
**GOVERNMENT CAPITAL EXPENDITURE AND ECONOMIC GROWTH: A
DISAGGREGATED SECTORIAL ANALYSIS**

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Abstract

This study analyzes the dynamic impact of government capital expenditure on Nigeria's economic growth from the first quarter of 2000 to the fourth quarter of 2023. Capital expenditure was categorized into four primary sectors: expenditures on social and community services, economic services, administrative services, and transfers. Government efficacy was utilized as a control variable, whilst the gross domestic product (GDP) growth rate functioned as a proxy for economic growth. Data were obtained from the World Bank's World Development Indicators and the Central Bank of Nigeria's Statistical Bulletin. The limits testing methodology for cointegration validated a long-term equilibrium association between capital spending and economic growth. Empirical findings indicated that governmental capital expenditure on social and community services (such as education and health) and on economic services (including agriculture, energy, and infrastructure) exerted a statistically significant and beneficial impact on GDP growth in both the short and long term. Conversely, spending on administrative services and transfers, while positively correlated with GDP, was deemed statistically insignificant, indicating potential inefficiencies or no economic impact. Unexpectedly, government efficacy had a negative and negligible correlation with growth, indicating institutional deficiencies and governance obstacles. The results highlight the essential importance of productive capital investment in expediting economic growth. Consequently, it is advised that the Federal Ministry of Finance, Budget, and National Planning augment capital allocations for social and economic services, where investment returns are evidently substantial-augmenting.

Keywords: Government Capital Expenditure, Government Effectiveness, Gross Domestic Product Growth Rate.

Introduction

Nigeria, richly endowed with abundant human and natural resources, has consistently been recognized as a nation with significant potential for swift economic development. Nevertheless, despite this commitment, the journey toward sustainable economic growth has persisted as irregular, characterized by intervals of expansion and contraction. A thorough analysis of Nigeria's economic trajectory uncovers a pattern of fluctuations that prompts significant concerns regarding the underlying factors influencing growth. For example, data from the World Bank (2023) indicate that Nigeria's real GDP growth was 3.3% in 2022, an increase from 3.0% in 2021, primarily driven by the non-oil sector, especially agriculture, trade, and telecommunications. However, this modest expansion remains inadequate when compared to the nation's population growth rate of over 2.5% annually, leading to minimal increases in per capita income. The Nigerian Bureau of Statistics (NBS, 2023) indicates that, despite advancements in specific sectors, the economy continues to face challenges such as inadequate infrastructure, increasing public debt, unemployment, and regional disparities—all of which highlight the essential importance of government expenditure in promoting sustained long-term growth.

Thus, for the purposes of this study, economic growth is defined as the real Gross Domestic Product (GDP), representing an increase in a nation's productive capacity over time. Jhingan (2021) asserts that when a nation's output of products and services expands over time,

as indicated by an increase in real national income, it signifies economic growth. Economic growth, as defined by Todaro and Smith (2020), refers to an increase in per capita income accompanied by a significant structural transformation within the economy. From a more contemporary perspective, the IMF (2023) characterizes economic growth as the continuous and enduring enhancement of a nation's living standards, employment levels, and productive efficiency. This study employs the perspective that economic development is a multifaceted process encompassing both quantitative and qualitative enhancements in the economy, with real GDP functioning as the principal indicator. In this context, government capital expenditure serves as a crucial policy instrument for promoting economic growth, particularly in developing economies where private sector investment frequently faces limitations. Government capital expenditure pertains to long-term investments in infrastructure, social amenities, and productive assets aimed at augmenting the economy's development prospects.

In Nigeria, capital expenditure is generally categorized into social and community services, economic services, administrative expenses, and transfers. Social and community services involve investments in education, health, and accommodation that collectively enhance human capital development and productivity. For example, capital expenditure on education rose from ₦278.1 billion in 2020 to ₦373.5 billion in 2022 (Budget Office of the Federation, 2023), indicating intensified government initiatives to improve learning infrastructure. Economic services, encompassing transportation, agriculture, and energy, have received substantial funding, increasing from ₦508.2 billion in 2020 to ₦724.1 billion in 2022. These investments seek to bridge the infrastructural divide and enhance sectoral productivity. Administrative expenses, while not directly stimulating growth, enhance institutional efficiency, whereas capital transfers to subnational governments and agencies promote inclusive development.

