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Impact of Tax Reforms on Economic Growth of Nigeria (2000-2021)

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Abstract

Purpose: The objective of this study was to investigate the impact of tax reforms on economic growth of Nigeria.

Methodology: This study adopted time series strategy basically concerned with how to perform impact analysis on already existing data. Secondary data were used in this study. However, relevant data for the study were obtained from Central Bank of Nigeria (CBN) Statistical Bulletins, Federal Inland Revenue Services Bulletins, and the World Bank, using judgmental sampling technique, a sample of 21 years' period from 2000 to 2021. Regression analysis technique was used to measure the effects of the predictor variables on the criterion variables. This study used estimated technique of both descriptive statistics and Ordinary least square (OLS) regression analysis method with the help of Statistical Package for Social Sciences (SPSS 25). **Results:** The researcher revealed that there is a positive significant impact of VAT, CIT, & PPT on RGDP in Nigeria among other things. Therefore, the researcher established that there is a significant positive impact of tax reforms on Nigeria's economic growth.

Contribution: The study's researcher suggested that policymakers should focus on boosting the productive capacity of the economy by reforming the tax code to prioritize economic growth and opportunity, government should expand the tax yield through improved tax administration system. This is because of the danger of over-reliance on crude oil export receipts to drive the economy among other things.

Limitations: One of the limitations encountered in this study is that the chosen sample size was limited to one economy in Africa which is Nigeria.

Keywords: *Tax Reforms, Economic Growth, Value Added Tax, Real Gross Domestic Product*

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1. Introduction

It is over two years now since the novel global pandemic ravaged the World; people have been eager to not only return to normalcy but also to thrive. For Nigerian families and businesses, the desire, along with significant changes in living and working arrangements, new technologies, and new policies, brings both exciting prospects and significant obstacles. We foresee an economy that emerges from the pandemic thriving with innovations, dynamism, more employment opportunities, economic and social mobility, all of which will promote more monetary security for Nigerian families. Policymakers must adapt as the Nigerian people move into a new economic environment or they run the risk of impeding the opportunities and prosperity that come with a changing economy.

The main goal of any economic system, whether it is market-based or centrally planned, is to raise per capita output, which can be done through raising productivity levels. Growth in per capita output is a factor in economic welfare (Bachama et al, 2021). Experience has shown that, in addition to labor and physical capital, human capital is the most significant and promising source of increase in productivity and economic growth. Technology and equipment are creations of human minds, and only people can make them useful. Any productive program's success depends on the originality and ingenuity of people.

The government must raise money to pay for the necessities of daily life, and in order to do this, it must levy taxes on its people. When citizens in Nigeria invest time, effort, and other resources into paying taxes but do not receive or perceive the benefits of doing so, it can be difficult for them to do so. The 2019 Finance Bill, which regulates businesses, lessens the burden of compliance on small and medium-sized businesses, ensures that Nigeria's tax system is transparent, encourages shareholder engagement, and fosters an environment that is conducive to business, was approved by the Senate on March 10, 2020. (Gbeke & Nkak, 2021). They believe that the economy of the nation is severely hampered by the government's hasty search for alternative tax revenue sources and the diversification of the country's revenue generation base throughout the years. Nigeria has a too-heavy reliance on income from crude oil.

Tax reform is a strategy for changing how the government collects and administers taxes. It is an effort to address flaws in the current tax system and could result in the adoption of a new tax rate, criminal provision, or assessment tool to enhance its effectiveness. Measures are taken to strengthen modern taxes and greatly minimize the complexity and lack of accountability of the system through tax reform (Emeneka, 2021). He further opined that tax reforms help to lessen the burden of taxes on all citizens, make the tax system more inventive and less regressive, and make it simpler by making it more accountable and comprehensible. As a result, tax reform is a crucial tool for fiscal policy that aims to improve revenue collection. Tax reform is a two-pronged strategy that calls for altering how taxes are collected and administered by the government in order to increase GDP and national profits while also benefiting the populace financially and socially (Okeke, et al 2018).

Countries, both developed and developing, rely heavily on taxes as a source of income. Public utilities, social commitments, and lubricating the government's administrative machinery are all paid for through tax revenue (Emeneka, 2021). Taxation is a mandatory charge that a government must impose on its citizens in order to raise money for administrative duties (Okeke, et al 2018). According to Bird (2015), taxation is the method or tool that allows communities of people to be forced to contribute in a predetermined amount and manner for the administration and advancement of society. Reforms are necessary to bring about the necessary changes in the entire national economy since taxes are dynamic. Tax reform, according to Herbert et al. (2017), is a continuous process that policymakers and tax officials always carry out in the tax structures to reflect shifting economic, social, and political conditions.

Tax reform is typically implemented to increase the effectiveness of tax collection and to promote the social and financial advantages that the tax system can provide. A tax is described as "a financial charge levied on such taxpayer by a state, or the functional equivalent of a state, on a taxpayer (an individual or legal entity)". Taxes can take the form of direct taxes on wealth and income (such as property taxes, and corporate and personal income taxes), as well as indirect taxes on consumption (such as the Value Added Tax (VAT) and excise levies). Tax reform can lower revenue avoidance and evasion while enabling more effective and fair tax collection that can fund public services and goods. It could increase the sustainability of revenue levels and encourage future independence from foreign aid and natural resource earning. Inequality issues can be addressed through income redistribution and behavior change as well as through enhancing economic growth (see Economic growth) (Bachama et al, 2021).

Tax reform in developing nations entails both general questions of economic policy and specific challenges with the design and administration of the tax system (Desislava, 2017). First, there are the fundamental issues surrounding the need for money and how to integrate the earnings structure into development strategy. Alternative taxes' effects on investing and saving, as well as their ramifications for the macroeconomic balance of the economy (both domestically and internationally), are all areas of concern. Securing a just allocation of the tax burden is a crucial objective two. The design of the tax structure's main components as well as its composition must be considered among the more specialized tax issues. The challenge lies not just in deciding what would be appropriate, but also in figuring out what is administratively feasible and within the realm of political viability. The fact that Nigeria's tax structures are complex, inelastic, inefficient (raise little money but cause serious misallocation of resources), unfair and inequitable is one of their common functions (Eze, 2020).

