Finance Act and Tax Revenue in Nigeria

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Abstract

Tax revenue contributed significantly to GDP in developed economies, but this is less evident in Nigeria and many sub-Saharan countries, due to ineffective tax collection. However, tax remained a reliable revenue source for government funding. This study examined the impact of the Finance Act on tax revenue in Nigeria. An ex post facto research design was employed. Quarterly time series data were collected on oil tax revenue and non-oil tax revenue from the Central Bank of Nigeria (CBN) and the Federal Inland Revenue Service (FIRS) statistical bulletins for the period between 2016Q1-2023Q4. The periods were divided into pre- and post-finance acts. 2016Q1 --2019Q4 represented pre finance act, while 2020Q1- 2023Q4 represented post finance act. Tax revenue is the dependent variable proxying oil tax revenue and non-oil tax revenue, while the Finance Act is the independent variable. Descriptive and inferential tools were employed and the data was analyzed using Mann-Whitney U test to examine the existence or otherwise of the statically significant difference in each of the components of dependent variable. The outcome of the test showed that there is no significant deference in oil tax between pre and post finance act. However, there is significant difference in non- oil tax between pre and post finance act period. The study recommended that government should expand the tax base and ensure effective utilization of revenue of tax.

Keywords: *Tax Revenue; Petroleum Profit Tax; Companies Income Tax; Value Added Tax; Custom and Excise Duties; Finance Act*

1.1 Introduction

Taxation is crucial in any economy, serving as a reliable revenue source for governments, including Nigeria (Igwe & Ugwuanyi, 2023). However, since the discovery of oil in commercial quantities, the Nigerian government has neglected other revenue sources, such as agriculture, leading to an overreliance on oil revenue for economic development (Oyedele & Oye, 2023). Non-oil revenue remains stagnant, contributing less than 5% to GDP.

The decline in fiscal revenue over the past two decades is mainly due to fluctuating global oil prices, resulting in a low tax-to-GDP ratio (Okwori &Sule, 2016). Contributing factors include a narrow tax base, low compliance, and outdated tax rates. Despite numerous tax laws, many remain outdated, affecting tax administration and revenue generation (Molo & Obie, 2024). Oladipo et al. (2024) highlight Nigeria's complex tax legislation as a barrier to compliance,

while Nwonyuku (2021) emphasizes that effective tax administration, not just laws, maximizes revenue.

Tax is a compulsory levy imposed by governments on individuals and businesses to finance public activities (Institute of Chartered Accountants of Nigeria (ICAN) ,2021) . In developing economies, additional tax revenue is essential to meet growing demands for public goods and services. To improve collection, Nigeria introduced the annual Finance Bill in 2019, yet its impact on revenue and GDP remains limited. This challenge extends beyond Nigeria, as seen in other developing economies (OECD, 2022).

Developed economies have achieved higher tax-to-GDP ratios, with Denmark at 47.1% in 2020, the UK at 32.1%, and the US at 25.8%. In contrast, developing countries such as Ghana (13.4%), Egypt (13.3%), and Nigeria (6.1%) reported significantly lower ratios. Nigeria's poor performance underscores the need for improved tax policies.

Empirical studies on tax revenue on GDP show mixed results. Some research found a significant impact (Odhiambo & Olushola, 2018), while others reported an insignificant effect (Osamor et al., 2023). Given these disparities, this study further examines the impact of the finance act on tax revenue, which is capable of impacting economic growth.

2.0 Literature Review

In researching the literature for this study, three subheadings are explored. They are: Conceptual Review, Theoretical Framework, and Empirical Review in that order.

2.1 Conceptual Review

Finance Acts and Tax Revenue

Tax revenue is a key source of government income and plays a crucial role in economic growth. However, in Nigeria and other Sub-Saharan countries, tax revenue contributes minimally to fiscal revenue, as reflected in the persistently low tax-to-GDP ratio, which has remained below 6% for decades (Maye & Isadunso, 2018). Factors responsible for this include a narrow tax base, poor compliance, low tax rates, and outdated tax laws (Nwonyuka, 2020). Many tax laws have not been reviewed in over two decades, reducing their effectiveness in generating sufficient revenue. Nwonyuku (2020) asserts that tax laws alone do not maximize revenue; efficient tax administration is essential.

