Chapter 4

Taxation and Economic Growth in a Resource-Rich Country: The Case of Nigeria

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Additional information is available at the end of the chapter

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Abstract

In this chapter, we examine the relationship between taxation and economic growth in a resource rich country, using Nigeria as a case study. We explore the linkages between availability of higher resource revenue and lower taxation effort of other revenue categories and the effects of these on growth. Ordinary least square (OLS) estimation technique is employed in estimating the specified model. Also, descriptive analysis is carried out regarding tax trends and tax efforts in Nigeria to determine the effectiveness of existing tax structures, as well to as examine relevant national and cross-country data. Empirical results reveal that taxation has a significant impact on Real GDP growth rates. However, the proportion of tax contribution to the growth rate falls short of the optimal level in terms of the volume of economic activities and value of total output. Nigeria also lags other African countries with respect to tax effort and as such has a huge untapped potential for enhanced revenue mobilisation. We recommend therefore, that the Government should institute an appropriate tax system with an emphasis on broadening the tax base and in some cases, reviewing upwards the tax rates in order to increase the tax effort as well as ensure optimal contribution of taxation towards economic growth and development.

Keywords: economic growth, tax administration, tax efforts, resource-rich country, Nigeria

1. Introduction

1.1. Why taxation?

Taxation is an important fiscal policy instrument at the disposal of governments to mobilise revenue and promote economic growth and development.[1] Governments use tax revenue to carry out their traditional functions such as the provision of public goods and services; maintenance of law and order; defence against external aggression; and regulation of trade and business to ensure social and economic maintenance [1]. Effective tax revenue mobilisation reduces an economy's dependence on external flows which have been found to be highly volatile.[2] Taxation also allows governments' greater flexibility in designing and controlling their development agenda; conditions states to improve their domestic economic policy environment, thus creating a conducive environment for the much-needed foreign direct investments; and strengthens the bonds of accountability between governments and the citizens [2]. The 2008/2009 global financial and economic crisis provided useful lessons for countries on the need to direct more attention to domestic resources mobilisation efforts, including through increasing tax revenues, and shift away from over-dependence on external financial flows and export revenues.[3]

Although tax structures vary considerably across countries, the primary objective of any tax structure is to attain maximum revenue and economic growth with minimum distortions. Different countries have different philosophies about taxation and different methods of tax collection. In the same manner, countries have different uses for their revenue which affect growth differently [3]. Agell et al. [4] have argued that the different uses of total government expenditure affect growth differently and a similar applies to way tax revenue is raised. Romer [5] emphasises factors such as 'spill-over effect and learning by doing' by which firms' specific decisions to invest in capital and research and development, or investment in human capital, can yield positive external effects that benefit the rest of the economy. Solow [6], was the first to examine how taxation affects growth. He argued that steady state growth is not affected by tax policy; that is, tax policy, regardless of distortion, has no impact on long term economic growth rates, even if it reduces the level of economic output in the long term. On his part [7], argued that the different uses of total government expenditure affect growth differently and a similar argument applies to the way tax revenue is raised. The economic growth of Singapore for instance can be attributed to low rates of corporate and personal income taxes. Relatedly [8], argue that there exists a structural difference in taxation in developing countries and developed countries. For developing countries, they established that roughly two-thirds

[1]Whereas tax revenues are needed for public investments, including in productive and social and other sectors of the economy, taxation can also hamper growth, for instance, when corporate, income and capital gains taxes are so high that they serve as a disincentive for investments and do not attract the necessary skills; slow down growth in labour supply by disposing labour leisure choice in favour of leisure; discourage investments in research and development expenditures; and cause the flow of resources to other sectors that have lower productivity.

[2]External financial flows include foreign direct investments, portfolio investments, remittances and official development assistance

[3]The Nigerian economy has been negatively impacted by the recent significant fall of oil prices since June 2014 from the peak of $114 per barrel to below $30 per barrel in early 2016.

of tax revenue is derived from indirect taxes while for developed countries two-thirds comes from direct taxes. They suggested however, that tax structure can change over time to maximise the economic growth.

1.2. Taxation–theoretical underpinnings

The differing views of the effects of taxation of growth notwithstanding, important conceptual questions arise however, with respect to the optimal level of taxation for a defined objective function - whether growth or revenue generation; how taxation burden should be allocated among tax payers; the extent of state involvement in taxation; and how tax revenues should be allocated among various public goods and services.

Lindahl [9] attempted to address these questions using a model which allows for determination of the extent of state provision of goods and services and the relative tax shares of two individuals who are free to reveal their preferences for state services against corresponding tax liability. The central thesis of the Lindahl model is the voluntary exchange between the taxes paid by the two individuals and the services rendered by the state. The Lindahl model therefore sought to seek a solution for the following problems: the decision regarding the extent of state activity; allocation of the total expenditure among various goods and services; and allocation of tax burden among tax payers.

From **Figure 1** below, if we assume a linear and homogenous production of goods and services, SS′ is the supply curve of the state services while DDa and DDb are demand curves of two individuals - A and B; the vertical summation of which gives the [total] community's demand curve for state services—DDl. When ON is amount of the state services produced, A contributes NE; B contributes NF while NG represents the cost of supply. Since the state is not a profit maker, it increases its supply up to OM, at which level A contributes MJ while B contributes MR which when combined, equals the cost of supply—MP. P is therefore, the point at which equilibrium (SS = DD) is obtained on the basis of voluntary exchange of goods and services.

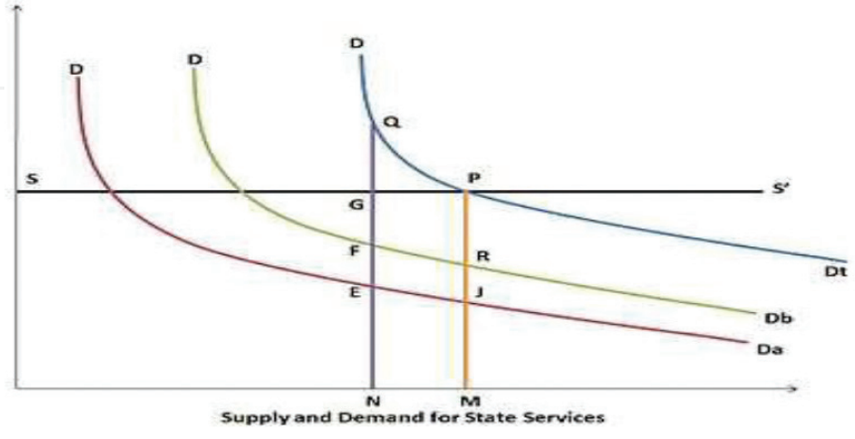

Figure 1. Lindahl model.