Due to the country's tax system's flaws, such as excess tax on dividends, multiple taxation by different revenue agencies, and the failure to remit tax refunds, only 10 million Nigerians out of the country's 77 million labor force paid their taxes in 2015 (Gbeke & Nkak, 2021). You might find it interesting to know that the government of President Muhammadu Buhari implemented a few tax reforms to diversify Nigeria's income and enhance tax administration through the use of organizations like the Ministry of Finance and Federal Inland Revenue Service (FIRS), as well as the introduction of the Voluntary Assets and Income Declaration Scheme (VAIDS). In order to raise at least $1 billion from unreported liabilities and increase the percentage of non-oil tax collection from six percent to fifteen percent by 2020, VAIDs was designed to ensure that both individuals and corporations willingly disclose previously undisclosed assets (Gbeke & Nkak, 2021).

Additionally, the country is in a pitiful condition as a result of the sharp decline in the price of oil in recent years, since the amount of money available for distribution to the various levels of government is decreasing. This was recently demonstrated when the COVID-19 pandemic caused the price of crude oil (WTI) futures to crash to an all-time record low of -$38 per barrel on April 20, 2020. As a result of this downturn, the government was forced to look at alternative sources of domestic revenue, and taxation is the first thing that comes to mind. In the past, the Nigerian government implemented a number of tax changes with the intention of overhauling the tax system (Gbeke & Nkak, 2021). Due to their concentration on the country's tax system rather than on enhancing tax administration, these reforms, however, did not succeed in achieving the expected results. In light of this, we have chosen to investigate the impact of tax reforms on Nigerian economic growth.

Conceptual Framework

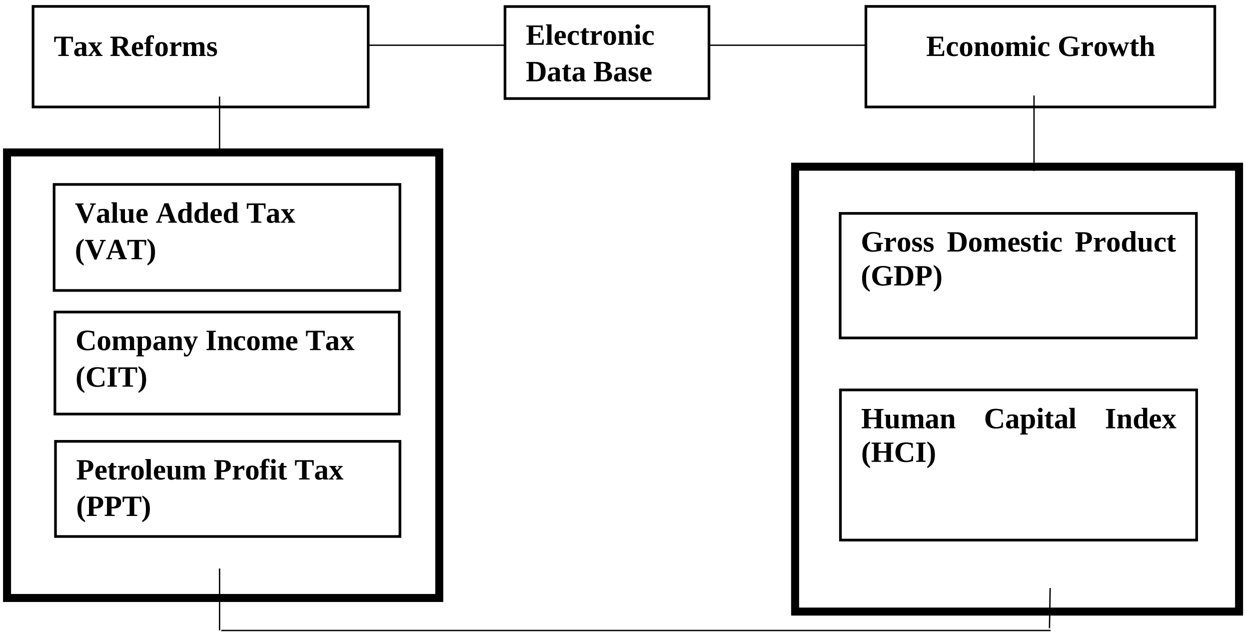

Figure 1. Conceptual framework of the effect of tax reforms on economic growth of Nigeria (2000-2021).

Source: Gbeke and Nkak (2021), and Emeneka (2021).

Aim/Objectives of the Study

The aim of this study was to investigate the effect of tax reforms on economic growth of Nigeria (2000-2021)**.** The study specifically sought to;

1. Determine the impact of value added tax on gross domestic product of Nigeria.
2. Investigate the impact of value added tax on human capital index in Nigeria
3. Ascertain the impact of company income tax on gross domestic product of Nigeria
4. Investigate the impact company income tax on human capital index of Nigeria
5. Determine the impact of petroleum profit tax on gross domestic product of Nigeria
6. Evaluate the impact of petroleum profit tax on human capital index of Nigeria
7. Ascertain the moderating effect of electronic data base on tax reforms and economic growth of Nigeria

2. Literature Review

2. 1 Tax reforms (predictor)

According to the Institute of Development Studies, tax reform is the process of changing how the government collects and administers taxes with the intention of enhancing tax administration or bringing about economic or social benefits (2020). Tax reform is frequently implemented to enhance the effectiveness of tax collection and to maximize the economic and social benefits that the tax system may provide. An economic charge or other levy imposed by a state, or the functional equivalent of a country, on a taxpayer (a person or legal entity), is known as a tax (Emeneka, 2021). Taxes can take the form of direct taxes on wealth and profits (such as property taxes and personal and corporate income taxes) as well as indirect taxes on consumption (such as Value Added Taxes (VAT) and excise levies). Tax reform can reduce tax avoidance and evasion while enabling more accurate and ethical tax collection that can fund public goods and services. It can increase the sustainability of income levels and encourage future independence from foreign resource and herbal aid revenues (Fjeldstad, 2014). It can facilitate economic growth and address inequality issues through redistribution and a change in behavior (Akitoby, 2018).

