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TAXES AND SUSTAINABLE DEVELOPMENT OF NIGERIA (2015–2025)

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ABSTRACT

This study investigated the empirical relationship between tax revenue mobilisation, economic growth measured by Gross Domestic Product (GDP) and socio-economic progress measured by the Human Development Index (HDI) in Nigeria over the period 2015 to 2025. Across this decade the Nigerian economy passed through two macroeconomic recessions, a global pandemic and a deliberate shift away from oil-dependent earnings towards non-oil revenue administration. The study adopted an ex-post facto research design and relied on secondary time-series data obtained from the Federal Inland Revenue Service, the Central Bank of Nigeria, the National Bureau of Statistics and the United Nations Development Programme. Linear regression, the method of least squares and the Pearson correlation coefficient were employed for data analysis and for testing the two null hypotheses formulated for the study. The results show that tax revenue is very strongly and positively associated with Gross Domestic Product, returning a correlation coefficient of 0.971 and a coefficient of determination of 0.943, while the association between tax revenue and the Human Development Index is positive but appreciably weaker, returning a correlation coefficient of 0.753 and a coefficient of determination of 0.567. The tax-to-GDP ratio itself rose from 5.30 per cent in 2015 to 13.50 per cent in 2025, advancing by an average of 0.67 percentage points a year. Over the same interval the Human Development Index moved only from 0.527 to 0.560, remaining at the low end of the medium human development band. The study concludes that taxation exerts a significant effect on sustainable development in Nigeria, but that the effect registers far more strongly on aggregate output than on human welfare, disclosing a conversion gap in which expanded collections are absorbed by debt service and recurrent administration rather than translated into social sector investment. The study recommends that revenue mobilisation be matched by legally binding expenditure rules that tie a defined share of non-oil tax growth to education, healthcare and other human development outlays.

Keywords: Tax revenue mobilisation, Human Development Index, Gross Domestic Product, sustainable development, fiscal policy reform, Nigeria.

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Introduction

The principal mandate of fiscal policy in developing economies is to generate adequate public revenue for the financing of essential infrastructure, health services and education, and the extent to which a state discharges that mandate is a reliable measure of its developmental seriousness. For Nigeria, the period from 2015 to 2025 represented a critical juncture in macroeconomic history. Characterised by severe volatility in global crude oil prices and by two recessionary episodes, the fiscal authorities were compelled to move away from heavy reliance on petroleum receipts towards a more diversified programme of tax mobilisation. Historically, Nigeria's tax-to-GDP ratio has remained among the lowest on the African continent, a condition that has persistently constrained the capacity of government to fund capital projects out of domestic resources rather than borrowing (Ofoegbu, Akwu, & Oliver, 2016). Over the decade under review, reforms targeting the major tax heads and the digitalisation of tax administration were introduced in an effort to widen the revenue base, and the effect of those reforms on national development forms the central concern of this study.

A considerable body of scholarship acknowledges that tax revenue drives economic growth through infrastructural development, yet inefficiencies in collection, widespread evasion within the informal sector and weak governance frameworks frequently obstruct the developmental impact of otherwise impressive revenue figures. Where these obstructions persist, macroeconomic gains fail to reach vulnerable populations, producing a disconnect between measured economic growth and lived human development (Worlu & Nkoro, 2012). This disconnect is not merely a statistical curiosity; it determines whether the additional naira collected from the taxpayer returns to the taxpayer in the form of a functioning clinic, a staffed classroom or a passable road. The question that follows is therefore not simply whether Nigeria collects more tax than it once did, but whether the additional collection is being converted into welfare.

Sustainable development has been described as development that meets the needs and aspirations of the present generation without compromising the ability of future generations to meet their own needs, and a sustainable development strategy may accordingly be understood as a facilitator for balancing the conservation of natural resources against the demands of industrial and technological advancement. Put differently, it connotes the capacity to improve the quality of human life while living within the carrying capacity of the supporting ecosystem (Agagu, 2008). The idea is not novel. The Iroquois Confederacy of North America long enjoined its chiefs to weigh how each of their actions would affect their descendants seven generations into the future, a principle that anticipates by several centuries the intergenerational logic now embedded in international development frameworks (Schumacher, 1973). The design implied by that principle is simultaneously social, economic and environmental, and it is this composite design that governments and the United Nations system presently pursue.

