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THE MODERATING ROLE OF INFLATION ON THE RELATIONSHIP BETWEEN DIRECT TAXES AND ECONOMIC DEVELOPMENT IN NIGERIA

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ABSTRACT: *This study investigated the moderating role of inflation on relationship between direct taxes and economic development in Nigeria. The specific objectives were to investigate the relationship between personal income tax and real gross domestic product, ascertain the relationship between company income tax and real gross domestic product, determine the relationship between petroleum profit tax and real gross domestic product, investigate the relationship between personal income tax and infrastructural development, ascertain the relationship between company income tax and infrastructural development, determine the relationship between petroleum profit tax and infrastructural development, ascertain the moderating effect of inflation rate on direct taxes and economic development of Nigeria. The study anchored on expediency theory while correlational and ex-post facto research designs were adopted for the study. The population of the study was direct taxes revenue data and economic development in Nigeria from 1991 to 2020 and secondary data were sourced from Annual statistical bulletin of CBN, Federal Inland Revenue service (FIRS) and National Bureau of Statistics. Descriptive statistics and correlation matrix were used to analyze the research questions while multiple regression was used to test the hypotheses. The result of the study shows that PIT has a positive and significant relationship with infrastructural development in Nigeria while an insignificant relationship with RGDP; CIT has a strong positive and significant relationship with RGDP and infrastructural development in Nigeria; petroleum profit tax positively and insignificantly affects RGDP and infrastructural development. The study recommends among others that government parastatals, multinationals, conglomerates and companies in the country should not engage any vendor who does not have a TIN number. This will go a long way in reducing tax evasion; taxes should be remitted via an e-payment system or via direct payment to the various tax authorities' accounts.*

KEYWORDS: Direct Taxes, Economic Development, Inflation

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INTRODUCTION

Tax revenue is a veritable source of government revenue. The real essence of tax revenue, according to Appah and Duoduo (2023), Omesi and Appah (2022a), Omesi and Appah (2020) is to generate adequate revenue to improve the welfare of the individuals of a country with emphasis on stimulating economic growth and development through the provision of basic social goods and services. Omesi and Appah (2022b) argued that tax revenue plays a central role in advancing economic activity, growth and development. Tax is a necessary contribution made by the residents of any given country to the state or even an alien, subject to the jurisdiction of the government, for reasons of residence or property and this contribution is for the provision of social goods and services for the well-being, economic growth and development of that given society (Appah & Zibaghafa 2018; Appah, 2019). The need for government to generate adequate revenue from internal sources has become a matter of extreme urgency and importance (Aguolu, 2014). Internal sources of income have provided the government with an opportunity to collect additional revenue needed to discharge its pressing obligations (Garba, 2014). Tax yields vary substantially to government, both in developing and developed countries (Kalu, 2018). Tax revenue has a direct bearing on the Human Development Index (HDI), which is the standard indicator for measuring the economic development of a country. Okafor (2012) stated that the nature and level of taxes vary according to the economic policies adopted by the government of the day. HDI, not just GDP, should guide national policies, according to Andrew (2017), as stated in PWC Nigeria report. The report noted that in 2015, Nigeria was Africa's largest economy with a GDP of $490 billion in the market exchange rate; even before the now protracted decline in global oil prices, Nigeria was growing at a compound annual growth rate (CAGR) of 5.3% post rebasing. Yet this growth does not translate into social development as high poverty and inequality levels persist. Therefore, the report argues that the national policies should be guided not only by improvement in GDP but also in a broader measure of development for which the firm has adopted the HDI. Sanni (2007) affirmed the use of tax revenue as an instrument of social engineering to stimulate general or sectorial economic development. To the government, tax rates provide the most reliable and essential source of government revenue for promoting the nation's economic development (Okafor, 2014). In Nigeria, revenue derived from income taxes has been abysmally understated due to improper tax administration, assessment and collection (Appah, 2019). Individuals and companies are known to routinely evade and avoid taxes due to corrupt practices and various loopholes in the tax laws.

The empirical nexus between tax revenue and economic development has been a contentious issue specifically in developing countries. The empirical literatures depict different and disaggregated findings. For instance, Neoq & Gaur (2020), and Kyle (2019) showed positive relationship between tax components and economic growth and development. On the other hand, a negative nexus was reported in the works of Ojong et al (2016), Chigbu and Njoku (2015), Ehigiamusoe (2014), and Akhor and Ekundayo (2016). Some studies reviewed such as (Anyaduba & Aronmwan 2015; Ofoegbu et al. 2016; Owolabi & Okwu 2011; Clement et al. 2019) failed to link the moderating role of inflation rate to the relationship between taxes and economic development. Inflation rate affects economic development and tax revenue, when inflation rate is high compliance to payment of taxes is low and vice versa, this results to increase in the cost of raw materials and goods which affects revenue generation. The study of Anyaduba and Aronmwan (2015) focused on the impact of tax revenues on

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infrastructural development in Nigeria from 1980 to 2014, adopting company income tax, tertiary education tax, value-added tax and petroleum profit tax for tax revenue and documented that company income tax and tertiary education tax have significant impact on the level of infrastructural development while petroleum profit tax and value-added tax have no significant effect. The study of Ofoegbu et al. (2016) focused on the effect of tax revenue on the economic development of Nigeria, using HDI and GDP in establishing the relationship. They documented that the impact of tax revenue on economic development using HDI gives a lower relationship than measuring the relationship with GDP, thus suggesting that using the gross domestic product (GDP) gives a painted picture of the relationship between tax revenue and economic development in Nigeria. Yet these studies, amongst others, fail to link unemployment rate to economic development. Some focus on GDP, which has to do with economic growth and does not reflect the economic development whilst leaving RGDP, thereby creating a gap and that necessitates for further studies. Also, the tax components being studied did not collaborate on direct taxes as a whole but rather on one or two types of direct taxes, the period of their data collection didn't extend to 2020. Consequently, this study attempt to fill the gap by investigating the moderating role of inflation rate on the relationship between direct taxes and economic development with the dimensions of personal income tax, company income tax and petroleum profit tax (for direct taxes) and measures of economic development as real GDP and infrastructural development. The specific objectives are as follows:

1. Investigate the relationship between personal income tax and real gross domestic product in Nigeria.
2. Ascertain the relationship between company income tax and real gross domestic product in Nigeria.
3. Determine the relationship between petroleum profit tax and real gross domestic product in Nigeria.
4. Investigate the relationship between personal income tax and infrastructural development in Nigeria.
5. Ascertain the relationship between company income tax and infrastructural development in Nigeria.
6. Determine the relationship between petroleum profit tax and infrastructural development in Nigeria.
7. Ascertain the moderating effect of inflation rate on direct taxes and economic development of Nigeria.

Based on the specific objectives, the following Research questions were raised

1. What is the relationship between personal income tax and real gross domestic product in Nigeria?
2. What is the relationship between company income tax and real gross domestic product in Nigeria?

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3. What is the relationship between petroleum profit tax and real gross domestic product in Nigeria?
4. What is the relationship between personal income tax and infrastructural development in Nigeria?
5. What is the relationship between company income tax and infrastructural development in Nigeria?
6. What is the relationship between petroleum profit tax and infrastructural development in Nigeria?
7. What is the influence of inflation rate on the relationship between direct taxes and economic development in Nigeria?

Based on the specific objectives and research questions, the following hypotheses are presented in a null form

HO$_1$ There is no significant relationship between personal income tax and real gross domestic product in Nigeria.

HO$_2$ There is no significant relationship between company income tax and real gross domestic product in Nigeria.

HO$_3$ There is no significant relationship between petroleum profit tax and real gross domestic product in Nigeria.

HO$_4$ There is no significant relationship between personal income tax and infrastructural development in Nigeria.

HO$_5$ There is no significant relationship between company income tax and infrastructural development in Nigeria.

HO$_6$ There is no significant relationship between petroleum profit tax and infrastructural development in Nigeria.

HO$_7$ Inflation rate does not significantly moderate the relationship between direct taxes and economic development in Nigeria.

