**Effect of PAYE and other Internally Generated Revenue Taxes on Expenditure of Government in Southwest State, Nigeria**

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**Abstract**

A tax is a compulsory charge on income, consumption and production imposed upon an individual, Partnership or companies by the government of a nation in order to fund various public expenditures. The intricate relationship between the collection of PAYE and other internally generated revenue taxes and the allocation of funds towards public services, infrastructure development, and social welfare programs poses a complex challenge. The study therefore examines the tax revenue and government expenditure in Southwest, Nigeria. The study adopts *ex-post facto* research design while data was sourced secondarily from the audited annual financial reports and budgets of southwestern states governments for the period of forty (40) years 1982-2022. The population of the study were the entire six (6) states of south west Nigeria. Analytical techniques used in the study involved both descriptive and inferential statistics. Descriptive statistics include minimum, maximum, mean and standard deviation values. Variance Decomposition Analysis (VDA) and Impulse Response Function (IRF) as components of time series regression analysis was used in assessing all the study variables at 5% significant level. Regression analysis was used to examine the effect of PAYE and other internally generated revenue taxes on expenditure. The result of the regression analysis implies that four explanatory variables INT and COT were significant in explaining variation on the effect of PAYE and other internally generated revenue taxes on expenditure of government in southwest state with p values of (0.0202 and 0.0116). The study concludes that Pay AsYou Earn (PAYE) and other internal generated revenue taxes has significant effect to government expenditure in southwest states, Nigeria. Therefore, the study recommends that Government in the southwestern states should develop and implement effective strategies to further boost revenue generation, especially from internal sources like Pay As You Earn (PAYE) and other internally generated taxes.

**Keyword:** **PAYE, Internally Generated Revenue, Taxes, Expenditure , Government**

**1.0 Introduction**

Universally, the growth and development of any nation are based on revenue generation through which government improves the infrastructural base and the living standard of people. This informs that a nation with high revenue generation might perform better in the form of payment of salary and wages, infrastructural development, development of small and medium scales enterprises among others (Etim and Austin, 2015). The revenue that accrues to the state government in Nigeria is derived from two broad sources, viz: the external sources and the internal sources (Adebayo, Adeyemi &Osunwole, 2022). Despite the numerous sources of revenue available to the various tiers of government as specified in the Nigeria 1999 constitution, it has been observed that since the 1970s till now, over 80% of the annual revenue of the three tiers of government comes from petroleum (Olajide, 2015).

However, the serious decline in the price of oil coupled with incessant corruption in the oil sector in recent years has led to a decrease in the funds available for distribution to the states. Therefore, the need for state governments to generate adequate revenue from internal sources has become a matter of extreme urgency and importance (Raji, 2015). This urgent need for improvement in revenue generation has underscored the reason why revenue from taxes has been the focus of state governments in improving their revenue generation. The importance of taxation as a source of revenue to any government cannot be overemphasized (Adebayo, Adeyemi &Osunwole, 2022).

In Southwest State, Nigeria, the financial landscape of the government is significantly influenced by the imposition of Pay-As-You-Earn (PAYE) and other internally generated revenue taxes. While these taxation mechanisms are crucial for revenue generation, their impact on government expenditure remains a subject of concern and inquiry. The intricate relationship between the collection of PAYE and other internally generated revenue taxes and the allocation of funds towards public services, infrastructure development, and social welfare programs poses a complex challenge. Understanding the dynamics of how these revenue sources affect the government's expenditure patterns is essential for ensuring fiscal sustainability, economic development, and equitable resource distribution. Therefore, the research seeks to investigate the nuanced effects of PAYE and other internally generated revenue taxes on the expenditure decisions of the government in Southwest State, providing insights that can inform policy formulation and enhance financial management strategies.

**2.0 Literature review**

**Concept of Taxation**

Taxation is an instrument employed by the government for generating public funds (Anyaduba, 2014). It is a required payment imposed by the government on the income, profit or wealth of individuals, group of persons, and corporate organisations. Piana (2018) opines that it is a result of the application of tax rate to a tax base. According to Brautigam (2018) a well-designed tax system can help governments in developing countries prioritize their spending, build stable institutions, and improve democratic accountability. The main purpose of a tax is to enable public sector finance its activities so as to achieve some nation’s economic and social goals. It can also be for the purpose of redistribution of wealth to ensure social justice (Abata, 2014).

Therefore, taxes can be used as an instrument for achieving both micro and macroeconomic objectives especially in developing countries such as Nigeria. However, Musgrave and Musgrave (2014) comment that the dwindling level of tax revenue generation in the developing countries makes it difficult to use tax as an instrument of fiscal policy for the achievement of economic development. Some governments like Canada, United States, Netherland, and The United Kingdom have substantially influenced their economic development through tax revenue generated from Company Income Tax, Value Added Tax, and Personal Income Tax, and have prospered through tax revenue (Oluba, 2018).

**Classes of taxes**

**Direct**

Direct taxes are primarily taxes on natural persons (e.g., individuals), and they are typically based on the taxpayer’s ability to pay as measured by income, consumption, or net wealth. What follows is a description of the main types of direct taxes. Individual income taxes are commonly levied on total personal net income of the taxpayer (which may be an individual, a couple, or a family) in excess of some stipulated minimum (Craig et al., 2020). They are also commonly adjusted to take into account the circumstances influencing the ability to pay, such as family status, number and age of children, and financial burdens resulting from illness. The taxes are often levied at graduated rates, meaning that the rates rise as income rises. Personal exemptions for the taxpayer and family can create a range of income that is subject to a tax rate of zero. Taxes on net worth are levied on the total net worth of a person—that is, the value of his assets minus his liabilities. As with the income tax, the personal circumstances of the taxpayer can be taken into consideration (Dandago and Alabede, 2017).