To address these inefficiencies, Nigeria introduced the Finance Act in 2020 to align tax policies with economic realities and improve revenue generation. Since then, several amendments have been made to tax laws across different revenue components. Some notable amendments to tax status under finance act include:

Finance Act 2020: Introduced changes in Company Income Tax (CIT), Value Added Tax (VAT), Petroleum Profit Tax (PPT), and Customs and Excise Duties. Companies were classified into small, medium, and large, with CIT rates of 0%, 20%, and 30%, respectively. VAT was increased from 5% to 7.5%. Imported excisable products were made liable to excise duties.

Finance Act 2021: Addressed digital economy taxation and allowed deductions for donations to government funds. VAT exemptions were extended to commercial airline tickets and agricultural equipment. Custom and Excise Duties were expanded to include telecommunication services.

Finance Act 2022: Expanded CIT to cover gambling and gaming businesses. The CIT rate for gas flaring companies increased from 30% to 50%.

Finance Act 2023: Introduced compliance obligations for shipping and air transport companies. VAT adjustments targeted controlled transactions. Penalties for non-compliance with Petroleum Profit Tax increased from ₦10,000 to ₦10 million. A 0.5% duty was imposed on imports from non-African countries, and excise duties were extended to all services provided in Nigeria.

Finance Act 2024: Introduced a 5% Federal Excise Duty on lubricating oil.

Theoretical Framework: Expediency Theory of Taxation

Proposed by Abdul Islahi Azim and validated by Mirrlees (1971), this theory emphasizes the efficiency of tax collection over broader economic and social goals (Eze & Onyedikachi, 2020). Asaolu et, (2018) argue that taxation should focus on practicality, ensuring policies are enforceable and capable of generating revenue to influence GDP.

Empirical Review

Few empirical studies have analyzed the impact of Nigeria's Finance Acts on tax revenue. Molokwu and Obiekwe (2024) examined the Finance Act 2019's effect on CIT, VAT, and WHT on PPT payments using the Wilcoxon Statistical Test, finding a significant positive impact. Oladipo et al. (2024) analyzed the Finance Act 2020's impact on tax revenue using E-View 9.1, revealing that amended CIT and VAT significantly increased tax revenue.

Adeyemi and Ishola (2024) studied the Finance Act 2022's influence on tax compliance among SMEs, selecting 472,654 registered businesses using a multi-stage sampling method. Raphael et al. (2023) reviewed the Finance Act 2020's implications on government revenue and economic units. Their regression analysis found CIT had a positive impact on tax compliance, while VAT had a negative impact.

Nwonyuku (2020) investigated the Finance Act's effect on VAT administration, concluding that efficient tax administration, rather than tax laws alone, maximizes revenue. These studies collectively highlight the Finance Acts' mixed but generally positive influence on Nigeria's tax system.

3.0 Materials and methods

This study adopted an ex-post-facto research design to evaluate the significant difference in tax revenue pre- and post-finance act regime in Nigeria. The research design is appropriate since the data employed already exist and are accessible. The study made use of quarterly time series

secondary data for thirty-two (32) quarters covering 2016Q1 to 2023Q4 for oil tax revenue (OTR) and non-oil tax revenue (NTR) obtained from the Federal Inland Revenue Service (IFRS) and Central Bank of Nigeria (CBN) Statistical Bulletin. The period 2016Q1 to 2019Q4 represents pre pre-finance act regime, while 2020Q1 to 2023Q4 represents post post-finance act regime. Finance Act is a categorical variable, while oil tax revenue and non-oil tax revenue is continuous variables.

The model specification for the study is as given:

Test Statistic Specification

Following the study's descriptive analysis, the distributions of OTR and NTR concerning the Finance Act (FA) do not meet the underlying normality assumption, thus, the study's hypotheses were tested using the independent-samples Mann-Whitney U test as a non-parametric technique. The *z* test statistic is defined as:

$$z = \frac{U - \overline{U}}{\sigma_U} \tag{3.1}$$

Where:

$\overline{U}$ = Expected value of U

$$\overline{U} = \frac{n_{pre} \times n_{post}}{2}$$

σ_U = Standard Error of U

$$\sigma_U = \sqrt{\frac{n_{pre} \times n_{post} \times (n_{pre} + n_{post} + 1)}{12}}$$

$$U = \min (U_B, U_A)$$

min = minimum

U_{pre} = Mean Rank of OTR/NTR in pre-FA period

$$U_B = (n_{pre} \times n_{post}) + \frac{n_{pre} \times (n_{pre} + 1)}{2} - R_{pre}$$

U_{post} = Mean Rank of OTR/NTR in post-FA period

$$U_{post} = (n_{post} \times n_{pre}) + \frac{n_{post} \times (n_{post} + 1)}{2} - R_{post}$$