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REVIEW OF RELATED LITERATURE

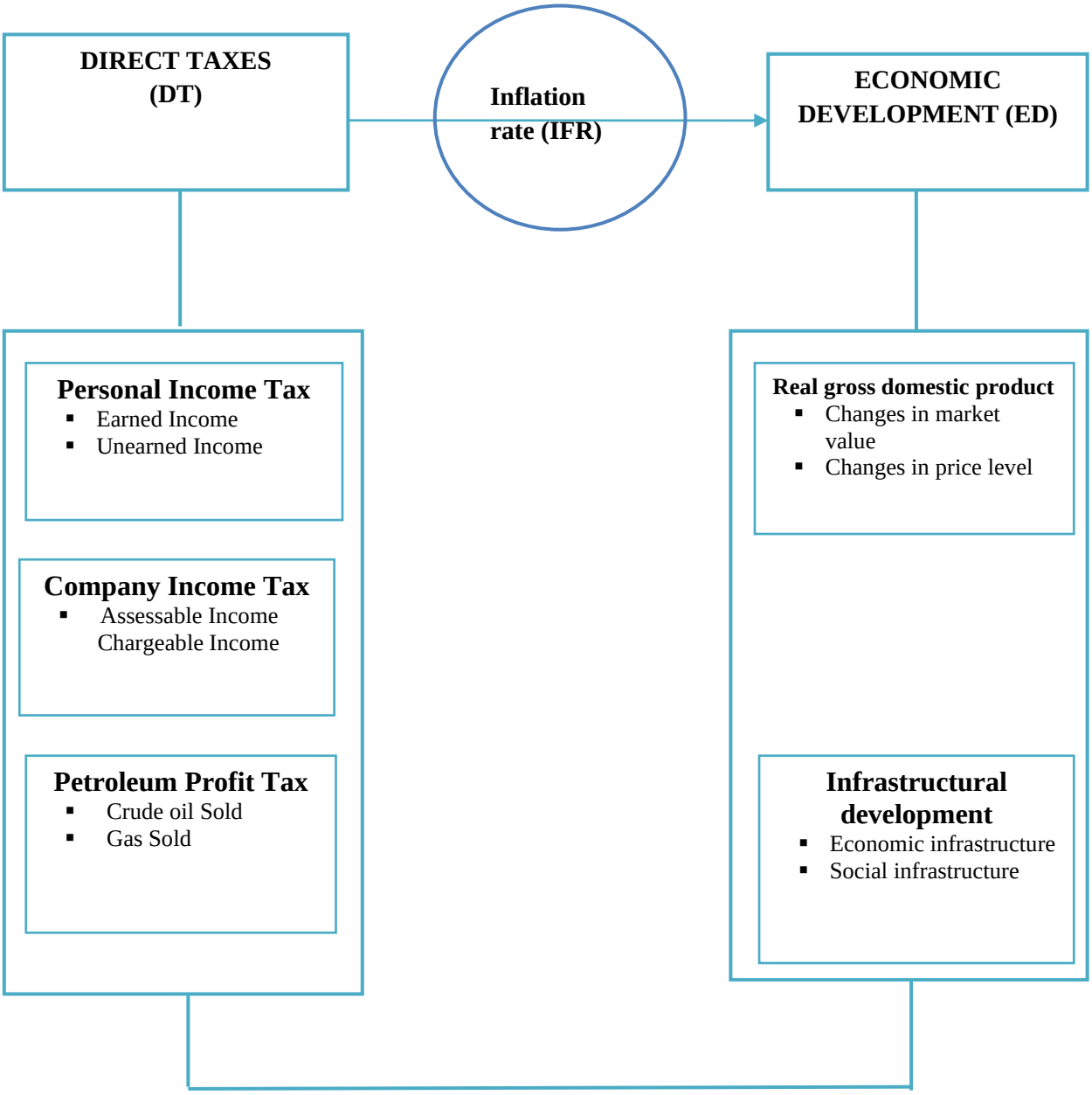

Figure 1: Conceptual Framework

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CONCEPTUAL REVIEW

Concept of Direct Taxes: Tax is an essential contribution made by the inhabitants of any given state to the government or even an alien, subject to the jurisdiction of the government, for reasons of residence or property and this contribution is for the provision of social goods and services for the well-being, economic growth and development of that given society (Appah & Zibaghafa 2018; Appah, 2019). According to Onwuchekwa and Aruwa (2014), tax is a compulsory payment made by all economic units to the government of a given tax jurisdiction from which social services are provided, without necessarily providing an explanation on how the funds generated was spent or equating services with the money collected. Anyanwu (2007) defined tax as compulsory transfer or payment of money (or occasionally of goods and services) from private individuals, institutions or and services) from private individuals, institutions or groups to the government. It may be levied upon wealth or income or in the form of surcharge on price. Taxes can be divided into direct and indirect. The Institute of Chartered Accountants of Nigeria (2009) and the Chartered Institute of Tax revenue of Nigeria (2002) view tax as an enforced contribution of money, enacted pursuant to legislative authority. If there is no valid statute by which it is imposed; a charge is not tax. There are different categories of direct taxes. These include the personal income tax, petroleum profit tax, companies' income tax, educational tax.

Concept of Personal Income Tax: This is a tax that is imposed on different sources of income such as labour, interest, dividends and rent of individuals. According to Manukaji (2018), personal income tax is charged on the income of an individual. Similarly, Ogbonna & Appah (2016) noted that the chargeable income of an individual is the aggregate amount from employment, investment, profit from trade, profession or vocation etc) after deducting all non-taxable incomes and relief granted. Also Omesi and Appah (2021) described personal income tax as a tax on an individual's income which he earned during a given period of time, usually a year. The authors further noted that this type of tax varies with the size and sources of the taxpayer's income and various other features stated by the relevant law. Appah (2019) argued that personal income tax is payable on incomes from sources within and outside Nigeria, but not limited to gains and profit arising from trade, business, profession or vocation, remuneration (*e.g.* salaries, wages, fees, allowances, commissions, bonuses, or benefits premiums), or other perquisites allowed, given or granted by any person to an employee, from an employment from both public and private sectors, dividend, interest or rent, any charge or annuity, gains or profits including any premiums arising from a right granted to any person for the use or occupation of any property and so on.

Concept of Company Income Tax: This is a type of tax that is imposed on companies' profit. According to Ogbonna & Appah (2016), stated that companies' income tax is a form of tax that is imposed on the profit of companies accruing in, derived from, brought into or received in Nigeria in respect of any trade or business, rent, premium, dividends, interest, loyalties and any other source of annual profit excluding profit from companies engaged in petroleum operations. Abomaye-Nimenibo et al (2018) opine that this tax is payable for each year of assessment of the profits of any company at a rate of 30%.The current enabling law that governs the collection of taxes on profits made by companies operating in Nigeria excluding companies engaged in Petroleum exploration activities is Companies Income Tax Act, 1990. This tax is payable for each year of assessment (based on actual year) of the profits of any company at a rate of 30 percent. Chigbu and Njoku (2015) denote that company income tax is a tax on profit made by companies.

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Concept of Petroleum Profit Tax: Manukaji (2018); Ogbonna and Appah (2016); Chigbu & Njoku (2015); Ehigiamusoe (2014) noted that petroleum profit tax is a type of tax imposed on companies in Nigeria that are engaged in extraction and transportation of petroleum products. It is particularly related to rents, royalties, margins and profit-sharing elements associated with oil mining, prospecting and exploration leases. This type of tax is imposed to provide revenue for the government, also to serves as an instrument through which the government regulate the number of participants in the petroleum industry and gain control over public assets (Abdul-Rahamoh et al, 2013). It is an instrument for wealth re-distribution between the wealthy and industrialized economics represented by the multinational organizations, who own the technology, expertise and capital needed to develop the industry and the poor and emerging economies from where the petroleum resources are extracted. Chigbu and Njoku (2015) noted that this tax is applicable to upstream operations in the oil sector and the most important tax in Nigeria in-terms of its share of 95% of government revenue and 70% of total foreign exchange earnings. The problem of this type tax is the fluctuations in the international market.

Concept of Economic Development: The concept of economic development and economic growth are two separate economic concepts which are often misused for one another. Harelimana (2018) defined to economic development as the process by which Gross National Product (GNP) per capital of a country increases qualitatively and quantitatively over a very long period of time. According to Satope and Akanbi (2014), economic development involves an increase in output together with a change in technical and institutional arrangement involved in production. The authors further argued that economic growth is a subcomponent of economic development because a nation cannot achieve economic development without having achieved economic growth. Mick (2007) noted that economic development is the combination of economic growth and factors, which may bring about general cultural, social, educational, political and economic transformation. Wyngaard (2006) stated that economic development is heterodox, because it is a complex phenomenon that involves a variety of social and economic processes due to the fact that it happens in different ways in different countries and regions of the world. Manuel (2004) disclosed that economic development is the sustained increase in income of all members of society so as to be free from material want. This view relates with Belshaw & Livingstone (2002) that opined economic development as the progress in providing livelihood on a sustainable basis, access to education and basic healthcare for the majority of the population. Malizia & Feser (2000) noted that both economic growth and economic development are complements, because one makes the other possible. They further stated that growth is an increase in output and expands the economy, whereas economic development entails a structural change that must lead to more equal distribution of income and wealth. United Nations Development Programme (1992) disclosed that economic development should at least create a favorable environment for people, individually and collectively, to develop their full potential and to have a reasonable chance of leading a productive and creative life according to their needs and interests. Consequently, this study adopted real gross domestic product and infrastructural development as dimensions for economic development.

Concept of Inflation: Inflation is the rate at which the value of a currency is falling and, consequently, the general level of prices for goods and services is rising. A quantitative estimate of the rate at which the decline in purchasing power occurs can be reflected in the increase of an average price level of goods and services in an economy over some period of

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time. The rise in the general level of prices, often expressed as a percentage, means that a unit of currency effectively buys less than it did in prior periods. The most commonly used inflation indexes are the Consumer Price Index (CPI) and the Wholesale Price Index (WPI). An increase in the supply of money is the root of inflation, though this can play out through different mechanisms in the economy. Inflation promotes speculation, both by businesses in risky projects and by individuals in stocks of companies, as they expect better returns than inflation. An optimum level of inflation is often promoted to encourage spending to a certain extent instead of saving. If the purchasing power of money falls over time, then there may be a greater incentive to spend now instead of saving and spending later. It may increase spending, which may boost economic activities in a country. A balanced approach is thought to keep the inflation value in an optimum and desirable range. High and variable rates of inflation can impose major costs on an economy. Businesses, workers, and consumers must all account for the effects of generally rising prices in their buying, selling, and planning decisions. This introduces an additional source of uncertainty into the economy, because they may guess wrong about the rate of future inflation. Time and resources expended on researching, estimating, and adjusting economic behavior are expected to rise to the general level of prices, rather than real economic fundamentals, which inevitably represents a cost to the economy as a whole. Even a low, stable, and easily predictable rate of inflation, which some consider otherwise optimal, may lead to serious problems in the economy, because of how, where, and when the new money enters the economy. Whenever new money and credit enters the economy it is always into the hands of specific individuals or business firms, and the process of price level adjustment to the new money supply proceeds as they then spend the new money and it circulates from hand to hand and account to account through the economy.