Sustainable development is also concerned with the technological means by which the composite design is realised, including technologies for pollution reduction, the monitoring of technologies that optimise the energy mix, popular participation in the management of environmental degradation, and the deployment of biomass, wind and solar energy so as to reduce the ecological hazards attendant upon fossil fuel and nuclear energy use in Nigeria (Esan, 1998). The pursuit of such objectives may create long-term economic stability while conferring comparatively few short-term benefits, which means that government, businesses, manufacturers, producers and consumers alike must alter established habits before sustainability becomes the norm rather than the exception (Varma, 2003). For any society to experience sustainable development it must make choices that shape its present way of life, and those choices must then

be sustained into the future. Carrying out such a programme effectively requires adequate funding, and it is at precisely this point that taxation enters the analysis.

Revenues accruing to an economy such as Nigeria may be divided into two broad categories, namely taxes, which constitute the principal source of public revenue, and other receipts such as direct sales of crude oil, royalties, fines, import and export duties and loans. Taxes themselves fall into the two broad classes of direct and indirect levies, each with several constituent types; while indirect taxes are not always easy to administer and collect, direct taxes levied on the incomes of individuals and the profits of companies are the more convenient and reliable instruments for generating developmental revenue (Okafor, 2012). Nigeria has over the years witnessed increasing revenue both from taxation and from other sources, yet this increase has not translated into overall sustainable development. Development indicators disclose that poverty rates remain high, the Human Development Index rating remains on the low rung, unemployment has risen, and inflation has persisted in double digits, while standards of living and per capita income remain depressed with millions of citizens in multidimensional poverty (World Bank, 2022). Purchasing power and real incomes have likewise been declining (Proshare, 2017).

Reports have identified Nigeria as carrying the largest number of persons living below the international poverty line, a position that stands in stark contradiction to the abundance of its human and natural endowments, and concerted effort in the area of development funding is required to change that situation (World Bank, 2022). Given this precarious circumstance, it becomes necessary to examine the impact of public revenue generated through taxation upon the attainment of sustainable development in Nigeria. The main aim of this study is accordingly to examine the effect of taxation on sustainable development in Nigeria within the period 2015 to 2025, and its specific objectives are to ascertain the effect of taxation on the Gross Domestic Product of Nigeria and to ascertain the effect of taxation on the Human Development Index of Nigeria. Consistent with these objectives, the study asks what effect taxation has on the Gross Domestic Product of Nigeria and what effect it has on the Human Development Index, and it tests the null propositions that taxation does not have a significant effect on the Gross Domestic Product of Nigeria and that taxation does not have a significant effect on the Human Development Index of Nigeria. Within this framework tax revenue constitutes the independent variable while sustainable development, proxied jointly by Gross Domestic Product and the Human Development Index, constitutes the dependent variable (Ofoegbu et al., 2016).

Literature Review

Conceptual Review

It is no longer news that the Nigerian economy has struggled to harness its vast human and natural resources for the alleviation of the poverty that pervades the nation and its expanding population, and recent assessments have placed Nigeria among the countries carrying the heaviest burden of extreme poverty despite the substantial revenue historically accruing from crude oil production and sales (World Bank, 2022). The distributional pattern of energy receipts compounds the difficulty, since roughly eighty per cent of Nigeria's energy revenues flow to government, sixteen per cent covers operational costs and the residual four per cent goes to investors, while a large share of the government portion has historically been captured by a very narrow segment of the population as a consequence of corruption (Apere, 2017). In 2005 Nigeria concluded a milestone agreement with the Paris Club of lending nations to eliminate its bilateral external debt, under which the lenders forgave the greater part of the obligation while Nigeria settled the remainder from a portion of its energy receipts, an arrangement that offered temporary relief without correcting the structural inefficiency of the wider economy (Apere, 2017).

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The bulk of Nigeria's human capital has remained underdeveloped, with the country persistently occupying the lower reaches of the United Nations Human Development Index and with non-energy infrastructure remaining inadequate and in several respects stagnant or declining (United Nations Development Programme, 2017). The economy entered recession in 2016 and again in 2020, and these contractions may be traced in large measure to weak leadership, mismanagement of resources, insecurity and corruption, all of which operate as anti-development drivers (Proshare, 2017). Against this background, taxation has remained the most reliable means of funding economic development. The mismanagement of oil revenue has made the search for alternative financing imperative, so that widening the tax net and bringing direct levies such as the capital gains tax to the front burner has become a matter of fiscal necessity, particularly since the capital gains tax is recognised as a veritable instrument for reducing capital flight and for redistributing income (Taiwo & Adejare, 2016).