Many economists however, tend to favour the Bowen approach [10] since it can be easily adapted to depict what happens when social goods are produced under conditions of increasing costs, as opposed to Lindahl model which assumes linear and homogenous production (**Figure 2**).

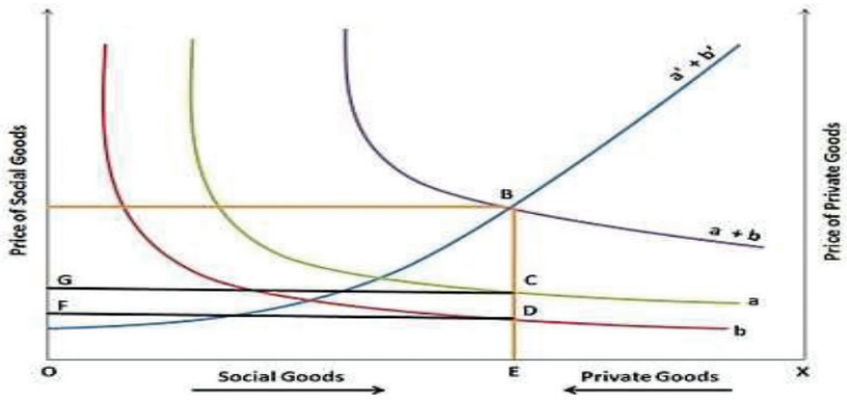

Figure 2. The Bowen model.

The model assumes the existence of one social good and two tax-payers - A and B whose demand curves are represented, respectively, by a and b; with a + b being the total demand. The supply curve 'a + b' implies that the social goods are produced under conditions of increasing cost. But economic theory posits that the cost of producing social goods is the value of private goods foregone; that is 'a + b' is also the demand curve of private goods. The intersection of the cost and demand curves at B therefore, gives a determination of how a given national income should, according to tax-payers' desire, be shared between social and private goods - OE social goods and EX private goods. At the same time, it is possible to determine the tax shares of A and B, which are represented, respectively, by GCEO and FDEO out of the total tax requirement represented by area ABEO.

1.3. What ails the Nigerian tax system?

Irrespective of how a country chooses to share the tax burden among tax payers or allocates tax revenues among various goods and services, the tax revenue to gross domestic product (GDP) ratio is generally accepted as a crude measure of the tax effort of a given country and can be used as a basis for cross country comparisons. Compared to similar economies in Africa, Nigeria has a very low tax revenue to GDP ratio, with the bulk of government revenue being derived from oil and gas sector.[4] Between 1981 and 2015, revenues from the oil and gas sector accounted, on average, for 75% of total government revenues, with the non-oil sector, of which taxation is part, contributing, on average, the remainder 25%, albeit with wide annual fluctuations [11]. Nigeria discovered oil in 1956 at Oloibiri in the Niger Delta after half a century of oil exploration, but commercial exploitation only started in 1968. By 1972, the oil sector share in total revenue was 54.4% against 45.6% share from non-oil sector. But by 1974 oil share of total revenue had increased to 82.1% with only 17.9% revenue accruing non-oil sector. Following the glut in the world oil prices in the later part of the 1970s however, the oil share

[4]The Central Bank of Nigeria decomposes Government revenue into oil revenue and non-oil revenue. Tax revenue, as well as petroleum profit tax, falls under non-oil revenue

in total revenue fell to 61.8% in 1978 while non-oil sector's share rose to 38.2%. More recently, the oil sector share in total revenue has been on an upward trajectory peaking at 88.6% in 2006. As at 2012, oil sector share in total revenue stood at 75.3% while non-oil sector accounted for 24.7% of the total revenue [11]. Overall, tax revenue, as a proportion of GDP, has been on a downward trend in the recent past. From a high of 5.459% in 2009, the tax to GDP ratio stood at 1.557% in 2012 which compares unfavourably with, for instance, the situation in South Africa, with a tax to GDP ratio of 26.81 and 25.52%, respectively, in 2009 and 2012.[5]

Despite the many policy, legislative and administrative reforms effected in the recent past,[6] the Nigerian tax system is still riddled with several challenges which limit its optimal performance. These challenges have been highlighted, variously, by [12–17]; and include, but are not limited to the following: non-availability of tax statistics, inability to prioritise tax efforts, poor tax administration, multiplicity of taxes, regulatory challenges, tax evasion, tax avoidance, structural problems in the economy and a thriving underground economy. The role of taxation in promoting economic growth in Nigeria has therefore, not been optimally felt, owing to defective tax policy framework and administrative mechanisms. Tax administration process and the institutions saddled with the responsibility of tax collection often suffer from limitations in skilled manpower and financial resources; and appropriate tools and technology required to meet the ever-increasing challenges and difficulties associated with tax administration. Over the years, Nigeria has relied heavily on crude oil exports as a major source of government revenue, and consequently, neglecting other critical sectors of the economy that would have broadened the country's tax base. However, the high volatility associated with crude oil prices has made it imperative for the country to explore other sources of revenue to help fund public expenditure.

In this chapter, we examine the relationship between the availability of higher resource revenue—oil revenue in this case, and lower taxation effort of other (non-oil) revenue categories and the effects of these on growth. Specifically, we seek to examine the role of Petroleum Profit Tax in stimulating economic growth in Nigeria; determine the contribution of Companies' Income Tax to economic growth in Nigeria; ascertain the impact of Customs and Excise Duties on economic growth in Nigeria; determine factors responsible persistent low tax efforts in Nigeria; and recommend plausible policy proposals for enhancing optimal and effective tax administration in Nigeria. Whereas previous studies (See for instance [1, 18, 19]) have aggregated the various components of taxation and analysed their impact on economic growth, we disaggregate the various components of taxation in Nigeria with a view to ascertaining their respective influences on economic growth in Nigeria. We also expand the scope of the study to capture the effects of the most recent reforms and policy instruments relating to taxation in the Nigerian economy such as the Company's Income Tax (Amendment) Act. 2007; the Federal Inland Revenue Services (Establishment) Act, 2007 and the Personal Income Tax (Amendment) Act, 2011. More broadly, we examine taxation as an instrument for stimulating economic growth in Nigeria, by tracing trends and performance of various categories of taxes. We also present a cross-country analysis of tax effort in Nigeria and a select group of African countries.

