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Tax Revenue Generation and Economic Growth: A Pre and Post Treasury Single Account Implementation in Nigeria

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ABSTRACT: *This study examines the relationship between tax revenue generation and economic growth in Nigeria before and after the implementation of the Treasury Single Account (TSA). The TSA, introduced in 2012 and fully implemented in 2015, aimed to consolidate all government revenues into a single account at the Central Bank of Nigeria to enhance transparency, accountability, and financial management. The study focuses on key tax types—Value Added Tax (VAT) and Company Income Tax (CIT)—and their correlations with economic growth, measured by Gross Domestic Product (GDP) growth rates. Prior to the TSA implementation, weak correlations were observed between tax revenues and GDP growth. However, post-TSA, there emerged positive correlations, indicating improvements in tax collection and administration. VAT exhibited a weak positive relationship with GDP growth, while CIT showed a strong positive correlation, underscoring the impact of better tax practices on economic development. Additionally, custom and excise duties demonstrated a moderate positive correlation with GDP growth, suggesting enhanced revenue generation from trade-related taxes. The findings highlight the effectiveness of the TSA in improving tax revenue generation and its positive impact on Nigeria's economic growth. The study recommends that policymakers enhance VAT compliance, optimize CIT collection, and streamline customs procedures to further stimulate economic growth. These measures can ensure that the gains from TSA implementation are maximized, contributing to sustainable economic development in Nigeria.*

KEYWORDS: tax revenue generation, economic growth, treasury single account (TSA), value added tax (VAT), company income tax (CIT), Nigeria, government revenue.

INTRODUCTION

Nigeria, as with any nation, has a responsibility to provide its citizens with sufficient public goods and services to enhance their living standards. As this standard of living improves, so does the level of economic activity within the country, a phenomenon commonly referred to as economic growth. Economic growth is characterized by a sustained increase in the capacity to provide a

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diverse array of economic goods and services to its citizens, driven by advancements in technology, institutional frameworks, and ideological adjustments. One key indicator of economic growth is the expansion of a nation's potential Gross Domestic Product (GDP). Government revenue generation plays a pivotal role in fostering economic growth.

Revenue, often defined as income, especially of a substantial nature, serves as the financial backbone for governmental operations. In the context of a state, revenue refers to its annual income used to meet public expenses. Typically, revenue collection is overseen by a government department, encompassing various sources such as taxes and other forms of income. Taxation, a compulsory contribution to state revenue, constitutes a significant portion of government income in Nigeria and is subject to deposit into the Treasury Single Account (TSA) of the Federal Republic of Nigeria.

The TSA, a financial policy implemented by several countries globally, was introduced by the Nigerian government during the administration of Goodluck Ebele Jonathan in 2012 and fully executed under the Mohammadu Buhari administration. Its primary objective is to consolidate all government inflows from various agencies into a single account held at the Central Bank of Nigeria, enhancing accountability, transparency, and preventing misapplication of public funds. By centralizing government revenue, receipts, and income, the TSA streamlines financial management, minimizing borrowing costs and combating corruption.

Efficient management and control of government cash resources necessitate a reliable banking arrangement. The TSA, overseen by the Central Bank of Nigeria, replaces the fragmented system of revenue collection previously dispersed across multiple accounts and locations, prone to mismanagement, poor accountability, and opacity. Recognizing the benefits of such a unified approach, the International Monetary Fund (IMF) recommended that middle-income countries like Nigeria establish a cohesive structure for revenue collection and payments. This consolidation not only reduces borrowing costs but also facilitates credit extension and enhances government fiscal policies. To ensure the stability and effectiveness of the TSA framework, the IMF advises participating countries to establish a legal basis for its implementation.

Statement of the problem.

Tax revenue generation plays a pivotal role in driving economic development in Nigeria, constituting a significant portion of the funds paid into the Federation Account. The Treasury Single Account (TSA) has been instrumental in consolidating all government revenue receipts into a single account maintained by the Central Bank of Nigeria since its implementation nine years ago. With the decline in oil revenue, the government sought alternative avenues to boost revenue generation and stimulate economic growth, leading to the introduction of the TSA to curtail revenue leakages and enhance funds from various sources, including taxation. A pilot survey conducted in 2012 revealed substantial savings of approximately ₦500 billion from frivolous spending due to TSA implementation. Amidst budget deficits and high-profile foreign loans, there is a pressing need to evaluate whether the TSA has effectively increased revenue from all sources, especially tax revenue, which holds significant importance.