The theoretical case for taxing capital gains rests on the comprehensive income principle, under which income is defined as the sum of consumption and the change in net worth over a period, so that accretions of wealth are properly brought within the tax base alongside wages and profits (Simons, 1938). Contemporary policy debate has nonetheless drawn attention to the behavioural consequences of raising rates on realised gains, since sharp increases may depress realisations, distort portfolio decisions and reduce the very revenue the increase was designed to capture (Pınar, 2012). For a jurisdiction such as Nigeria, in which the capital gains tax has historically yielded very modest sums, the practical lesson is that base-widening and improved administration are likely to deliver more revenue than rate escalation, and that the design of the levy must be judged by its net contribution to developmental financing rather than by its nominal rate.

The United Nations, through its framework for sustainable development, has furnished nations with a list of more than fifty indicators by which the sustainability of national development may be assessed, among them poverty level, governance, health, education, demography, natural hazards, atmosphere, land, oceans and coasts, biodiversity, economic development, global economic partnership, and consumption and production patterns (United Nations, 2007). Using these indicators a nation may assess its performance in governance and then evaluate whether it is in fact developing sustainably. Gross Domestic Product permits assessment of the economic dimension, while the Human Development Index permits assessment of performance in education, health, the observance of rights, the rule of law, infrastructure provision and poverty alleviation. Nigeria in recent times has not met the targets implied by this framework; while it is not behind on every indicator, its performance on economic development and human welfare has been notably weak, with a high number of persons in extreme poverty, restricted access to healthcare and education, and governance quality that remains difficult to defend (United Nations Development Programme, 2017).

Gross Domestic Product is the development indicator used to measure the national income and output of a country within a given period, and it is equal to the total expenditure on all goods and services produced within the country over that period, ordinarily computed on an annual basis (Todaro & Smith, 2011). The indicator is critical because it is tied to government expenditure, particularly expenditure of a capital nature that is deployed in the production of goods and services, and such expenditure is funded from the revenues generated by the nation. A high or rising Gross Domestic Product indicates that the economy is expanding and therefore on the path of development, whereas a low or falling figure indicates that developmental strides are faltering, and a negative figure indicates recession with development in retreat (Todaro, 1985). Because the

measure aggregates output without regard to its distribution, however, it must be read alongside a welfare indicator if the conclusions drawn from it are to bear on sustainable development rather than on growth alone.

A tax is a fee charged or levied by government on revenue, income, profit or economic activity involving the production of goods and services; where it is charged directly on personal or corporate income it is regarded as a direct tax, and where it is levied on the price of a good or service it is regarded as an indirect tax, and in either case it must be imposed by an instrument of legislation or it becomes an illegal exaction upon the citizenry (Okafor, 2012). The professional bodies have defined a tax in cognate terms as an enforced contribution of money to government pursuant to duly authorised legislation (Institute of Chartered Accountants of Nigeria, 2006; Chartered Institute of Taxation of Nigeria, 2002). Tax yields substantial revenue to government and has a concomitant effect on Gross Domestic Product, and where the revenue is deployed correctly, social infrastructure and the security of lives and property are made adequate for productive activity, so that the measure may then be deployed in assessing the economic well-being of a people (Okafor, 2012).

The nature and level of taxation vary according to the economic policies adopted by the government of the day, and different legislative instruments authorise government at its several levels to impose taxes and levies for the generation of revenue. These instruments include the Personal Income Tax (Amendment) Act 2011, the Companies Income Tax (Amendment) Act 2007, the Petroleum Profits Tax (Amendment) Act 2004, the Capital Gains Tax (Amendment) Act 2004, the Value Added Tax (Amendment) Act 2007 and the Education Tax (Amendment) Act 2004, together with the consolidated fiscal legislation enacted in the current reform cycle (Ofoegbu et al., 2016). The federal agency charged with the administration and collection of these taxes, excluding customs and excise duties, was until April 2007 the Federal Board of Inland Revenue, which was in that year replaced by the Federal Inland Revenue Service (Ofoegbu et al., 2016). Available reports disclose that Nigeria has recorded increases in tax revenue above target in successive years, with collections rising from N2.83 trillion to N4.71 trillion between 2010 and 2014 and continuing to rise across the several tax heads in more recent periods (Ofoegbu et al., 2016). The federally collected taxes comprise companies income tax, personal income tax, petroleum profits tax, value added tax, education tax and withholding tax, while the states collect the capital gains tax and personal income tax on individuals, and these levies, when collected and adequately utilised, are capable of bettering the lives of citizens through the provision of basic amenities and the protection of lives and property (Ikebujo, Ibanichuka, & Akani, 2016).