Emeneka (2021), claims that many low-income countries have a conundrum when it comes to taxation: (1) There is an immediate and clear need for greater revenues to enable resource-growing nations to provide and maintain even the most basic public services. (2) Those with financial and political power are few, though, and they no longer support paying taxes. (3) In addition, these other than political energy are numerous, nearly nothing may be taxed, and they must also face paying taxes. Therefore, the goal of taxation in poor and increasingly more open economies is to increase domestic income from willing citizens. As a result, elected governments in developing nations must make difficult decisions about taxation. Most likely, these choices will have a significant impact on both the future of democratization and the delivery of public services. They will also have a significant impact on politics and resource sustainability (Gaspar & Abebe, 2017).

2. 2 Dimensions of the predictor variable

2.2.1 Value Added Tax (VAT)

Value Added Tax (VAT) is really an indirect tax that is applied to all goods and services produced or provided in a nation, with the exception of supply and facilities that are exempt from VAT (Ordu & Omesi, 2022). Each stage of the manufacturing and distribution process is structured to enable the collection of VAT, which is a tax on the amount of goods and services that the end customer finally consumes. It means that VAT is a consumption tax that is collected from people who only experience minor taxation and that enables those who pay VAT to avoid bearing the full burden of the charge (Omodero, 2020). Thus, this taxation turns into a practical method of raising government money that can be distributed across Nigeria's three levels of government. According to Abomaye et al. (2018), the seller should be in charge of collecting value added tax when chargeable items are sold. After subtracting the VAT, the vendor nets the total and reports it to FIRS via a designated bank.

2.2.2 Company income tax (CIT)

In Nigeria, businesses are required by law to pay company income tax based on their profits. The fee is 30% of the profit made in the year prior to the assessment (Ordu & Omesi, 2022). Corporations based in Nigeria are subject to CIT on all of their worldwide income, while non-resident companies are only subject to CIT on their income with a Nigerian source (Olaoye & Atilola, 2018). The Companies Income Tax Act of 1990, which excludes companies involved in petroleum exploration, is the current enabling law that controls the revenue collection on income earned by businesses operating in Nigeria.

2.2.3 Petroleum Profit Tax (PPT)

Nigerian Petroleum Profit Tax The preferred method of wealth distribution between host governments and foreign oil companies is petroleum taxation. It is a direct tax that is imposed yearly on a petroleum tax payer's net earnings when they are engaged in the business of petroleum production and exploration (Khadijat & Taophic, 2018). Due to the unique characteristics of the oil industry, petroleum taxation has some unique features, including the significant central ability to contribute of revenue to the economy, the volatility of oil prices, the high operating and development costs, the high level of uncertainty associated with petroleum geology, the unique characteristics of individual oilfields, and the potential for reinvestment.

The expense of petroleum projects is typically incurred up front, and it may take a while until the first oil or gas is produced after reserves have been discovered. This increases the difficulty of creating and executing a suitable petroleum tax system intended to strike a balance between the interests of both the government and the industry (Khadijat & Taophic, 2018). Over the years, a number of tax tools, including income tax, resource rent tax (RRT), brown tax, and gross royalty have been employed to collect the economic rent from oil operations. The other three products are profit-based or cash flow taxes because they are levied on net profit or operating profit after capital investment, whereas royalty is an output-based tax because it is assessed on the unit or value of production (Saheed et al. 2014, (Khadijat & Taophic, 2018).

2. 3 Economic growth (Criterion)

Economic growth is a rise in the production of goods and services on a comparative basis between two periods of time. It can be calculated in nominal or real (inflation-adjusted) terms. Although other metrics are also employed, gross national product (GNP) or gross domestic product (GDP) are the most common ways to quantify overall economic growth. Numerous connections between economic growth and other economic variables have been identified in the economics literature now in print. Economic growth itself is a powerful economic indicator that clearly shows how healthy a specific economy is, or is not, by examining the long-term "trend rate of growth." Numerous empirical research examined the analysis of these key economic and non-economic factors in connection to economic growth. In 2015, Tartiyus et al investigated how Nigeria's population growth affected economic expansion. The analysis that covered the years 1980 to 2010 employed both descriptive statistics and regression analysis. They found that economic growth and population growth, fertility, and export growth are all positively correlated. While there is a conflict between economic growth, life expectancy, and the overall death rate. Agbo and colleagues used the multiple regression analysis technique to examine the effect of global trade on Nigeria's economic growth over the period 1980–2012. (Agbo, et al 2020). The outcome showed that export commerce had a substantial impact on the expansion of the Nigerian economy.

2. 4 Dimensions of the criterion variable

2.4.1 Gross Domestic Product (GDP)

Growth was defined by Khadijat and Taophic (2018) as a rise in the economy's activity. They define economic growth as the process by which a nation's actual per capita income rises steadily over time. It can also be viewed more simply as the expansion over time of an economy's capacity to generate the commodities and services required to raise the standard of living of its citizens, both in terms of quantity and variety. It is the gradual process by which the economy's productive capacity is developed through time to result in an increase in the level of national income (Khadijat & Taophic, 2018). Increased productivity, which entails creating more goods and services with the same input of labor, capital, energy, and materials, is the main driver of economic growth. Economists make a contrast between long-term economic growth and short-term economic stabilization, though. The long term is what economic growth is most concerned with. The business cycle refers to the change in economic growth over the short period. Economic growth is the long-term increase in capital necessary to meet the population's demand for increasingly diverse economic commodities (Khadijat & Taophic, 2018).

2.4.2 Human capital index (HCI)

Human capital, according to Matousek and Tzeremes (2019), is a source of economic efficiency. Human capital could be interpreted to indicate all kinds of information, skills, and experiences that increase production capacity, which in turn leads to significant economic growth and development, given that human capital is commonly recognized to be a measure of productivity. Human capital, as described by Parika and Singh (2020), is the improvement in social and economic development made by a person. It is the knowledge and skills that an individual brings to a nation's economy. In conclusion, human capital can be summed up as any contributions made by people through their knowledge, skills, and experience that would result in a country's economy performing well. Human capital, in addition to labor and assets, plays a vital role in model of endogenous growth.

