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# Effects of Taxation on the Growth of Nigerian Economy

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## ABSTRACT

*The study examined the effects of taxation on the growth of the Nigerian economy over a period of 30 years ranging from 1990–2019. The data on taxation was sourced from the Federal Inland Revenue Service (FIRS) and the Nigerian Bureau of Statistics (NBS), while that of the Nigerian economy was sourced from the Central Bank of Nigeria (CBN) Statistical Bulletin 2020. The explanatory variables were Petroleum Profit Tax (PPT), Company Income Tax (CIT), Custom and Excise Duties (CED), and Value Added Tax (VAT), which are proxies for taxation, and the dependent variables were Gross Domestic Product of Mining & Quarrying (MQGDP) and Manufacturing & Processing (MPGDP), as proxies for the Nigerian Economy. Diagnostic tests that were carried out include: descriptive statistics used to test for the normality of the data; the Augmented Dickey Fuller unit root test to test for the stationarity of the data; and the Johansen Co-integration test to test for long-run equilibrium relationships that exist among the variables. For data analysis, Auto Regressive Distributive Lag (ARDL) techniques were used as a statistical tool, and the statistical package used was E-view version 10. Based on the results obtained from ARDL, it was found that Petroleum Profit Tax (PPT), Custom & Excise Duties (CED) and Value Added Tax (VAT) have positive effects on the growth of mining and quarrying, with Company Income Tax (CIT) exerting a negative effect on them. The findings also revealed that Petroleum Profit Tax (PPT) and Customs & Excise Duties (CED) have a positive impact on growth of the manufacturing and processing sector, while Company Income Tax (CIT) and Value Added Tax have a negative impact. Based on the findings stated above, it was concluded that taxation has a positive effect on the growth of the Nigerian economy. This study recommends that the government and relevant tax authorities should strive to ensure that tax revenue is increased and channeled to those sectors of the economy that will in turn engender growth.*

***Keywords:*** *Nigerian economy; tax revenue; mining and quarrying; manufacturing and processing.*

# I INTRODUCTION

## Background Information

The government of any nation is responsible for, among other things, enhancing the well-being and quality of life of its citizens, protecting lives and property, providing social welfare services, preserving law and order, and supporting economic development. To fulfill these tasks, a variety of revenue production methods are required. A nation's revenue can be generated via an external and internal tax system. To generate revenue, the government imposes a tax on the income, profit, and capital gains of individuals, organisations, and other legal entities. A tax is a mandated payment or transfer from private persons, organisations, or groups to the government and a significant administrative pillar of any society, with the tax system providing a means for the government to collect the income necessary to meet its social commitments.

The tax structure is the key mechanism for efficiently and effectively mobilizing a nation's resources, hence fostering economic growth and development (Amah, 2021). Taxation is the monetary charge imposed by the government on the income of its citizens, corporations, and other money-generating assets. It also refers to the government's right to compel individuals and property owners to make proportional contributions for the funding of government administration and general public requirements. Due to its limited resources, the government must involve the people it governs. This implies that all taxable individuals, businesses, and organisations must pay a tax to support the government's budget (Ajala & Afolabi, 2021).

The amount of revenue generated influences the economic growth of a nation. In general, taxes are a dependable and durable source of government revenue, as well as an instrument for macroeconomic policy and fiscal management (Oladipo, Iyoha, Fakile, Asaleye & Eluyela, 2019). Since then, the Nigerian tax system has undergone various adjustments (Edori, Edori & Idatoru, 2017). A tax is levied by governments to generate revenue for effective administration of government (Musa, 2009). It is anticipated that the government's tax money will be channeled to the productive sectors of the economy by fostering the expansion of various economic sectors. It is also anticipated that the gross domestic products of various industries will increase dramatically. A few examples include manufacturing and processing, mining and quarrying, agriculture, transportation and storage, information and communication, building and construction, and commerce and trade (Edori *et al*., 2017).

As the country neared the new millennium, it became imperative to refocus and reorganize the Nigerian economy's priorities. The international price of crude oil, Nigeria's largest source of foreign exchange earnings, was declining, and the country faced the inevitability of a monoculture economy's weakness. Therefore, it became imperative to identify alternative internal and external revenue-raising strategies for the government. Promotion and export of non-oil items, such as primary agricultural products and semi-processed agricultural products, were among the external ways. One of the internal measures was a comprehensive overhaul of the tax system through the implementation of a well-managed and efficient tax structure (Afolayan & Okonkwo, 2019). This study investigates the impact of taxes on the growth of several sectors of the Nigerian economy.

On the basis of the findings, the report will include recommendations for repairing the Nigerian tax system.