Theoretical Framework: This study anchored on expediency theory. The theory was advanced by Adolph Wagner (1890). This theory asserts that every tax proposal must pass the test of practicality. It must be the only consideration weighing with the authorities in choosing a tax proposal. Economic and social objectives of the state and the effects of a tax system should be treated irrelevant. Appah and Zibafagha (2019) explained that the expediency theory is based on a link between tax liability and state activities. It assumes that the state should charge the members of the society for the services provided by it. This reasoning justifies imposition of taxes for financing state activities by inferences, provides a basis, for apportioning the tax burden between members of society. This proposition has a truth in it, since it is useless to have a tax which cannot be levied and collected efficiently. There are pressures from economic, social and political groups. Every group tries to protect and promote its own interests and authorities are often forced to reshape tax structure to accommodate these pressures. In addition, the administrative set up may not be efficient to collect the tax at a reasonable cost of collection. Tax revenue provides a powerful set of policy tools to the authorities and should be effectively used for remedying economic and social ills of the society such as income inequalities, regional disparities, unemployment, and cyclical fluctuations and so on. Adolph Wagner advocated that social and political objectives should be the deciding factors in choosing taxes. Wagner did not believe in individualist approach to a problem. He wanted that each economic problem be looked at in its social and political context and an appropriate solution found thereof. Accordingly, a tax system should not be designed to serve individual members of the society, but should be used to cure the ills of society as a whole. This theory relates to a normal development process and represents a benchmark against which country specific empirical evidence may be compared. This study

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used expediency theory because the theory explains the extent to which the Nigerian tax system conforms to the link between tax liability and economic activities. If applicable, such a characterization will enhance accurate tax revenue projection and targeting of specific tax revenue sources given an ascertained profile of economic development. It will also assist in estimating a sustainable revenue profile there by facilitating effective management of a country‘s fiscal policy, among others. This is because the expediency theory focuses on the fact that taxes are collected to achieve economic objectives which enhances the growth and development of a society in all its spheres.

Empirical Review

Oliver et al (2017) examines the effect of Federal Tax resources on infrastructural development of Nigeria using income from Company Income Tax (CIT), Value Added Tax (VAT), and Petroleum Profit Tax (PPT) as proxies for Tax revenues/resources while Infrastructural Development was applied as proxy for infrastructural Development of Nigeria covering the period 2006 - 2015. Their research adopted ex-post-facto research design as secondary data were used for the analysis, which was sourced from the Central Bank of Nigeria Statistical Bulletin and the Federal Statistical Bureau and data was analyzed using the multiple linear regression technique and their result reveals tax revenue resources (PPT, CIT AND VAT) had positive and insignificant effect on Infrastructural Development in Nigeria. The study recommends that government should provide the necessary human and material infrastructures that are needed to support seamless tax collection so they can earn more income that will boost taxation to enhance infrastructural development in Nigeria.

Olugbade and Adegbie (2020) examined the contributions of personal income tax to infrastructural development in Lagos state from 1997 to 2018. Their study adopted ex-post fact research design. Secondary data was adopted which were obtained from Lagos State Internal Revenue Services (LIRS), Lagos State Ministry of budget and planning and Lagos State Ministry of Finance. Data were analyzed using descriptive and inferential statistics, and they concluded that Personal Income Tax has significant effect on infrastructural development of the state.

Etim et al (2020) investigate the long run relationship existing between petroleum profit and companies’ income taxes and economic growth in Nigeria in the period of 1980 to 2018. The analytical tools employed were Augmented Dickey-Fuller (ADF) unit root-test, Engle Granger Procedure Co-integration test, Parsimonious Error Correction Mechanism (ECM), Durbin-Watson statistic and over parameterized model, and it the results of the analysis reveal a positively significant association of studied variables with (0.9844) and (0.9471) co-efficient for petroleum profit tax and companies income tax respectively in relation independent variables integrate with the dependent variable at first order. This indicates long run relationship.

Clement et al (2019) investigated the impact of taxation on economic development of Nigeria from 2003 to 2017.Vector Error Correction Model (VECM), Augmented Dickey-Fuller (ADF) unit root test, Autoregressive Distributed Lag (ARDL) bounds test, Jarque-Bera Normality Test and Eigenvalue stability condition were utilized for analysis and their findings revealed that companies’ income tax, petroleum profit and value added tax have a long run impact of -0.225(p-value=0.000),-0.0005 (p-value=0.699), and 0.211(p-value=

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0.000) respectively on the economic development of Nigeria and they concluded that taxation has a significant long run relationship with Nigeria's economic development.

Dibia and Onwuchekwa (2019) examined the relationship between taxation and the economic growth of Nigeria for the period 1981 to 2016 using company income tax, petroleum profit tax as proxies for taxation and Real Gross Domestic Product for economic growth. They adopted Ex Post-Facto research design and Time series data was employed. They make use of descriptive analysis and correlation in analyzing data and the findings indicate that petroleum profit tax (PPT) and company income tax (CIT) show positive and significant effect on the Real Gross Domestic Product (RGDP) in Nigeria.

Craig, et al (2020) evaluated the effect of tax revenues on capital expenditures in Nigeria Economy. Data for the study was collected through secondary source from Federal Inland Revenue Service, Central Bank of Nigeria statistical bulletin and National Bureau of Statistics. A longitudinal research design was adopted, while secondary data were collected from audited financial statements of Federal Inland Revenue Service, CBN statistical bulletin and National Bureau of Statistics from 1989 to 2018. Data collected were analyzed using a linear regression method to explain the relationship between variables of tax revenues (oil and non-oil) (independent variable), capital expenditure (dependent variable). The results revealed a statistically significant positive effect of non-oil revenue on capital expenditure it further revealed that the relationship between the oil tax revenues, total tax revenues and capital expenditure are not statistically significant.

Ofoegbu, et al (2016) examined the effect of tax revenue on the economic development of Nigerian, and to ascertain whether there is any difference in using HDI and GDP in establishing the relationship. The approach adopted in this study was that of using annual time series data for the period 2005 - 2014 to estimate a linear model of tax revenue and human development index using ordinary least square (OLS) regression technique. Findings show a positively and significantly relationship between tax revenue and economic development. The result also reveals that measuring the effect of tax revenue on economic development using HDI gives lower relationship than measuring the relationship with GDP thus suggesting that using the gross domestic product (GDP) gives a painted picture of the relationship between tax revenue and economic development in Nigeria. The result also reveals that measuring the effect of tax revenue on economic development using HDI gives lower relationship than measuring the relationship with GDP. However, the study failed to test the data for stationarity and this is important because unstationary data will yield spurious regression results.

Okwara and Amori (2017) examined the impact of tax revenue on the economic growth in Nigeria for the period of 1994- 2015. Secondary data were used and sourced from journals, textbooks and Central Bank of Nigeria (CBN) statistical bulletin. To avoid spurious results, Ordinary Least Square (OLS) with the aids of Statistical Package for Social Sciences (SPSS) was used to test the significant impact of value added tax and non-oil income on Gross Domestic Product (GDP). The results revealed that non-oil income has significant impact on the gross domestic product. In contrast, value added tax has a negative relationship and statistically insignificant for the period under review.

Inyiama, et al (2017) examined the effect of the Federal Government of Nigeria's tax resources on infrastructural development of Nigeria. The study adopts ex-post-facto research

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design as secondary data were used for the analysis. Data were analyzed using multiple linear regression techniques. The result reveals that tax revenue resources (PPT, CIT and VAT) had a positive and insignificant effect on Infrastructural Development in Nigeria.

Justina et al (2019) examine the impact of company income tax on infrastructural development in Nigeria. This study adopts an ex-post facto research design and make of secondary data retrieved from the CBN statistical bulletin; Federal Inland Revenue Service (FIRS) and National Bureau of Statistics for various years were used. The data covers the period 1981-2017 and data analysis technique utilized for the study was dynamic Least Squares for co-integrated regression. The findings reveal that company income tax is generally not characterized with threatening oscillations year-on-year over the period. This is a good sign for policy makers as it implies that over the business cycle, company income tax revenue will still maintain some considerable stability and hence it can be depended upon in the forecasting, budget planning and fiscal coordination. The results also reveal that the coefficient is positive and statistically significant at 5% level.

Iduhet al (2019) examines the impact of company income tax on economic growth in Nigeria. The analyses were performed using data from CBN bulletin, NSE fact book and FIRS annual report for an eleven-year period (2007-2017). The study employed multiple regression analysis techniques based on the SPSS 20 version for the analysis of data, where gross Domestic product (GDP), the dependent variable and proxy for economic growth, was regressed as a function of company income tax (CIT), and the independent variables and descriptive statistics were used to analyze the data. The findings indicated that company income tax has significant influence over economic growth in Nigeria.