2. 5 Moderating effect of electronic data base on tax reforms and economic growth of Nigeria

One of the major reforms made by the Nigerian government in the past decades was the launching of electronic data base to administer the tax system (filling of tax returns, registering of tax payers, tax collection etc) in order to generate enough revenue. Electronic data base was adopted to integrate tax payers into the data base to close the loop holes and other irregularities in the tax system and by extension drive a fast, efficient, effective, reliable, and transparent tax system capable of raising enough revenue that would help to cushion the effect poverty and unemployment in the country. Since everything in the world is getting more automated, tax administration needs to be improved. An audit trail of the effectiveness of revenue collection obtained by the Tax Authorities (Federal Inland Revenue Service (FIRS) and State Internal Revenue Services) has been criticized as being delayed and ineffective due to the manual system of revenue collection (SIRS). A number of professions that were formerly filled by people have been replaced by computers as a result of the tremendous improvement in computer technology over the past 30 years. In order to stay competitive and lessen the daily grind experienced by most people, corporations, government parastatals, and government agencies have incorporated the use of computers and the internet in their daily operations.

In Nigeria, tax system is faced with intricate, multifaceted issues. According to Ayodeji (2014), the amount of income tax revenue that is collected from individuals and entities tends to be too low because of low tax literacy, a lack of good communication between tax authorities and taxpayers, and a lack of qualified and competent accountants working for the tax authorities. The use of inexperienced and unqualified tax workers who lack the necessary abilities to use resources displayed for the appraisal and computing tax in the most appropriate way (Ayodeji, 2014). Undoubtedly, the adoption of electronic data base has aided most economies in the effective and efficient filing of tax returns, the incorporation of taxpayers into the database, and collection of taxes in Nigeria.

2. 6 Theoretical Review

Economics has many growth theories that attempt to explain economic growth. These include the classical, neo-classical, and endogenous growth theories, among others. It was noted that Smith and Ricardo were the forerunners of classical growth theories while looking at the foundations of economic development models. They looked into how nations grow and made important contributions to the literature on the subject. In accordance with the traditional theory of economic growth, labor productivity is viewed as an exogenous variable that largely depends on the workforce to physical capital ratio as well as other variables (technological progress), but the significant impact of human capital on potential productivity growth has not been recognized. Because of this, a new theory of economic growth was created in the early 1980s to address the shortcomings of the traditional theory by highlighting the significance of education and innovation (certain components of human capital) in long-term economic expansion processes (Jibir & Abdu, 2016).

Information and intellectual resource were recognized by neo-classical thinkers as external variables that affect long-term wealth creation (Jibir et al, 2018). Human capital is emphasized by endogenous growth models as a key factor in long-term economic growth. Human capital was initially incorporated into economic growth models by Romer (1990). In addition, he incorporated human capital and indigenous technology, which runs counter to the Neo-classical growth paradigm. Therefore, endogenous growth models place more emphasis on population quality and acknowledge that either an increase in human capital or human capital's indirect activities, such as R&D activities, are the main drivers of economic growth. Human capital is highlighted by endogenous growth models as a key factor in long-term industrial prosperity.

Numerous academics have conducted empirical studies to look at the relationship between population growth and economic growth in the financial theory. For instance, Siddiqui and Rehman (2017), carried out a study to examine the relationship between economic expansion and human capital in nine Asian nations of their choice. According to their research, tertiary and vocational education had a favorable impact on economic growth in South Asia while elementary and secondary schooling played a larger role in explaining the variations in economic growth in East Asia. According to the report, government spending on education has a positive effect on the economy in both regions. A study on the effect of human capital on economic expansion in Sub-Saharan Africa from 1980 to 2008 was conducted by Ogundari and Awokuse (2018), and included 35 nations. According to the report, spending on both health care and education has a beneficial impact on economic expansion. Compared to the impact of entrepreneurship education on entrepreneurial intention, the impact of health is substantially greater. According to Afridi (2016)'s research in Pakistan, intellectual capital is the primary force behind economic expansion.

2. 7 Empirical Review

Gbeke and Nkak (2021), used data covering from 1995 to 2019 to study Nigeria's tax revisions and economic growth. The study comes to the further conclusion that while value added tax (VAT) and petroleum profit tax (PPT) have a negative influence on economic growth, corporation income tax and customs & excise taxes (CED) have a beneficial impact on economic growth. Also, Emeneka (2021), evaluated the impact of tax reforms on Nigeria's economic expansion. The ex-post research design was used. At the 5% level of significance, inferential statistics were used in the study, including Pearson correlation and the Ordinary Least Square (OLS) method. It was discovered that Personal Income Tax significantly decreased Nigeria's GDP per capita. Following that, it was suggested that the government diversify the economy for greater development in order to broaden the basis of tax collection.

According to Omondi (2019), who examined the impact of customs and excise duties on Kenya's economic growth from 1973 to 2010. Their empirical findings showed a favorable correlation between Kenya's monetary boom and customs and excise obligations. In their 2019 study, Ironkwe and Agu examined the link between Nigeria's total tax revenue and economic development. The Federal Inland Income Service, the National Bureau of Statistics, and the Central Bank of Nigeria statistical bulletin were used to compile historical data on specific types of total tax revenue and economic growth between 1986 and 2016. In the past, STATA version 13 was used to analyze the data using multiple regression analysis.

Based on per capita income, Ezejiofor et al. (2021), determined the impact of Nigerian tax collection. An ex-post facto research approach was employed in the study. Correlation and Ordinary Least

Square (OLS) regressions were used to evaluate the hypothesis. According to statistical analysis, customs and excise duties have a minimally positive impact on per capita income. The study found a positive correlation between total tax revenue and unemployment and advised the government to allocate its social welfare programs so that tax payers directly benefit from them. The association between tax revenue and economic growth in Nigeria was studied by Asaolu et al. in 2018. The study used a descriptive and historical lookup methodology, and secondary data over a period of 22 years (1994–2015) was gathered from a number of issues of the Central Bank of Nigeria (CBN) statistical bulletin and annual reports. The findings of the study demonstrated that CED and VAT had a significant association with financial growth.