**Problem Statement**

Nigeria is supposed to provide basic amenities, infrastructure, and other social welfare to its citizens through tax revenue, but the country is in shambles due to insufficient power supply, a poor educational system, a lack of infrastructure, delays in the passage of legislative reforms, an inefficient property regulation system, a poor electoral process, restrictive trade policies, militancy, insecurity, an inconsistent regulatory environment, and a slow and idli government. Nigeria has been faced with so many obstacles even with her oil rich nation status. The ineffective tax system, which led to the enactment of several laws such as the Income Tax Management Act (ITMA), Companies Income Tax Decree (CITD), etc., does not appear to have significantly improved tax administration, as the system is still faced with numerous issues and challenges, such as the multiplicity of taxes, poor administration, lack of database, tax touting, the complexity of Nigerian tax laws, minimum tax, commencement, and the change of accounting date and nonpayment of f tax refunds.

The Nigerian government has not been able to streamline tax collection mechanisms; ensure good, effective, and efficient tax administration; introduce tax technology; create tax awareness and communication; simplify tax laws and abolish some; refund overpaid taxes; allow independence of tax authorities; address the issue of corruption among tax officials; strengthen tax audit; establish a special court to handle tax issues; or establish a special court to handle tax evasion and other tax crimes. This worry motivated this study to evaluate the effects of taxation on the Nigerian economy and propose any required recommendations to ameliorate these concerns, hence promoting Nigeria's economic progress.

**Aim and Objectives of The Study.**

The main objective of this study is to investigate the effects of taxation on the growth of the Nigerian economy. The specific objectives of this study are to:

1. Determine the effects of taxation on the growth of the mining and quarrying sector in Nigeria.
2. Ascertain the effects of taxation on the growth of the manufacturing and processing sectors in Nigeria.
3. Examine the effects of taxation on the growth of the agricultural sector in Nigeria.
4. Ascertain the effects of taxation on the growth of information and communication sectors in Nigeria.
5. Determine the effects of taxation on the growth of the transport and storage sector in Nigeria.

## II LITERATURE REVIEW

**Conceptual Review**

**Concepts of Taxation**

Tax is a forced contribution to the support of the government placed on persons, property, income, goods, transactions, etc. at a specified rate, usually proportional to the amount on which the contribution is levied. To this condition, one may add that taxes be levied by a public entity for public purposes, and under the authority of the legislature. Canadian courts must distinguish between a tax and a fee for government service in order to clarify these conditions. First, if the payment is a fee for a government service, the individual must receive some form of service directly. There is a major difference between paying a bridge toll and funding a country's defence through taxation. Second, the charge must be proportional to the service rendered and not based on the individual's ability to pay or other factors such as the value of his

property. Third, there is no objection to a fee that generates a profit as long as the profit is justifiable. The abrupt increase in energy costs, or the post office levy, which has been used by various governments not to balance the budget, but as a fiscal instrument to limit domestic consumption, has some features of a tax, according to this line of reasoning (Afolayan & Okonkwo, 2019)..Taxes have been paid since 1904. Northern Nigeria implemented taxation as early as 1904. In Nigeria, despite its vast history, there are still obstacles to successful administration (Ola, 1999). According to Olaoye, Adebayo, and Dada (2014), the history of taxes in Nigeria can be divided into five periods: pre-colonial, 1900-1918, 1918-1943, 1943-1974, and 1974 to the present.

Under the absolute control of the Fulani Emirs/Warlords, Northern Nigeria had a well-established revenue system during the pre-colonial era. Perhaps the well-established taxing procedures in that region of the Federation were a result of their faith. When the British arrived in Nigeria between 1900 and 1918, the revenue system in the North was outlined in two memoranda: Native Revenue Proclamation No. 4 of 1904 and the Native Revenue Proclamation No. 2 of 1906. Between 1919 and 1943, it was generally believed that the entire southern region was prepared to accept the introduction of direct taxation. Individuals and groups were taxed under the Native Taxation Ordinance of 1937. The evaluation was based on the individuals and the community's annual income. By 1962, all regions of the country had enacted their own tax laws during the period between 1943 and 1949. The problem of differing tax rates arose as a result of the passage of different laws in various regions. The Raisman Fiscal Commission (1958) recommended the basic premise by which an individual's income, other than that of limited liability corporations, will be charged in order to avoid the matter becoming convoluted (Ola, 1999). The period between 1979 to Date, the Nigeria army took over the ruling of Nigeria between 1963 and 1979. Before the handing-over to a civilian Government in 1979, a new constitution was put in place known as 1979 Nigerian constitution and this constitution prescribed presidential and federal systems of government for the country. Under the presidential system of government, the various taxes being administered in Nigeria are shared among the three tiers of government and area of tax jurisdiction of each tier is specifically spelt out in Decree No 21 of 1988. Some of the taxes collected by the Federal Government include Companies' Income Tax, Withholding Tax on companies and residents of Federal Capital Territory (FCT), Petroleum Profit Tax and Value Added Tax (VAT).