John and Dickson (2020) investigated the impact of tax revenue on economic growth using adjusted and unadjusted GDP. Data for the study were collected from the annual abstract of National Bureau of Statistics (NBS) and Central Bank of Nigeria Statistical Bulletin (CBN) from 1984 to 2018. Economic growth was proxy using unadjusted GDP (Nominal GDP), adjusted GDP (RGDP), and it was analyzed using Error Correction Models (ECMs). The results revealed that Petroleum Profits Tax (PPT) had a positive influence on economic growth when GDP was adjusted and negative influence when GDP was unadjusted for inflation. Value Added Tax (VAT) had a negative influence on economic growth when GDP was unadjusted for inflation and a positive influence on economic growth when GDP was adjusted for inflation. Companies Income Tax (CIT) had a negative influence on economic growth when GDP was adjusted and a positive influence when unadjusted for inflation. Custom and Excise Duties (CED) had a positive influence on economic growth when GDP was unadjusted and unadjusted.

Omesi, et al (2020) assesses the relationship between non-oil revenue and economic development of Nigerian economy using VAT as an element of non-oil revenue. Their result reveals that non-oil revenue has a positive impact on Nigeria economic development both in the short and long run.

Awa and Ibeanu (2020) assessed the relationship between components of tax revenue and economic development of the Nigerian economy. The ex-post facto research design was adopted and secondary time series data were sourced from relevant records of appropriate authorities for the study period (2003 – 2017). The proxies of tax revenue were value added tax, petroleum profit tax, personal income tax, company income tax and custom and excise

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duties, whereas, economic development was measured by real GDP and Human Development Index (HDI). The data were analyzed using the Autoregressive Distributed Lag technique alongside other necessary statistical tools. The results reveal that petroleum profit tax stood as a major component of tax revenue, its relationship with measures of economic development (real GDP and HDI) were negative; thus suggesting that revenue generated from petroleum profit tax are not properly and directly channeled to the provision of the required infrastructure that will boost the economic development of Nigeria.

Uket et al (2020) examined the impact of tax revenue on economic development of Nigerian. The study explored the impact of three tax income streams – company Income tax, petroleum profits tax and Value Added Tax on economic development represented by Gross Domestic Product (at current basic prices) growth for the period 1994 to 2018. Ordinary Least Square was used for analysis and the result revealed a positive relationship with a coefficient of determination of 99.2% of the variation in economic development attributable to the tax income streams studied. Also the study revealed the existence of significant effect of taxes from companies' profits and Value Added Tax on Gross Domestic Product Growth, there is little or no significant impact of taxes on profits of Petroleum companies on Gross Domestic Product growth in Nigeria due to restriction by Organization of Petroleum Exporting Countries production ceiling on Nigeria's production/sales and the global price shocks of crude oil over the decade. Also the study revealed tax payers apathy to tax payment and presence of tax leakages due to corruption and administrative inefficiencies by the tax authorities.

Ayeni & Afolabi (2020) examined the dynamic relationship between tax revenue, infrastructural development and economic growth in Nigeria, using an annual secondary time series data from 1981 – 2018. The unit root properties of the series were examined using both Augmented Dickey Fuller (ADF) test and Phillip Perron (PP) test, while the Johansen Co-integration test was employed to examine if the series are co-integrated. The results reveal that the series are all integrated of order 1 and non-co-integrated, and they examine the direction of causality and the interrelationship among the variables, a vector auto-regression (VAR) causality test was carried out, and a VAR at-first difference model was estimated. The results reveal a unidirectional causality running from tax revenue to economic growth and from economic growth to infrastructure, while a bi-directional causality is found between tax revenue and infrastructural development, meaning that tax revenue influences economic growth and infrastructure, infrastructure does not influence economic growth, but significantly influence tax revenue collected.

Okeke et al (2018) studied the relationship between tax revenue and economic development in Nigeria during the period1994 -2016. Time series data from the Central Bank of Nigeria, Office of the Federal Inland Revenue Service and Annual Abstract of statistics of the National Bureau of Statistics were used. The Augmented Dickey Fuller test, multiple linear regression, Multi-collinearity test, Granger Causality test, Johansen co-integration test and Error correction model were employed in the analysis of the data. The findings reveals that tax revenue has a statistically significant relationship with infant mortality, labour force and gross fixed capital formation in Nigeria at 5% level of significance respectively and it was concluded that tax revenue has contributes to economic development in Nigeria.

Asaolu et al (2018) examined the relationship between tax revenue and economic growth in Nigeria. The study adopted a descriptive and historical research design; secondary data for

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twenty-two years (1994 -2015) were collected from various issues of the Central Bank of Nigeria (CBN) statistical bulletin and annual reports. Tax revenue as an independent variable was measured with Value Added Tax (VAT); Petroleum Profit Tax (PPT); Company Income Tax (CIT) and Custom and Excise Duties (CED) while the dependent variable was Economic Growth (EG) proxied by the Gross Domestic Product (GDP). Analysis was performed on data collected using Auto Regressive Distributed Lag (ARDL) Regression and other post estimations (Jarque-Bera test; Breusch-Godfrey LM and Ramsey Reset Test) to determine the existence of relationship between the variables. The results of the study showed that VAT and CED had a significant relationships with economic growth ($p<0.05$), while CIT has negative significant relationship with economic growth ($P<0.05$). However, PPT had no significant relationship with economic growth. The study concluded that the role of taxation in nation's building is irreplaceable. Taxation remains a strong socio political and economic tool for economic prosperity.

METHODOLOGY

This study on the moderating role of inflation on the relationship between direct taxes and economic development of Nigeria used ex post facto and correlational research designs. The data for the study was collected from the Federal Inland Revenue Service (FIRS), Central Bank of Nigeria (CBN), and National Bureau of Statistics (NBS) of various publications ranging from 1991 to 2020. The data obtained from secondary sources were analysed using univariate, bivariate and multivariate analysis. The model from prior studies after modification as follows:

Economic Development = (Direct Taxes) ---------- (1)

The direct taxes variables included in this present study are personal income tax (PIT), Company income tax (CIT) and Petroleum profit tax (PPT).

Since economic development is represented in this study by two proxies of real gross domestic product (RGDP) and Infrastructural development (IFD), we recast equation (1) by decomposing it as

RGDP = f(PIT, CIT, PPT) ---------- (2a)

IFD = f(PIT, CIT, PPT) ---------- (2b)

Therefore, in their respective empirical form, equation (2a), (2b) and (2c) are restated into the basic time series model as

$RGDP = \beta_0 + \beta_1 PIT + \beta_2 CIT + \beta_3 PPT + e$ ---------- (3a)

$IFD = \beta 0 + \beta_1 PIT + \beta_2 CIT + \beta_3 PPT + e$ ---------- (3b)

Where

RGDP = Real Gross Domestic product

IFD = Infrastructural development

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African Journal of Accounting and Financial Research
ISSN: 2682-6690
Volume 6, Issue 3, 2023 (pp. 36-67)

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PIT = Personal income tax

CIT = Company income tax

PPT = Petroleum profit tax

β_0 = Coefficient`

e = Standard error

To evaluate the effect of moderating, the interacting terms were formulated by multiplying the moderator to each of the original independent variables as

$RGDP = \beta_0 + \beta_1 PIT + \beta_2 CIT + \beta_3 PPT + \beta_4 IFR + \beta_5 PIT * IFR + \beta 6 CIT * IFR + \beta PPT * IFR + e$ ----------(4a)

$IFD = \beta_0 + \beta_1 PIT + \beta_2 CIT + \beta_3 PPT + \beta_4 IFR + \beta_5 PIT * IFR + \beta 6 CIT * IFR + \beta PPT * TR + e$ ---------- (4b)

RESULTS AND DISCUSSIONS

Table 1: Descriptive statistics of variables

	RGDP	IFD	PIT	CIT	PPT	IFR
Mean	10.41200	11.35667	9.129000	8.802333	9.592333	1.249667
Median	10.35000	11.43000	9.565000	8.720000	9.670000	1.145000
Maximum	10.74000	12.06000	9.950000	9.820000	9.880000	1.860000
Minimum	10.28000	10.45000	7.170000	8.090000	9.070000	0.730000
Std. Dev.	0.137399	0.442908	0.941010	0.461763	0.258172	0.359266
Skewness	1.103838	-0.481919	-1.295954	0.625055	-0.735638	0.415285
Kurtosis	2.852877	2.262821	3.134060	2.720587	2.114707	1.810693
Jarque-Bera	6.119346	1.840521	8.419951	2.051060	3.685498	2.630375
Probability	0.046903	0.398415	0.014847	0.358606	0.158381	0.268424
Sum	312.3600	340.7000	273.8700	264.0700	287.7700	37.49000
Sum Sq. Dev.	0.547480	5.688867	25.67947	6.183537	1.932937	3.743097
Observations	30	30	30	30	30	30

Source E- *view output (2022)*

The study conducted the descriptive statistics of the relevant variables used in the study. Table 1 illustrates vividly these statistics. It shows the total number of observations, mean, median, maximum, minimum, standard deviation, skewness, kurtosis and Jarque-Bera. The dependent variables which are real gross domestic product and infrastructural development show the minimum values of 10.28 and 10.45 and the maximum of dependent variables revealed values of 10.74 and 12.06. The mean values of the dependent variables are 10.41 and 11.35 while the standard deviation values are 0.1374 and 0.4429. This implies that there was high fluctuation in real gross domestic product and infrastructural development for the years under study. It can be observed from Table 1 that all the variables have positive average