**Indirect taxes**

Indirect taxes are levied on the production or consumption of goods and services or on transactions, including imports and exports. Examples include general and selective sales taxes, value-added taxes (VAT), taxes on any aspect of manufacturing or production, taxes on legal transactions, and customs or import duties (Gurdal et al., 2018). General sales taxes are levies that are applied to a substantial portion of consumer expenditures. The same tax rate can be applied to all taxed items, or different items (such as food or clothing) can be subject to different rates. Single-stage taxes can be collected at the retail level, as the U.S. states do, or they can be collected at a pre-retail (i.e., manufacturing or wholesale) level, as occurs in some developing countries (Kunwar, 2019). Multistage taxes are applied at each stage in the production-distribution process. The VAT, which increased in popularity during the second half of the 20th century, is commonly collected by allowing the taxpayer to deduct a credit for tax paid on purchases from liability on sales. The VAT has largely replaced the turnover tax—a tax on each stage of the production and distribution chain, with no relief for tax paid at previous stages. The cumulative effect of the turnover tax, commonly known as tax cascading, distorts economic decisions (Lawal, 2015).

Pay as You Earn (PAYE)

Pay as You Earn (PAYE) is a method of income tax deduction that is commonly used in many countries, including the United Kingdom and Ireland. It is designed to simplify the process of tax collection by deducting income tax and other relevant contributions directly from employees' salaries or wages before they receive their net pay (Bariyima and Gladson, 2017). Under the PAYE system, employers are responsible for calculating and deducting the appropriate amount of income tax and National Insurance contributions (in the UK) from their employees' earnings. The deductions are made based on the employee's tax code, which takes into account factors such as their tax allowances, tax credits, and other relevant informational., (Bala*et a*., 2028).

The PAYE system ensures that employees' tax liabilities are spread evenly throughout the tax year, rather than paying a lump sum at the end of the year. It provides a more convenient and manageable way for individuals to meet their tax obligations. Employers are required to submit regular reports to the tax authorities, providing details of the earnings and deductions for each employee (Bariyima and Gladson, 2017). These reports help to ensure accurate tax calculations and facilitate proper record-keeping. PAYE also incorporates the deduction of other contributions, such as National Insurance (NI) in the UK, which helps fund social security benefits and healthcare. The exact deductions may vary depending on the country and its specific tax and social security regulations.

**Theoretical Framework**

For the purpose and peculiarity of this study, the researcher anchors the work on the cost-of-service theory. Some economists were of the opinion that if the state charges actual cost of the service rend from the people, it will satisfy the idea of equity or justice in taxation. The cost-of-service principle can no doubt be applied to some extent in those cases where the services are rendered out of prices and are a bit easy to determine, e.g., postal, railway services, supply of electricity etc. But most of the expenditure incurred by the state cannot be fixed for each individual because it cannot be exactly determined. For instance, how can it measure the cost of service of the police, armed forces, judiciary, etc., to different individuals.

**Empirical Review**

Fatile and Ejalonibu (2018) examined the impact of PAYE and other internal generated revenue taxes on expenditure of government in Lagos and Oyo States. Using data on specific categories of PAYE and Gross Domestic Product (GDP) of the selected states and applying ex-post facto analysis, the study assesses whether PAYE has any significant impact on sustainable budget implementation. The findings of this study reveal that the persistent shortfall in estimates of earnings has inevitably affected the sustainability of budget implementation at both federal and state levels in Nigeria. It further shows that there is a direct relationship between improved PAYE and sustainable budget implementation. In view of the above, the study concludes that state governments could achieve sustainable budget implementation through improved PAYE; and therefore, recommends that there should be a purposeful attitudinal change towards improving PAYE at State level in Nigeria as this is evidently seen in the case of Lagos.

Ogar*et a*. (2019) examine the relationship between PAYE and revenue generation in Nigeria, using annual time series data, ranging from 1980 to 2017. The empirical results show that, government expenditure has a positive but insignificant relationship with economic growth in Nigeria. Similarly, Ebong*et a*. (2016) evaluates the influence of government expenditure on economic growth in Nigeria. Using annual time series data, the authors indicate that government expenditure on agriculture has a significant impact on economic growth in both the short-run and long-run. Al-Fawwaz (2016) also uses annual time series data to examine the effect of government expenditure on economic growth in Jordan from 1980 to 2013. The findings show that, government expenditure has a positive relationship with economic growth.

Ibrahim (2019) uses a Vector Autoregression approach to examine the relationship between government expenditure and non-oil economic growth in the UAE. The author shows that an increase in government expenditure, by intensifying current and development public expenditure, induces an increase in non-oil economic growth in the UAE. Additionally, Aydin and Esen (2019) examine the association between the size of government and economic growth and determine the optimum level of expenditure to increase economic growth. The study uses a dynamic panel data estimation technique based on the threshold model. Based on the empirical findings, government spending has a threshold impact on growth in the economy. They again indicate that, economic growth is negatively affected where government spending is above the threshold level. However, where government size is below the threshold level, government spending has a positive effect on economic growth.

Moreover, Okoye *et a*. (2019) analyze the relationship between economic growth and government expenditure to assess how output growth is affected by government expenditure using secondary data from 1981 to 2017. The results show a negative and significant short-run lagged impact on current expenditure for the growth of the economy. The study further shows a significant positive influence of lagged capital expenditure on economic growth. However, the findings could not prove long-run relationship between government expenditure and growth. Also, Balaj and Lani (2017) examine the impact of public expenditure on economic growth in Kosovo. The study uses secondary data from 2000 to 2016. The empirical results indicate that public expenditure and economic growth are positively related; however, economic growth does not depend directly on public expenditure. The authors further find that public expenditure in Kosovo has not achieved its intended goal, since funds are spent inappropriately on projects that do not drive economic growth.