Theoretical Review

This study is anchored on the Benefit Received Theory of taxation, which holds that the state should levy taxes on persons according to the benefit they derive from government expenditure, so that the more benefit a person derives from the activities of the state the more that person ought to pay. The theory proceeds on the assumption that there exists an exchange or quasi-contractual relationship between the taxpayer and the state, and it implies that citizens should receive benefits commensurate with their tax payments, including infrastructure and properly regulated labour and capital markets (Otu & Adejumo, 2013). In contemporary writing the benefit principle appears in almost all treatments of taxation and its relation to social welfare, and it retains a strong intuitive appeal because it frames the tax obligation as the price of a service rather than as an arbitrary imposition (Bassey, 2013).

The theory is not without criticism. One line of objection arises from the unanimity requirement in the Wicksellian approach to linking taxes and expenditures, which has been argued

to depart from the constitutional economics tradition and therefore to be incapable of adequate application within a principle of justice (Buchanan, 1986). A second and more practical objection is that it would be almost impossible to determine and implement a quantum of government benefit for each taxpayer, particularly in respect of diffuse benefits such as military protection received alike by resident and non-resident taxpayers, and that maintaining a strict connection between benefits conferred and benefits derived would offend the basic character of a tax, in which there is no direct quid pro quo and therefore no proportion upon which the levy may be founded (Otu & Adejumo, 2013).

Notwithstanding these criticisms the theory has stood the test of time and is applicable to the Nigerian context, since where the state levies taxes on entities according to the benefit derived by them it becomes easier for those entities to pay, and the more benefit a person or group derives from the activities of government the more willing that person or group becomes to pay in accordance with the provisions made for them. Voluntary compliance may on this reasoning be enhanced as taxpayers come to feel the impact of the government activities financed by their contributions, and some taxpayers, particularly the wealthy, may become willing to pay more than the statutory minimum (Bassey, 2013). The theory nonetheless leaves open the difficult question, central to the present study, of whether the poor are able to pay taxes commensurate with the services rendered to them, and it is precisely the failure of collections to convert into visible services that the empirical section of this paper interrogates.

Empirical Review

There is a growing body of literature on the relationship between taxation and economic development, and although the studies approach the question from differing dimensions of tax revenue, the preponderant conclusion is that a significant relationship exists between taxation and economic development across a variety of tax measures and development proxies (Ibrahim & Ahmed, 2011; Worlu & Nkoro, 2012; Okafor, 2012; Onakoya & Afintinni, 2016; Ofoegbu et al., 2016). The divergence among them lies less in the existence of the relationship than in its strength, its direction over different time horizons, and the proxy selected to represent development, and it is on this last point that the present study concentrates.

Ibrahim and Ahmed (2011) investigated the relationship between economic growth and development within an error correction framework, proxying growth by Gross Domestic Product and development by the Human Development Index, and analysing secondary data covering 1975 to 2008. The study revealed that economic growth bears an insignificant negative relationship with the Human Development Index in the short run but a significant positive relationship in the long run, and concluded that policies aimed at accelerating growth would depress human development in the short term while equilibrium is restored in the long term through the adjustment of the Human Development Index to correct the equilibrium error. The implication drawn was that economic growth ultimately leads to human development and that growth-supporting policies must therefore be sustained.

Okafor (2012) examined the impact of income tax revenue on economic growth in Nigeria over the period 1981 to 2007, proxying growth by Gross Domestic Product and taking companies income tax, petroleum profits tax, value added tax and customs and excise duties as the revenue measures, with ordinary least squares regression as the estimation technique. The findings revealed no significant relationship between federally collected tax revenue and Gross Domestic Product, and the study called for improvement in tax administration and in the collection process so as to enlarge the revenue base required for growth. Worlu and Nkoro (2012) examined the impact of tax revenue on economic growth using infrastructural development and Gross Domestic Product

as proxies for development, employing data covering 1980 to 2007 and ordinary least squares regression, and revealed that tax revenue stimulates growth through infrastructural development while recommending that the developmental impact of revenue depends upon checkmating offenders and reducing corruption, evasion and avoidance.

Ofoegbu, Akwu and Oliver (2016) examined the effect of tax revenue on economic development using both the Human Development Index and Gross Domestic Product as proxies, analysing time-series data for 2005 to 2014 by ordinary least squares regression. The study revealed a positive and significant relationship between tax revenue and economic development on both measures, but found that the Human Development Index yields a materially lower coefficient than Gross Domestic Product, suggesting that reliance on the latter alone gives an unduly flattering picture of the relationship between revenue and development in Nigeria, and calling for the judicious application of tax revenue in the service of development. Cognate Nigerian evidence has reported a positive time-series association between tax revenue and development indicators over the period 2005 to 2014 (Ikebujo et al., 2016), while the appraisal of tax incentives over the decade to 2014 found that concessions granted without rigorous cost-benefit evaluation erode the revenue base without producing commensurate investment (Ironkwe & Ordu, 2016).