[5]World Bank data. Available at http://data.worldbank.org/indicator/GC.TAX.TOTL.GD.ZS?locations

[6]These reforms measures include the Value Added Tax (Amendment) Act, 2007, intended to widen the tax base and improve collection while the Company's Income Tax (Amendment) Act. 2007; the Federal Inland Revenue Services (Establishment) Act, 2007 and the Personal Income tax (Amendment) Act, 2011, were all aimed at encouraging tax compliance and increasing tax yield.

2. A review of the Nigerian tax system

2.1. Policy, legal, and institutional reforms: a historical overview

Policy, legislative and administrative reforms of the Nigeria tax system predate independence and can be traced back to early twentieth century when the then High Commissioner of the [then] Northern Protectorate issued the Stamp Duties Proclamation in 1903, followed immediately thereafter in 1906 by the Native Revenue Proclamation. This latter Proclamation systematised all the pre-colonial taxes by defining taxable rates; and procedures for assessment and collection, as well as penalties for default thus eliminating arbitrariness that had hitherto characterised the Nigerian tax system. It introduced the four certainties essential in tax practice: what to pay, when to pay, where to pay and who to pay to. The same Proclamation was re-issued as the Native Revenue Ordinance in 1917 to cover the Southern territories and by 1927, was applicable in the whole country. The year 1943 was a watershed period in the history of the Nigerian tax system as it witnessed the creation of the Inland Revenue Department (renamed the Federal Board of Inland Revenue in 1958), the precursor to the present day Federal Inland Revenue Service (FIRS). Following independence in 1960, other legal and institutional reforms were effected in 1961 through the establishment of the Federal Board of Inland Revenue (FBIR) and the Body of Appeal Commissioners as the first point of call for tax dispute resolution. In the same year, the Joint Tax Board (JTB) was created with the primary responsibility of ensuring uniformity of standards and application of Personal Income Tax.

Other major reforms to the tax system were effected in 1982 with the establishment of the Chartered Institute of Taxation of Nigeria [24] and 1993 with a review of the composition of the FBIR and establishment of the present day Federal Inland Revenue Service (FIRS) as the operational arm of the FBIR; as well as a review of the functions of the JTB. Further changes were effected in 2007 with the granting of financial and administrative autonomy to the FIRS following the recommendations of the 'Study and Working Group on Nigerian Tax System' which had been set up in half a decade earlier. These, and other reforms[7] represented the first major attempt at shifting focus away from oil to a more sustainable source of revenue, that is, the non-oil sector. Since then, a raft of changes that cut across organisational restructuring of the Federal and State authorities, the enactment of a National Tax Policy, funding, legislation, taxpayer education, dispute resolution mechanism, taxpayer registration, human capacity building, automation of key processes, refund mechanism and several other areas have been effected.

The foregoing would lead to one logical question: why so many reforms? Given the low tax to GDP ratio, it is plausible to assume that the need to address the problem of low tax returns motivated the Nigerian Government to embark on these reforms. The scope of, and

[7]Other highlights of the tax reforms include, but are not limited to, in chronological order, the Raisman Fiscal Commission of 1957; the promulgation of the Petroleum Profit Tax Ordinance No. 15 of 1959; the promulgation of Income Tax Management Act 1961; the promulgation of the Companies Income Tax Act (CITA) 1979; and the Personal Income Tax Act, 2011.

frequency with which tax reforms have been implemented should however, be viewed within the broader context of the structure of Nigeria's economy and the centrality of taxes to the attainment of national development objectives. In specific terms, four main considerations seem to have informed these frequent tax reforms: the need to diversify the revenue portfolio to safeguard against the oil price volatility in the global market; the need for an accurate and reliable determination of the optimal tax rate, since Nigeria operates on a cash budget system, where expenditure proposals and overall fiscal management are anchored on revenue projections; historical overreliance on petroleum and trade taxes while overlooking direct and broad-based indirect taxes such as value added tax (VAT); and the ever-widening fiscal deficit, an ever-present threat to macroeconomic stability. According to [20], the objectives of tax reforms in Nigeria include the need to bridge the gap between the national development needs and the funding of the needs; achieve improved service delivery to the public; improve on the level of tax derivable from non-oil activities, vis-à-vis revenue from oil activities; constantly review the tax laws to reduce/manage tax evasion and avoidance; and improve the tax administration to make it more responsive, reliable, skilful and taxpayers friendly, as well as achieve other fiscal objectives such as managing inflation and improving balance-of-payment conditions. But the fiscal objectives were only a means to an end. The end objectives of the tax policy reforms were to generate revenue; promote growth and development; ensure effective protection for local industries and encourage greater use of local raw materials; promote value addition and greater geographical dispersion of domestic manufacturing capacities; and create jobs. And although specific policy, legal and institutional measures have varied over time, these objectives have remained relatively unchanged.

2.2. Taxation laws and regulations: who taxes what?

Tax regulations and laws refer to the embodiment of rules and regulations relating to tax revenue and the various kinds of taxes. A tax administration that encourages voluntary compliance, resolutely and legally enforces compliance, treats the tax payer as partner, rewards pro-tax behaviour and operates in an environment of accountability is a preferred tax system [21].

The federal system of government in Nigeria implies that fiscal power is based on a three-tiered tax structure: Federal, State and Local Governments, each of which has, in principle, different and distinct tax jurisdictions. Specifically, the Federal government taxes corporate bodies while State and Local Governments tax individuals. The Taxes and Levies (approved list for Collection) (Decree, 1998) gives the Federal, State and Local Governments the responsibilities for collecting the taxes and levies listed in, respectively, Parts I, II and III of the schedule to the Decree.