The implementation of the TSA was accompanied by other fiscal measures aimed at cutting non-essential expenditures and optimizing technological advancements for efficient financial management. Despite its objectives of promoting accountability, transparency, and proper cash management, Nigeria's recurrent deficit budgets and economic challenges persist, underscoring the importance of a more certain, reliable, and diversified revenue base. Given the diverse opinions on the success of the TSA, it is imperative to assess its impact on tax revenue, Nigeria's primary revenue source, over the past seven years and compare it with pre-TSA revenue figures to gauge its effectiveness.

The primary aim of this study is to investigate the correlation between tax revenue and economic growth in Nigeria, both before and after the implementation of the Treasury Single Account (TSA). Specific objectives include assessing the relationship between Value Added Tax (VAT) and economic growth, as well as determining the correlation between Company Income Tax (CIT) and economic growth during the pre and post TSA eras in Nigeria.

REVIEW OF RELATED LITERATURE

Treasury Single Account (TSA)

The Treasury Single Account (TSA) serves as a crucial tool for centralizing and enhancing the management of government funds in Nigeria. By consolidating all revenue receipts and payments into a single account, typically maintained by the Central Bank of Nigeria, the TSA aims to establish centralized, accountable, and transparent revenue management. It facilitates effective cash management, minimizes operational inefficiencies, and reduces costs associated with maintaining multiple bank accounts. The introduction of the TSA policy led to a significant reduction in the proliferation of bank accounts operated by ministries, departments, and agencies (MDAs), fostering financial accountability across government organs. Although its implementation posed challenges for many MDAs, the TSA has successfully enabled the Federal Government of Nigeria to assert control over its cash assets, amounting to over ₦3 trillion ($15 billion) by the first quarter of 2016. Supported by the Nigerian bankers committee and facilitated through platforms like Remita, the TSA initiative represents a significant step towards optimizing the utilization of government cash resources.

However, its implementation may disrupt existing practices between banks and government entities and potentially limit the operational independence of public corporations included in the TSA. Nevertheless, the TSA's comprehensive coverage includes all MDAs and institutions collecting revenues and funds payable to the federal government, encompassing various receipts, refunds, taxes, and custom duties. It operates using two main models: the Main TSA and associated ledger sub-accounts, and the Main TSA with associated Zero balance ledger Sub-accounts (ZBAs). The TSA mandates that government agencies refrain from operating bank accounts outside its purview, ensuring the consolidation of all government cash resources and unifying government banking arrangements under the oversight of key stakeholders such as the Ministry of Finance and the Accountant General. The introduction of the TSA in 2015 aimed to address issues of revenue mismanagement and appropriation, particularly in light of the declining crude oil revenue and the increasing significance of taxation as a major revenue source for the Nigerian government.

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Taxation and tax Revenue

Nigeria's reliance on oil revenue, once the cornerstone of its economy, faced a significant downturn due to plummeting oil prices, resulting in a shortfall in government revenue for expenditures. In response, the government turned its focus inward, exploring alternative revenue sources, with taxation emerging as a prominent option. The shift from an oil-centric economy to one reliant on taxation was underscored by the words of Fowler (2016), emphasizing the pivotal role of taxation in funding essential services and future budgets. Taxation not only defines government accountability but also positively shapes society (Osibanjo, 2016), serving as a vital nexus between states and citizens. Despite its importance, tax revenue in Nigeria has historically accounted for a small portion of total government income, with traditional reliance on oil revenues dominating fiscal policy management.

However, the pressing need to finance infrastructural projects and stimulate sustainable development has prompted efforts to expand the tax base and increase revenue mobilization through ongoing reforms spearheaded by bodies like the Federal Inland Revenue Service (FIRS). This transition is crucial, given the adverse effects of overreliance on foreign capital and mounting external debts, which have hampered economic growth and development. In this context, the implementation of the Treasury Single Account (TSA) is poised to revolutionize revenue management by consolidating funds from all tax sources and ensuring transparency and accountability in revenue generation.

Treasury Single Account and Revenue Generation

The Treasury Single Account is a model recommended by the IMF to developing nations to enhance improvement in revenue generation and application in such countries which Nigeria is inclusive. The TSA was put in place to establish a centralized control over revenue through effective cash management. TSA enhances accountability and enables the operators to know how much is accruing to their accounts on a daily basis. The introduction of TSA in Nigeria, is expected to help her check and minimize corruption as Nigeria has lost huge amount of revenue at the hands of corrupt officials. This quantum loss and the need to ensure transparency, accountability, as well as block financial leakages of government funds prompted the acceptance of TSA by the government.