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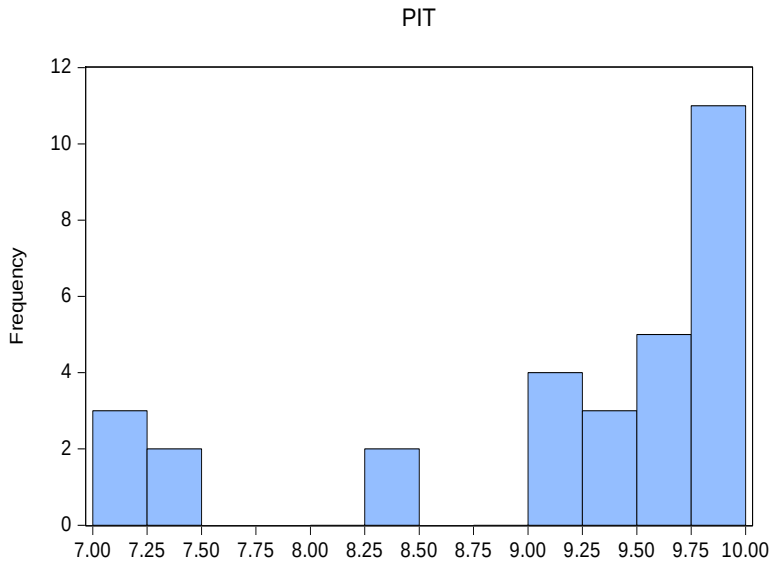
values (means). The minimal deviation of the variables from their means as shown by the standard deviation gives indication of growth rate (fluctuation) of these variables over the period. It can be observed also that personal income tax, petroleum profit tax and infrastructural development show signs of negative skewness while real gross domestic product, company income tax and inflation show signs of positive skewness.



	PIT
Mean	9.129000
Median	9.565000
Maximum	9.950000
Minimum	7.170000
Std. Dev.	0.941010
Skewness	-1.295954
Kurtosis	3.134060
Jarque-Bera	8.419951
Probability	0.014847
Sum	273.8700
Sum Sq. Dev.	25.67947
Observations	30

Figure 2 Bar graph of Personal Income Tax

Source; *E-view result (2022)*

Result from the above table 1 showed the descriptive statistics of Personal Income Tax (PIT). The result indicated that (PIT) has a positive growth rate as showed between the Minimum, Maximum, Mean and Standard derivation statistical values. Personal income tax (PIT) grows from 7.17 to 9.55 with a Mean value of 9.1290 and standard derivation of 0.9410. The result indicated skewness and kurtosis that showed average level of consistency. The skewness and kurtosis statistics provide useful information about the symmetry of the probability distribution of personal income tax (PIT) data which had negative value of skewness (-1.2959) showing that it have a short right tail and a positive kurtosis value (3.1340) implying that, the extent of flatness of the distribution is greater than the normal curve of the variable.

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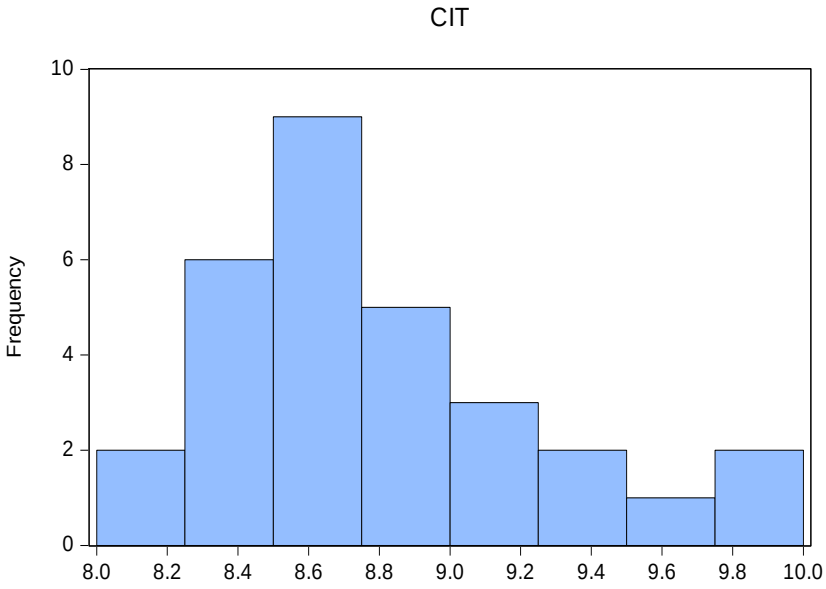

	CIT
Mean	8.802333
Median	8.720000
Maximum	9.820000
Minimum	8.090000
Std. Dev.	0.461763
Skewness	0.625055
Kurtosis	2.720587
Jarque-Bera	2.051060
Probability	0.358606
Sum	264.0700
Sum Sq. Dev.	6.183537
Observations	30

Figure 3 Bar graph of company Income Tax

Source *E-view result (2022)*

Table 1 showed the descriptive statistics of company income tax (CIT). The result obtained indicates that (CIT) stood a positive growth rate between the Minimum (8.09) to Maximum (9.82), with a Mean and Standard derivation statistical values (8.8023) and (0.4618) respectively. The table above also indicates a skewness and kurtosis statistics values (0.6250) and (2.7206) respectively which provide useful information about the symmetry of the probability distribution of company income tax (CIT) data which had positive skewness value (0.6250) showing that it have a long right tail and positive kurtosis value (1.917) implying that, the extent of flatness of the distribution is greater than the normal curve.

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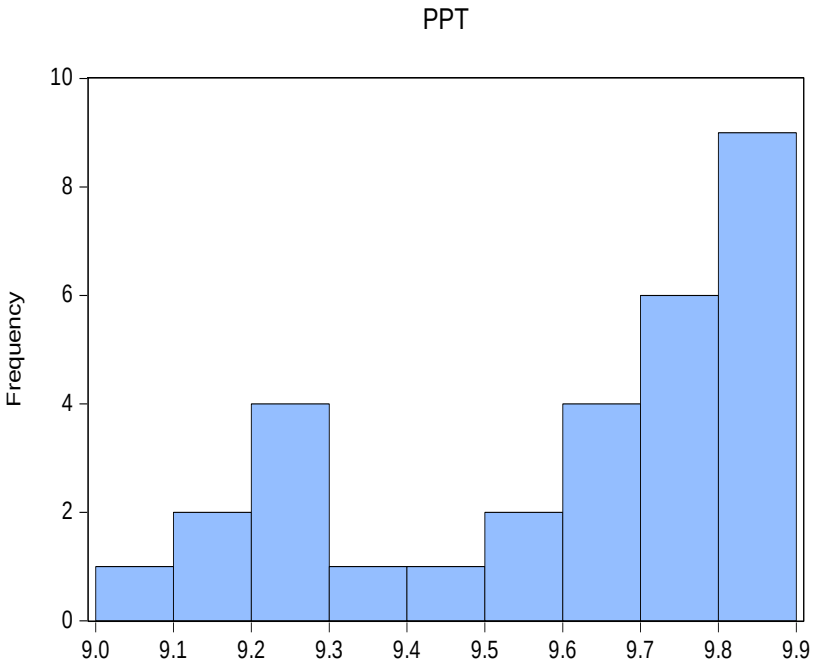

	PPT
Mean	9.592333
Median	9.670000
Maximum	9.880000
Minimum	9.070000
Std. Dev.	0.258172
Skewness	-0.735638
Kurtosis	2.114707
Jarque-Bera	3.685498
Probability	0.158381
Sum	287.7700
Sum Sq. Dev.	1.932937
Observations	30

Figure 4 Bar graph of petroleum profit tax

Source; *E-view result (2022)*

Table 1 showed the descriptive statistics of Petroleum Profit Tax (PPT). The result indicated that (PPT) had a positive growth rate between the Minimum (9.0700) to Maximum (9.8800), with a Mean and Standard derivation statistical values (9.5923) and (0.2581) respectively. The table above also indicates a skewness and kurtosis statistics values which provide useful information about the symmetry of the probability distribution of Petroleum Profit Tax (PPT) data which had negative skewness value (-0.7356) showing that it have a short right tail and positive kurtosis value of 2.1147 implying that, the extent of flatness of the distribution is greater than the normal curve.