Part 1 of the schedule contains taxes to be collected by the Federal Government. These include: Companies Income Taxes; Withholding tax on companies, residents of the Federal Capital Territory, Abuja and non-resident individuals; Petroleum profits tax; Value added tax; Education tax; Capital gains tax on residents of the Federal Capital Territory, Abuja, bodies corporate and non-resident individuals; Stamp duties on bodies corporate and residents of the Federal Capital Territory, Abuja; and personal income tax of members of the Armed Forces of the Federation, members of the Nigeria Police Force, residents of the Federal Capital Territory, and staff of the Ministry of Foreign Affairs and non- resident individuals.

Similarly, Part II of the Schedule presents taxes and levies to be collected by the State Governments and they include: Personal Income Tax in respect of –Pay-As-You-Earn (PAYE) and direct taxation (Self-Assessment); Withholding tax (individuals only); Capital gains tax (individuals only); Stamp duties on instruments executed by individuals; Pools betting and lotteries, Gaming and casino taxes; Road taxes; Business premises registration fee; Development levy (individuals only); Right of Occupancy fees on lands owned by the State Government in urban areas of the State; and Market taxes and levies where State finance is involved.

Part III of the Schedule contains taxes and levies to be collected by the Local Governments and these include: Shops and kiosks rates; Tenement rates; On and Off Liquor Licence fees; Slaughter slab fees; Marriage, birth and death registration fees; Naming of street registration fee, excluding any street in the State Capital; Right of Occupancy fees on lands in rural areas, excluding those collectable by the Federal and State Governments; Market taxes and levies excluding any market where State finance is involved; Motor park levies; Domestic animal licence fees; Bicycle, truck. Canoe, wheelbarrow and cart fees, other than a mechanically propelled truck; Cattle tax payable by cattle farmers only; Merriment and road closure levy; Radio and television licence fees (other than radio and television transmitter); Vehicle radio licence fees (to be imposed by the Local Government of the State in which the car is registered); Wrong parking charges; Public convenience, sewage and refuse disposal fees; Customary burial ground permit fees; Religious places establishment permit fees; and Signboard and Advertisement permit fees.

And to address the hitherto inherent conflict of fiscal responsibilities and powers among the three tiers of government, the 1999 Constitution classifies governmental taxation responsibilities and powers into *exclusive*, *concurrent* and *residual* lists. The National Assembly, is empowered to issue legislation on the taxation of incomes, profits and capital gains, and on matters classified in the concurrent list—particularly those related to the division of public revenue. The State Houses of Assembly may prescribe the collection of any tax, fee or rate, or the administration of a law to provide for such collection by a local government council or any tax, fee or rate not expressly stipulated as being within the authority of the Federal government. The State government is empowered to impose tax on all items in the concurrent list as well as residual matters but to the extent that such laws are consistent with those of the National Assembly.

In sum, the Federal Government is limited to eight specific taxes while the State and Local Governments were restricted to 11 and 20, respectively. However, the Federal government controls most of the buoyant tax handles, accounting for 99% of the tax revenue. The most important tax laws in Nigeria include Company Income Tax Act (CITA), Capital Gains Tax Act and Stamp Duties Act, all enacted in 1990; value added tax (VAT) Act and Education Ac, both enacted in 1993; Personal Income Tax Act (PITA) of 2004; and the Petroleum Profit Tax Act and Information Technology Development Act, both enacted in 2007. In reality however, Nigeria's tax administration environment is fraught with the problem of multiple taxation, which in the extreme compels companies to pay income tax to Federal Government, and other

wide ranging taxes, levies and rates, to State and Local governments. This may be due, in part, to declining and fluctuating earnings from oil and the need by various tiers of Government to raise own revenue.

2.3. A review of national tax policies

Tax policy provides a set of rules, *modus operandi* and guidance for all stakeholders in the tax system. Tax policy formulation in Nigeria is the responsibility of the FIRS, Customs Services, Nigerian National Petroleum Corporation (NNPC), and other agencies of government but under the guidance of the National Assembly. A good tax policy needs to satisfy both *efficiency* and *equity* criteria. Any tax policy is, however, continually subjected to pressure and changes. According to [22], the best approach to reforming taxes is one that considers taxation theory, empirical evidence and political and administrative realities and blending these with a good dose of local knowledge and sound appraisal of the prevailing macroeconomic and international situation to produce a feasible set of proposals sufficiently attractive to be implemented and robust enough to withstand changing times.

Whereas during the pre- Structural Adjustment Programmes (SAP) era tax policies were aimed at boosting government revenue; ensuring effective protection for local industries and equity in the geographic dispersion of manufacturing activities, the introduction of the SAPs in 1986 witnessed a shift in policy focus to using taxes to boost productivity and competitiveness of business enterprises; promoting exports of manufactures; and reducing the tax burden of individuals and companies. The specific measures introduced included a review of custom and excise duties; reduction of company and income taxes; granting of a wide array of tax exemptions and rebates; introduction of capital allowance; expansion of duty drawback and manufacturing-in-bond schemes; elimination of excise duty; introduction of VAT; and monetizing of fringe benefits and increase in tax relief to low-income earners [23].

More recently, a National Tax Policy (NTP) adopted in 2010 sought to provide a set of guidelines, rules and *modus operandi* that would regulate Nigeria's tax system and provide a basis for tax legislation and tax administration. The 2010 NTP seeks to resolve some inherent problems of the existing tax system such as multiple taxation; uncertainty and leakages in the tax system; lack of accountability of tax revenue and expenditure; inadequate clarity on taxation powers of each level of government and encroachment on the powers of one level or state by another; uncertainty in the tax system and increasing cost of tax compliance due to lack of skilled manpower, inadequate funding, improper delegation of tax powers to third parties; the non-refund of excess taxes to taxpayers, due to the lack of an efficient system and funds; obsolete laws which do not reflect Nigeria's current realities; and the lack of a specific policy direction for tax matters in Nigeria, as well the absence of laid down procedures for the operation of the various tax authorities. The 2010 policy in effect has shifted focus from direct taxation to indirect taxation. Its strategy is to reduce companies' income tax rate from 30 to 20%, top rate personal income tax rate from 25 to 17.5% and a gradual increase in the rate of VAT from the current level of 5%. These strategies are aimed at encouraging investments, creating employment, increasing tax compliance and limiting opportunities for tax avoidance.