Attention has also been directed to the disaggregated tax heads. Onakoya and Afintinni (2016) reported a long-run relationship between individual tax components and economic growth in Nigeria, with the effect differing appreciably across companies income tax, petroleum profits tax and value added tax, while Taiwo and Adejare (2016) assessed the impact of the capital gains tax on economic growth and found the levy to be significantly under-exploited relative to its theoretical yield. Taken together, the reviewed literature indicates the existence of a significant relationship between tax revenue and the economic growth necessary for development, and an overwhelming preference among researchers for Gross Domestic Product as the development proxy. That preference is itself the gap this study addresses, for if development is measured only by aggregate output the analysis cannot detect the failure of output growth to reach the household, and the present study therefore examines both indicators over a decade that has not previously been covered in the Nigerian literature (Ofoegbu et al., 2016).

Methodology

The study adopted an ex-post facto research design, which is appropriate where the researcher analyses pre-existing and independently published data without exercising any control over the variables of interest (Okafor, 2012). Data were gathered from the reports of the planning, reporting and statistics department of the Federal Inland Revenue Service for the several years under review, from the annual reports and statistical bulletins of the Central Bank of Nigeria, from the publications of the National Bureau of Statistics and from the human development reports of the United Nations Development Programme. The variables of the study are tax revenue, which is the independent variable, and Gross Domestic Product together with the Human Development Index, which jointly proxy sustainable development as the dependent variable. Both proxies are drawn from the indicator framework prescribed for the assessment of national sustainability, which treats aggregate output and human welfare as distinct and non-substitutable dimensions of development.

Linear regression by the method of least squares and the Pearson product-moment correlation coefficient were employed for the analysis of the data and for testing the hypotheses, following the estimation approach adopted in comparable Nigerian studies of the revenue-development relationship (Ofoegbu et al., 2016; Worlu & Nkoro, 2012). The regression model takes the general form $Y = mx + b$, in which the slope is obtained as $m = [n\Sigma xy - (\Sigma x)(\Sigma y)] \div$

$[n\Sigma x^2 - (\Sigma x)^2]$ and the intercept as $b = [\Sigma y - m\Sigma x] \div n$, where Σ denotes summation, Σx is the sum of the values of the independent variable, Σy is the sum of the values of the dependent variable, Σxy is the sum of the products of each paired observation and Σx^2 is the sum of the squared values of the independent variable. The correlation coefficient is obtained as $r = [n\Sigma xy - (\Sigma x)(\Sigma y)] \div \sqrt{\{[n\Sigma x^2 - (\Sigma x)^2][n\Sigma y^2 - (\Sigma y)^2]\}}$, and its square gives the coefficient of determination, which reports the proportion of variation in the dependent variable that is explained by the independent variable.

The decision rule adopted is that where the computed correlation coefficient is positive and approaches unity, and where the corresponding coefficient of determination indicates that a substantial proportion of the variation in the dependent variable is explained by the independent variable, the null hypothesis is rejected and the alternative accepted; where the points of the scatter cluster closely about the fitted line the connection is treated as strong and reliable, and where they are widely dispersed the connection is treated as weak and therefore substantially influenced by forces outside the model (Ibrahim & Ahmed, 2011). Eleven annual observations covering 2015 to 2025 were available for the Gross Domestic Product analysis, while six biennial observations of the Human Development Index were available over the same interval, this being the reporting frequency at which the index is published for Nigeria (United Nations Development Programme, 2017).

Results and Discussion

This section presents the data assembled for the study, reports the regression and correlation results computed from them, and discusses the implications of those results for the two hypotheses formulated in the introduction. Table 1 sets out tax revenue, Gross Domestic Product and the resulting tax-to-GDP ratio for each year of the review period, and provides the raw material for the first hypothesis (Federal Inland Revenue Service, 2025; Central Bank of Nigeria, 2025; National Bureau of Statistics, 2025).

Table 1: Tax Revenue, Gross Domestic Product and Tax-to-GDP Ratio of Nigeria, 2015–2025

Year	GDP (₦ billion)	Tax revenue (₦ billion)	Tax-to-GDP ratio (%)
2015	94,144	4,989.63	5.30
2016	101,490	5,378.97	5.30
2017	113,710	6,481.47	5.70
2018	127,350	7,768.35	6.10
2019	144,210	8,652.60	6.00
2020	152,320	8,377.60	5.50
2021	173,530	18,845.36	10.86
2022	202,360	15,986.44	7.90
2023	229,390	18,809.98	8.20
2024	372,800	35,416.00	9.50
2025	441,500	59,602.50	13.50

Source: Federal Inland Revenue Service (2025); Central Bank of Nigeria (2025); National Bureau of Statistics (2025).