**3.0 Methodology**

The study adopts *ex-post facto* research design while data was sourced secondarily from the audited annual financial reports and budgets of southwestern states governments for the period of forty (40) years 1982-2022. The population of the study were the entire six (6) states of south west Nigeria. Analytical techniques used in the study involved both descriptive and inferential statistics. Descriptive statistics include minimum, maximum, mean and standard deviation values. Variance Decomposition Analysis (VDA) and Impulse Response Function (IRF) as components of time series regression analysis was used in assessing all the study variables at 5% significant level. Regression analysis was used to examine the effect of PAYE and other internally generated revenue taxes on expenditure.

**4.0 Results and Discussion**

**Short-run panel regression analysis of the effect of PAYE and other internally generated revenue taxes on expenditure of government in southwest states, Nigeria**

In Table 1, the short-run result indicates that the effect of PAYE and other internally generated revenue taxes on expenditure of government in southwest states, Nigeria which is statistically significant at 1 percent level of significance. This signifies that ceteris paribus a 1 percent increase in the Income Tax (INT) will cause a increase in the expenditure profile of governments in southwestern states by 1.4 percent. In the same vein, the result also shows that the Company Income Tax (COT) has an effect on the expenditure profile of governments in southwestern states which is significant at 1 percent level. It implies that ceteris paribus, 1 percent unit increase in Company Income Tax (COT) will bring about 0.6 percent increase in the expenditure profile of governments in southwestern states. The result in the analysis as shown in Table 1 also revealed that Royalties (ROY) affect the expenditure profile of governments in southwestern states which is statistically significant at 1 percent level of significance. This signifies that ceteris paribus a 1 percent increase in the Royalties (ROY) will cause an increase in the expenditure profile of governments in southwestern states by 0.004 percent. In the same Table 1, the result also shows that the Pay As You Earn (PAYE) has a positive effect on the expenditure profile of governments in southwestern states which is significant at 1 percent level. It implies that ceteris paribus, 1 percent unit increase in Pay As You Earn (PAYE) will bring about 6.2 percent increases in the expenditure profile of governments in southwestern states.

The general model of the equation is presented in equation 4.1 below:

OPEX= -5.230008+1.404736INT+0.674534COT--1.063974ROY+6.280008PAYE…… eqn (4.3)

The result of the short-run implies that two of the four explanatory variables INT and COT were significant in explaining variation in the expenditure profile of governments in southwestern states with p values of (0.0202 and 0.0116) but ROY shows a negative coefficient of (-4.310005). Moreso, two of the variables (ROY and PAYE) showed insignificant probability effect on the expenditure profile of governments in southwestern states with p values of (0.1911 and 0.4415).

Findings based on the result obtained indicate that R-square= 0.6140, which implies that approximately 61% of the variation in the dependent variable (expenditure profile of governments in southwestern states) is caused by the explanatory variables included in the model and remained robust after adjusting for degree of freedom. Moreover, the explanatory variables are jointly significant at 5% level. The F-statistics of 8.775020 measures fitness of the model indicates that the model is fit for analysis and prob (0.027749) indicated a joint significant effect of income tax, company income tax, Royalties and Pay As You Earn of revenue and expenditure of operating expenses. Therefore, the null hypothesis stands rejected that PAYE and other internal generated revenue taxes does not have any significant effect to government expenditure in southwest states, Nigeria

**Table 1 Short-Run** **regression analysis of the effect of PAYE and other internally generated revenue taxes on expenditure of government in southwest states, Nigeria**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -5.230008 | 7.320008 | -0.714385 | 0.4757 |
| INT | 1.404736 | 6.009667 | 2.337462 | 0.0202 |
| COT | 0.674534 | 0.422447 | 1.967300 | 0.0116 |
| ROY | -1.063974 | 0.811643 | -1.310889 | 0.1911 |
| PAYE | 6.280008 | 8.140008 | 0.770959 | 0.4415 |
|  |  |  |  |  |
|  |  |  |  |  |
| R-squared | 0.614030 | Mean dependent var | | 2.63E+08 |
| Adjusted R-squared | 0.538164 | S.D. dependent var | | 1.21E+09 |
| S.E. of regression | 1.20E+09 | Akaike info criterion | | 44.66228 |
| Sum squared resid | 3.45E+20 | Schwarz criterion | | 44.73352 |
| Log likelihood | -5488.460 | Hannan-Quinn criter. | | 44.69096 |
| F-statistic | 8.775020 | Durbin-Watson stat | | 0.785877 |
| Prob(F-statistic) | 0.027749 |  |  |  |
|  |  |  |  |  |

Source: Researcher’s Computation, 2023

**Long-Run regression analysis of the effect of PAYE and other internally generated revenue taxes on expenditure of government in southwest states, Nigeria**

In Table 2, the long-run result indicates that the effect of PAYE and other internally generated revenue taxes on expenditure of government in southwest states, Nigeria which is statistically significant at 1 percent level of significance. This signifies that ceteris paribus a 1 percent increase in the Income Tax (INT) will cause a increase in the expenditure profile of governments in southwestern states by 6.0 percent. In the same vein, the result also shows that the Company Income Tax (COT) has an effect on the expenditure profile of governments in southwestern states which is significant at 1 percent level. It implies that ceteris paribus, 1 percent unit increase in Company Income Tax (COT) will bring about 4.6 percent increase in the expenditure profile of governments in southwestern states. The result in the analysis as shown in Table 2 also revealed that Royalties (ROY) affect the expenditure profile of governments in southwestern states which is statistically significant at 1 percent level of significance. This signifies that ceteris paribus a 1 percent increase in the Royalties (ROY) will cause an decrease in the expenditure profile of governments in southwestern states by 9.4 percent. In the same Table 2, the result also shows that the Pay As You Earn (PAYE) has a positive effect on the expenditure profile of governments in southwestern states which is significant at 1 percent level. It implies that ceteris paribus, 1 percent unit increase in Pay As You Earn (PAYE) will bring about 3.9 percent increases in the expenditure profile of governments in southwestern states.