3. Methodological approach

3.1. Review of the literature

The relationship between taxation and economic growth has been widely studied. Some of these studies suggest that tax policies have positive and significant impact on the rate of growth of output, while others have observed that there is an inverse relationship between the two variables, that is, tax policies have a negative and significant impact on growth. Haq-Padda and Akram [25] examined the impact of tax policies on economic growth using data from Asian economies. They established that there is no empirical evidence that tax policies adopted by developing countries in Asia have a permanent effect on the rate of economic growth, a finding that is inconsistent with the endogenous class of growth models. The results of their study suggest that the relationship between aggregate output and the tax rate is best described by the neo-classical growth models because a higher tax rate permanently reduces the level of output but has no permanent effect on the output growth rate. Consequently, they recommended an optimal tax rate to finance the budgets, with debt instrument used in financing transitory expenditure while permanent expenditures are to be financed through taxes.

In a cross-country analysis, Ramot and Ichihashi [26] used panel data from 65 countries covering the period 1970–2006 to examine the effects of tax structure on economic growth and income inequality and established that company income tax (CIT) rates have a negative impact both on economic growth and income inequality. They also established that personal income tax rate does not significantly affect economic growth and income inequality. The authors therefore, recommended that there is a need to develop a modest design into the tax system since countries which are able to mobilise tax resources through broad-based tax structures, coupled with efficient administration and enforcement of the tax system' are likely to enjoy faster growth rates than countries with narrow tax base and lower efficiency in tax administration. Also, governments should reduce tax evasion, which, they averred, occurs among the highest income group and has potential to distort horizontal and vertical equity in income redistribution. Finally, they recommended that very high earners or the highest income group should be subjected to high and rising marginal tax rates.

Ariyo [14] evaluated the productivity of the Nigerian tax system given the negative impact of persistent unsustainable fiscal deficits on the Nigerian economy for the period 1970–1990 to devise a reasonably accurate estimation of Nigeria's sustainable revenue profile. The results of the study showed a satisfactory level of productivity of the Nigerian tax system. The author therefore, recommended for an improvement of the tax information system to enhance the evaluation of the performance of the Nigerian tax system and facilitate adequate macroeconomic planning and implementation. Kneller et al. [27], taking account of the financing assumption associated with government budget constraints, studied the effect of the structure of taxation and public expenditure to the steady-state growth and established that non-distortionary taxation and productive expenditure enhance economic growth, a finding consistent with the Barro model [28].

Widmalm [29] in a study established that there exists a negative relationship between personal income tax, measured by average income tax, and economic growth, while corporate income tax does not correlate with growth at all. In their estimation, Lee and Gordon [30]

found out that the concrete tax rates that greatly affect economic growth are the top statutory company income tax (CIT) rates. From their estimation, they established that only the CIT rate had a significant negative impact on economic growth in all their regressions by controlling the endogeneity of tax measures while the personal income tax (PIT) rate and its progressivity did not significantly affect economic growth. The results of Lee and Gordon [30] are supported by the findings of Arnold [31] who established that the CIT and PIT rates reduce the economic performance of a country. Analogously, Padovano and Galli [32] argued that average tax rates lead to several biases and concluded that taxation has no impact on growth because of the possibility of high correlation with average fiscal spending.

Poulson and Kaplan [33] explored the impact of tax policy on economic growth within the framework of an endogenous growth model using data from 1964 to 2004. In this model, differences in tax policy can lead to different paths of long-run equilibrium growth. They used regression analysis to estimate the impact of taxes on economic growth. Their analysis revealed that higher marginal tax rates had a negative impact on economic growth. Jibrin et al. [34] used ordinary least squares (OLS) method to examine the impact of Petroleum Profit Tax on Economic Development in Nigeria for the period 2000–2010. Their findings revealed that Petroleum Profit Tax has a positive and significant impact on Gross Domestic Product. The authors therefore, recommended that government should improve on the effectiveness and efficiency of the administration and collection of taxes with a view to increasing government revenue.

Enokela [35] explored the relationship between VAT and economic growth of Nigeria using secondary data and multiple regressions. The results revealed that gross domestic product (GDP) is positive and statistically significant to value added tax; Government capital expenditure (GCE) is positive but insignificant to value added tax; and gross domestic product per capita (GDPPC) is negative and statistically significant to value added tax. The researcher recommended a zero tolerance for corruption to enable the revenue generated from VAT to be channelled to appropriate developmental projects. In a related strand of literature, Emmanuel [36] examined the effects of VAT on economic growth and total tax revenue in Nigeria using data covering the period 1994–2010. He formulated two hypotheses: that VAT does not have significant effects on GDP; and VAT does not have significant effects on total tax revenue. The results of the regression analysis show that VAT has significant effect on GDP; and also on total tax revenue. He therefore, encouraged government to sensitise the people to enable it increase the tax rate in order to increase its annual revenue for economic development. Relatedly, in a study by Wambai and Hanga, [37] titled '*Taxation and Social Development in Nigeria: Tackling Kano's Hidden Economy*', they found that the attitude of the government towards taxation need to change and recommended a tax system that concentrates on establishing simplicity, predictability and neutrality while Olusanya et al. [38] in investigating taxation as a fiscal policy instrument for income redistribution among Lagos state civil servants using Spearman's Rank Correlation coefficient found a positive relationship between tax as a fiscal policy instrument and income redistribution.

Tosin and Abizadeh [39] studied economic growth and tax charges in OECD countries from 1980 to 1999; their study reveals that economic growth measured by GDP per capita has significant effect on tax mix of GDP per capita. The study recorded a decline in shares of payroll, goods and services and positive growth from personal and property taxes. At the regional

level, Chiumia and Simwaka, [40] analysed the effects of taxation in sub-Saharan Africa. They found that taxes levied on personal and corporate income reduces economic growth. From their study, one could be tempted to conclude that the tax structure is largely irrelevant in less developed economies, although we know from theory that embedded in an effective tax system are benefits for both the taxpayers and the government.