The table discloses a decade of pronounced revenue expansion. Tax collections rose from N4.99 trillion in 2015 to N59.60 trillion in 2025, an increase of approximately 1,095 per cent in nominal terms, while Gross Domestic Product rose from N94.14 trillion to N441.50 trillion over the same interval, an increase of approximately 369 per cent. Because revenue grew considerably faster than output, the tax-to-GDP ratio more than doubled, moving from 5.30 per cent to 13.50

per cent. The trajectory was not smooth: the ratio contracted in 2020 as pandemic-related disruption suppressed collections, spiked in 2021, retreated in 2022 following the rebasing of the output series, and then advanced sharply from 2024 as the current reform programme took effect. The pattern is consistent with earlier findings that Nigerian revenue performance responds strongly to administrative reform but remains vulnerable to macroeconomic shock (Ofoegbu et al., 2016).

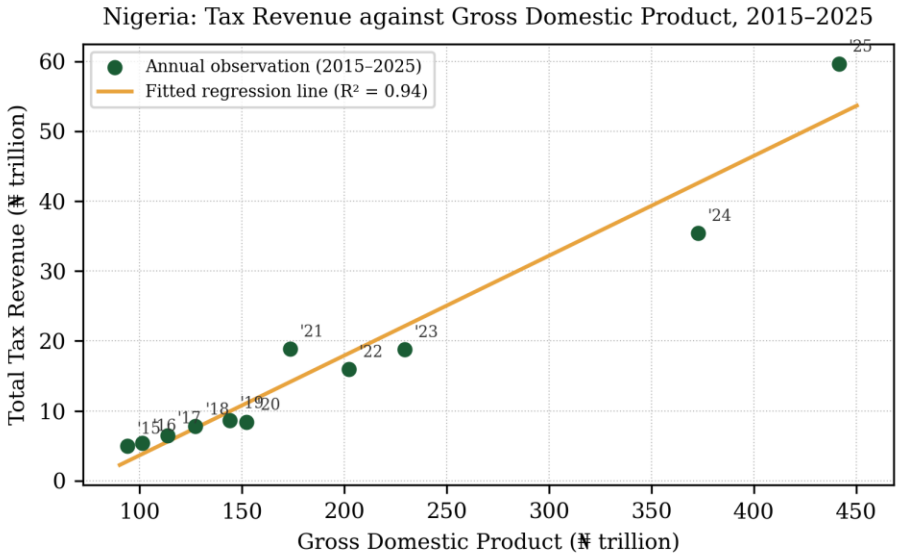


Figure 1: Nigeria — Tax Revenue against Gross Domestic Product, 2015–2025

Source: Author's computation, 2026, from the data in Table 1.

Figure 1 plots each annual pairing of Gross Domestic Product against total tax revenue, together with the fitted least squares line. The observations cluster tightly about the line across the whole of the range, and the fitted relationship returns a slope of 0.1428, indicating that each additional trillion naira of output is associated with an additional N142.8 billion of tax revenue. The correlation coefficient between the two series is 0.971 and the coefficient of determination is 0.943, which is to say that approximately 94.3 per cent of the variation in tax revenue is explained by variation in Gross Domestic Product. Because the points hug the line so closely, the connection between the two series is properly described as strong and reliable, and the first null hypothesis, that taxation does not have a significant effect on the Gross Domestic Product of Nigeria, is accordingly rejected. This result corroborates the finding that tax revenue and aggregate output move together in Nigeria and stands against the earlier contrary finding obtained over the period to 2007 (Worlu & Nkoro, 2012; Okafor, 2012).