**Tax Structures in Nigeria**

In recent years, the Nigerian tax system has experienced major modifications. According to Umoru and Anyiwe (2013), the tax system is fundamentally designed to promote economic growth through revenue creation. On the basis of incidence, taxes can be categorised as either direct or indirect.

**The Impact of Taxation on Economic and Social Development**

According to Adeyemi, as cited by Afuberoh & Okoye (2014), in order to achieve sustainable development in the social and economic sectors of a country, the government must consider the trade-off involved in attracting foreign direct investment (FDI) in terms of offering incentives, as well as the impact of these on the country's sustainable development. According to Afuberoh and Okoye (2014), a tax is a fiscal instrument that

encourages or discourages particular production or consumption behaviours that have an influence on economic, environmental, or social sustainability.

**The Effect of Tax Reforms on Nigeria's Economic Growth**

Any nations political, economic, and social progress depends on the amount of revenue earned for the infrastructure supply in that nation. Nonetheless, a well-structured tax system is one method for collecting the necessary cash to provide the necessary infrastructure. According to Azubike (2009), a tax is a significant factor in all societies' around the world. The tax system affords the government the chance to collect additional income necessary to meet its pressing obligations. A tax system is one of the most effective strategies of mobilizing a nation's internal resources, and it contributes to the creation of an environment that fosters economic progress. Taxes are critical revenue sources for the federation account, which is shared by the federal, state, and municipal governments, according to Nzotta (2007). According to Odusola (2006), Nigeria has a three-tiered tax structure with distinct taxing authorities for the federal, state, and local governments.

**Challenges of Tax Payment in Nigeria**

Recent data indicates that 95 percent of collectable taxes accrue through FG (as part of nonoil income, constituting 20 percent of total revenue) through FIRS; however, a significant portion of that is shared amongst tiers of government, with the State board of internal revenue and the local government revenue committee responsible for collection, assessment, and administration. Inadequate manpower, system corruption, and a lack of confidence in the tax system were only a few of the obstacles posed by this fiscal independence (Ekpo & Ndebbio, 1998). Cooper (2010) outlined Nigeria's top 50 tax challenges. These included, but were not limited to, the quantity of taxes, the absence of tax awareness and communication, the absence of an acceptance certificate, etc. Other difficulties included a lack of equality, a weak taxing push that encourages tax fraud and avoidance, negative individual income distribution, etc.

**Theoretical Review**

**Theory of Benefit Received**

This idea asserts that tax payments should rely on the advantages obtained from the government, implying that there should be a direct correlation between the tax burden on an economic organisation and the benefits it receives. This mutually beneficial connection between the state and its citizens is contingent on the provision of necessary services. The amount of tax paid should be proportional to the quality of service rendered. While the state provides commodities and services to society, individuals and beneficiaries are required to pay for the provision of infrastructure amenities that they utilize. In other words, the hallmark of the benefit theory of taxation is the justification of tax payment. According to Musgrave (1959), the benefit principles of taxation serve two functions. On the one hand, they function as a principle of cumulative justice based on a contract between the state and its residents. On the other hand, they demonstrate the principle of justice in taxation, which states that citizens should pay taxes proportionate to the benefits received by the state (Amah, 2021).

**Revenue Productivity Theory**

The second theoretical foundation for this research is the idea of revenue productivity, as the significance of taxing to revenue creation cannot be overstated.

This was the primary criterion utilised by finance officials to evaluate a good tax in their arguments. The tax base must be sufficiently large, and the cost of managing the tax system must be less than the revenue it generates, according to the two facets of revenue productivity. Adam Smith also claimed that it was illogical to implement a tax system in which the expense of the collection exceeded the actual tax income. Others, such as David Ricardo and J.S. Mills, underlined the importance of revenue by placing it first in their three-part classification of public finance, namely "revenue, expenditure, and public debt." The primary reason for instituting a tax was to increase revenue; the law establishing a tax confirms this position. Ndukwe (1991) referred to it as the "look-inward strategy." In a continuation of the economic concept, the theory emphasizes the need for an efficient tax administration in order to ensure compliance and the importance of having a broad enough tax base to cover at minimum cost.