3.2. Model specification and estimation technique

The model specified for this study is adopted from Appah [41], Okafor, [42], Ogbonna and Ebimobowei [43] and Nwakanma and Nnamdi, [19]. We used a multiple linear regression model to capture the relationship between taxation and economic growth in Nigeria for the period 1986–2015. Included in the model are; real gross domestic product growth rate (RGDPgr), as the dependent variable; and companies income tax (CIT) revenue, petroleum profit tax (PPT) revenue, as well as customs and excise duties (CED) revenue as the explanatory variables.[8]

i. Petroleum profit tax (PPT) is the tax imposed on companies which are engaged in the extraction and transportation of petroleum products. It is related to rents, royalties, margins and profit-sharing elements associated with oil mining, prospecting and exploration leases [44]. Apart from providing revenue for the government, PPT also serves as an instrument through which the government regulates the number of participants in the petroleum industry and gain control over public assets [45]. In the context of Nigeria, like in other developing countries, the PPT is, in a sense, an instrument for wealth redistribution between the wealthy and industrialised economies who own the technology; and expertise and technical know-how, as well as the capital needed to develop the oil and gas sector [34].

ii. Companies income tax (CIT) is charged on the profit or gain of any company accruing in, derived from, brought into, earned in or received in Nigeria. The tax rate has been 30% and it is applied on the total profit or chargeable profit of the company but was reduced to 20% under the new (2010) tax policy. It should be noted that oil marketing companies, oil services companies are liable to tax under CITA at the rate 20% and Education Tax at the rate of 2% on the assessable profit.

iii. Custom Duties constitute one of the oldest kinds of modern taxation in Nigeria having been introduced in 1860 as import duties. Excise duties are *ad-valorem* taxes on the output of manufactured goods and are administered by the country's Custom Service. They are taxes on the country's imports charged either as a percentage of the value of the imports or as a fixed amount contingent on quality.

The model was thus explicitly specified as:

$$RGDPgr = a_0 + a_1 CIT + a_2 PPT + a_3 CED + U \quad (1)$$

[8]VAT though an important source of government revenue was only introduced in 1994 and as such its inclusion would call for a major adjustment in the temporal scope of the study.

where: RGDPgr = Real Gross Domestic Product growth rate; CIT = Companies Income Tax; PPT = Petroleum Profit Tax; CED = Customs and Excise Duties; and U = Stochastic error term while a_{0-} a_3, are parameters of the model.

The coefficients of all the explanatory variables are expected to be either positive or negative, depending on the peculiarity of the country's tax structures. The intercept term is expected, *a priori*, to be positive as tax variables are not the only contributors to the country's economic growth rates.

We employed the ordinary least square (OLS) method of estimation based on the desirable properties it possesses and the relative simplicity of its application. We carried out unit root test at 5% level of significance to assess the stationarity of the time series data. Descriptive analysis was also carried out regarding tax trends and tax efforts in Nigeria, to determine the effectiveness of existing tax structures towards enhancing optimal and effective tax administration. Finally, we used descriptive analysis to evaluate relevant national and cross-country tax data, with a view to evaluating their inherent patterns and trends, and determining the implications of these patterns and trends for tax policies and administration in Nigeria.

3.3. Evaluation criteria and data sources

The results were evaluated based on the following criteria: economic *a-priori* criterion, statistical criterion and econometric criterion. We carried out tests to check if the signs and magnitudes of the estimated parameters conform to what economic theory postulates. The coefficient of determination (R^2), was estimated to capture the proportion of the total variation in the dependent variable, Real GDP growth rate, that can be explained by the explanatory variables explicitly captured in the model. We also used the F-test to test whether the explanatory variables included in the model are, jointly, significant or not in determining the level of economic growth while the T-Test was used to test the statistical significance of individual parameters of the regression model. To test autocorrelation, we adopted the Durbin Watson (D-W) statistic because of the absence of lagged dependent variables in the specified regression model while for Heteroscedasticity, we adopted the White's General Heteroscedasticity Test to ensure that the variance of the stochastic error term is constant. Our regression analysis relied heavily on secondary data published by the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), and Federal Inland Revenue Service (FIRS) covering the fiscal period 1986–2015 while data for descriptive analysis of tax trends in Nigeria, as well as cross country tax trends and performance among selected African countries, were sourced from FIRS and the International Monetary Fund (IMF).

4. Regression results and analysis of taxation trends

4.1. Results and discussions

To address the phenomenon of spurious regression usually associated with nonstationary time series data, we carried out the Augmented Dickey Fuller (ADF) unit root test at 5% level

to ascertain the stationarity status of each individual time series data; the results of which are shown in **Table 1** below.

From **Table 1** below, the time series data for RGDPgr is stationary at level, implying that the time series data on Real Gross Domestic Product growth rate is integrated of order zero (0) while the annual time series data on CIT, CED and PPT are all stationary at first difference, implying that they are integrated of order one (1). The finding with respect to Companies Income Tax, Customs and Excise Duties and Petroleum Profit Tax substantiates the theoretical assertion that most economic time series are usually not stationary at level, but they attain stationarity after first differencing.

Based on the results shown in **Table 2** below, the estimated regression equation (Eq. (1)) becomes:

$$\text{RGDPgr} = 2.771101 + 0.0000326\text{CED} - 0.00000926\text{CIT} - 0.000850\text{PPT} \quad (2)$$

From the estimated regression results, the intercept term is positive (2.771101), implying that the growth rate of the Nigerian economy retains a positive value when all the explanatory variables explicitly captured in the regression model are held constant; that is, economic growth rate is dependent on other variables other the explanatory variables captured in the model. The signs of the coefficients of explanatory variables explicitly captured in the regression model conform to the *a-priori* expectations as the impact of tax variables on growth can either be positive or negative, depending on the internal dynamics of the economy as well as the incidence of the various categories of taxes. The coefficient of customs and excise duties is positive while the coefficients of Companies Income Tax (CIT) and Petroleum Profit Tax (PPT) are negative. The estimated regression results show that, a unit change in Customs and Excise Duties will result in an average change in Real Gross Domestic Product growth rate of 0.0000326 units, holding all other explanatory variables in the regression model constant while the coefficient of Companies Income Tax implies that a unit change in Companies Income Tax will result in an average change in Real Gross Domestic Product growth rate of −0.00000926 units, holding all other explanatory variables in the regression model constant. Similarly, the coefficient of Petroleum Profit Tax implies that a unit change in Petroleum Profit Tax will result in an average change in Real Gross Domestic Product growth rate of −0.000850 units, holding all other explanatory variables in the regression model constant.