The TSA initiative, according to the Stalwart report (2015) also requires banks that collects revenues on behalf of the federal government’s Ministries, Departments and agencies (MDAs) to remit such collections to the TSA domiciled in the Central Bank of Nigeria. Consequently, banks collections on behalf of MDAs are automatically remitted to the said account. Though, TSA policy started in 2012, its full implementation was effective September 15, 2015. Larson (2007) explains that TSA is bound to improve transparency and accountability in public financial management (PFM). It will first of all, remove organization/MDAs secrecy around the management of public funds. Secondly, the revenue generating agencies that have been depriving the treasury of due revenue through numerous bank accounts under their purview unknown to the authorities, will no longer be able to defraud government since all funds will be transferred into the TSA.

Banking sector and the TSA

In Nigeria, the commercial banks or the now money deposit banks had been the custodian of government funds. According to Okerekeoti and Okoye (2017) the banking sector is the engine of any nation's economy. Therefore, with the operation of a TSA policy, banks will be deprived of a free flow of funds from ministries, departments and agencies. Before now, it was estimated that commercial banks hold up to N2.2trillion public sector funds at the beginning of the first quarter of 2015 (Obinna, 2015). Before the TSA, banks are usually awash with liquidity once the monthly federal allocation is released, tends to go into liquidity problem once the public sector fund dries up with an increase in inter banks rates. The banks must be affected once such high revenue is pooled out into TSA of the CBN.

The commercial banks are bound to lose greatly from the implementation of TSA because it will cause insufficiency of available cash in the banking system, resulting in a surge in money market rates during the period as banks source for funds to cover their poor liquidity positions. The TSA will lead to problem in the deposit and funding cost structure (FAAC Sub-Committee, 2012). As a matter of fact, TSA generated much fear in the banking industry even before its implementation. Some schools of thought were of the opinion that the implementation of TSA would not favor banks. They were of the view that because of the toughness of the policy, banks would rather go for real sector funds of the economy and disregard expenses on Federal Government projects, Oil and Gas Transactions, Forex dealings and so on. The consequences would be the downsizing of bank staff and loss of employments in the industry and even closure of shops by banks.

Theoretical Framework

The theories that were borrowed to form sound foundation to substantiate Treasury Single Account were many of socioeconomic accounting nature. They are as follows:

Management Theory

Management theory took its foundation from the ideas of Henry Fayol, the French man who is also referred to as The Real Father of Management. Fayol's ideas have become a fundamental part of modern management concept. His theory assumed that all aspects of financial resources – mobilization and expenditure should be well managed by government for the benefit of the citizenry. It includes resources mobilization, prioritization of programs, the budgetary process, efficient management of resources and exercising control to guide against threats. Management theories are concepts surrounding recommended management strategies, which may include tools such as frameworks and guidelines that can be implemented in modern organizations, depending on a company's goals and the industry.

Stakeholders' Theory

Stakeholder theory was formally laid out in 1984. The theory, posited in the 20th century by Economist Milton Friedman, says that a company is beholden only to shareholders – that is, the company must make a profit for its shareholders. Stakeholder theory was first described by Dr. FT. Edward Freeman, a professor at the University of Virginia, in his landmark book, ''Strategic Management: A stakeholder Approach''. It suggests that stakeholders are merely one of many stakeholders in a company. It assumed that adoption of Treasury Single Account by the federal government is as a result of the pressure from stakeholders/citizens majorly against corruption. It suggested that the government will respond to the concerns and expectations of powerful stakeholders/citizens and some of the responses will be in the form of strategic opinions. Stakeholders' theory provides rich insight into the factors that motivate government in relation to the adoption and implementation of Treasury Single Account (TSA).

Empirical Review

Mutalib, et al. (2015) also studied the Impact of Treasury Single Account (TSA) on Ministries, Departments and Agencies (MDA's) Accounting Information and Accountability: A conceptual Review. The study examined the effect of TSA on MDAs accounting information and accountability of public funds in Nigeria. The study employed both primary and secondary data for the purpose of the study. The result shows that there is no doubt that with the introduction of TSA on MDAs Accounting information, the issue of corruption, mismanagement of public funds and government capital base will improve drastically thereby boosting the Nigeria Economy for good governance and for potential investment.

Kanu (2016) conducted a study on the Effect of Treasury Single Account on the Liquidity of Base and Performance of the Banking Sector. The study made use of mainly Primary data from ten (10) randomly selected banks. Questionnaire were administered to the Management staff of the ten (10) banks selected for the study. We employed Chi-square as a statistical tool for analysis of the data. The results obtained confirmed that the implementation of Treasury Single Account in the public accounting system impacted negatively on the liquidity base and the performance of banking sector in Nigeria.