Neway et al. (2018), used secondary data and a few variable regression models with the OLS method to identify the factors that affect tax income in Ethiopia. The results showed that, as measured by the share of export and import to GDP, per capita income and exchange openness have good-sized, wonderful effects on tax revenue, while the share of the agriculture sector to GDP and the annual rate of inflation have significant, negative effects on tax revenue. The association between tax income and socioeconomic advancement in Nigeria from 1994 to 2016 was determined by Okeke et al. (2018). Data were gathered from the National Bureau of Statistics' Yearly Collection of Information, the Federal Inland Revenue Service, and the Nigerian Central Bank. The results of this study indicated that, at the 5% level of significance, tax revenue in Nigeria had a statistically significant link with both labor pressure and gross fixed capital formation.

Matousek and Tzeremes (2019), used a sample of 100 nations from the 1970s to 2014 to reexamine the impact of human capital on national economic growth. The empirical results imply that human capital has positive and significant effects on countries' rates of economic growth. A study by Parika and Singh (2020). explores the connection between India's economic development and its human capital. The study makes use of annual time series data from 1980 to 2017. The study's key conclusions point to human and physical capital as the primary drivers of economic growth. Bachama et al. (2021), used time series data spanning the years 1970–2019 to analyze the impact of economic development on human capital in Nigeria. The Central Bank of Nigeria's (CBN) statistical bulletin and the World Bank's World Development Indicators are the sources of the data. According to the study, both short- and long-term economic growth are found to be favorably and significantly associated to spending on health and education.

When compared to the outcomes of the manual system, Abuh and Jeremiah (2022), evaluate whether the installation of an electronic tax system in Nigeria will result in high tax collection. Since it involved comparing pre- and post-electronic tax collecting data to look for any significant differences, the paired t-test data analysis technique was used. Revenues from taxes other than oil show a considerable difference between before and after the e-tax. The by Adegbie in 2022. Total enumeration sample was used in the study, and the survey research methodology was chosen. The results showed that the ease with which tax payers could file their returns depended significantly on the electronic tax administration system as judged by perceived ease of use, online payment system, mobile payment system, and electronic billing machine. The study found that the effectiveness of tax revenue collection was modified by computerized tax management systems impact of an electronic tax administration system on the effectiveness of tax revenue collection was examined.

Bassey and Amobi (2022), investigated the effect of the tax burden on the inflow of FDI into the continent, using square data set of 48 SSA countries covering a period of 2009 to 2018, foud that tax burden is a negative determinant of the inflow of FDI. They suggested a sustainable tax policy that will lessen the tax burden on foreign investors should be formulated to enhance the inflow of FDI into the continent. Hartanto, S. (2020), explored e-commerce taxation in Indonesia including some factors that were supporting and also challenging the implementation of e-commerce taxation. He adopted interviews method conducted taxpayers in e-commerce industry, proved that taxation in e-commerce industry has not been implemented in a good manner. According to him socialization to e-commerce taxpayers should be conducted in more structured and comprehensive ways. Socialization to e-commerce taxpayers should be conducted in more structured and comprehensive ways to collect taxation from e-commerce transactions.

Yeboah (2020), assessed interest rates-inflation association in the case of Ghana between 2007 and 2013, using monthly and quarterly data, confirmed both long-run and a short-run association in the model and as well as neutral granger predictive causality. The paper contributes to knowledge in the field of inflation and Interest rates association, in relation to the financial markets.

3. Research Methodology

This study adopted time series strategy basically concerned with how to perform impact analysis on already existing data (Ordu & Omesi, 2022). Secondary data were used in this study. However, relevant data for the study were obtained from Central Bank of Nigeria (CBN) Statistical Bulletins, Federal Inland Revenue Services Bulletins, and the World Bank, using judgmental sampling technique, a sample of 21 years' period from 2000 to 2021. Regression analysis technique was used to measure the effects of the predictor variables on the criterion variables. This study used estimated technique of both descriptive statistics and Ordinary least square (OLS) regression analysis method with the help of Statistical Package for Social Sciences (SPSS 25). The statistical test for the measurement of the parameter estimate includes the co-efficient of determination R^2, Durbin-Watson (DW), F-ratio and the t-test. The significance level at which the hypothesis is accepted is 5% (0.05).

Model Specification

In order to investigate the effect tax reforms on economic growth in Nigeria, thus, drawing from the Neo-classical syntheses of Sala-i- Martin (2002), the research analysis was guided in a functional effect established for the variables: the independent variable metrics (VAT, CIT & PPT). These independent variable metrics are used linearly in measuring the Real Gross Domestic Product (RGDP) and human capital index (HCI). The model specification is as stated below;

RGDP = f (VAT, CIT, PPT) …...……………..1

HCI = f (VAT, CIT, PPT) …...……………..….2

EDB = f (TR, EG) …...……………..………...3

$a_1 > 0$;

4. Data Analysis and Discussion

The study used value added tax (VAT), company income tax (CIT) and petroleum profit tax (PPT) to indicate tax reforms (TR) while real gross domestic product (RGDP) and human capital index (HCI) as measures of economic growth (EG). The data extracted from the tax Statistics/Report-Federal Inland Revenue service (FIRS) and World Bank from 2000 to 2021 for the purpose of this study is presented in table 1:

Table 1. Tax Statistics / Report of Tax Collected from 2000 to 2021 in Billion Naira