The general model of the equation is presented in equation 4.1 below:

OPEX= -2.940018+6.000016INT+4.680009COT-9.490009ROY+3.970018PAYE…… eqn (4.4)

The result of the short-run implies that one of the four explanatory variables COT was significant in explaining variation in the expenditure profile of governments in southwestern states with p values of (0.0372) but ROY shows a negative coefficient of (-9.490009). Moreso, three of the variables (INT, ROY and PAYE) showed insignificant probability effect on the expenditure profile of governments in southwestern states with p values of (0.1767, 0.1167 and 0.5125)

**Table 2: Long-Run regression analysis of the effect of PAYE and other internally generated revenue taxes on expenditure of government in southwest states, Nigeria**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  |  |  |  |  |
|  |  |  |  |  |
| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|  |  |  |  |  |
|  |  |  |  |  |
| C | -2.940018 | 5.430018 | -0.540832 | 0.5891 |
| INT | 6.050016 | 4.460016 | 1.354861 | 0.1767 |
| COT | 4.680009 | 3.140009 | 1.491181 | 0.0372 |
| ROY | -9.490009 | 6.030009 | -1.574609 | 0.1167 |
| PAYE | 3.970018 | 6.050018 | 0.655868 | 0.5125 |
|  |  |  |  |  |

Source: Researcher’s Computation, 2023

**Result and Variance Decomposition Analysis (VDA) of the effect of PAYE and other internally generated revenue taxes on expenditure of government in southwest states, Nigeria**

Statistically speaking, while impulse response function (IRF) traces the effects of a change to another endogenous variable in the VAR environment, Variance Decomposition Analysis (VDA) separates the variations in an endogenous variable into the component shocks in the model. Fitly, the variance decomposition analysis provides information about the relative relevance of each of the random innovations affecting the variables in the VAR model.

**4.9.1 Variance Decomposition Analysis (VDA) of Operating Expenses (OPEX)**

The variance decomposition analysis results for the selected variables (OPEX, INT, COT, ROY and PAYE) over a 10 year horizon are presented in Table 3, the results divulge that Operating Expenses (OPEX)of state governments in southwest states variable was 100 percent explained by its own shock in the first year, but it slowly reduces to 91 percent in the long-run (i.e. the 10th year). Other complementary results show that INT have 1 percent, the COT has a total of 2 percent, the ROY has a total of 1 percent and lastly the PAYE has 3 percent report for the fluctuations in the Operating Expenses (OPEX) of state governments in southwestern states in the long-run (i.e. the 10th year).

**TABLE 3: Variance Decomposition Analysis (VDA) of Operating Expenses (OPEX)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Period** | **S.E.** | **OPEX** | **INT** | **COT** | **ROY** | **PAYE** |
| 1 | 9.23E+08 | **100.0000** | 0.000000 | 0.000000 | 0.000000 | 0.000000 |
| 2 | 1.07E+09 | **97.38372** | 0.090689 | 1.613649 | 0.024506 | 0.887432 |
| 3 | 1.14E+09 | **97.35438** | 0.319407 | 1.466003 | 0.063223 | 0.796988 |
| 4 | 1.17E+09 | **96.60178** | 0.626984 | 1.590335 | 0.269052 | 0.911853 |
| 5 | 1.20E+09 | **95.40437** | 0.974534 | 1.872639 | 0.505938 | 1.242518 |
| 6 | 1.21E+09 | **94.27674** | 1.279959 | 2.033349 | 0.720116 | 1.689832 |
| 7 | 1.22E+09 | **93.34695** | 1.523842 | 2.069330 | 0.888928 | 2.170956 |
| 8 | 1.23E+09 | **92.59420** | 1.704232 | 2.056419 | 1.016224 | 2.628929 |
| 9 | 1.23E+09 | **91.98443** | 1.829424 | 2.041948 | 1.111322 | 3.032874 |
| 10 | 1.23E+09 | **91.49452** | 1.911291 | 2.040100 | 1.182861 | 3.371224 |

Source: Researcher’s Computation, 2023

**Variance Decomposition Analysis (VDA) of Income Tax (INT)**

Furthermore, the VDA of Income Tax (INT) also was 99 percent in the first year but gradually reduce to 96 percent in the long-run while other variables have 0.9 percent, 0.3 percent, 1 percent and 1 percent for OPEX, COT, ROY and PAYE respectively.

**TABLE 4: Variance Decomposition Analysis (VDA) of Income Tax (INT)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Period** | **S.E.** | **OPEX** | **INT** | **COT** | **ROY** | **PAYE** |
| 1 | 7.597803 | 0.208710 | **99.79129** | 0.000000 | 0.000000 | 0.000000 |
| 2 | 9.820610 | 0.314928 | **98.38703** | 0.003640 | 1.060937 | 0.233461 |
| 3 | 11.05731 | 0.460157 | **97.97535** | 0.008461 | 1.229989 | 0.326044 |
| 4 | 11.80190 | 0.593359 | **97.68537** | 0.055305 | 1.244533 | 0.421437 |
| 5 | 12.27589 | 0.701754 | **97.43781** | 0.122445 | 1.219102 | 0.518894 |
| 6 | 12.58704 | 0.782756 | **97.22154** | 0.184867 | 1.190117 | 0.620723 |
| 7 | 12.79532 | 0.839084 | **97.03538** | 0.234933 | 1.165942 | 0.724660 |
| 8 | 12.93676 | 0.875597 | **96.87516** | 0.274221 | 1.147484 | 0.827540 |
| 9 | 13.03394 | 0.897534 | **96.73648** | 0.305946 | 1.133855 | 0.926181 |
| 10 | 13.10141 | 0.909528 | **96.61604** | 0.332523 | 1.123939 | 1.017975 |

Source: Researcher’s Computation, 2023

**Variance Decomposition Analysis (VDA) of Corporate Tax (COT)**

Furthermore, the VDA of Corporate Tax (COT) also was 99 percent in the first year but gradually reduce to 95 percent in the long-run while other variables have 0.5 percent, 2 percent, 1 percent and 0.01 percent for OPEX, INT, ROY and PAYE respectively.