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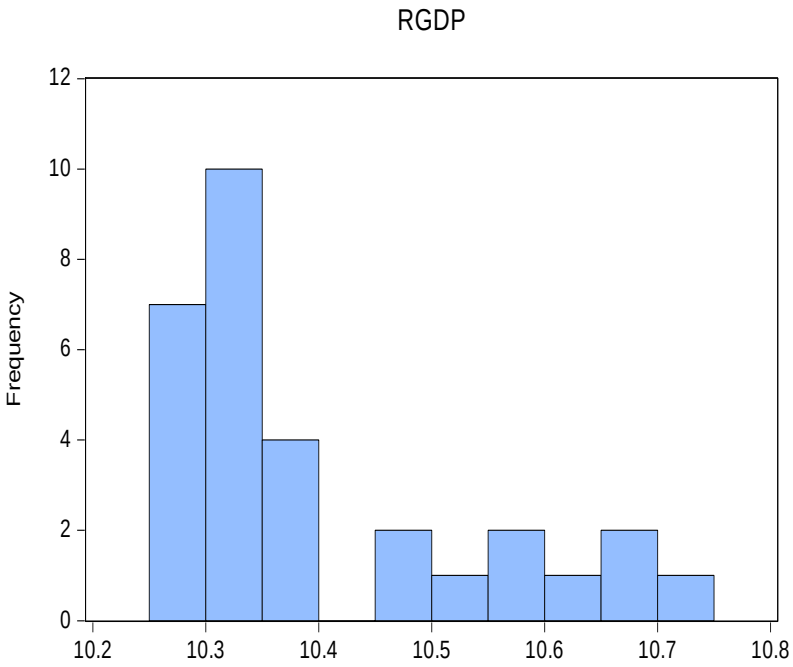

	RGDP
Mean	10.41200
Median	10.35000
Maximum	10.74000
Minimum	10.28000
Std. Dev.	0.137399
Skewness	1.103838
Kurtosis	2.852877
Jarque-Bera	6.119346
Probability	0.046903
Sum	312.3600
Sum Sq. Dev.	0.547480
Observations	30

Figure 5 histogram of Real Gross Domestic Product

Source; *E-view result (2022)*

Table 1 showed the descriptive statistics of Real Gross Domestic Product (RGDP). The result indicated that (RGDP) had insignificant growth rate between the Minimum (10.2800) to Maximum (10.7400), with a Mean and Standard derivation statistical values (10.4120) and (0.1374) respectively. The table above also indicates a skewness and kurtosis statistics values which provide useful information about the symmetry of the probability distribution of Real Gross Domestic Product (RGDP)) data which had positive skewness value (1.1038) showing that it have a long right tail and positive kurtosis value (2.8529) implying that, the extent of flatness of the distribution is greater than the normal curve.

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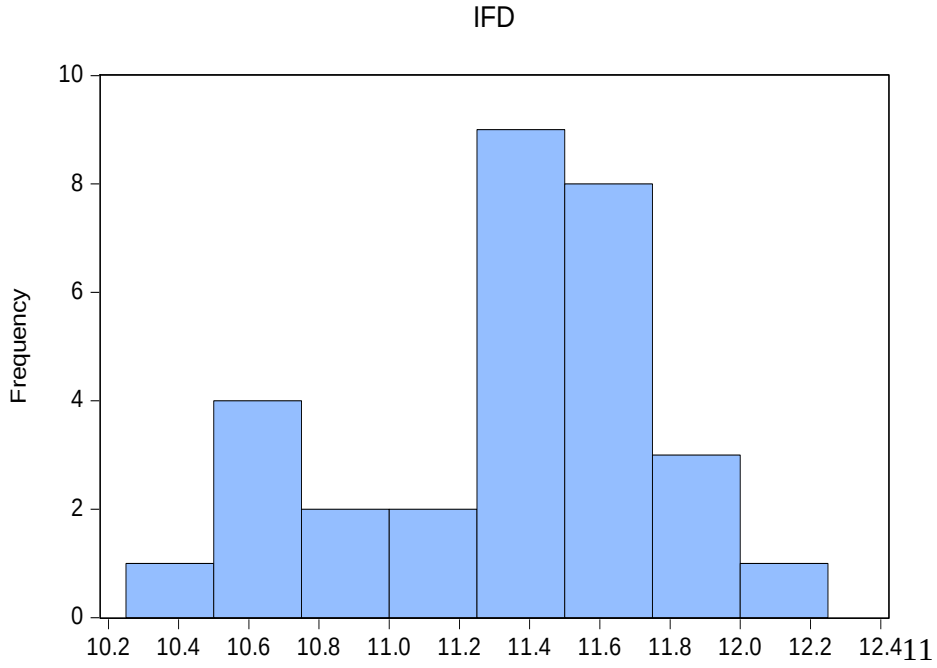

Figure 6: Bar Chart for Infrastructural Development

Source; *E-view result (2022)*

Table 1 showed the descriptive statistics of Infrastructural Development (IDF). The result indicated that (IDF) had a positive growth rate between the Minimum (10.45) to Maximum (12.06), with a Mean and Standard derivation statistical values (11.42) and (0.44) respectively. The table above also indicates a skewness and kurtosis statistics values which provide useful information about the symmetry of the probability distribution of infrastructural Development (IDF) data which had a negative skewness value (-0.48) showing that it have a short right tail and positive kurtosis value (2.26) implying that, the extent of flatness of the distribution is greater than the normal curve.

Table 2: Correlation analysis of Model Three (A)

	RGDP	PIT	CIT	PPT
RGDP	1	0.3488	0.8881	-0.6620
PIT	0.3488	1	0.0446	-0.1184
CIT	0.8881	0.0446	1	-0.5912
PPT	-0.6620	-0.1184	-0.5912	1

Source*: E-View output (2022)*

Table 2 showed the result of Correlation matrix of personal income tax (PIT) and real gross domestic product (RGPD); company income tax (CIT) and real gross domestic product (RGPD); petroleum profit tax (PPT) and real gross domestic product (RGPD). The table above result shows that real gross domestic product (RGDP) has a highly positive correlation with personal income tax (PIT=0.35). This simply implied that there is a positive correlation

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and statistically significant relationship between personal income tax (PIT) and real gross domestic product (RGPD). The result also showed a positive correlation which indicated very strong association between company income tax (CIT) and real gross domestic product (RGPD) with a Positive value 0.8881. The result implied that there is a very strong correlation and statistically significant relationship between company income tax (CIT) and real gross domestic product (RGPD). Finally the result showed a negative correlation between petroleum profit tax (PPT) and real gross domestic product (RGPD) associated with a value of -0.6620. This means that there is a weak correlation and insignificant relationship between petroleum profit tax and real gross domestic product (RGPD).

Table 3: Correlation Analysis of Model Three (B)

	IFD	PIT	CIT	PPT
UER	1	0.5285	-0.3935	0.2976
PIT	0.5285	1	0.0446	-0.1184
CIT	-0.3935	0.0446	1	-0.5912
PPT	0.2976	-0.1184	-0.5912	1

Source: E-View output (2022)

Table 3 showed the result of Correlation matrix of personal income tax (PIT) and infrastructural development (IFD), company income tax (CIT) and infrastructural development (IFD), petroleum profit tax (PPT) and infrastructural development (IFD). The table above statistically proved a correlation which indicated a positive strong correlation between personal income tax (PIT) and infrastructural development (IFD) with Positive value of 0.5285. This simply implied that there is a strong positive correlation and statistically significant relationship between personal income tax (PIT) and infrastructural development (IFD). The table also indicated a negative association between company income tax (CIT) and infrastructural development (IFD) with a negative value of -0.3935 significant level which implying that there is a very weak correlation and statistically insignificant relationship between company income tax (CIT) and infrastructural development (IFD). Finally, the result indicated a very strong positive correlation between petroleum profit tax (PPT) and infrastructural development (IFD) with positive value of 0.2976 implying that there is a very strong correlation and statistically significant relationship between petroleum profit tax and infrastructural development (IFD).

Table 4: Correlations analysis

	RGDP	IFD	PIT	CIT	PPT	IFR
RGDP	1	0.7750	0.3488	0.8881	-0.6620	-0.4403
IFD	0.7750	1	0.8086	0.5794	-0.4957	-0.6739
PIT	0.3488	0.8086	1	0.0446	-0.1184	-0.5441
CIT	0.8881	0.5794	0.0446	1	-0.5912	-0.3635
PPT	-0.6620	-0.4957	-0.1184	-0.5912	1	0.3319
IFR	-0.4403	-0.6739	-0.5441	-0.3635	0.3319	1

Source E-View output (2022)

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Table 4 indicated the result Correlation matrix of moderating variable inflation rate (IFR) and independent variables proxies as personal income tax (PIT), company income tax (CIT), and petroleum profit tax (PPT). On the other hand the dependent variables were proxies as real gross domestic product (RGDP) and infrastructural development (IFD). The table statistically showed a negative correlation between personal income tax (PIT) and inflation rate (IFR) with negative value of -0.5441 implying that there is a negative correlation and statistically insignificant relationship between personal income tax (PIT) and inflation rate (IFR) in moderating direct taxes. The table also indicated a correlation which showed a very weak association between company income tax (CIT) and inflation rate (IFR) with a negative value of -0.3635 implying that there is a weak correlation and statistically insignificant relationship between company income tax (CIT) and inflation rate (IFR) in moderating direct taxes. The table showed a correlation which indicated a very strong correlation between petroleum profit tax (PPT) and inflation rate (IFR) with a Positive value 0.3319 which implied that there is a strong correlation and statistically significant relationship between petroleum profit tax (PPT) and inflation rate (IFR) in moderating direct taxes. Finally, the table above indicated the correlation matrix values of (-0.4403; and -0.0427) of the dependent variables proxies as real gross domestic product (RGDP) and infrastructural development (IFD) respectively; which showed a negative correlation between inflation rate. This suggests that direct taxes proxies contribute positively to economic development of Nigeria.

Table 5: Test for Multicollinearity

Variance Inflation Factors
Date 09/20/22 Time 1537
Sample 1991 2020
Included observations 30

Variable	Coefficient Variance	Uncentered VIF	Centered VIF
C	1.265288	18791.919530	NA
IFD	0.009513	18249.587640	6.792777
PIT	0.001524	1905.258475	9.370211
CIT	0.002316	2672.326813	7.090157
PPT	0.002049	2802.484612	1.961043

Source; E-View output (2022)

Table 5 shows that the variance inflation factor (VIF) is less than 10. This is an indication of non-existence of multicollinearity among the variables in the model.