YEARS	VAT (N'B)	CIT (N'B)	PPT (N'B)	RGDP (N'B)	HCI	TR (N'B)	EG (N'B)	EDB
2000	58.5	51.500	525.0729	6713.575	0.42	10.02614	0.461	0.001
2001	91.8	68.700	639.234	6895.198	0.46	10.44401	0.401	0.001
2002	108.6	89.100	392.207	7795.758	0.4	10.47108	0.401	0.001
2003	136.4	114.800	432.604	6912381.25	0.4	13.67047	0.431	0.001
2004	159.5	113.000	878.626	8487031.57	0.43	14.1284	0.482	0.001
2005	178.1	140.300	1,352.240	1147106.91	0.48	13.58838	0.442	0.002
2006	221.6	244.900	1,349.522	1457106.15	0.44	14.02823	0.442	0.002
2007	289.6	275.300	1,132.039	18564804.56	0.44	15.22416	0.442	0.002
2008	401.7	420.583	2,060.884.	20657317.67	0.44	15.85688	0.492	0.002
2009	481.4	600.590	939.412	24296329.29	0.49	15.81948	0.483	0.002
2010	564.89	666.132	1,480.364	33984754.13	0.48	16.27718	0.493	0.003
2011	659.15	684.746	3070.5913	37409860.61	0.49	16.71472	0.503	0.003
2012	710.56	807.5418	3201.3195	40544099.94	0.50	16.87202	0.523	0.003
2013	802.68	967.3170	2,666.3669	81009964.64	0.52	17.22457	0.523	0.003
2014	802.96	967.5800	2,453.947	90136984.66	0.52	17.23515	0.524	0.003
2015	635.35	1404.3770	1,289.9607	95177735.68	0.52	17.03961	0.524	0.004
2016	828.2	1791.4087	1,157.8081	102575418.03	0.52	17.24601	0.534	0.004
2017	972.35	1704.3371	1,520.4817	1149066663.52	0.53	18.4617	0.534	0.004
2018	1108.04	1,669.3235	2467.5807	143501.73	0.53	14.81622	0.544	0.004
2019	1188.58	1,708.5085	2114.2684	161349.81	0.54	14.84057	0.545	0.004
2020	1,628.35	1,767.8865	1516.9934	163239.93	0.54	14.85301	0.54	0.005
2021	459.59	1476.87	2008.45	177890.35	0.535	14.38473	0	0.005

Source: CBN Bulletin, FIRS tax statistics, & World Bank, 2022

Table 2. Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
VAT	21	1.77	3.21	2.6083	.40340
CIT	21	1.71	3.25	2.6833	.52069
PPT	21	2.59	3.51	3.1290	.26511
RGDP	21	3.83	9.06	6.5442	1.52588
HCD	21	.40	.54	.4830	.04687
EDB	21	.00	.01	.0027	.00132
Valid N (listwise)	21				

Source: SPSS version 25

The outcome of the descriptive analysis of the data used in this study was shown in table 1 above. It demonstrated that value added tax (VAT) had a mean of N2.6083 billion and a standard deviation of N0.4340 billion, with values ranging from N1.77 billion at the lowest to N3.21 billion at the highest. The study revealed that company income tax (CIT) had a mean of N2.60833 billion and a standard deviation of N0.52069 billion, with values ranging from N1.71 billion at the lowest to N3.2 billion at the highest. The study also revealed that petroleum profit tax (PPT) had a mean of N3. 1290 billion and a standard deviation of N0.26511 billion, with values ranging from N2.59 billion at the lowest to N3.51 billion at the highest. Additionally, it demonstrated that the real gross domestic product (RGDP) had a mean of N6.5442 billion and a standard deviation of N1.52588 billion, with values ranging from N3.38 billion at the lowest to N9.06 billion at the highest. Also it revealed that human capital index (HCI) had a mean of N.4830 billion and a standard deviation of N0.04687 billion, with values ranging from N0.40 billion at the lowest to N0.54 billion at the highest. Finally, the table demonstrated that the electronic data base (EDB) had a mean value of N0.0027 and a standard deviation of N0.00132, with values ranging from N0.00 as the minimum to N0.01 as the maximum.

4.1 Estimation of model 1 on the impact of VAT, CIT, PPT on RGDP

RGDP = f (VAT, CIT, PPT) …..……………..…1

Table 3. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.712[a]	.622	.139	1.41602

a. Predictors: (Constant), PPT, CIT, VAT

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	12.612	3	4.204	2.004	.002[b]
	Residual	35.660	17	2.098		
	Total	48.272	20			

a. Dependent Variable: RGDP

b. Predictors: (Constant), PPT, CIT, VAT

Source: SPSS version 25

Based on the data in table 2 above, it can be seen that there is a significant and positive correlation between VAT, CIT, & PPT on Nigeria's human capital index (HCI) (R-value = 0.712 and p-value = 0.002 > 0.05 level of significance). The coefficient of determination (R2) = 0.622 indicates that the changes in the predictor variables (PPT, CIT, & VAT) account for 62.2% of the variation in criterion variable (RGD), leaving other variables not included in the model to account for the remaining 37.8%.

Decision Rule: Accept Ho if P > 0.05. Otherwise reject

Decision: The researcher concluded that there is a positive significant impact of tax reforms (VAT, CIT, & PPT) on economic growth (RGDP) of Nigeria.

4.2 Estimation of model 2 on the impact of VAT, CIT, PPT on HCI

HCI = f (VAT, CIT, PPT) …...…………….……….2

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.901[a]	.812	.781	.02193

a. Predictors: (Constant), PPT, CIT, VAT

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.037	3	.012	25.985	.000[b]
	Residual	.009	18	.000		
	Total	.046	21			

a. Dependent Variable: HCD
b. Predictors: (Constant), PPT, CIT, VAT
Source: SPSS version 25

Based on the data in table 3 above, it can be seen that there is a significant and positive correlation between VAT, CIT, & PPT on Nigeria's human capital index (HCI) (R-value = 0.901 and p-value = 0.000 > 0.05 level of significance). The coefficient of determination (R2) = 0.812 indicates that the changes in the predictor variables (PPT, CIT, & VAT) account for 81.2% of the variation in criterion variable (HCI), leaving other variables not included in the model to account for the remaining 18.8%.
Decision Rule: Accept Ho if P > 0.05. Otherwise reject
Decision: The researcher concluded that there is a positive significant impact of tax reforms (VAT, CIT, & PPT) on economic growth (HCI) of Nigeria.

4.3 Estimation of Model 3 on The Moderating Effect of Electronic Data Base on Tax Reforms (TR) and Economic Growth (EG)

EDB= f (TR, EG) …..……………..….3

Table 5. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.658[a]	.433	.373	.00104

a. Predictors: (Constant), EG, TR

ANOVA[a]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.000	2	.000	7.243	.005[b]
	Residual	.000	19	.000		
	Total	.000	21			

a. Dependent Variable: EDB
b. Predictors: (Constant), EG, TR
Source: SPSS version 25

Based on the data in table 4 above, it can be seen that there is a significant and positive moderating impact of technology on tax reforms and Nigeria's economic growth (R-value = 0.658 and p-value = 0.005 = 0.05 level of significance). The coefficient of determination (R2) = 0.433 indicates that the changes in the predictor and criterion variables (TR & EG) account for 43.3% of the variation in the moderating effect of EDB, leaving other variables not included in the model to account for the remaining 56.7%.
Decision Rule: Accept Ho if P > 0.05. Otherwise reject
Decision: The researcher concluded that there is a positive significant moderating impact of electronic data base on tax reforms and Nigeria's economic growth.