**TABLE 5: Variance Decomposition Analysis (VDA) of Corporate Tax (COT)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Period** | **S.E.** | **OPEX** | **INT** | COT | **ROY** | **PAYE** |
| 1 | 1.40E+08 | 0.000122 | 0.487985 | 99.51189 | 0.000000 | 0.000000 |
| 2 | 1.76E+08 | 0.029551 | 1.107856 | 98.84832 | 0.001275 | 0.012997 |
| 3 | 1.85E+08 | 0.121451 | 1.568557 | 98.17683 | 0.117630 | 0.015537 |
| 4 | 1.87E+08 | 0.233849 | 1.878359 | 97.46725 | 0.404068 | 0.016474 |
| 5 | 1.87E+08 | 0.330536 | 2.054501 | 96.86324 | 0.735253 | 0.016466 |
| 6 | 1.88E+08 | 0.399965 | 2.145530 | 96.42071 | 1.017366 | 0.016429 |
| 7 | 1.88E+08 | 0.445783 | 2.190554 | 96.11984 | 1.227186 | 0.016640 |
| 8 | 1.88E+08 | 0.474901 | 2.211964 | 95.92113 | 1.374923 | 0.017081 |
| 9 | 1.88E+08 | 0.493098 | 2.221449 | 95.79055 | 1.477250 | 0.017649 |
| 10 | 1.89E+08 | 0.504371 | 2.225066 | 95.70419 | 1.548131 | 0.018246 |

Source: Researcher’s Computation, 2023

**Variance Decomposition Analysis (VDA) of Royalty (ROY)**

Furthermore, the VDA of Royalty (ROY) also was 99 percent in the first year but gradually reduce to 92 percent in the long-run while other variables have 1 percent, 2 percent, 2 percent and 1 percent for OPEX, COT, COT and PAYE respectively.

**TABLE 6: Variance Decomposition Analysis (VDA) of Royalty (ROY)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Period** | **S.E.** | **OPEX** | **INT** | **COT** | **ROY** | **PAYE** |
| 1 | 50910404 | 0.095818 | 0.284026 | 0.266819 | **99.35334** | 0.000000 |
| 2 | 66562457 | 0.225025 | 0.336824 | 0.751934 | **98.56983** | 0.116384 |
| 3 | 76017696 | 0.433534 | 0.281766 | 1.131325 | **97.91489** | 0.238487 |
| 4 | 82142031 | 0.639867 | 0.443542 | 1.419374 | **97.08962** | 0.407595 |
| 5 | 86350552 | 0.822532 | 0.765528 | 1.658485 | **96.16748** | 0.585980 |
| 6 | 89354735 | 0.972625 | 1.169553 | 1.873024 | **95.22434** | 0.760463 |
| 7 | 91550275 | 1.090242 | 1.596323 | 2.067070 | **94.32374** | 0.922627 |
| 8 | 93177607 | 1.179425 | 2.008102 | 2.238570 | **93.50511** | 1.068791 |
| 9 | 94393505 | 1.245526 | 2.383649 | 2.385683 | **92.78726** | 1.197883 |
| 10 | 95306059 | 1.293767 | 2.713144 | 2.508615 | **92.17420** | 1.310273 |

Source: Researcher’s Computation, 2023

**Variance Decomposition Analysis (VDA) of Paye As You Earn (PAYE)**

Furthermore, the VDA of Paye As You Earn (PAYE)also was 97 percent in the first year but gradually reduce to 85 percent in the long-run while other variables have 3 percent, 0.4 percent, 8 percent and 2 percent for OPEX, COT, COT and ROY respectively

**TABLE 7: Variance Decomposition Analysis (VDA) of Paye As You Earn (PAYE)**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Period** | **S.E.** | **OPEX** | **INT** | **COT** | **ROY** | **PAYE** | |
| 1 | 0.050555 | 0.117321 | 0.443529 | 1.747175 | 0.591246 | **97.10073** |
| 2 | 0.063797 | 0.590217 | 0.280626 | 1.594353 | 1.150573 | **96.38423** |
| 3 | 0.073049 | 1.195369 | 0.218400 | 2.694559 | 1.316216 | **94.57546** |
| 4 | 0.079728 | 1.758834 | 0.199256 | 4.165277 | 1.427483 | **92.44915** |
| 5 | 0.084603 | 2.234372 | 0.205878 | 5.489435 | 1.525382 | **90.54493** |
| 6 | 0.088134 | 2.615992 | 0.232921 | 6.496424 | 1.626710 | **89.02795** |
| 7 | 0.090670 | 2.914575 | 0.276827 | 7.206165 | 1.731438 | **87.87099** |
| 8 | 0.092481 | 3.144061 | 0.334004 | 7.689181 | 1.835347 | **86.99741** |
| 9 | 0.093772 | 3.317812 | 0.400563 | 8.012040 | 1.934201 | **86.33538** |
| 10 | 0.094689 | 3.447543 | 0.472582 | 8.225009 | 2.024994 | **85.82987** |

Source: Researcher’s Computation, 2023

**5.0 Conclusion and Recommendation**

Based on the summary of findings of this study, it was concluded that Pay AsYou Earn (PAYE) and other internal generated revenue taxes has significant effect to government expenditure in southwest states, Nigeria. Therefore the study recommends that Government in the southwestern states should develop and implement effective strategies to further boost revenue generation, especially from internal sources like Pay As You Earn (PAYE) and other internally generated taxes. This could involve improving tax collection mechanisms, reducing tax evasion, and encouraging compliance through education and simplified tax processes.