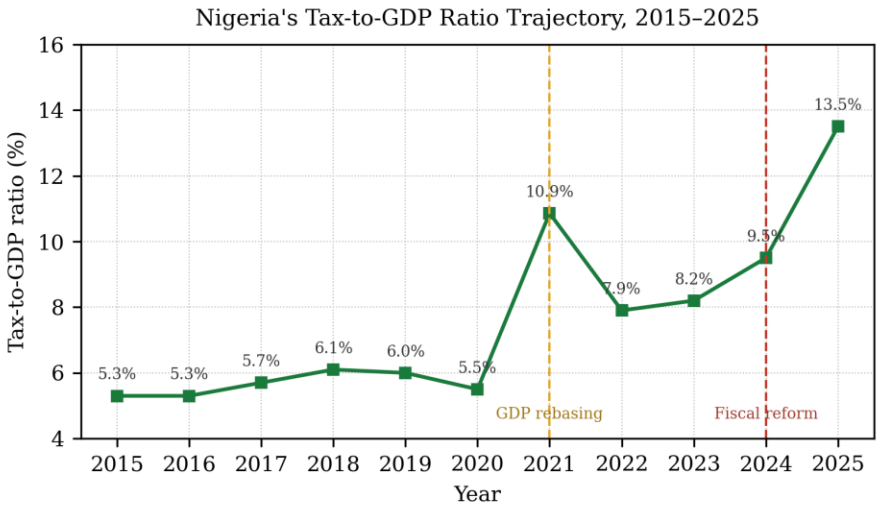


Figure 2: Nigeria's Tax-to-GDP Ratio Trajectory, 2015–2025

Source: Author's computation, 2026, from the data in Table 1.

Figure 2 traces the tax-to-GDP ratio itself against time, and the least squares trend fitted to that series takes the form Y = 0.6706x − 1,346.88, where x denotes the calendar year. The slope indicates that the tax-to-GDP ratio has advanced by an average of 0.67 percentage points in each year of the review period, which represents a materially faster rate of improvement than Nigeria achieved in any comparable earlier decade. The correlation coefficient between year and ratio is 0.824 and the coefficient of determination is 0.678, so that approximately 67.8 per cent of the movement in the ratio is attributable to the secular trend while the residual 32.2 per cent reflects the shocks and rebasing effects already noted. Applying the fitted line to 2016 yields a predicted ratio of 4.94 per cent against an actual outturn of 5.30 per cent, and applying it to 2025 yields 10.97 per cent against an actual outturn of 13.50 per cent, the widening positive residual at the end of the series indicating that recent administrative reform has lifted collections above the underlying trend (Ofoegbu et al., 2016).

Attention now turns to the second dimension of sustainable development. Table 2 pairs tax revenue with the Human Development Index at the biennial intervals for which the index is reported, and supplies the material for the second hypothesis (United Nations Development Programme, 2017; Federal Inland Revenue Service, 2025).

Table 2: Tax Revenue and Human Development Index of Nigeria, 2015–2025

Year	Tax revenue (₦ billion)	Human Development Index	Development band
2015	4,989.63	0.527	Low
2017	6,481.47	0.533	Low
2019	8,652.60	0.539	Low
2021	18,845.36	0.548	Low
2023	18,809.98	0.560	Medium (low end)
2025	59,602.50	0.560	Medium (low end)

Source: Federal Inland Revenue Service (2025); United Nations Development Programme (2017); Central Bank of Nigeria (2025); National Bureau of Statistics (2025); World Bank (2022).

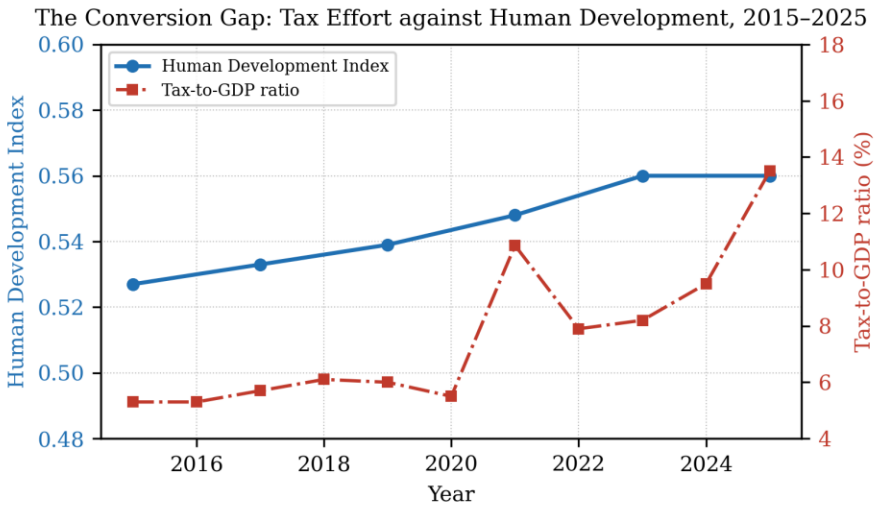


Figure 3: The Conversion Gap — Tax Effort against Human Development, 2015–2025

Source: Author's computation, 2026, from the data in Tables 1 and 2.