Ahmed (2016) carried out research on Treasury Single Account (TSA) as an Instrument of Financial Prudence and Management: Prospects and Problems. It was concluded that the system requires political will, honesty and determination so as to overcome the various challenges identified in the paper in order to achieve the expected benefits of the system.

Tari, et al. (2016) considered Treasury Single Account (TSA) Policy in Nigeria: Reviving Jonathan's 'Dead' Policy Directives. The paper relied on secondary methodology to effectively examine the fiscal impact of reviving the TSA policy and anchored on incremental model as a framework of analysis. The paper suggests better ways of making the policy effective amidst the dwindling oil price and the superiority of Dollar against the Naira. Hence, the research concluded that except proper monitoring of government account is carried out, in all government institutions and strong punitive measure applied against defaulters and corrupt officers, that TSA will be a failure in Nigeria.

Onyeizugbe, et al. (2017) examined treasury single account and university administration in South East Nigeria. Survey research method was adopted. Primary data were collected with the aid of questionnaire. The data were analytically regressed. It was discovered that the newly introduced treasury single account has, so far, among other challenges, affected financial operations in the bursary units and resultantly slowed down activities in the universities. It revealed that there is a sharp departure from the past when planned programmes were executed as planned in the universities.

Ikya, et al. (2017) examined the nature, origin, challenges and lesion for Nigerian experience of the Treasury Single Account. The study was anchored on stakeholder theory, management theory, and modern money theory. The study identified that TSA is a unified structure of government bank accounts enabling consolidation and optimal utilization of government cash resources. TSA was found to facilitate regular monitoring of government cash balances. It also enables higher quality cash outturn analysis to be undertaken such as identifying causal factors of variances and distinguishing causal factors from random variations in cash balances.

Igbekoyi and Agbaje (2017) assessed the implication of adoption of TSA on accountability and transparency in the Nigerian public sector; with a view to find out if the policy is capable of promoting government accountability function. The study consists of all ministries, departments and agencies (MDAs) in the public service with sample size of ten (10) MDAs involved in revenue generation selected using purposive sampling technique. The hypotheses were tested using regression analysis (ANOVA). The finding of the study showed that, TSA significant positive impact on financial leakages, transparency and curb financial misappropriation.

Oloruntoba et al. (2019) delved into the intricate implications of the Treasury Single Account (TSA) on Nigerian Deposit Money Banks. Through a quantitative analysis methodology, they meticulously gathered data from five prominent banks: Zenith Bank, First Bank Plc, UBA, Access Bank, and Guaranty Trust Bank. The researchers utilized a purposive sampling method to select these banks and further employed judgmental sampling techniques to choose respondents from various managerial levels across ten branches of each selected bank in Oyo State, Nigeria. With a total of 150 respondents, the study meticulously examined the aftermath of TSA implementation, revealing a noteworthy correlation between the adoption of TSA and several challenges encountered by banks. These challenges included the closure of branches, withdrawal syndrome among customers, liquidity crises, and a surge in unemployment rates within the Deposit Money Banks sector.

Ibinwangi and Igbodo (2019) embarked on an insightful exploration into the impact of TSA implementation on management activities within universities situated in South East Nigeria. Adopting a survey research method, the researchers amassed primary data from a sample size of 203 respondents using the Taro Yameni formula. Through the administration of questionnaires, they meticulously captured insights into the operational disruptions triggered by TSA implementation. The findings uncovered a significant hindrance to financial operations within university bursary units, culminating in a notable slowdown in academic and administrative activities compared to previous years.

Adebayo et al. (2020) conducted an illuminating inquiry into the relationship between TSA and government expenditure dynamics in Nigeria. Utilizing secondary data spanning from 2011 to 2018, the researchers scrutinized the impact of Federal Government Time Deposits (TSA) on overall government spending patterns. Employing correlation and regression analyses facilitated by the E-view econometrics package, the study unearthed a positive yet statistically insignificant effect of TSA on government expenditure during both pre- and post-implementation eras.

Effiong and Obun (2020) meticulously examined the nexus between TSA implementation and economic growth dynamics in Nigeria. Through an ex-post-facto research design, they meticulously analyzed data obtained from the Federal Inland Revenue tax statistics report and the UN data site. Leveraging the ordinary least square regression method and descriptive statistical techniques, the researchers unveiled a significant positive impact of TSA on real GDP growth. However, the study also revealed a contrasting negative influence on government revenue and per capita income, raising complex considerations regarding the broader socioeconomic implications of TSA adoption.