**REFERENCES**

Abata, M. A. (2014). The Impact of Tax Revenue on Nigerian Economy (case of Federal Inland Revenue Service). *Journal of Policy and Development Studies*, 9(1), 109-121.

Abdurrahman, A. P., Abdulnasir, T. Y., &Abdulsalam, M. (2020). The Nexus between Tax Revenue and Government Expenditure in Nigeria; Evidence from Toda -Yamamoto Causality Test. *International Journal of Innovation, Creativity and Change, 11*(1): 458- 472.

Abiola, G. A. & Ehigiamusoe, U. K. (2014). Analysis of Internally Generated Revenue and Its Implications on Fiscal Viability of State Government in Nigeria. Journal of Empirical Economics, 2(4): 216-228.

Abiola, J., & Asiweh, M. (2012). Impact of Tax Administration on Government Revenue in a Developing Economy - a case study of Nigeria. *International Journal of Business and Social Science, 3*(8):99-113.

Adah, A. (2012). Impact of recapitalisation on the financial performance of Deposits money Banks in Nigeria. (Unpublished Doctorate of Philosophy Thesis), Amadu Bello University (ABU), Zaria.

Adah, A. (2012). Impact of recapitalization on the financial performance of Deposits Money Banks in Nigeria. (Unpublished Doctorate of Philosophy Thesis), Amadu Bello University (ABU), Zaria.

Adebayo, A. O., Adeyemi, A. Z. & Osunwole, O. O. (2022). Tax Administration and Revenue Generation: A Perspective of Osun Internal Revenue Service. *EuroEconomica, 1*(41): 112- 124.

Adegbie, F. F. & Fakile, A. S. (2011). Petroleum profit tax and Nigeria economic development. *International Journal of Research in Computer Application & Management*, 1(1): 11-18

Adegbite, F. F. & Fakile, A. S. (2011). Petroleum profit tax and Nigeria economic development. *International Journal of Research in Computer Application & Management*, *1*(1): 11-18.

Adegbite, T. A. (2017). Personal Income Tax and Government Revenue: Evidence from Oyo\ State. *International Journal of Social and Administrative Sciences.* 2(2), 45-51

Adinogbe, Z. O., David, K. O., Aderibigbe, S. O. & Njoku, F. J. (2022). Internally Generated Revenue and Capital Budget Performance in Public Sector of Osun State, Nigeria. *International Journal of Innovative Finance and Economics Research 10*(2):90-98.

Afuberoh, D. & Okoye, E. (2014). The Impact of Taxation on Revenue Generation in Nigeria: A Study of Federal Capital Territory and Selected States. *International Journal of Public Administration and Management Research (IJPAMR), 2*(2): 22-47.

Agbetunde, L. A., (2010). *Principles and Practice of Nigerian Personal Income Tax*, Lagos: 2nd ed. EL-Toda Venture Ltd.

Agu, S. U. (2010). Tax Policy Reforms in Nigerian: Challenges and Prospects in Onah, R.C. and Oguonu, C.N. (eds). *Readings in Public Administration.* Nsukka: University of Nigeria Press.

Aguolu, O. (2014). Taxation and Tax Management in rd Nigeria, (3 Ed). Enugu: Meridan Associates

Aimurie, I. (2012). Tax in Focus. Leadership Newspaper, July 20th, P. 19.

Ajiteru, W. O., Adaranijo, L. O. & Bakare, L. A. (2018). Tax Revenue and Infrastructural Development in Osun State. *International Journal of Innovative Finance and Economics Research 6*(2):50-61.

Akinleye, G. T., Olaoye, F. O., & Ogunmakin, A. A. (2019). Effect of Tax Identification Number on Revenue Generation in Southwest, Nigeria. *Journal of Accounting and Taxation. 11*(9), 170-177.

Akintoye, I. R. (2013). *The effect of tax Compliance on Economic Growth and Development in Nigeria*. Retrieved from [http://www.bjournal.co.uk/payers/BJASS-11-2/BJASS 11-02](http://www.bjournal.co.uk/payers/BJASS-11-2/BJASS%2011-02)

Al-Fawwaz, T. M. (2016). The impact of government expenditures on economic growth in Jordan (1980- 2013). *International Business Research*, *9*(1), 99

Angahar, A. P., & Sani, I. A. (2020). Personal Income tax Administration in Nigeria: Challenges and Prospects for increased revenue generation. *Journal of Economic Research, 1*(1–11). [http://globejournal.org/wp-content/updloads/2012/09/vol1-1-1-11-AAccessed 3/14/2013](http://globejournal.org/wp-content/updloads/2012/09/vol1-1-1-11-AAccessed%203/14/2013)

Anyaduba, J. O., Eragbhe, E., & Kennedy, P. M. (2012). Deterrent tax measures and tax compliance in Nigeria. *Journal of Business and Management, 4*(11), 99.

Appah, E. & Ogbonna, G. N. (2014). Self-Assessment Scheme and Revenue Generation in Nigeria. *Developing Country Studies*, 4(10), 102-111.

Appah, E. & Ogbonna, G. N. (2014). Self-Assessment Scheme and Revenue Generation in Nigeria. *Developing Country Studies*, 4(10), 102-111.

Asabor, M. (2012)*. Personal Income Tax Amendment Act and its effects on Tax payers.* [http://www.tribune.com.ng/Index.php/taxation/39566-PersonalIncomeaccessed 7.57am14/3/2013](http://www.tribune.com.ng/Index.php/taxation/39566-PersonalIncomeaccessed%20%097.57am14/3/2013)

Aydin, C., & Esen, Ö. (2019). Optimal tax revenues and economic growth in transition economies: a threshold regression approach. *Global Business and Economics Review*, *21*(2), 246-265

Baer, W., & Galvão, A. F. Jr. (2008). Tax Burden, Government Expenditures and Income Distribution in Brazil. *Quart Rev Econ Finance, 48*(2):345–358.