**Ibn Khaldun's Taxation Theory**

The Ibn Khaldun theory of taxes is the third theory that helps influence taxation. This hypothesis was described in terms of two effects: the arithmetic effect and the economic effect of tax rates on revenues. If rates be increased or cut, the two outcomes have opposite consequences on revenue. According to the arithmetic impact, if tax rates are reduced by the same amount, tax revenues will fall by the same amount. The opposite is true for tax rate increases. However, the economic effect acknowledges the positive effect that lower tax rates have on work, output, and employment, as well as the tax rate base used to provide incentives to increase these activities, whereas raising tax rates has the opposite economic effect by discouraging participation in taxed activities. At an extremely high tax rate, bad economic consequences outweigh positive arithmetic effects, resulting in a fall in tax income (Islahi, 2006). This research is founded on Ibn Khaldun's taxation theory, which explains two effects of the tax rate on revenue. It discussed both the mathematical and economic effects. The focus of the study was on the economic effects, but it also acknowledged the favourable influence that reduced tax rates had on labour, output, and employment. The focus of the study is its effect on the production, or the gross domestic product.

**Empirical Review**

Ajala & Afolabi (2021) examined the effect that taxation has on the economic development of Nigeria, utilizing Nigerian tax revenue, the inflation rate, and unemployment rate as explanatory factors and the gross domestic product as the dependent variable. Similarly, questionnaires were issued to 80 respondents, of which 67 responded. Utilizing the Taro Yamani technique. Taxation was determined to have a beneficial association with Nigeria's economic growth. It was suggested that a well-defined policy for inter-governmental collaboration, cooperation, and coordination between different levels and agencies of government, as well as tax-payer education on the role of taxation and development in Nigeria, be developed.

Obaretin, Akhor, & Oseghale (2017) studied taxation as a tool for effective income re-distribution in Nigeria. Consider the 34-year span from 1981 to 2014 (34 years). Taxation has not been able to fulfil its role as a conventional mechanism for income redistribution in Nigeria, according to their findings. They argue that the requirement to use tax money in an efficient and equitable manner should be maintained to a minimum because taxes have little impact on income disparity.

Ogbonna & Ebimobowei (2012) examined the impact of tax reforms on the economic growth of Nigeria from 1994 to 2009. The study found that tax reforms enhance the government's revenue-generating apparatus, allowing it to undertake socially desirable expenditures that result in real output and per capita economic growth. According to them, tax reform cannot result in long-term economic growth unless out-of-date tax laws and rates are reviewed in light of macroeconomic goals, there is a clean and efficient tax administration system, and government officials are accountable and transparent about how tax dollars are spent.

Amah (2021), studied Taxation and the Nigerian Economy: Empirical Analysis. The study utilised Value-Added-Tax (VAT), Petroleum Profit Tax (PPT), and Corporate Income Tax (CIT) as explanatory variables and Gross Domestic Product (GDP) as the dependent variable. The data was extracted from the CBN bulletin and the FIRS report and analyzed using ordinary least squares (OLS) and E-view version 7.0. A significant positive relationship was discovered between the independent variables (PPT and CIT) and GDP. Nonetheless, there is a negative correlation between VAT and GDP. The report then recommends that the government provide a conducive environment for businesses to generate more revenue and reduce the VAT rate to encourage consumption of certain goods. Manukaji (2018) examined the impact of Nigeria's tax structure on economic growth. She utilised time series data from 1994 until 2016 All of the analyzed tax components (revenue from value-added tax, revenue from personal income tax, revenue from petroleum profit tax, and revenue from business income tax) had a considerable impact on Nigeria's economic growth, according to the regression results of her study. The report advises closing tax administrative loopholes so that tax income can significantly contribute to the growth of the economy.

## III METHODOLOGY

### Research Design

This study on the influence of taxation on the Nigerian economy used an ex post facto research design, which means that the data was obtained after the study was completed, rather than by the researcher.

### Sources and kind of Data

The Federal Inland Revenue Service (FIRS) and the Central Bank of Nigeria Statistical Bulletin were the secondary sources from which data for this study were drawn (CBN Bulletin 2020). Petroleum Profit Tax (PPT), Company Income Tax (CIT), Custom and Excise Duties (CED), and Value Added Tax (VAT) were derived from the FIRS 2020 report, whereas Mining & Quarrying GDP, Manufacturing & Processing GDP, Agricultural GDP, Information & Communication GDP, and Transport & Storage GDP were derived from the CBN 2020 Bulletin.

### Model Specification

**MODEL 1**

The mathematical model is stated as follows;

$GDP = \beta_0 + \beta_1 PPT + \beta 2 CIT + \beta_3 CED + \beta_4 VAT + \mu$

Where: $\beta_0$ = Constant $\beta_1$ to $\beta_4$ = Parameter estimate for the explanatory variables.