4.4 Discussion of findings

Based on the data in table 2 above, it can be seen that there is a significant and positive correlation between VAT, CIT, & PPT on Nigeria's human capital index (HCI) (R-value = 0.712 and p-value = 0.002 > 0.05 level of significance). The coefficient of determination (R2) = 0.622 indicates that the changes in the predictor variables (PPT, CIT, & VAT) account for 62.2% of the variation in criterion variable (RGD), leaving other variables not included in the model to account for the remaining 37.8%. Therefore, the researcher concluded that there is a positive significant impact of VAT, CIT, & PPT on RGDP in Nigeria. This result upheld the findings of Omondi (2019), Emeneka (2021), and Gbeke and Nkak (2021), who investigated tax reforms and economic growth of Nigeria, using time series data from 1995-2019, concluded that company's income tax and customs & excise duties (CED) have a positive impact on economic growth, while value added tax (VAT) and petroleum profit tax (PPT) have a negative effect on economic growth.

Based on the data in table 3 above, it can be seen that there is a significant and positive correlation between VAT, CIT, & PPT on Nigeria's human capital index (HCI) (R-value = 0.901 and p-value = 0.000 > 0.05 level of significance). The coefficient of determination (R2) = 0.812 indicates that the changes in the predictor variables (HCI) account for 81.2% of the variance in (HCI), leaving other variables not included in the model to account for the remaining 18.8%. Therefore, the researcher concluded that there is a positive significant impact of VAT, CIT, & PPT on HCI in Nigeria. This result is in tandem with Parika and Singh (2020), Matousek and Tzeremes (2019), and Bachama et al (2021), who examined the role of human capital on economic growth in Nigeria using time series data covering the period from, revealed that expenditure on health and education are found to be positively and significantly related with economic growth both in the short-run and long-run.

Based on the data in table 4 above, it can be seen that there is a significant and positive moderating impact of electronic data base on tax reforms and Nigeria's economic growth (R-value = 0.658 and p-value = 0.005 = 0.05 level of significance). The coefficient of determination (R2) = 0.433 indicates that the changes in the predictor variables (TR & EG) account for 43.3% of the variance in (EDB), leaving other variables not included in the model to account for the remaining 56.7%. Therefore, the researcher concluded that there is a positive significant moderating impact of technology on tax reforms and Nigeria's economic growth. This result agreed with Abuh and Jeremiah (2022), and Adegbie, (2022), who investigated the effect of electronic tax management system on tax revenue collection efficiency, concluded that electronic tax management system impacted tax revenue collection efficiency.

5. Conclusions and Recommendations

The objective of this study was to investigate the impact of tax reforms on economic growth of Nigeria (2000-2021)**.** The results revealed that tax reforms in Nigeria moderated with electronic data base had significantly impacted positively on economic growth. Therefore, the researcher established that there is a significant positive impact of tax reforms on Nigeria's economic growth. The study also affirmed that the Nigerian tax system had undergone series of reforms in the past few decades, and that the emergence of electronic data base had transformed the Nigerian tax system by easing the tax collection process via its effective and efficient annual tax filling, integration of payers into the data base, and revenue collection in Nigeria. In the light of the above, the researcher made the following suggestions;

1 Rather than raising interest rates, policymakers should focus on boosting the productive capacity of the economy by reforming the tax code to prioritize economic growth and opportunity.
2 Government should expand the tax yield through improved tax administration system. This is because of the danger of over-reliance on crude oil export receipts to drive the economy.
3 Government should transparently and judiciously account for the revenue it generates through petroleum profit tax and company income tax by investing in the provision of infrastructural facilities. It is expected that the more effectively and efficiently revenue is utilized by government to create employment opportunities, satisfy the basic needs of her population, and sustain her quest for the development.
4 Nigerian government should focus on improving the educational and health sector. Meaning that, huge amount of government budgetary allocation should be directed toward educational and health sectors to improve quality of life.
5 Government should create more jobs opportunities (through skills acquisitions/ vocational training) to minimize the unemployment rate in the country. This helps to increase per capita income and increase spending by the populace.
6 Finally, government should continue to strengthen the existing electronic data base to breach the lacunas in tax system to enhance the Nigerian tax revenue generation.

Limitations

One of the limitations encountered in this study is that the chosen sample size was limited to one economy in Africa which is Nigeria. The second constraint experienced by the researcher is not being able to use a much bigger sample size from the identified population because of the short duration within which the study was to be completed. The use of larger sample size in quantitative research enables the generalizability of the research findings to be more acceptable.

Conflict of Interest Statement

Authors declared that there is no competing interests.

Statement of Authorship

The authors have responsibility for conception and design of the study. The authors have approved the final article.

References

Abomaye, N., Williams, A. S., Michael, J. E. M., & Friday, H. C. (2018). An empirical analysis of tax revenue and economic growth in Nigeria from 1980 to 2015. Global Journal of Humanities, Social and Political Sciences, 18, 8–40.

Abuh, A. & Jeremiah, J. O. O. (2022). Reviewing tax collection in the electronic tax regime in Nigeria. *Journal of Contemporary Issues in Accounting (JOCIA), 3*(1), 217-230.

Adegbie, F. F., Enerson, J., & Olaoye, S, A. (2022). An empirical investigation into the relationship between electronic tax management system and tax revenue collection efficiency in selected states in south west, Nigeria. *International Journal of Accounting Research (IJAR), 7*(1), 43-53.

Afridi, A. H. (2016). Human capital and economic growth of Pakistan. *Business & Economic Review, 8*(1), 77-86.

Agbo, F. J., Olawumi, O., Oyelere, S. S., Kolog, E. A., Olaleye, S. A., Agjei, R. O., ... & Olawuni, A. (2020). Social media usage for computing education: The effect of tie strength and group communication on perceived learning outcome. *International Journal of Education and Development using Information and Communication Technology, 16*(1), 5-26.