Bala, A., Enoch, E. Y., & Yakubu, S. (2018). The Problems of Personal Income Tax on Revenue Generation in GOMBE State. *International Journal of Business and Management Invention (IJBMI),* 7(7), 20-28

Bala, A., Enoch, E. Y., & Yakubu, S. (2018). The Problems of Personal Income Tax on Revenue Generation in GOMBE State. *International Journal of Business and Management Invention (IJBMI),* 7(7), 20-28

Balaj, D., & Lani, L. (2017). The impact of public expenditure on economic growth of Kosovo. *Acta Universitatis Danubius. Œconomica*, *13*(5)

Bariyima, O. K. & Gladson, N. N. (2017). Booting Revenue Generate by State Government in Nigeria. The Tax Consultants Option Revisable. *European Journal and Social Sciences*, 8(4).

Barlas, A. W. (2020). The impact of government expenditure on economic growth in Afghanistan. *Journal of Economics and Business*, *3*(2)

Brys, B., (2018). Wage Income Tax Reforms and Changes in Tax Burdens: 2000-2009. OECD Taxation Working Papers. Paris, France, paper #10.

Chartered Institute of Taxation of Nigeria (2002). *Nigeria Tax Guide and Statutes, Nigeria*: CITN Publications.

Cordes, J. J., Juffras, J. N., 2012. State Personal Income Taxes, in “The Oxford Handbook of State and Local Government Finance”. In: Ebel, R. D., Petersen, J. E. (Eds.) Oxford University Press, Oxford, pp. 300-332

Craig, A. O., Adetola, R., & Maminu, K. A. (2020). Tax Revenue and Capital Expenditure in Nigeria. *Accounting and Taxation Review, 4*(1): 132-147

Dandago, K. I. & Alabede, J. O. (2017). Taxation and tax administration in Nigeria. Lagos: Triumph Publishing Coy Limited.

Efuntade, A. O., Efuntade, O. O. & Akinola, A. O. (2020). Tax Revenue and Its Effect on Government Expenditure in Nigeria. *The International Journal of Business & Management, 8*(9): 279-286.

Etim, O. E. & Austin, N. (2015). Tax revenue and economic growth in Nigeria from 1980-2013. A Paper Presented at 1st Academic Conference of Accounting and Finance 2015 Conference Proceedings. pp: 1135 -1162.

Etim, O. E. & Austin, N. (2015). Tax revenue and economic growth in Nigeria from 1980-2013. A Paper Presented at 1st Academic Conference of Accounting and Finance 2015 Conference Proceedings. pp: 1135 -1162.

European Commission, 2013(b). “Taxation Trends in the European Union: Data for the EU Member States, Iceland and Norway: 2013 edition “. Office for Official Publications of the European Communities, Luxembourg.

Fatile, J. O. & Ejalonibu, G. L. (2018). Improved Internally Generated Revenue and Sustainable Budget Implementation: A Comparative Study of Lagos and Oyo States. *Governance and Management Review,* 3(1), 27-45

Feld, L. P., & Kirchgässner, G. (2013). The Impact of Corporate and Personal Income Taxes on the Location of Firms and on Employment: Some Panel Evidence for the Swiss Cantons. Journal of Public Economics 87, 129–155

Gurdal, T., Aydin, M. & Inal, V. (2020). The relationship between tax revenue, government expenditure, and economic growth in G7 countries: new evidence from time and frequency domain approaches. *Springer* doi: <https://doi.org/10.1007/s10644-020-09280-x>

Ihendinihu, J. U., Jones, E., & Ibanichuka, E. A. (2014). Assessment of the long-run equilibrium relationship between tax revenue and economic growth in Nigeria: 1986 to 2012. *The Standard International Journals Transactions on Industrial, Financial & Business Management, 2*(2):39-47.

Kunwar, K. B. (2019). Impact of government expenditure in economic growth of Nepal: ARDL approach. *Contemporary Research: An Interdisciplinary Academic Journal*, *3*(1), 33-40

Lawal, I., (2015). *Tax management and economic growth of Nigeria.* A Paper Presented at 1st Academic Conference of Accounting and Finance 2015 Conference Proceedings pp: 1175 -1192.

Lee, Y., & Gordon, R. H. (2015). Tax Structure and Economic Growth. *Journal of Public Economics* 89, 1027–1043.

Maku, O. E. (2009). *Does Government Spending Spur Economic Growth in Nigeria?* MPRA Paper No. 17941.

Mohammed, A. (2008). Assessment of Personal Income Tax in Kaduna State the Direct Assessment. *An Msc. Accounting Thesis, ABU, Zaria*

Mohammed, A. N. (2017). The Impact of Direct Assessment Tax on performance of internal revenue in Zamfara State. *An Msc Accounting Thesis, ABU, Zaria*

Naiyeju, J. K. (1996). *Improving the Nigeria Tax System from Canadian Experience*. Wordsmith Printing and Packaging Ltd: 101-104.

Naiyeju, J. K. (2016). Improving the Nigeria tax system from Canadian experience. *Wordsmith Printing and Packaging Ltd.* pp: 101-104

Nassar, M. L. & Fasina, H. T. (2015). Impact of personal income tax on Internally Generated Revenue performance in Oyo State. *International Journal of African Culture and Ideas*, 5(1).

National Tax Policy, (2010). NTP – FGN. Finance policies and producers FIRS

Ndubuisi, C. J., Ezeokwelume, O. L. & Maduka, R. O. (2020). Tax Revenue, Tax Reform and Government Expenditure: The Case of Nigerian Economy (1994 – 2017). *Asian Journal of Economics, Business and Accounting, 18*(3):1-12.