Ogoun and Zuode (2020) embarked on a comprehensive analysis of TSA implementation on federally collected non-oil tax revenue and national economic performance in Nigeria. Employing a nuanced inter-period comparative milieu, the researchers scrutinized data using paired sample t-tests on the Statistical Package for Social Sciences (SPSS) platform. The findings showcased a nuanced narrative: while more revenue was collected pre-TSA, the post-implementation period witnessed a significant upswing in revenue collection, accompanied by substantial GDP growth. This juxtaposition underscores the multifaceted impacts of TSA adoption on fiscal dynamics and economic performance within the Nigerian context.

Omosidi et al. (2020) undertook a rigorous investigation into the ramifications of TSA on revenue generation and utilization within the University of Ilorin. Leveraging a combination of interview sessions with university staff and secondary data analysis from the Unilorin Annual Reports, the researchers meticulously dissected the effects of TSA on total revenue generation and its subsequent utilization. Through a meticulous pre-post analysis using SPSS version 20, the study unearthed a notable enhancement in revenue generation post-TSA implementation, coupled with tangible improvements in revenue utilization within the university's operational framework.

METHODOLOGY

The research design employed for this study is ex-post-facto, utilizing secondary data sourced from CBN bulletins and the National Bureau of Statistics, reflecting past economic activities. Focusing on the economic performance of tax revenues in Nigeria from 2010 to 2019, the study investigates the relationship between tax revenue and economic growth pre and post TSA implementation. Data were gathered from diverse sources including the CBN statistical bulletin, FIRS Annual Revenue Statistical bulletin, Office of the Accountant General of the Federation, and the National Bureau of Statistics' Annual Reports and Bulletins. The study's population encompasses the annualized Federal Government Revenues from Tax and the recorded annual economic growth of Nigeria throughout the selected years.

Model Specification

A correlation model was employed to evaluate the relationship between tax revenue and Nigeria’s economic growth in a pre and post Treasury Single Account implementation era. The model was specified as follows:

$$r_{xy} = \frac{\sum(x_i - \bar{x})(y_i - \bar{y})}{\sqrt{\sum(x_i - \bar{x})^2 \sum(y_i - \bar{y})^2}}$$

Where; r_{xy} is the correlation coefficient of the linear relationship between the variables x and y x_i is the value of the x-variable in the sample
$\bar{x}$ is the mean of the values of the x-variable
y_1 is the value of the y-variable in the sample
$\bar{y}$ **is** the mean of the values of the y-variable x represents gross domestic product growth rate
y represents other variables (value added tax, company income tax, & custom and excise duties) taken separately in each case.

DATA ANALYSIS

Table 4.2.1: Descriptive Statistic

	GDPGR	VAT	CIT	CED
Mean	4.052420	957.3133	1134.545	1788.687
Median	4.230061	794.2000	988.4000	297.5000
Maximum	8.036925	2500.000	2830.000	12700.00
Minimum	-1.794253	289.6000	327.0000	89.10000
Std. Dev.	3.196327	612.5301	648.0984	3713.441
Skewness	-0.535412	0.903247	0.832715	2.294981
Kurtosis	2.203241	3.057888	2.935739	6.647640
Jarque-Bera	1.113430	5.622209	4.013796	21.48314
Probability	0.573089	0.060139	0.134405	0.000022
Sum	60.78631	14359.70	17018.17	26830.30
Sum Sq. Dev.	143.0311	5252703.	5880442.	1.93E+08
Observations	15	15	15	15

Source: Researcher Using Eviews 10.0 Statistical Software

Table 4.2.1 provides a comprehensive overview of the variable description and statistical properties of the time series data extracted from the CBN statistical bulletin. The normality of the data distribution is assessed using the coefficients of Skewness, Kurtosis, and Jarque-Bera Probability. The results from Table 4.2.1 indicate that the Jarque-Bera Statistics yield significant p-values for all variables, except for custom and excise duties, which has a p-value of 0.000022. This implies that all variables, except custom and excise duties, follow a normal distribution.

To further confirm the normal distribution, the skewness coefficients are examined. It is observed that all variables, except custom and excise duties, exhibit skewness coefficients less than one, indicating a lack of significant skewness. Additionally, the kurtosis coefficients provide further evidence of normal distribution, with values of 2.203241 for gross domestic product growth rate, 3.057888 for value added taxes, and 2.935739 for company income taxes. However, custom and excise duties display a higher kurtosis coefficient of 6.647640, suggesting a departure from normal distribution.

The statistical analysis of Table 4.2.1 confirms the normal distribution of all variables, except for custom and excise duties, which deviates from the normal distribution pattern. The findings provide valuable insights into the distribution characteristics of the variables studied, contributing to a better understanding of the data properties and their implications for further analysis.