The regression of the Human Development Index on tax revenue returns a positive slope, so that the two series do move together, but the fit is appreciably looser than that obtained for Gross Domestic Product. The correlation coefficient is 0.753 and the coefficient of determination is 0.567, indicating that approximately 56.7 per cent of the variation in the Human Development Index is explained by variation in tax revenue while the remaining 43.3 per cent is attributable to factors outside the model, among them the composition of public expenditure, the efficiency of service delivery and the quality of governance. Because the coefficient is positive and substantial, the second null hypothesis, that taxation does not have a significant effect on the Human Development Index of Nigeria, is also rejected; but the gap between a coefficient of determination of 0.943 on the output measure and 0.567 on the welfare measure is the central empirical finding of this study, and it reproduces at decade length the pattern earlier identified over a shorter horizon (Ofoegbu et al., 2016).

The substantive significance of that gap is best appreciated in absolute terms. Over the review period tax revenue grew by approximately 1,095 per cent while the Human Development Index advanced from 0.527 to 0.560, a movement of only 6.3 per cent that carried Nigeria no further than the lower boundary of the medium human development band. Figure 3 sets the two series side by side and the divergence is unmistakable: the tax effort line climbs steeply from 2021 onward while the human development line remains almost flat, and after 2023 the index does not move at all despite the sharpest revenue increase of the decade. This is the conversion gap. Expanded collections have not been converted into commensurate improvements in the length and quality of life, in schooling or in command over resources, and the most plausible explanation is that the additional revenue has been absorbed by rising debt service obligations and recurrent administrative expenditure rather than channelled into social sector investment (World Bank, 2022; Apere, 2017).

These results permit a direct answer to the two research questions. Taxation exerts a significant and positive effect on the Gross Domestic Product of Nigeria, and it exerts a significant but distinctly weaker positive effect on the Human Development Index, so that the effect of taxation on sustainable development registers more strongly on the economic dimension than on the human dimension. The finding aligns with Ibrahim and Ahmed (2011), who reported that the transmission from growth to human development operates with a lag and is negative in the short

run, and it corroborates the caution of Ofoegbu et al. (2016) that reliance upon Gross Domestic Product alone gives an unduly favourable impression of the developmental return to taxation. It departs, however, from Okafor (2012), whose earlier sample found no significant relationship between federally collected revenue and output, a divergence readily explained by the administrative reforms and the far larger revenue base that characterise the more recent decade examined here (Worlu & Nkoro, 2012).

Conclusion

The study set out to examine the effect of taxation on sustainable development in Nigeria between 2015 and 2025, measuring sustainable development jointly by Gross Domestic Product and the Human Development Index. The evidence supports the conclusion that tax revenue has a significant effect on sustainable development on both measures, but that the effect is considerably more pronounced on aggregate output, where the coefficient of determination reached 0.943, than on human welfare, where it reached only 0.567. The tax-to-GDP ratio more than doubled over the decade and advanced by an average of 0.67 percentage points a year, which represents a genuine and creditable improvement in revenue mobilisation; yet the Human Development Index moved by barely three-hundredths of a point over the same interval and Nigeria remained at the low end of the medium human development band throughout.

The wider implication is that expanding the tax base cannot by itself guarantee sustainable human welfare in the absence of strict and institutionalised reform of public expenditure efficiency. A fiscal system may be judged successful in its collection function and simultaneously unsuccessful in its developmental function, and the Nigerian experience of the past decade illustrates precisely that separation. The benefit principle on which this study is theoretically founded supplies the standard against which the separation must be judged, for where taxpayers do not receive benefits commensurate with their contributions the moral and practical basis of voluntary compliance is progressively eroded, and the revenue gains achieved through administrative reform become difficult to sustain.

Recommendations

Arising from the findings, the study recommends first that the effort directed towards tax revenue mobilisation be sustained, since the strong association established between revenue and output confirms that continued mobilisation supports long-term economic development, and second that the petroleum sector be reformed so that tax incentives are offered strictly to operators prepared to invest in local refining capacity capable of generating domestic employment, incentives being granted only where a rigorous cost-benefit evaluation demonstrates a net contribution to the revenue base.

The study further recommends that revenue leakages be plugged and evasion loopholes closed by strengthening the audit and investigation functions of the revenue authorities and by holding officers accountable for their conduct, and that public trust be rebuilt through visible accountability so as to dispel the perception that tax revenue is not applied to public purposes, since the willingness of citizens to pay is conditioned upon their perception of the benefits received. Finally, and most directly addressed to the conversion gap identified in this study, budgetary allocations to education, healthcare and cognate human development heads should be increased, and government should adopt legally binding fiscal rules that tie a defined baseline percentage of any non-oil tax windfall to localised education and healthcare initiatives, while the governance framework is strengthened so that macroeconomic gains actually reach vulnerable populations.

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