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ISSN: 2682-6690
Volume 6, Issue 3, 2023 (pp. 36-67)

Table 6: Multiple Regression of DT and RGDP

Dependent Variable RGDP
Method Least Squares
Date 09/20/22 Time 1454
Sample 1991 2020
Included observations 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	8.718106	0.550319	15.84192	0.0000
PIT	0.050477	0.010738	4.700814	0.0001
CIT	0.238812	0.023263	10.26586	0.0000
PPT	-0.095533	0.040419	-2.363561	0.0262

R-squared	0.908571	Mean dependent var	10.41200
Adjusted R-squared	0.893942	S.D. dependent var	0.137399
S.E. of regression	0.044746	Akaike info criterion	-3.224604
Sum squared resid	0.050056	Schwarz criterion	-2.991071
Log likelihood	53.36906	Hannan-Quinn criter.	-3.149895
F-statistic	62.10873	Durbin-Watson stat	2.196303
Prob(F-statistic)	0.000000		

Source; E-View output (2022)

The results of the multiple regression explores the functional relationship between DT and RGDP are presented in table 6. The overall model revealed that the independent variables (DT) have 90.1 percent explanation for variance in dependent variable. The F-statistic is 62.10873 and Prob(F-statistic) is 0.00000. Since the Prob(F-statistic) value is less than the 0.05, then the model has a good fit and can explain the real gross domestic product fluctuations. Our variable of interest (DT) has a cumulative positive coefficient (0.19376) which implies that if DT increases by 1 unit, RGDP will increase by 0.19376 when other variables are constant. The cumulative t-statistic value is 4.20104 and p-value is 0.00876. Since, the p-value is less than 0.05 (0.00876<0.05), Hence the study conclude that direct taxes have impact significantly on real gross domestic product of Nigeria.

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Table 7: Multiple Regression of DT and IFD

Dependent Variable IFD
Method Least Squares
Date 09/20/22 Time 1457
Sample 1991 2020
Included observations 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	6.445567	1.133141	5.688231	0.0000
PIT	0.346610	0.022110	15.67648	0.0000
CIT	0.432592	0.047899	9.031279	0.0000
PPT	-0.203633	0.083225	-2.446761	0.0218

R-squared	0.962695	Mean dependent var	11.35667
Adjusted R-squared	0.956726	S.D. dependent var	0.442908
S.E. of regression	0.092135	Akaike info criterion	-1.780103
Sum squared resid	0.212223	Schwarz criterion	-1.546570
Log likelihood	31.70155	Hannan-Quinn criter.	-1.705394
F-statistic	161.2878	Durbin-Watson stat	2.356493
Prob(F-statistic)	0.000000		

Source: E-View output (2022)

The results of the multiple regressions exploring the functional relationship between DT, and IFD are presented in table 7. The overall model revealed that the independent variables (DT) have 96.2 percent explanation for variance in dependent variable. The F-statistic is 31.70155 and Prob(F-statistic) is 0.00000. Since the Prob (F-statistic) value is less than the 0.05, then the model has a good fit and can explain the infrastructural development fluctuations. Our variable of interest (DT) has a cumulative positive coefficient (0.19186) which implies that if DT increases by 1 unit, IFD will increase by 0.19186 when other variables are constant. The cumulative t-statistic value is 7.42033 and p-value is 0.00876. Since, the p-value is less than 0.05 (0.00727<0.05), Hence the study conclude that direct taxes have impact significantly on infrastructural development of Nigeria.

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Volume 6, Issue 3, 2023 (pp. 36-67)

Table 8: Multiple Regression of IFR, DT, RGDP and IFD

Dependent Variable IFR
Method Least Squares
Date 02/20/22 Time 1814
Sample 1991 2020
Included observations 30

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-13.90846	14.33619	-0.970165	0.3421
RGDP	2.026448	1.271497	1.593749	0.1246
IFD	-0.726829	0.607597	-1.196235	0.2438
PPT	0.121525	0.299246	0.406104	0.6884
PIT	-0.065318	0.253210	-0.257958	0.7987
CIT	-0.305109	0.410988	-0.742379	0.4654

R-squared	0.518409	Mean dependent var	1.249667
Adjusted R-squared	0.392776	S.D. dependent var	0.359266
S.E. of regression	0.279957	Akaike info criterion	0.492600
Sum squared resid	1.802642	Schwarz criterion	0.819546
Log likelihood	-0.389000	Hannan-Quinn criter.	0.597193
F-statistic	4.126391	Durbin-Watson stat	1.503551
Prob(F-statistic)	0.005894		

Source: *E-View output (2022)*

The output presented in table 8 showed the regression analysis on RGDP, IFD, PIT, CIT, PPT and IFR. The overall model revealed that the independent variables (RGDP, IFD, PIT, CIT, and PPT) have 51.8 percent explanation for variance in the moderating variable. The F-statistic is 4.126391 and Prob(F-statistic) is 0.0058. Since the Prob(F-statistic) value is less than the 0.05, then the model has a good fit and can explain the direct taxes and economic development fluctuations. The variables of interest (RGDP, IFD, PIT, CIT, and PPT) have a cumulative positive coefficient (1.46272) and a negative t-statistic value is -0.003558 and cumulative p-value is 0.5022. Since, the p-value is greater than 0.05 (0.5022>0.05). Hence the study concludes that inflation rate does not moderate the relationship between direct taxes and economic development of Nigeria.

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Table 9: Result Summary of Hypotheses Analysis

S/N	Statement of Hypotheses	R-Value	Decision	P-value	Sig At 0.05	Decision
Ho_1	There is no significant relationship between personal income tax and real gross domestic product in Nigeria	0.1217	Positive Relationship	0.0059	Accepted	Insignificant
Ho_2	There is no significant relationship between company income tax and real gross domestic product in Nigeria	0.7887	Strong Positive Relationship	0.0000	Rejected	Significant
Ho_3	There is no significant relationship between petroleum profit tax and real gross domestic product in Nigeria	0.4383	Positive Relationship	0.0001	Rejected	Significant
Ho_4	There is no significant relationship between personal income tax and infrastructural development in Nigeria	0.6538	Strong Positive Relationship	0.0000	Rejected	Significant
Ho_5	There is no significant relationship between company income tax and infrastructural development in Nigeria.	0.3357	Positive Relationship	0.0008	Rejected	Significant
Ho_6	There is no significant relationship between petroleum profit tax and infrastructural development in Nigeria	0.2457	Positive Relationship	0.0053	Rejected	Significant
Ho_7	Inflation rate does not significantly moderate the relationship between direct taxes and economic development in Nigeria.	0.5184	Positive Relationship	0.5022	Accepted	Insignificant

Source: Researcher computation (2022)

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DISCUSSION OF FINDINGS

Personal Income Tax and Real Gross Domestic Product: The first hypothesis sought to examine the relationship between personal income tax and real gross domestic product in Nigeria. Thus, the regression findings indicated in table 9 with R-value = 0.1217; P= 0.0059 > 0.05 alpha level which had shown a positive and insignificant relationship between personal income tax and real gross domestic product in Nigeria. The finding of the study is in conformity with Macek (2014) who studied the impact of tax revenue on the growth of the economy in the Organization for Economic Cooperation and Development (OECD) countries. They employed time-series data from 2000 to 2011. They based their regression analysis on the neoclassical growth model and discovered that corporate income tax, personal income tax and social security had a negative impact on economic growth. The findings of the study are in line with other empirical studies Kalas, et al (2017); Craig et al (2020); etc. The study concludes that personal income tax has no insignificant influence on real gross domestic product of Nigeria.

Company Income Tax and Real Gross Domestic Product: The second hypothesis sought to investigate the relationship between company income tax and real gross domestic product in Nigeria. Nevertheless, regression findings of the study highlighted in table 9 with R-value = 0.7887; P-value= 0.000<0.05 alpha level had shown a strong positive and significant relationship between company income tax and real gross domestic product in Nigeria. The findings of the study are in line with Okafor (2012) explore the impact of income tax revenue on the economic growth of Nigeria as proxy by the gross domestic product (GDP). The correlation and regression results of the study indicated a very strong positive and significant relationship between income tax revenues and economic development in Nigeria. This may be as a result of the effectiveness of the bodies in charge of the collection of such taxes at both state and federal level, that is, the State Internal Revenue Board and the Federal Inland Revenue Service. The findings are also in agreement with Onakoya, et al (2017); Otu et al (2013); Iduhet al (2019); Bukie & Adejumo (2013);Ogundana et al (2017); Okwara & Amori, (2017); Okeke et al (2018); Asaolu et al (2018); Lee and Gordon (2004); Angus (2011); Umoru & Anyiwe (2013); etc. The study concludes that company income tax has a significant effect on real gross domestic product in Nigeria.

Petroleum Profit Tax and Real Gross Domestic Product: The third hypothesis aimed to determine the relationship between petroleum profit tax and real gross domestic product in Nigeria. However, the regression findings of the study had revealed R-value = 0.4383; P-value=0.0001< 0.05 alpha level had shown a strong positive and significant relationship between petroleum profit tax and real gross domestic product in Nigeria. The findings of the study agreed with Okoh & Onyekwelu (2016) examined the effect of petroleum profit tax on economic growth of Nigeria. Income from petroleum taxes is the proxy for PPT while economic growth was measured using Gross Domestic Product (GDP). The research adopted expos-facto research as secondary data were used for the analysis. Data were sourced from the Central Bank of Nigeria Statistical Bulletin and the Federal Statistical Bureau. The study covered twelve year period (2004-2015). Time series data were analyzed using the simple linear regression. The result reveals that PPT had positive and significant effect on economic development in Nigeria and disagreed with Illaboya & Mgbame, (2012); Onwuchekwa & Aruwa, (2014); etc. Hence, the study concludes that petroleum profit tax significantly influence real gross domestic product.