Variables	ADF statistic	Order of integration
RGDPgr	−4.103592	I(0)
CIT	−3.262681	I(1)
CED	−4.473805	I(1)
PPT	−3.102251	I(1)

Source: Authors' computation.

Table 1. ADF unit root test results.

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Variable	Coefficient	Standard error	T-statistic	P-values
C	2.771101	0.888043	3.120460	0.0044
CED	3.26E-05	1.08E-05	3.013292	0.0057
CIT	−9.26E-06	7.45E-06	−1.242312	0.2252
PPT	−0.000850	0.001434	−0.592753	0.5585
Adjusted R^2	0.195645			
D.W statistic	1.707596			
F-statistic	3.351249			0.034229

Source: Authors' computation.

Table 2. Summary of regression results.

The Adjusted R^2 from the estimated regression model shows that only about 20% (0.195645) of the changes in Real Gross Domestic Product growth rate (RGDPgr) can be explained by the explanatory variables explicitly captured in the regression model, implying that the regression model has a poor fit. The low R^2 is an indication that the tax variables explicitly captured in the regression model have not significantly influenced the total change in Real GDP growth rate in Nigeria. This poor tax performance as a driver of economic growth can be attributed to the economy's heavy reliance on commodity export (crude oil) as a major driver of economic growth and the perpetually low tax to GDP ratio as a result of the plethora of challenges facing the Nigerian tax administration system discussed Section 2.

Based on the students' T-test for each of the parameters in the model, the coefficient Customs and Excise Duties is statistically significant at 5% level of significance, while the coefficients of Companies Income Tax and Petroleum Profit Tax are not statistically significant at 5% level of significance. This implies that Customs and Excise Duties do have significant impact on the growth rate of Real Gross Domestic Product (RGDPgr), while Companies Income Tax (CIT) and Petroleum Profit Tax (PPT) have not contributed significantly towards stimulating economic growth in Nigeria during the period under review.

We also employed the F-Statistic (ANOVA) to establish the overall significance of the regression at the 5% significance level. The results show that the equation or model employed is statistically significant with P- value of 0.034229 and F = 3.351249, implying that the relationship between the growth rate of Real Gross Domestic Product and all the explanatory variables explicitly captured in the regression model is statistically significant at 5% level of significance. Thus, even though some of the individual coefficients of some of explanatory variables are not statistically significant, they are, jointly, statistically significant. That is, during the period under review, all the tax variables explicitly captured in the regression equation jointly exerted significant effect on economic growth in Nigeria.

Lastly, we evaluated the results based on econometric criteria. The estimated Durbin Watson statistic (D-W = 1.707596) shows that the regression model is devoid of first order serial correlation. Also, the White's test of heteroscedasticity was carried out to ensure that

the variance of the error term is constant. Since the calculated value of the test statistic is 5.147783, which is lower than the 5% critical value of 7.81 (P-value = 0.525004), the null hypothesis that the model is devoid of first order serial correlation is accepted; the disturbances of the regression model are homoscedastic.

4.2. Analysis of tax trends in Nigeria and selected African countries

The dynamics of taxation and economic growth in Nigeria should be understood not just from the perspective of the tax revenues discussed in the preceding section, but also from an analysis and discussion of other aspects of Nigeria's tax revenue and the broader tax system, some of which may not easily lend themselves to econometric analysis.

Figures 3 and **4** below present recent trends in oil and non-oil tax revenues, as well as the share of oil and non-oil tax revenue as a percentage of total government revenues.

As shown in the **Figure 3**, there has been a steady decline in oil tax revenue in Nigeria from 2011 to 2016. It is noteworthy to mention that oil tax revenue remained higher than the non-oil tax revenue from 2011 to 2014 which marked the beginning of the huge slump in oil prices in the global market. From 2014 however, non-oil tax revenues, though generally declining, albeit at a slower pace, began to outperform oil revenues. It follows therefore, that oil revenue as a percentage of total revenues has been on the decline in the recent past. The converse holds true for non-oil revenues as shown in **Figure 4** below.

From **Figures 3** and **4**, it is apparent that there is a need to pay more attention to other critical sectors of the economy, beyond oil, from which revenue can be generated in order attain fiscal stability and engender macroeconomic stability. An important question thus arises: since taxation is an important fiscal policy instrument for domestic resource mobilisation and economic growth, is Nigeria' tax effort optimal for the desired impact on economic growth? In an attempt to address this policy question, we reviewed comparative tax efforts in Nigeria and selected African countries, focussing on the tax to GDP ratios, over the period 2003–2011.

From **Figure 5** above, it is apparent that, historically, Nigeria lags other African countries in terms of the tax to GDP ratio, that is, tax effort. Over the 2003–2011 period, the average tax revenue as a percentage of GDP for Nigeria was 2.93%, with the corresponding figures for Egypt, Ghana, Kenya, South Africa and Algeria being 14.62, 15.89, 16.10, 25.48 and 35.04%, respectively. Algeria's tax effort, that is, tax to GDP ratio, is 12 times Nigeria's tax effort, while South Africa's tax effort is approximately 10 times that of Nigeria. Nigeria tax efforts is less than

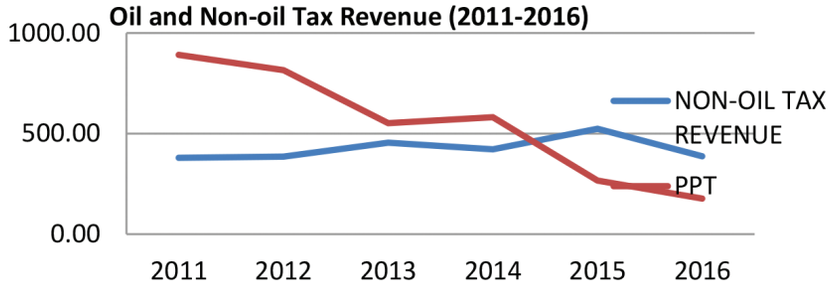

Figure 3. Oil and non-oil revenue—recent trends. Authors' computation from Federal Inland Revenue Service (FIRS) figures.