These models are justified by the need to estimate the impact of taxation on the Nigerian economy. To suit this project, the model could be adjusted as follows:

As a result, the functional form of this model is:

MQGDP = *f* (PPT, CIT, CED, VAT).. (.i)
Equation (i) is also expressed in parametric form as

$MQGDPt = ß_0 + ß_1PPT_t + ß_2CIT_t + ß_3CED_t + ß_4VAT_t, + u_t$… (ii)
Taking equation (ii) and converting it to its logarithmic form, we get:

$LnMQGDPt = ß_0 + ß_1 LnPPT_t + ß_2LnCITt + ß_3LnCED_t + ß_4 LnVAT_t + µ_t$… (iii)
Where: "$ß_0 + ß_1 + ß_2 + ß_3 + ß_4$ are Constants; MQGDP = Mining & Quarrying GDP; PPT = Petroleum Profit Tax; CIT = Company Income Tax; CED = Custom and Excise Duties; VAT = Value added tax, $u_t$= Error Term;

*A priori* expectations: $ß_0 >0$, $ß_1>0$, $ß_2>0$, $ß_3>0$, and $ß_4>0$. The explanatory variables are expected to have positive (+) signs.

**MODEL 2.**
This model's functional form is as follows::

MPGDP = *f* (PPT, CIT, CED, VAT) ….(.i)
Also represented in parametric form is Equation i

$MPGDP_t = ß_0 + ß_1PPT_t + ß_2CIT_t + ß_3CED_t + ß_4 VAT_t, + u_t$…… (ii)
When equation (ii) is turned into its logarithm form, we get:

$LnMPGDP_t = ß_0 + ß_1 LnPPT_t + ß_2LnCIT_t + ß_3LnCED_t + ß_4 LnVAT_t + µ_t$…… (iii)

Where: $ß_0 + ß_1 + ß_2 + ß_3 + ß_4$ are Constants; MPGDP = Manufacturing & Processing GDP; PPT = Petroleum Profit Tax; CIT = Company Income Tax; CED = Custom and Excise Duties; VAT = Value added tax, $U_t$= Error Term;

*A priori* expectation: $ß_0 >0$, $ß_1>0$, $ß_2>0$, $ß_3>0$, and $ß_4>0$. The explanatory variables are expected to have positive (+) signs.

**Techniques of Data Analysis**
To examine the influence of taxation on the growth of the Nigerian economy, the models were estimated using the Auto-regressive Distributive Lag (ARDL) data analysis technique. The research questions and hypotheses were utilised to demonstrate how the analysis results fit together.

**Unit Root Test**
If the variables are non-stationary, then the ARDL estimate may produce false results. The stationarity of the data was determined using the unit root test of stationarity for each variable, the Augmented Dickey-Fuller (ADF), Philip Peron (PP), and Kwiatkowski-Phillips-Schmidt-Shin (KPSS) specification. The optimal lag length for ADF estimation begins with a maximum latency, but the optimal lag length for PP and KPSS begins with a few lags.

**Co-integration Test**
If none of the variables are determined to be stationary at levels (i.e., they have unit roots), we perform a co-integration test. The Johansen co-integration bound was used to determine the co-integration connection between the variables, as opposed to the Auto-Regressive Distributed Lag (ARDL). The classic Johansen co-integration framework was chosen over the more current Auto-Regressive Distributed Lag (ARDL) approach because ARDL is built in such a way that it considers the different orders of time series data integration..

**ARDL Model**
When the outcome of a co-integration test for a given model indicates that more than one co-integrating vector exists between the variables of interest, this might be employed. An ARDL model is intended for use with a non-stationary series whose cointegration is known. The

specification of the ARDL includes co-integration relations, so that it constrains the long-run behaviour of endogenous variables to converge to their co-integrating relationships while allowing for short-run adjustment dynamics. Using co-integration and ARDL improves the quality, flexibility, and adaptability of econometric models of dynamic systems and the integration of short-run dynamics with long-run equilibrium.

**Regression Results Interpretation**
Adjusted R-Squared, F-Statistics, and Durbin-Watson tests served as the statistical criteria for understanding the results of the models that will be estimated. In addition, the coefficient of each variable clarified the nature of the relationship between the dependent and independent variables.

**Adjusted R-Square ($R^2$):**
The adjusted coefficient of determination shows how well data points match a statistical model, which is often merely a line or curve. It is a statistic that is employed in statistical models whose main goal is either to forecast future outcomes or to test hypotheses based on other data.

**$F^*$ Statistic:**
The hypothesis that all coefficients (excluding the intercept) are equal to zero is tested using the F-statistic. Under the null hypothesis and normality assumption, this statistic has an F (k–1, n–k) distribution, and its p-value reflects the likelihood that the hypothesis is true. P-values less than 0.05 are typically considered evidence of rejection of the hypothesis of a combined significance of explanatory factors.