Article DOI: 10.52589/AJAFR-TNRMOKHO
DOI URL: https://doi.org/10.52589/AJAFR-TNRMOKHO

Personal Income Tax and Infrastructural Development: The fourth hypothesis aimed to ascertain the relationship between personal income tax and infrastructural development in Nigeria. Therefore, the regression findings of the study had indicated R-value = 0.6538; P-value=0.0000 < 0.05 alpha level had rejected the null and accepted the alternate hypothesis which shown a strong positive and significant relationship between personal income tax and infrastructural development in Nigeria. The findings of the study are in conformity with Olugbade & Adegbie (2020) who studied the contributions of personal income tax to infrastructural development in Lagos state from 1997 to 2018. Their study adopted ex-post fact research design. Secondary data was adopted which were obtained from Lagos State Internal Revenue Services (LIRS), Lagos State Ministry of budget and planning and Lagos State Ministry of Finance. Data were analyzed using descriptive and inferential statistics, and they concluded that Personal Income Tax has significant effect on infrastructural development of the state. The findings further agree with oliver et al (2017); Justina et al (2019); Ayeni & Afolabi (2020). Hence, the study concluded that Personal Income Tax has significant effect on infrastructural development in Nigeria.

Company Income Tax and infrastructural Development: The fifth hypothesis sought investigates the relationship between company income tax and infrastructural development in Nigeria. However, the regression findings of the study had indicated R-value = 0.3357; P-value=0.0008 < 0.05 alpha level had rejected the null and accepted the alternate hypothesis which shown a strong positive and significant relationship between company income tax and infrastructural development in Nigeria. The findings of the study are in agreement with Dibia & Onwuchekwa (2019) examined the relationship between taxation and the economic growth of Nigeria for the period 1981 to 2016 using company income tax, petroleum profit tax as proxies for taxation and Real Gross Domestic Product for economic growth. They adopted Ex Post-Facto research design and Time series data was employed. They make use of descriptive analysis and correlation in analyzing data and the findings indicate that petroleum profit tax (PPT) and company income tax (CIT) show positive and significant effect on the economic development in Nigeria; and also concur with Onakoya, et al (2017); Otu et al (2013); Iduhet al (2019);Bukie and Adejumo (2013);Ogundana et al (2017); Okwara & Amori, (2017); Okeke et al (2018); Asaolu et al (2018); Lee & Gordon (2004); Angus (2011); Umoru & Anyiwe (2013); and the concluded that company Income tax impacts significantly on infrastructural development in Nigeria.

Petroleum Profit Tax and Infrastructural Development: The sixth hypothesis was formulated to determine the relationship between petroleum profit tax and infrastructural development in Nigeria. Thus, the regression findings indicated R-value = 0.2457; P-value=0.0053 < 0.05 alpha level had rejected the null hypothesis and had shown a strong positive and significant relationship between petroleum profit tax and infrastructural development in Nigeria. The findings of study agreed with Success et al (2015) investigated the Impact of Petroleum Profit Tax on the economic development of Nigeria for the period 2000 – 2010. Time series data was employed sourced from Central Bank of Nigeria (CBN) Annual Report and National Bureau of Statistics (NBS) and was analyzed using ordinary least square method and the findings revealed that Petroleum profit tax impact positively on Gross Domestic Product of Nigeria and it is statistically significant, and also concur with Onakoya, et al (2017); Otu et al (2013); Iduhet al (2019); Bukie & Adejumo (2013); Ogundana et al (2017); Okwara & Amori, (2017); Okeke et al (2018); Asaolu et al (2018); Lee and Gordon (2004); Angus (2011); Umoru & Anyiwe (2013); etc. Hence the study

Article DOI: 10.52589/AJAFR-TNRMOKHO
DOI URL: https://doi.org/10.52589/AJAFR-TNRMOKHO

concluded that petroleum profit tax impact on economic development but effective and efficient utilization of PPT on infrastructural development should be improved upon.

Effect of inflation on Direct taxes and Economic Development: The seventh hypothesis sought to ascertain the moderating effect of inflation rate on direct taxes and economic development of Nigeria. Therefore, the regression findings of the study had indicated R-value = 0.5184; P-value=0.5022 > 0.05 alpha level had accepted the null and rejected the alternate hypothesis which shown a strong positive and insignificant moderating effect of inflation rate on direct taxes revenues and economic development in Nigeria. The findings of the study are in conformity with Ojong, et al (2016) examined the impact of tax revenue on the Nigerian economy. The findings revealed that there is no significant moderating relationship between financial development of direct tax and the economic growth on Nigeria economy. The research findings are also in line with Illaboya & Mgbame, (2012); Onwuchekwa & Aruwa, (2014); etc. This is the case of Nigeria where citizens look for a loop holes in tax laws which tax payers capitalize on to evade tax.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The study investigated the moderating role of inflation on the relationship between direct taxes and economic development from 1991 to 2020. The study used reviewed prior studies on taxes and economic growth and development. The study independent variable direct taxes used personal income tax, company income tax and petroleum profit tax while the dependent variable economic development utilized real gross domestic product and infrastructural development as dimensions. The study anchored on expediency theory developed by Adolph Wagner (1890) and ex post facto and correlational research designs were used. The study used secondary data collected from Federal Inland Revenue Service (FIRS), Central Bank of Nigeria (CBN), and National Bureau of Statistics (NBS) of various publications. The data collected were analysed with univariate, bivariate and multivariate analysis. The analysis of data revealed that direct taxes of company income tax, personal income tax and petroleum profit tax have a strong and positive relationship with economic development measures of real gross domestic product, and infrastructural development as a whole. In addition personal income tax and company income tax has the highest ranking in the order of relationship (p – 0.000 and 0.002) among the variables in the study. Hence, the study concludes that personal income tax positively and significantly influences economic development (real gross domestic product and infrastructural development), company income tax positively and significantly affect economic development (real gross domestic product and infrastructural development), and inflation rate does not significantly moderates the relationship between direct tax and economic development of Nigeria. Consequently, the following recommendations were provided:

1. The introduction of the Tax Identification Number (TIN) which is a registration and storage of tax payers‘ data in Nigeria is a welcomed idea but for it to be successful it should be structured in such a way that will make all potential tax payers liable. Citizens and companies should be able to operate bank accounts only if they have TIN numbers. Government parastatals, multinationals, conglomerates and companies in the country should not engage any vendor who does not have a TIN number. This will go a long way in reducing Tax evasion.

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2. All taxes should be remitted via an e-payment system or via direct payment to the various tax authorities' accounts. This will enhance and support the cashless economy system introduced recently.

3. Tax Clearance Certificates and other tax documents used in government transactions should be referred back to the relevant revenue authority for authentication.

4. The government should ensure that taxes are accounted for to the public via print and electronic media. The intent of government with such tax should be communicated to the general public. In so doing, a separate body should be set up to inspect and ensure that the funds generated by government through tax at each level of government is properly used and any level of government that fails to utilize such taxes as communicated to the public should be charged to court.

5. The government of Nigeria should enact a law of penalizing staff of tax administrators who engages or encourages tax payers to evade through a crooked means and also ensure that the regulatory body implement policies that will reduce the loop holes in tax laws.

6. Efficient tax policy should be formulated and implemented so that the taxes can continue to generate the needed revenue for the government. Also revenue collecting authorities of the government should be made more effective in their operations of collecting revenue for the government. Ways of collection and remittance of tax revenue should be reviewed so that more revenue can come to government coffers especially that of company income tax.

7. Given the dwindling revenue from petroleum related sources, the government should embark on the strategic pursuit of broadening the economy to enhance economic growth and development.

8. Effort should be channeled towards increasing the revenue from petroleum profit tax so as to serve as alternative revenue sources to support the dwindling oil revenue to sustain economic growth and developmental initiatives of government.

Policy Implications: The implication of our findings is pointing majorly at policy makers, especially the Federal Board of Inland Revenue as most of our variables shows a positively significant relationship with economic development, meaning that there should be no area in tax collection that should be taken lightly as they have all proven to be a major variable in connection to the development of the economy. One of the main purposes of tax revenue is to raise revenue that the government can use to provide adequate amenities and infrastructure for its citizens as well as enhance growth and development but the case seems to be different in Nigeria as the physical evidences does not show that funds generated from tax revenue are used for this purpose. Our analysis has thrown some light on the impact of direct tax revenue on Nigeria's economic development. It is glaring that the Nigerian total tax revenue generated has a significant impact on the economy in general.

Further Research: The analysis of the relationship between direct taxes and economic development has opened door for further studies and the direction by which the research could go. The study focused on dimensions of personal income tax, company income tax and petroleum profit tax, however further studies could focus on relationship between indirect

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taxes and economic development using other moderating variables such as financial development, government policy, tax rate. Similarly while this current study focused on real gross domestic product and infrastructural development as dimensions of economic development. Thus, further research can focus on human development index (HDI), GDP growth rate as well.

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