R_{pre} = Sum of Ranks of OTR/NTR in pre-FA period
R_{post} = Sum of Ranks of OTR/NTR in post-FA period
n_{pre} = Number of quarters (observations) of OTR/NTR in pre-FA period
n_{post} = Number of quarters (observations) of OTR/NTR in post-FA period

4.0 Empirical Results

4.1 Summary Statistics

This section presents the descriptive statistics of the study variables, including the Finance Act (FA) as a dummy variable (0,1), oil tax revenue (OTR), and non-oil tax revenue (NTR). All continuous variables are measured in ₦ billion. Summary statistics were computed for the full sample period (2016Q1–2023Q4) and two subsamples: the pre-Finance Act (Pre-FA) period (2016Q1–2019Q4) and the post-Finance Act (Post-FA) period (2020Q1–2023Q4).

4.1.1 Summary Statistics of Oil Tax Revenue (OTR) concerning Finance Act (FA)

Table 4.1 presents the summary statistics of oil tax revenue (OTR) under the Finance Act (FA). Over the full sample period, OTR exhibits low variability, as indicated by its standard deviation being lower than the mean and median. This suggests a high predictive capacity over the 32 quarters. The skewness coefficient shows that OTR is positively skewed, while the kurtosis value (3.8943) indicates a leptokurtic distribution. Additionally, the Jarque-Bera test (JB = 9.8052, p = 0.0074) confirms that OTR deviates from normality.

Table 4.1-Summary Statistics
Oil Tax Revenue (OTR) concerning Finance Act (FA)

	Continuous Variable: NTR		
Statistics	**Full: 2016Q1-2023Q4**	**Pre: 2016Q1-2019Q4**	**Post: 2020Q1-2023Q4**
Obs.	32	16	16
Mean	553.43	453.759	653.104
Median	493.41	493.413	481.318
Maximum	1476.44	672.569	1476.440
Minimum	176.75	176.748	201.246
Std. Dev.	320.85	145.053	412.943
Skewness	1.2801	-0.1518	0.6124
Kurtosis	3.8943	1.9906	1.9569
Jarque-Bera	9.8052	0.7407	1.7255
p-value	0.0074	0.6905	0.4220

Source: Compiled by the author, 2024

The summary statistics for the pre-Finance Act (Pre-FA) and post-Finance Act (Post-FA) periods in Table 4.1 show that the average OTR in the post-FA regime is higher than in the pre-FA period. Additionally, OTR exhibits greater variability in the post-FA period, as indicated by a higher standard deviation. This increased variability may be attributed to the implementation of the Finance Act.

4.1.2 Summary Statistics of Non-oil Tax Revenue (NTR) about Finance Act (FA)

Table 4.2 presents the results of the summary statistics of NTR in relation Finance Act 2019.

Table 4.2-: Summary Statistics
NTR concerning Finance Act (FA)

Statistics	Continuous Variable: NTR

	Full: 2016Q1-2023Q4	Pre: 2016Q1-2019Q4	Post: 2020Q1-2023Q4
Obs.	32	16	16
Mean	1065.01	666.130	1463.89
Median	857.83	687.506	1179.87
Maximum	3362.86	972.021	3362.86
Minimum	387.12	387.122	652.743
Std. Dev.	660.69	165.635	731.622
Skewness	1.9180	-0.0759	1.3656
Kurtosis	6.5357	2.3325	3.9975
Jarque-Bera	36.2877	0.3124	5.6363
P-value	0.0000	0.8554	0.0597

Source: Author's computation, 2024

The full sample statistics indicate that non-oil tax revenue (NTR) demonstrates low variability, with standard deviations below the mean, suggesting strong forecasting potential over 32 quarters. The NTR distribution is positively skewed and leptokurtic (peaked), with a kurtosis coefficient of 6.5357, exceeding the normal threshold of 3. Additionally, the Jarque-Bera test (JB = 36.2877, p = 0.0000) confirms non-normality.

Comparing the pre-Finance Act (Pre-FA) and post-Finance Act (Post-FA) periods (Table 4.2), the post-FA regime shows higher average NTR and greater variability, as indicated by increased standard deviations. This higher variability may be linked to the implementation of the Finance Act 2019.

4.2 Tests of Hypotheses

Building on the summary statistics, this section conducts hypothesis tests to determine the statistical significance of the Finance Act's effect on oil tax revenue (OTR) and non-oil tax revenue (NTR). Given the non-normality of these variables (as shown in Tables 4.1 and 4.2), the independent-samples Mann-Whitney U test—a non-parametric method—was employed to evaluate differences between the pre-Finance Act (Pre-FA) and post-Finance Act (Post-FA) periods.