Despite these efforts, the relationship between capital expenditure and economic growth in Nigeria continues to be a subject of debate, with results frequently varying across different sectors and timeframes. Empirical research on this topic yields varied results. Although Olayemi and Adefeso (2021) observe that capital expenditure on economic services substantially influences GDP growth in Nigeria, Yusuf and Anwan (2020) contend that only investments in education and health yield enduring positive impacts. Conversely, Okoro (2022) notes that overall capital expenditure has a negligible effect on growth, citing corruption, project abandonment, and limited institutional capacity as primary impediments. These divergent findings underscore methodological variations and emphasize the intricacy of Nigeria's fiscal-growth relationship. Consequently, this study is driven by the necessity to conduct a disaggregated analysis of government capital expenditure and its influence on economic development in Nigeria, taking into account the distinct contributions of major expenditure components over time. This approach is anticipated to provide new insights into how the structure and composition of public capital expenditures can be optimized to promote sustained economic growth.

Literature Review

Public Sector Capital Spending

Government capital expenditure has become a significant fiscal tool in influencing the development path of developing economies. Amidst escalating infrastructure deficits, unemployment, and regional disparities, numerous governments—especially in Africa—have increasingly relied on capital investments in roads, energy, education, and healthcare as a strategic approach to foster sustained long-term economic growth. In Nigeria, capital expenditure continues to play a pivotal role in national development strategies, as successive administrations aim to address infrastructure deficiencies and diversify the economy. The 2023 Appropriation Act, for example, allocated ₦6.5 trillion to capital projects—an increase from

₦5.9 trillion in 2022—underscoring the government's dedication to investments that facilitate growth (Budget Office of the Federation, 2023). Government capital expenditure is defined in multiple ways within economic literature. According to Musgrave and Musgrave (2020), it pertains to government expenditure on the development or procurement of fixed assets that facilitate future production. Jhingan (2021) defines it as government expenditure that leads to the creation of capital assets and is aimed at producing benefits over an extended period. The Central Bank of Nigeria (CBN, 2022) characterizes capital expenditure as "expenditure incurred for the acquisition of fixed assets, including land, buildings, equipment, and other infrastructural facilities that possess a useful life extending beyond the current fiscal year." Similarly, Todaro and Smith (2020) characterize it as government expenditure focused on investment that establishes the groundwork for sustainable development. Across these definitions, a common theme is the long-term and developmental character of capital expenditures—aimed at improving physical infrastructure, social services, and the productive capacity of the economy.

Economic Development

Economic development continues to be one of the most compelling and extensively sought-after objectives of nations worldwide. It denotes the robustness and durability of an economy, indicating advancements in production, income levels, and the general standard of living of the population. For developing nations such as Nigeria, economic prosperity offers the potential for poverty alleviation, employment generation, industrial development, and enhancement of public welfare. In recent years, Nigeria's economic performance has been variable—alternating between modest recovery and structural vulnerability. According to the World Bank (2023), Nigeria's real GDP increased by 3.3% in 2022, primarily propelled by the services and agricultural sectors; however, the growth rate remains insufficient to accommodate the needs of its rapidly expanding population. Inflation, infrastructural deficiencies, and excessive reliance on oil persist as significant challenges to the nation's growth prospects, highlighting the importance of a more comprehensive comprehension of the factors influencing economic development. Economic growth has been characterized by academicians in various yet mutually reinforcing ways. Kuznets (1973) characterizes it as a sustained increase in the ability to provide a progressively diverse range of economic commodities to the population, driven by technological progress and institutional reforms.

According to Barro and Sala-i-Martin (2004), economic development involves the persistent rise in per capita income, frequently accompanied by enhancements in human capital, productivity, and innovation. Todaro and Smith (2020) characterize it as the consistent process through which an economy's productive capacity is expanded over time, resulting in higher levels of national output and income. Jhingan (2021) defines economic growth as the quantitative expansion of a nation's real output or real income over time, typically assessed through fluctuations in Gross Domestic Product. The International Monetary Fund (2022) adopts a broader perspective, defining economic development as an ongoing process that results in improved living standards, expanded employment opportunities, and higher national income. In this study, economic growth is defined as a sustained expansion of the economy's productive capacity, reflected by the upward trajectory of real GDP over time. It reflects not only the economy's capacity to produce income and prosperity but also its ability to enhance the quality of life for its citizens.