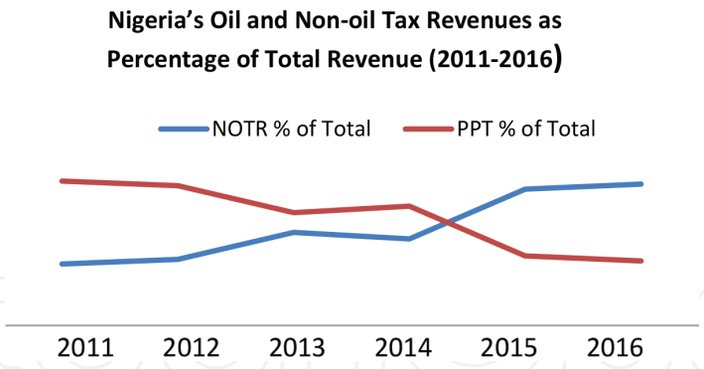

Figure 4. Oil and non-oil revenue as percentage of Total revenue (2011–2016).

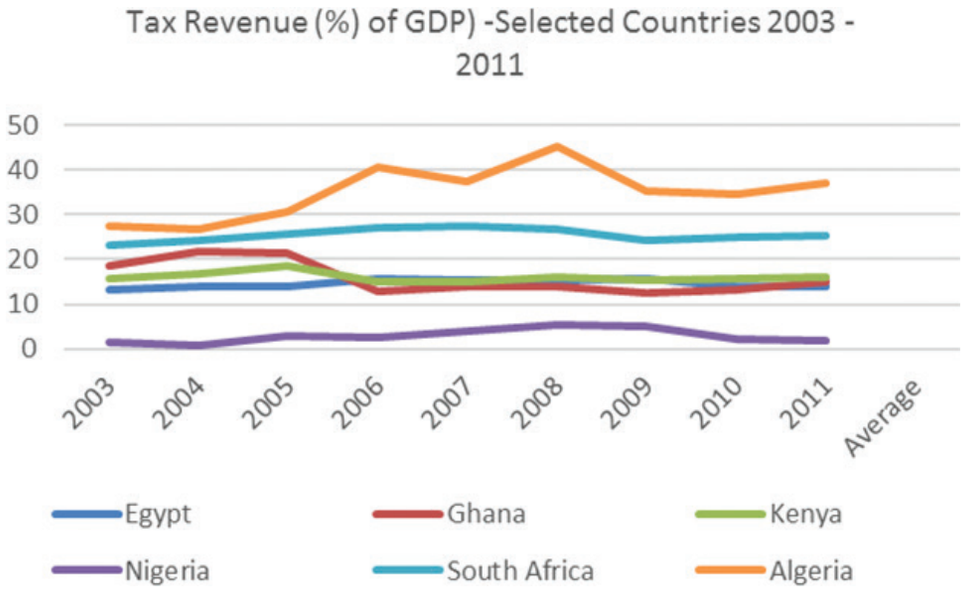

Figure 5. Tax revenue (% of GDP) for selected African countries (2003–2011). Source: IMF.

one fifth that of neighbouring Ghana. The low tax to GDP ratio can be attributed to structural defects associated with overreliance on oil revenue as the main source of government revenue and the consequent neglect of other critical sectors of the economy. This low performance of the non-oil tax revenue has great potential of creating substantial macroeconomic instability and consequently, negatively impacting growth and development owing to the volatility associated with oil prices and the critical role of public expenditures in stimulating economic activities. Nigeria's low performance in terms of tax revenue as a percentage of GDP also points to the existence of unexploited 'fiscal space' or untapped potential for tax revenue mobilisation.

5. Conclusions and policy recommendations

In this Chapter we have examined the relationship between taxation and economic growth in Nigeria over the 1986–2015 period, with special focus on Companies Income Tax, Customs

and Excise Duties, and Petroleum Profit Tax. Empirical results reveal that taxation had a significant impact on Real GDP growth rates in Nigeria during the period under review. However, the proportion of tax contribution to the growth rate of the Nigerian economy falls short of the optimal level in terms of the volume of economic activities and total value of output, as well as the country's potential for revenue generation. This finding is instructive for both policy and decision making as far as the enhancement of Nigeria's taxation structures and domestic resource mobilisation are concerned. Also, cross-country comparisons of Nigeria's tax performance with the tax performance of selected African countries reveals that the county lags other African countries with respect to tax effort, that is, tax revenue as a percentage of GDP. Hence, policy measures that improve tax revenues as well as taxation capacity should be put in place to generate more revenues to positively stimulate economic growth. It hoped that ongoing tax policy and institutional reforms, as well as strategies aimed at diversifying and shifting the economy from over-reliance on the oil and gas sector, will not only elevate the relative position of non-oil tax revenues, but also improve the overall tax effort so that taxation can become an important instrument of fiscal policy, thereby ensuring macroeconomic stability and steady economic growth.

In more specific terms, the Government of Nigeria should institute an appropriate tax system which emphasises the broadening of the tax base and in some cases, reviewing upwards the tax rates to enhance the contribution of taxation towards economic growth and development. In this respect, the tax administrative system in Nigeria should be strengthened to address some of the challenges presently clogging the wheel of progress as far tax administration is concerned. Furthermore, voluntary compliance should be encouraged through continuous taxpayers' education and the institutionalisation of a functional tax administrative system. It is also recommended that the tax execution agencies should forge good relationship with the professional associations involved in tax matters to elicit their support in reducing tax malpractices and other forms of fiscal corruption. In addition, regulatory authorities charged with the responsibility of collecting tax should further be strengthened to enforce compliance by taxpayers. There should be enhanced accountability and transparency from government regarding the management of revenue derived from taxation in terms of provision of public goods and services as this will enhance tax compliance among the tax payers. Lastly, as part of the broader economic diversification programme, tax revenue mobilisation should be used as a policy instrument to shift from the historical overreliance on oil revenues to non-oil revenues which are less volatile and are thus critical for the country's macroeconomic stability.

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