**Durbin Watson Statistic:**
The Durbin-Watson test is the standard method for determining whether or not a model has autocorrelation. When the Durbin-Watson discovers autocorrelation in a model, the serial correlation LM test is used to rectify the autocorrelation.

## IV ANALYSIS AND FINDINGS

**Unit Root Test Result.**
**Table 1: Augmented Dickey Fuller Unit Root Test Result.**

| Variable | Coefficient | Std. Error | Prob. | Level of Diff. |
|---|---|---|---|---|
| **MQGDP** | -0.976386 | 0.192110 | 0.0000 | IST DIFF |
| **MPGDP** | -0.651248 | 0.181810 | 0.0014 | IST DIFF |
| **PPT** | -1.036086 | 0.198679 | 0.0000 | IST DIFF |
| **CIT** | -0.984660 | 0.206273 | 0.0001 | IST DIFF |
| **CED** | -0.96968 | 0.312619 | 0.0046 | IST DIFF |
| **VAT** | -0.998184 | 0.198393 | 0.0000 | IST DIFF |

***Source:*** *Extract from E-view package version 10.*

Both the dependent (MQGDP, MPGDP) and independent variable (PPT, CIT, CED, and VAT) were not stationary at the level, but became stationary at the first difference, according to the results. 1 (1) immobile status was included in the models. Because all of the variables were stationary in the same order, Johansson co-integration was the most appropriate approach for regression analysis.

**Results of Long-Run Co-integration Test**

Following the stationarity test on the variables, the co-integration test between the variables was conducted. When taxes and economic growth indicators share a common trend and long-term equilibrium, co-integration is evident. Using the Johansen co-integration approach to the co-integration test, the long-term connection was determined. It requires producing the residuals from the regression and then testing their stationarity. The testable hypothesis is: H0: The variables do not exhibit co-integration

***$H_1$: The variables are co-integrated***

*R*eject H0 if the absolute value of the residual is greater than the critical value at a 5- percent threshold. Do not reject if it is less than the critical value..

**Table 2: Co-integration Result of Taxation and Growth of Mining & Quarrying.**

| Hypothesized No. of CE(s) | Eigen Value | Trace Statistic | 0.05 critical value | Prob. | Max-Eigen statistic | 0.05 critical value | Prob. |
|---|---|---|---|---|---|---|---|
| None | 0.555908 | 41.24865 | 47.85613 | 0.1809 | 22.72828 | 27.58434 | 0.1854 |
| At most 1 | 0.336915 | 18.52037 | 29.79707 | 0.5278 | 11.50388 | 21.13162 | 0.5970 |
| At most 2 | 0.169182 | 7.016490 | 15.49471 | 0.5757 | 5.189663 | 14.26460 | 0.7177 |
| At most 3 | 0.063161 | 1.826828 | 3.841466 | 0.1765 | 1.826828 | 3.841466 | 0.1765 |

***Source:*** *E-Views Extract Version 10.0*

In the trace and max-Eigen statistics, the null hypothesis of no co-integration is accepted for r = 0 (None), r≥1 (at most 1), r≥2 (at most 2), and r≥3 (at most 3). These tests' statistical values are lower than their critical values, showing that the series has no co-integrating vectors. The max-Eigen statistic accepts r=0 (None), r≥1 (at most 1), and r≥3 (at most 3). This test's statistical values are lower than the critical values, implying that the series do not have any co-integrating vectors. These findings imply that the independent variables and the dependent variable do not have a long-term relationship (MQGDP).

**Table 3: Co-integration Result of Taxation and Growth of Manufacturing & Processing.**

| Hypothesized No. of CE(s) | Eigen Value | Trace Statistic | 0.05 critical value | Prob. | Max-Eigen statistic | 0.05 critical value | Prob. |
|---|---|---|---|---|---|---|---|
| None | 0.489719 | 40.48543 | 47.85613 | 0.2056 | 18.83821 | 27.58434 | 0.4271 |
| At most 1 | 0.440090 | 21.64722 | 29.79707 | 0.3185 | 16.23944 | 21.13162 | 0.2112 |
| At most 2 | 0.125326 | 5.407786 | 15.49471 | 0.7641 | 18.83821 | 14.26460 | 0.8848 |
| At most 3 | 0.057511 | 1.658459 | 3.841466 | 0.1978 | 1.658459 | 3.841466 | 0.1978 |

***Source:*** *E-view Extract Version 10.0*

The null hypothesis of no co-integration is accepted in the trace statistic, but rejected in the max-Eigen statistic for r=0 (None), r≥1 (at most 1), r≥2 (at most 2), and r≥3 (at most 3). These tests' statistical values are lower than their critical values, showing that the series has no co-integrating vectors. The max-Eigen

statistic accepts r = 0 (None), r≥1 (at most 1), and r≥3 (at most 3), but rejects r≤2 (at most 2). This test's statistical values are lower than the critical levels, with only two having a higher value. This means that the series only has one co-integrating vector. The implications of these findings are that there is a chance that the independent variables and the dependent variable have a positive long-run relationship (MPGDP).