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Table 4.2.2: Regression Analysis Result for Pre-TSA Implementation

	GDPGR	LNVAT	LNCIT	LNCED
GDPGR	1.000000	-0.356344	-0.286909	0.156415
LNVAT	-0.356344	1.000000	0.974872	-0.674320
LNCIT	-0.286909	0.974872	1.000000	-0.720651
LNCED	0.156415	-0.674320	-0.720651	1.000000

Source: Computed by Researcher Using Eviews 10.0 Statistical Software

Table 4.2.2 presents the correlation analysis between gross domestic product growth rate (GDPGR) and various variables, namely value added tax (VAT), company income tax (CIT), and custom and excise duties (CED). The results indicate distinct patterns of correlation between GDPGR and these variables.

Firstly, a negative correlation was observed between GDPGR and VAT, with a correlation coefficient of -0.356344. This negative relationship suggests that as the GDP growth rate decreases, there tends to be an increase in value added tax. However, the correlation coefficient value indicates a weak association between the two variables.

Similarly, a negative and weak correlation was found between GDPGR and CIT, with a correlation coefficient of -0.286909. This indicates that as GDP growth rate declines, there is a slight increase in company income tax. However, the strength of the correlation is considered weak.

In contrast, a weak and positive correlation was identified between GDPGR and CED, with a correlation coefficient of 0.156415. This implies that as the GDP growth rate rises, there is a modest increase in custom and excise duties. However, the magnitude of the correlation is relatively weak.

These findings from Table 4.2.2 highlight the existence of correlations between GDPGR and the examined variables. While the correlations are present, it is important to note that the strength of the associations is relatively weak, suggesting that other factors and variables may have a more significant impact on GDP growth rate pre-TSA implementation.

Table 4.2.3: Correlation Analysis Result for Post-TSA Implementation

	GDPGR	LNVAT	LNCIT	LNCED
GDPGR	1.000000	0.445205	0.794471	0.500121
LNVAT	0.445205	1.000000	0.670111	0.891475
LNCIT	0.794471	0.670111	1.000000	0.711384
LNCED	0.500121	0.891475	0.711384	1.000000

Source: Computed by Researcher Using Eviews 10.0 Statistical Software

Table 4.2.3 presents the correlation analysis between gross domestic product growth rate (GDPGR) and three variables: value added tax (VAT), company income tax (CIT), and custom and excise duties (CED). The results reveal distinct patterns of correlation between GDPGR and these variables.

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Firstly, a positive correlation was observed between GDPGR and VAT, with a correlation coefficient of 0.445205. This positive relationship suggests that as the GDP growth rate increases, there tends to be an increase in value added tax. However, the correlation coefficient value indicates a weak association between the two variables.

In contrast, a strong and positive correlation was found between GDPGR and CIT, with a correlation coefficient of 0.794471. This indicates that as GDP growth rate rises, there is a substantial increase in company income tax. The strong correlation coefficient signifies a robust relationship between the two variables.

Furthermore, a moderate and positive correlation was identified between GDPGR and CED, with a correlation coefficient of 0.500121. This implies that as the GDP growth rate increases, there is a moderate increase in custom and excise duties. The moderate correlation coefficient suggests a reasonable connection between the variables.

These findings from Table 4.2.3 demonstrate the existence of correlations between GDPGR and the examined variables. While the correlations are present, it is important to note that the strength of the associations varies, ranging from weak to strong. These correlations provide insights into the relationships between GDP growth rate and the selected variables, contributing to a better understanding of their interplay within the studied context.

TEST OF HYPOTHESES

Decision Rule: If the value of r is greater than 0.7, the null hypothesis is rejected; if the value of r is less than 0.7, the null hypothesis is accepted. This decision rule provides a clear and straightforward criterion for evaluating the strength and significance of the correlation between variables. When the correlation coefficient exceeds 0.7, it indicates a strong relationship, suggesting that the variables are closely associated and the null hypothesis can be rejected. On the other hand, if the correlation coefficient falls below 0.7, it implies a weaker or no significant relationship, leading to the acceptance of the null hypothesis.

Test of Hypothesis One

Step 1: Restatement of the Hypothesis in Null and Alternate Forms
H_0: Value added tax has no significant relationship with Nigeria's gross domestic product growth rate pre and post TSA.
H_1: Value added tax has a significant relationship with Nigeria's gross domestic product growth rate pre and post TSA.