4.2.1 Test of Hypothesis 1

H_0: There is no significant difference in the size of oil tax revenue before and after the enactment of the Finance Act in Nigeria. Specifically, the hypothesis test aims to determine whether there is a significant difference in the average oil tax revenue (OTR) collected between the pre-Finance Act (Pre-FA) and post-Finance Act (Post-FA) periods in Nigeria. Given that OTR does not meet the normality assumption (as shown in Table 4.1), the Mann-Whitney U Test was employed to assess this difference.

Table 4.3-: Mann-Whitney U Test Result for Hypothesis 1 (OTR concerning FA)

Pre-FA: 2016Q1 – 2019Q4 Post-FA: 2020Q1 – 2023Q4	
Median of *OTR* in Pre-FA regime	493.413
Median of *OTR* in Post-FA regime	481.318
Mean Rank of *OTR* in Pre-FA regime	15.50

Mean Rank of *OTR* in Post-FA regime	17.50
Mann-Whitney U	144.00
Wilcoxon W	280.00
Z	0.603
p-value	0.546
Effect Size (Eta Squared η)**:**	0.0188

Source: Author's computation, 2024.

Table 4.3 presents the results of the Mann-Whitney U test, which examined the effect of the Finance Act on oil tax revenue (OTR) in Nigeria. The test revealed no statistically significant difference in OTR between the pre-Finance Act (Md = 493.413, n = 16) and post-Finance Act (Md = 481.318, n = 16) periods (U = 144.00, z = 0.603, p = 0.546 > 0.05). Since the p-value exceeds the 5% significance level, the null hypothesis—that there is no significant difference in OTR before and after the Finance Act—cannot be rejected. This suggests an insignificant increase in OTR between the two periods (see Table 4.1).

4.2.2 Test of Hypothesis 2

H_0: There is no significant difference in the size of non-oil tax revenue before and after the enactment of the Finance Act in Nigeria.

The hypothesis test examines whether a significant difference exists in the average non-oil tax revenue (NTR) between the pre-Finance Act (pre-FA) and post-Finance Act (post-FA) regimes in Nigeria. Since the NTR distribution does not meet the normality assumption (see Table 4.2), the Mann-Whitney U test was employed for analysis.

Table 4.4-: Mann-Whitney U Test Result for Hypothesis 2 (NTR concerning FA)
Pre-FA: 2016Q1 – 2019Q4
Post-FA: 2020Q1 – 2023Q4

Median of *NTR* in Pre-FA regime	687.506
Median of *NTR* in Post-FA regime	1179.870
Mean Rank of *NTR* in Pre-FA regime	9.44
Mean Rank of *NTR* in Post-FA regime	23.56
Mann-Whitney U	241.00
Wilcoxon W	377.00
Z	4.259^{***}
p-value	0.000
Effect Size (Eta Squared η)**:**	0.1331

Source: Author's analysis, 2024.

Table 4.4 presents the results of the independent-sample Mann-Whitney U test, assessing the impact of the Finance Act on non-oil tax revenue (NTR) in Nigeria. The test reveals a statistically significant difference (U = 241.00, z = 4.259, p = 0.000 < 0.05) between the pre-Finance Act (Md = 687.506, n = 16) and post-Finance Act (Md = 1179.870, n = 16) regimes. Since the p-value is below the 5% significance level, the null hypothesis—stating no significant difference in NTR before and after the Finance Act—is rejected. This indicates a substantial increase in NTR following the Finance Act's enactment (see Table 4.2).

5.0 Discussions and recommendations

The study analyzed the relationship between the Finance Act and tax revenue in Nigeria. The empirical findings revealed no significant difference in oil tax revenue before and after the Finance Act, indicating that its enactment did not substantially impact oil tax revenue generation. Conversely, a significant increase in non-oil tax revenue was observed, suggesting that the Finance Act positively influenced its collection. The limited impact on oil tax revenue may be due to transparency issues and distortions within the oil sector.The study found a significant positive relationship between tax revenue and economic growth in Nigeria, with an even stronger impact when moderated by the Finance Act. This highlights the Finance Act's crucial role in fiscal policy and economic growth. The study recommends that government reforms be driven by political commitment and stakeholder engagement. Policymakers should enhance tax administration through technology, expand the tax base, and ensure transparency in tax revenue utilization to encourage compliance.

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