**Auto Regressive Distributive Lag (ARDL) Results.**

**Table 4: ARDL Results of Taxation and MQGDP.**

Dependent Variable - MQGDP

| Variables | Coefficient | Std error | T-statistic | Probability |
|---|---|---|---|---|
| C | 0.839834 | 0.397644 | 2.112025 | 0.0458 |
| PPT | 0.014461 | 0.025015 | 0.578099 | 0.5688 |
| CIT | -0.040456 | 0.030813 | -1.312950 | 0.2021 |
| CED | 0.012425 | 0.015941 | 0.779447 | 0.4437 |
| VAT | 0.017199 | 0.023707 | 0.725502 | 0.4755 |

| | |
|---|---|
| R-squared | = 0.824589 |
| Adjusted R-squared | = 0.786456 |
| F-statistic | = 21.62416 |
| Prob(F-statistic) | = 0.000000 |
| Durbin-Watson stat | = 2.065535 |

***Source:*** *E-view extract version 10.0*

The result obtained from the ARDL is presented in the table above, the relationship of the model is;
*MQGDP = 0.8398 + 0.0145 PPT – 0.0405 CIT + 0.0124 CED + 0.0172 VAT + Ut.*

The ARDL outcome is shown in the table above. The results show that Petroleum Profit Tax (PPT), Customs & Excise Duties (CED), and Value Added Tax (VAT) have a positive impact on the dependent variable, whereas Company Income Tax (CIT) has a negative impact (MQGDP). According to the positive coefficients of the explanatory variables, increasing revenue from PPT, CED, and VAT by one unit will raise the gross domestic product of mining and quarrying (MQGDP) by 0.0145, 0.0124, and 0.0172 units, respectively. The negative coefficient of CIT, on the other hand, indicates that increasing CIT by one unit reduces MQGDP by 0.0405 units, and vice versa. The coefficients of the three (3) variables (PPT, CED, and VAT) are positively signed, indicating that they met *a priori* expectation and had a positive effect on MQGDP, whereas the coefficient of CIT is negatively signed, indicating that it did not meet *a priori* expectation and had a negative effect on MQGDP. The explanatory factors have probability values of 0.5688, 0.2021, 0.4437, and 0.4755, indicating that none of them are significant at the 0.05 level. The corrected $R^2$ of 0.7865 indicates that the independent factors explain 79 percent of the variation in the dependent variable, while the remaining 21% is unaccounted for. The F. statistics probability of 0.0000 is less than 0.05, indicating rejection of the joint explanatory variable's hypothesis. The p-value represents the likelihood that the hypothesis is correct. There is no autocorrelation, as indicated by a Durbin-Watson of 2.07, which suggests there is no serial correlation.

**Table 5: ARDL Results of Taxation and MPGDP.**

Dependent Variable- MPGDP

| Variable | Coefficient | Std error | T-statistic | Probability |
|---|---|---|---|---|
| C | 0.235092 | 0.241791 | 0.972292 | 0.3410 |
| PPT | 0.064991 | 0.029336 | 2.215412 | 0.0369 |
| CIT | -0.028037 | 0.038997 | -0.718967 | 0.4794 |
| CED | 0.040542 | 0.018666 | 2.172003 | 0.0404 |
| VAT | -0.025630 | 0.030667 | -0.835744 | 0.4119 |

| | |
|---|---|
| R-squared | = 0.937231 |
| Adjusted R-squared | = 0.923586 |
| F-statistic | = 68.68499 |
| Prob(F-statistic) | = 0.000000 |
| Durbin-Watson stat | = 1.715148 |

**Source:** E-view extract version 10.0

The result obtained from the ARDL result is presented in the table above, the relationship of the model is;
*MPGDP = 0.2351 + 0.0650 PPT – 0.0283 CIT + 0.0405 CED - 0.0256 VAT + Ut.*

The results show that Petroleum Profit Tax (PPT) and Customs & Excise Duties (CED) have a positive impact on the dependent variable, whereas Company Income Tax (CIT) and Value Added Tax (VAT) have a negative impact (MPGDP). From the positive coefficients of the explanatory variables, if revenue generated by PPT and CED is increased by 1 unit, MPGDP will grow by 0.0650 and 0.0405 units, respectively, according to the positive coefficients of the explanatory variables, ceteris paribus. Negative coefficients for CIT and VAT, on the other hand, increasing CIT and VAT by one unit will reduce MPGDP by 0.0280 and 0.0256 units, respectively. The coefficients of the two (2) variables are positively signed, indicating that they met *a priori* expectation and had a positive effect on MPGDP, whereas the coefficients of CIT and VAT are negatively signed, indicating that they did not meet *a priori* expectation and had a negative effect on MPGDP.