Step 2: Presentation of Test Results
Table 4.2.2 & Table 4.2.3 Correlation Analysis Results Pre-TSA and Post-TSA

Step 3: Decision
Before the implementation of TSA, the correlation coefficient between value added tax (VAT) and gross domestic product growth rate (GDPGR) in Nigeria was -0.356344. This indicates a weak

and negative relationship between VAT and GDPGR. The null hypothesis was accepted, suggesting that there is no significant correlation between VAT and GDPGR during this period. However, after the implementation of TSA, the correlation coefficient between VAT and GDPGR changed to 0.445205. The null hypothesis was accepted once again, indicating that there is no significant correlation between VAT and GDPGR post-TSA. In this case, the relationship between VAT and GDPGR is weak but positive.

The correlation analysis suggests that the relationship between value added tax and gross domestic product growth rate in Nigeria is weak both before and after the implementation of TSA. However, the direction of the relationship changes from negative to positive after TSA implementation.

Test of Hypothesis Two

Step 1: Restatement of the Hypothesis in Null and Alternate Forms

H_0: Company income tax has no significant relationship with Nigeria's gross domestic product growth rate pre and post TSA.

H_1: Company income tax a significant relationship with Nigeria's gross domestic product growth rate pre and post TSA.

Step 2: Presentation of Test Results

Table 4.2.2 & Table 4.2.3 Correlation Analysis Results Pre-TSA and Post-TSA

Step 3: Decision

The correlation coefficient on the relationship between company income tax and gross domestic product growth rate pre-TSA the implementation is -0.286909. The null hypothesis is accepted and the alternative hypothesis rejected. This implies that company income tax has a weak and negative relationship with gross domestic product growth rate in Nigeria before the implementation of TSA. However, post-TSA implementation, the correlation coefficient on the relationship between company income tax and gross domestic product growth rate is 0.794471. The null hypothesis is rejected and the alternative hypothesis accepted. This implies that company income tax has a strong and positive relationship with gross domestic product growth rate in Nigeria after the implementation of TSA.

Test of Hypothesis Three

Step 1: Restatement of the Hypothesis in Null and Alternate Forms

H_0: Custom and excise duties has no significant relationship with Nigeria's gross domestic product growth rate pre and post TSA.

H_1: Company income tax a significant relationship with Nigeria's gross domestic product growth rate pre and post TSA.

Step 2: Presentation of Test Results

Table 4.2.2 & Table 4.2.3 Correlation Analysis Results Pre-TSA and Post-TSA

Step 3: Decision

The correlation coefficient on the relationship between custom and excise duties and gross domestic product growth rate pre-TSA the implementation is 0.156415. The null hypothesis is accepted and the alternative hypothesis rejected. This implies that custom and excise duties has a weak and positive relationship with gross domestic product growth rate in Nigeria before the implementation of TSA. However, post-TSA implementation, the correlation coefficient on the relationship between custom and excise duties and gross domestic product growth rate is 0.500121. The null hypothesis is accepted and the alternative hypothesis rejected. This implies that custom and excise duties has a moderate and positive relationship with gross domestic product growth rate in Nigeria after the implementation of TSA.

DISCUSSION OF RESULT

Relationship Between Value Added Tax and GDPGR

The result of the correlation analysis between value added tax (VAT) and gross domestic product growth rate (GDPGR) before and after the implementation of TSA in Nigeria reveals interesting insights. Before the implementation of TSA, the negative correlation coefficient of -0.356344 suggests a weak relationship between VAT and GDPGR. This negative relationship might be attributed to various factors. One possible reason could be that a higher VAT rate could potentially reduce consumer spending and negatively impact economic growth. It might also indicate inefficiencies in tax collection and administration, leading to a slower GDP growth rate.

However, after the implementation of TSA, the correlation coefficient changes to 0.445205, indicating a weak positive relationship between VAT and GDPGR. There could be several reasons for this change. The implementation of TSA aims to enhance transparency, accountability, and efficiency in financial transactions, including tax collection. As a result, the positive correlation might suggest that the improved tax administration and collection processes positively impact economic growth. Additionally, a higher VAT collection could be indicative of increased consumption and economic activity, leading to a higher GDP growth rate.

Relationship Between Company Income Tax and GDPGR

The correlation analysis reveals intriguing findings regarding the relationship between company income tax and gross domestic product growth rate (GDPGR) in Nigeria, both before and after the implementation of TSA. Prior to the TSA implementation, the negative correlation coefficient of -0.286909 suggests a weak association between company income tax and GDPGR. This negative relationship may have various explanations. One possible reason is that a higher tax burden on companies could hinder their ability to invest, expand, and contribute to economic growth. It could also reflect potential inefficiencies in the tax system or challenges in tax collection, which may impede overall GDP growth.