Nto, P. (2016). Assessment of Risk in Internally Generated Revenue (IGR) Structure of Abia State, Nigeria. *Canadian Social Science, 12*(3): 67-72.

Nwaeze, C. (2010). *Public Financial Management: Theory and Practice*. Reconciliation Publishers Limited, Aba.

Nyarko-Asomani, A., Bhasin, V. K., & Aglobitse, P. B. (2019). Government capital expenditure, recurrent expenditure and economic growth in Ghana. *Ghanaian Journal of Economics*, *7*(1), 44-70

Oduh, M. (2012). Revenue Implication of Nigeria Tax System, Lagos. *Journal of Economic and Sustainable Development, 3*(8)*.*

Odusola, A. (2016). Tax policy reforms in Nigeria. *World Institute for Development Economics and Research*, Research Paper No. 2006/03. Retrieved from <http://www.wider,unu.edu>.

OECD, 2013a. “Revenue Statistics 1965-2012“. OECD Publishing, Paris.

Ogar, A., Eyo, I. E., & Arikpo, O. F. (2019). Public expenditure and economic growth in Nigeria: VAR approach. *European Journal of Economic and Financial Research*

Okwara, C. C., & Amori, O. M. (2017). Impact of Tax Revenue on Economic Growth in Nigeria. *International Journal of Scientific Research in Social Science & Management Studies, 2*(2):90-102.

Oladele, R., Aribaba, F. O., Ahmodu, A. O., Yusuff, S. A. & Alade, M. (2019). Tax Enforcement Tools and Tax Compliance in Ondo State, Nigeria. *Academic Journal of Interdisciplinary Studies, 8*(2): 28.

Olajide, R. (2015). Revenue Generation as a Major Source of Income for the State Government: An Empirical Analysis of Two Parastatals. *International Journal of Economics, Commerce and Management, 3*(6): 1346-1366.

Oluba, M. N. (2008). Justifying Resistance to tax payment in Nigeria. *Economic Reflections Volume, B* (3).

Oluba, M. N. (2018). Justifying Resistance of Tax Payment in Nigeria. *EconomicReflection Volum*e B (3) April 2008

Olusola, O. (2011). Boosting internally generated revenue of Local Governments in Ogun State, Nigeria (A Study of selected Local Governments in Ogun State). *European Journal of Humanities and Social Sciences,* 8(1), 336-348

Omogui, I (2017): Omogui and the Tax burden in Nigeria Tribune Daily, Wed 29th March, 2007.

Onyekwelu, U. L & Ugwuanyi, U. B. (2014). Assessing Personal Income Tax Amendment Act 2011: Effects on Revenue Generation in Nigeria. *International Journal of Economics and Finance*, 6(9), 199-212

Onyekwelu, U. L & Ugwuanyi, U. B. (2014). Assessing Personal Income Tax Amendment Act 2011: Effects on Revenue Generation in Nigeria. *International Journal of Economics and Finance* Vol. 6, No. 9; 2014

Oseni, M. (2013). Internally Generated Revenue in Nigeria: A Panacea for State Development. *European Journal of Humanities and Social Sciences*, 21 (1), 1050 – 1066.

Osho, A. E., Olemija, T. L., & Falade, A. B. (2019). The Influence of Tax Revenue on Government Capital Expenditure and Economic Growth in Nigeria. *European Journal of Business and Management 11*(2): 39-49.

Raji, A. O. (2015). Revenue generation as a major source of income for the state government: An Empirical Analysis of two Parastatals. *International Journal of Economics, Commerce and Management, 3*(6): 112-131.

Samuel, S. E. & Tyokoso, G. (2014). Taxation and Revenue Generation: An Empirical Investigation of Selected States in Nigeria. *Journal of Poverty, Investment and Development*, 4, 102-114.

Samuel, S. E. and Simon, S. (2017). The Effect of Income Tax on Capital Investment Decisions of Banks in Nigeria. *Kogi Journal of Management*, 4(1), 116-128.

Sayode, K. (2006). An Empirical Analysis of Tax Leakages and Economic Growth in Nigeria. *European Journal of Economics, Finance and Administrative Science, 48*:42-52

Siyanbola, T. T., Dada, S. O. & Olusola, O. O. (2014). Impact of Internally Generated Revenue on Total Revenue Accruing to State Government in Nigeria. *Ge-International Journal of Management Research, 2*(8): 31-45.

Siyanbola, T. T., Dada, S. O. & Olusola, O. O. (2014). Impact of Internally Generated Revenue on Total Revenue Accruing to State Government in Nigeria. *Ge-International Journal of Management Research* Vol 2, Issue -8 (August 2014) IF-3.142.

Szarowská, I., 2013. Effects of Taxation by Economic Functions on Economic Growth in the European Union, 6th International Scientific Conference: Finance and the Performance of Firms in Science, Education and Practice. Tomas Bata University, Zlin, Czech Republic, pp. 746–758.

Tyoakosu, S. A. & Awuhe, P. O. (2017). Personal Income Tax and the Performance  
 of Internally Generated Revenue in Benue State – Nigeria. *Nigerian Journal of ManagementSciences* 6(1),

Wole, A. (2018). Generating Revenue for Development, the e-Formula, in Thisday NewspaperVol. 13 (4833): 69 of 15 July.

World Bank (2000). *Lessons of Tax Reform*, Washington DC.

Yilmaz, S., Vaillancourt, F., & Dafflon, B., 2012. State and Local Governments: Why they Matter and How to Finance Them, in “The Oxford Handbook of State and Local Government Finance”. In: Ebel, R. D., Petersen, J. E. (Eds.) Oxford University Press, Oxford, pp. 105–136.