Causality/Block Exogeneity Wald Tests

Dependent variable: D(GDGR)

Excluded	Chi-sq	Df	Prob.
D(INP)	3.991521	2	0.1359
D(OUT)	2.839556	2	0.2418
D(R&D)	2.845237	2	0.2713
All	14.61053	8	0.0672

Dependent variable: D(INP)

Excluded	Chi-sq	Df	Prob.
D(GDGR)	4.533991	2	0.1036

Dependent variable: D(OUT)



Excluded	Chi-sq	Df	Prob.
D(GDGR)	8.836771	2	0.0092

Using the significance level and based on the above estimate, it is clear that the null hypothesis is not rejected in the economic growth rate (GDGR). This shows an independent hypothesis and therefore explains that changes in value-added taxes do not account for changes in gross domestic product growth rate in the economy.

A cursory attention to empirical nature of the findings predicates on in-depth basis for diverse views in discussion. The first hypothetical test resulted a positive but insignificant relationship between input tax and gross domestic product in Nigeria. Followed by no form of causality. The robust empirical results differs from those of Fahul (2015), Isreal and Nuka (2015); Salami Apelogun, Omidign and Ojoye (2015), Mgles (2020) which negative relationship between input tax and gross domestic product. It is however consistent with the studies done by Nwaeze, Njoku and Nwaeze (2014), Onwuchekwu and Arnwa (2014), Abata (2014), Olatunji (2019), Amah and Nwaiwu (2018) which found no significance or positive and insignificant relationship between input tax and gross domestic product.

Similarly, the second hypothesis revealed a strong positive and significant relationship between customs and excise with gross domestic product growth rate. While causality is seen to spill from input tax to gross domestic product. This outcome is in tandem with the empirical result of studies carried out by Yanikkaya (2012), Dejong and Ripoll (2015), Okafor (2015), Gacanja (2016), Nwaiwu and Joseph (2022) among others, all of whom reported positive and significant relationship between customs and excise duty with economic growth. However, this finding is inconsistent with the findings of Draitsaki and Katerina (2005), Sameti and Rafie (2010), Onduru (2013) who opined that customs and excise duty has a significant negative relationship with economic growth.

The positive and significant relationship between output tax and gross domestic product indicates that policy measures to expand customs revenue through more effective custom administration will impact positively in growing the economy. These results run contrary to the view that higher custom tariffs are universally detrimental for growth. This is important from a policy perspective, since it indicates that the maintenance of high tariff barriers does not appear to be a leading

culprit for the economic stagnation suffered by Nigeria and other developing countries in the world.

### **CONCLUSIONS AND RECOMMENDATIONS**

Conclusively, the study shows that that input tax has a positive and insignificantly relate to gross domestic product in Nigeria. Regression analysis results in table 4.2 demonstrate this kind of relationship. It shows that if there is a 1% increase in input tax, revenue would increase economic growth by 0.0356%. The insignificant relationship of input tax with economic growth. From the empirical findings, it can be concluded that input tax has an insignificant relationship with economic growth. This study shows that the relationship between input tax and the economy is not large enough to relate to the economic growth. Analysis of research result has shown that output tax has a positive and significantly relate to gross domestic product in Nigeria. Regression analysis results in table 4.2 demonstrate this kind of relationship. It indicates that if there is a 1% increase in output tax revenue would increase economic growth by 0.1228%. Customs and excise duty would increase the revenue base of government and make funds available for development purpose that will accelerate economic growth. From the findings, it can be concluded that customs and excise duty has a positive and significant effect on gross domestic product in Nigeria.

The findings of this research contradict the federal government position on the New National Tax policy which emphasizes value-added taxation. The global drift from direct to value-added tax seems to suffer empirical justification in Nigeria. As such, the study is advocating that:

- (i) The mono-product economy of Nigeria should be diversified along the line of taxation since there exist a positive relationship between taxation and economic growth in Nigeria. In addition, the drift from direct to indirect form of taxation as entrenched in the New National policy should be deemphasized as there exists a negative and insignificant relationship between input tax revenue and economic growth in Nigeria.



- (ii) To increase the rate of growth of output tax, the government should tackle the challenges of porous borders, smuggling, security and shortage of adequately trained personal at the agencies responsible for the assessment, collection and administration of output tax in Nigeria. The various customs officers should be alive to their responsibility to reduce the rate smuggling which is a major method of tax evasion in the country.
- (iii) Tax authorities should establish good relationship with the professional associations involved in tax matters in order to reduce tax malpractices perpetrated by customs tax payers with the connivance and often active support of external auditors and tax consultants. It may also be necessary to re-visit and review some customs and excise laws and regulations that are repugnant to the performance of the customs and excise tax system, so as to block and discourage the loopholes that are being exploited by taxpayers to either evade or avoid tax payments. Constant review of existing output tax laws will keep the act in pace with the economic reality.
- (iv) The government should maximize revenue collection through proper documentation and registration of companies in the country. The revenue collection agencies should be equipped with the appropriate infrastructure and technology to effectively modernize the tax system in Nigeria. This would ease tax assessment, payment, monitoring and back-duty audit. There should be constant training and re-training of excise administrators through seminars and conferences to keep them abreast of the modern trends in excise tax administration.

#### **Limitation and Suggestion for further studies.**

This econometric study critically come up with interesting concluding remark. However, like any other research it is not without its limitation. We acknowledges that the analysis only investigated the relationship between nexus of value added tax with its dimensions as input and output tax respectively conversely, economic growth paradox the criterion variable measured with proxy as gross domestic product growth rate, spanning from 1995-2023. To address this limitation, further empirical studies should extend the

period from 1980-2023 and includes other variables as personal income tax, education tax and capital gains tax in order to fully cater for changes in economic cycles in Nigeria.

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