Akitoby, B. (2018). Raising revenue. *Finance & Development, 55*(1), 169-177.

Asaolu, T. O., Olabisi, J., Akinbode, S. O., & Alebiosu, O. N. (2018). Tax revenue and economic growth in Nigeria. *Scholedge International Journal of Management & Development, 05*(07), 72-85.
Ayodeji, O. E. (2014). Impact of ICT on tax administration in Nigeria computer engineering and intelligent systems, 5(8), 26-29.
Bachama, Y. N., Hassan, A. A., & Ibrahim, B. (2021). The impact of human capital on Nigeria's economic growth. *European Scientific Journal ESJ*, *17*(15). doi.org/10.19044/esj.2021.v17n15p393.
Bassey, E., & Amobi, B, N. (2022). Choice of location for foreign direct investment by multinational corporations: Does tax burden matter?. *International Journal of Financial, Accounting, and Management*, *3*(4), 349-358.
Bird, R. M. (2015) Improving tax administration in developing countries. *Journal of Tax Administration*, *1*(1), 23-44.
Desislava, S. (2017). Tax structure and economic growth: Evidence from the European Union. *Contaduria Y Administracion*, *62*(3), 1041-1057.
Emeneka, O. L. (2021). Effect of tax reforms on economic growth of Nigeria. *International Journal of Advanced Academic Research*, *7*(9), 26-39.
Eze, S. O. (2020). Empirical evidence of a long-run relationship between agriculture and manufacturing industry output in Nigeria. https://journals.sagepub.com/doi/full/10.1177/2158244019899045. Retrieved 11/02/2020.
Ezejiofor, R. A., Oranefo, P. & Ndum, N. B. (2021). Tax revenue on per capita income: Evidence from Nigerian economy. *American Journal of Contemporary Management Research*, 11-16.
Fjeldstad, O.H. (2014). Tax and development: Donor support to strengthen tax systems in developing countries. *Public Administration and Development, 34*(3), 181-192.
Gaspar, V., & Abebe, A. S. (2017). *Taxes, debt and development: A one-percent rule to raise revenues in Africa.*" IMF blog. https://blogs.imf.org/2017/12/05/taxes-debt-anddevelopment-a-one-percent-rule-to-raise-revenues-in-africa.
Gbeke, K. K. & Nkak, P. E. (2021). Tax reforms and economic growth of Nigeria. *IOSR Journal of Business and Management (IOSR-JBM), 23*(06), 16-23.
Hartanto, S. (2020). Addressing the tax challenges of e-commerce transactions. *International Journal of Financial, Accounting, and Management*, *2*(1), 29-39.
Herbert, W. E., Nwaorgu, I. A. & Nwaiwu, J. (2017). The tenuous relationship between oil revenue and Nigeria's economic growth. *European Journal of Accounting Auditing and Finance Research*, *5*(6), 51-76.
Ironkwe, U. I., & Agu, E. O. (2019). Tax revenue and economic development in Nigeria. *International Journal of Advanced Academic Research, 5*(4), 1-15.
Jibir, A., & Musa, A. (2016). Causal links between foreign capital inflows and economic growth: Empirical evidence from Nigeria. *International Journal of Accounting & Business Finance, 2*(1), 45-56.
Jibir, A., Abdullahi, S., Abdu, M., Buba, A., & Ibrahim, B. (2018). External debt-growth nexus in Nigeria revisited. *Asian Economic and Financial Review, 8*(1), 117-130.
Khadijat, A. Y. & Taophic, O. B. (2018). Effect of petroleum profit tax and companies income tax on economic growth in Nigeria. *Journal of Public Administration, Finance and Law, 9,* 100-121.
Matousek, R., & Tzeremes, N. G. (2019). The asymmetric impact of human capital on economic growth. *Empirical Economics,* 1-26.
Neway, G., Kenenisa, L. D., & Woldemicael, S. (2018). Determinants of tax revenue in Ethiopia. *Economics, 6*(1), 58-64.
Ogundari, K., & Awokuse, T. (2018). Human capital contribution to economic growth in Sub-Saharan Africa: does health status matter more than education?. *Economic Analysis and Policy, 58,* 131-140.
Okeke, M. N., Mbonu, C. M., & Amahalu, N. N. (2018). Tax revenue and economic development in Nigeria: A disaggregated analysis. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 8*(2), 178- 199.

Olaoye, O. C., & Atilola, O. O. (2018). Effect of e-tax payment on revenue generation in Nigeria. *Journal of Accounting, Business and Finance Research, 4(*2), 56-65, DOI: 10.20448/2002.42.56.65.
Omodero, C. O. (2020). The consequences of indirect taxation on consumption in Nigeria. *Journal of Open Innovation Technology and Market and Complexity, 6*(105), 1-13.
Omondi, B. O. (2019). The effect of custom and excise duties on economic growth in Kenya. *International Journal of Scientific and Research Publications, 9*(1), 530-546.
Ordu, P. A. & Omesi, I. (2022). Value added tax (VAT) and revenue allocation in Nigeria. *Journal of Contemporary Issues in Accounting (JOCIA), 3*(1), 1-34. https://journals.unizik.edu.ng/jocia.
Parika, A., & Singh, B. P. (2020). *How does human capital affect economic growth in India? An empirical analysis.*
Romer, P, (1990). Human capital and growth: Theory and evidence. *Carnegie Rochester Conference Series on Public Policy 32*, 251-286.
Saheed, Z. S., Abarshi, J. A. & Ejide, I. S. (2014). Impact of petroleum tax on economic growth in Nigeria. *International Journal of Education and Research, 2*(11), 111-143.
Sala-i-Martin, X. (2002). The world distribution of income: Falling poverty and convergence, period. *The Quarterly Journal of Economics, 121*(2), 351-397.
Siddiqui, A., & Rehman, A. U. (2017). The human capital and economic growth nexus: in East and South Asia. *Applied Economics*, *49*(28), 2697-2710.
Yeboah, S. A. (2020). Modelling inflation-interest rate nexus for Ghana. *International Journal of Financial, Accounting, and Management*, *2*(3), 227 -241.