Conversely, following the TSA implementation, the correlation coefficient increases significantly to 0.794471, indicating a strong and positive relationship between company income tax and GDPGR. The rejection of the null hypothesis and acceptance of the alternative hypothesis support this observation. The positive correlation suggests that after implementing TSA, company income tax demonstrates a robust connection to GDPGR in Nigeria. This implies that the changes associated with the TSA implementation have positively influenced the relationship between company income tax and GDPGR, potentially indicating improved tax collection, efficient resource allocation, and enhanced government revenue.

Relationship Between Custom and Excise Duties and GDPGR

The correlation analysis sheds light on the relationship between custom and excise duties and gross domestic product growth rate (GDPGR) in Nigeria, both before and after the implementation of TSA. Prior to the TSA implementation, the correlation coefficient of 0.156415 suggests a weak positive association between custom and excise duties and GDPGR. The acceptance of the null hypothesis and rejection of the alternative hypothesis support this observation. This weak positive relationship implies that an increase in custom and excise duties is accompanied by a slight growth in GDP. It is important to note that while the relationship is positive, the strength of the correlation is relatively low, indicating that other factors may have a more significant impact on GDP growth. Following the TSA implementation, the correlation coefficient increases to 0.500121, indicating a moderate and positive relationship between custom and excise duties and GDPGR. The acceptance of the null hypothesis and rejection of the alternative hypothesis confirm this finding. This suggests that after implementing TSA, custom and excise duties demonstrate a stronger connection to GDP growth in Nigeria. The moderate positive correlation implies that changes associated with the TSA implementation may have positively influenced the relationship between custom and excise duties and GDPGR, potentially reflecting improvements in revenue generation and economic activity related to trade and excise goods.

CONCLUSION AND RECOMMENDATIONS

The implementation of the Treasury Single Account (TSA) in Nigeria has proven to be effective in addressing financial leakages, promoting transparency, and ensuring accountability in the public financial system. The policy eliminates multiple banking arrangements, allowing for timely and comprehensive payment and capturing of all revenues into the government treasury. It also provides real-time information on the government's cash position, reducing round-tripping of government deposits.

One of the main objectives of implementing the TSA is to improve government tax revenues, which in turn provides more resources for various capital and recurrent expenditures, stimulating the economy. The impact of TSA on the relationships between tax types (VAT, company income tax, and custom and excise duties) and the gross domestic product growth rate (GDPGR) is noteworthy.

Before the TSA, weak correlations were observed between tax types and GDPGR. However, after the TSA implementation, positive correlations emerged. VAT showed a weak positive relationship with GDPGR, indicating that the improved tax collection and administration positively influenced economic growth. Company income tax exhibited a strong positive correlation with GDPGR, highlighting the improvements in tax collection, resource allocation, and government revenue. Custom and excise duties also showed a moderate positive correlation with GDPGR, suggesting enhanced revenue generation and economic activity related to trade and excise goods.

The implementation of the TSA in Nigeria has successfully addressed financial leakages, promoted transparency and accountability, and improved the connections between tax revenues and GDP growth. This highlights the positive impact of enhanced tax collection and administration processes, ultimately contributing to the overall economic development of the country.

Consequent to the findings of this study, the study therefore recommends that:

i. Considering the weak and positive relationship between VAT and Gross Domestic Product Growth Rate (GDPGR) after the implementation of TSA, policymakers can explore measures to maximize the potential of VAT as a tool for economic growth. One recommendation is to focus on improving tax compliance and reducing tax evasion. This can be achieved through enhanced tax administration and enforcement mechanisms, such as implementing stricter monitoring systems, conducting regular audits, and promoting taxpayer education and awareness programs. By effectively managing VAT collection and ensuring greater compliance, the government can increase revenue generation, which can then be channeled towards development initiatives that support economic growth. Additionally, policymakers should periodically evaluate the VAT structure, exemptions, and rates to ensure they align with the country's economic objectives and promote investment, job creation, and overall economic productivity.

ii. With the strong and positive relationship between CIT and GDPGR observed after the implementation of TSA, policymakers and tax authorities should consider leveraging this relationship to foster sustainable economic growth. They could focus on ensuring an efficient and transparent tax administration system, reducing tax evasion, and providing incentives to promote business expansion and investment. This could potentially enhance the positive impact of CIT on GDP growth.

iii. Given the moderate and positive relationship between CED and GDPGR after the implementation of TSA, policymakers could explore strategies to further enhance this connection. This could involve streamlining customs and excise procedures, improving trade facilitation, and supporting industries affected by custom and excise duties. Additionally, efforts to reduce trade barriers and promote exports could stimulate economic growth by capitalizing on the positive relationship between CED and GDPGR.

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