The probability values of the explanatory variables are 0.0369, 0.4794, 0.0404, and 0.4119, respectively, indicating that PPT with a p-value of 0.0369 and CED with a p-value of 0.0405 are significant at the 0.05 level, whereas CIT with a p-value of 0.4794 and VAT with a p-value of 0.4119 are not. The modified $R^2$ of 0.9236 indicates that the independent factors explain 92 percent of the variation in the dependent variable, while the remaining 8% is unaccounted for. The likelihood of 0.0000 in the F-statistics is less than 0.05, indicating that the joint explanatory variables hypothesis is rejected. The p-value indicates the probability that the hypothesis is indeed true. Durbin-Watson of 1.72 indicates that there is no autocorrelation, which means that there is no serial correlation.

**Discussion of Results**.
Petroleum profit tax (PPT), custom and excise duties (CED), and value added tax (VAT) all had positive and insignificant effects on mining and quarrying (MQGDP) in the ARDL results, with coefficients of (0.0145, 0.0124, and 0.0172) and p-values of (0.5688, 0.4437, and 0.4155), respectively, which is consistent with *a priori* expectation, while company and income tax (CIT) has a positive.

The findings of Ogbonna & Appiah (2012), Sanni, Amusa & Agbayangi (2016), and Munongo (2016) corroborate this result (2012). The results of the ARDL of Taxation and Manufacturing & Processing show that petroleum profit tax (PPT) and customs and excise duties (CED) have positive and significant effects on manufacturing and processing growth, with coefficients of (0.0650 and 0.0405) and p-values of (0.0369 and 0.0404), which is consistent with *a priori* expectation, while CIT and VAT have negative and insignificant effects, with coefficients of (-0.028037 and -0.0256) The outcome of this discovery is related to Amah's findings (2021)

## V CONCLUSION AND RECOMMENDATIONS

**Conclusion**
This study looked at the effects of taxation on the growth of the Nigerian economy from 1990 to 2019. According to the study's findings, Petroleum Profit Tax (PPT), Customs & Excise Duty (CED), and Value Added Tax have a positive but insignificant effect on the growth of Mining & Quarrying (MQGDP), whereas Company Income Tax has a negative and

insignificant effect on MQGDP. Petroleum Profit Tax (PPT) and Customs & Excise Duties (CED) have a positive and significant effect on Manufacturing & Processing (MPGDP) growth, but Company Income Tax (CIT) and Value Added Tax have a negative and insignificant effect on MPGDP growth.

In other words, the explanatory factors (PPT, CIT, CED, and VAT) have had a favourable impact on mining and quarrying (MQGDP) and manufacturing and processing (M&P) growth (MPGDP). However, the effect was not statistically significant. As a result, we find that taxes have positive but negligible effect on Nigerian economic growth. This result demonstrates that, while tax revenue is required to strengthen the mining and quarrying sectors, as well as manufacturing and processing sectors, the government is not properly channeling those tax revenues generated in those productive sectors of the economy in order to improve productivity and promote growth.

**Recommendations**

From the findings of the study, the following recommendations were made:

I. Petroleum profit tax (PPT), Customs & Excise Duty (CED), and Value Added Tax (VAT) have all had a positive impact on the growth of the Mining & Quarrying sector; therefore, the government should make an effort to increase tax revenue from these sources and channel it to improve the performance of the Mining & Quarrying sector, which will lead to growth..

II. The expansion of manufacturing and processing sectors is dependent on revenue provided by the petroleum profit tax (PPT) and customs and excise charges (CED). As a result, the government should increase tax revenue from them and redirect it to the manufacturing and processing industries to spur growth. Because revenue from the company income tax (CIT) and Value Added Tax (VAT) has a detrimental impact on the growth of manufacturing and processing sectors, relevant authorities should investigate and give appropriate assistance to improve their performance..

**Contribution To Knowledge**

By disaggregating economic growth components into sectoral growth of the Nigerian economy, the study validated existing literatures and modified Edori *et al*. (2017)'s model, providing a broader view of the economy as a whole as well as a clearer understanding of how different sectors of the Nigerian economy work and the tax contributions to those sectors. The study's conclusions will be used as a reference point for economic stakeholders.

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