Relationship between Government Capital Expenditure and Economic Growth

The correlation between government capital expenditure and economic growth has continued to be a fundamental topic in development economics, especially for nations seeking to address infrastructure gaps and promote sustained economic development. In developing countries such as Nigeria, where private investment is frequently impeded by inadequate

infrastructure and fragile institutional structures, government capital expenditure serves as a vital instrument for stimulating economic growth. Capital expenditure—focused on roads, power, schools, health facilities, and other physical and social infrastructure—is considered to boost productivity, encourage private sector involvement, and enhance the overall efficiency of the economy. Nigeria’s historical experience has demonstrated both the opportunities and the challenges associated with leveraging public investment to attain sustained economic growth. For example, while capital expenditure averaged ₦1.2 trillion annually from 2015 to 2022 (Budget Office of the Federation, 2023), GDP growth during the same period exhibited fluctuations, with significant contractions during the COVID-19 pandemic and modest recoveries subsequently. This indicates that the efficacy of capital spending may be contingent upon its composition, implementation, and the broader macroeconomic environment.

Theoretically, Keynesian economics asserts that government expenditure can enhance aggregate demand and propel an economy out of recession or low-growth stagnation. In this context, Barro (1990) contends that productive government expenditure, particularly on infrastructure, can improve output by reducing production costs and promoting capital accumulation. Aschauer (1989) offers empirical evidence demonstrating that investment in public capital exerts a substantial positive influence on private sector productivity and, consequently, on economic growth. However, other scholars such as Devarajan, Swaroop, and Zou (1996) caution that the composition of public expenditure is significant, observing that in certain developing countries, capital spending has yielded limited results owing to inefficiency and corruption. Within the Nigerian context, the findings continue to be inconclusive. Several studies indicate a positive and statistically significant relationship between capital expenditure and economic development (Olayemi & Adefeso, 2021), whereas others observe minimal or insignificant effects, particularly when expenditures are not directed toward sectors that promote growth (Okoro, 2022). These differing results emphasize the intricacy of the relationship between capital expenditure and growth, underscoring the importance of conducting disaggregated analysis.

Theoretical Literature

Keynesian Theory of Government Expenditure

The Keynesian Theory of Government Expenditure was devised by Keynes in 1936. The theory posits that markets do not consistently self-correct, and that full employment is not inherently attained without intentional fiscal intervention. It underscores that aggregate demand influences the level of output and employment in the short term, and that government capital expenditure can act as a catalyst for economic activity by initiating a multiplier effect—where an initial injection of spending results in a disproportionately larger increase in national income. Advocates of this theory, including Paul Samuelson (1948) and Richard Musgrave (1959), contend that investment in infrastructure, education, and healthcare can enhance productivity, decrease unemployment, and elevate overall economic well-being. Samuelson integrated Keynesian concepts into mainstream macroeconomics, emphasizing demand-side policies as vital for economic stability, while Musgrave extended the theory into public finance, highlighting the significance of public goods and infrastructure investment in promoting development.

However, critics such as Friedrich Hayek (1944) and Milton Friedman (1970) challenge the Keynesian perspective, contending that excessive government expenditure may displace private investment, induce inflation, and result in unsustainable fiscal deficits. Friedman, representing the monetarist school of thought, argued that monetary policy is more effective in stabilizing the economy and questioned the long-term advantages of fiscal stimulus. Despite these critiques, the Keynesian theory continues to be highly pertinent to this research, which examines the link between government capital expenditure and economic growth in Nigeria. In a context characterized by insufficient infrastructure, limited private

sector investment, and recurrent economic volatility, the theory offers a solid basis for examining how government investment in sectors such as transportation, energy, education, and healthcare can improve productivity, boost aggregate demand, and foster sustainable economic development.

Endogenous Growth Theory

The Endogenous Growth Theory was proposed by Romer (1986) and Robert Lucas (1988). The theory posits that government policies, institutional integrity, and the accumulation of both physical and human capital are fundamental factors in determining the rate of economic growth. It additionally suggests that investments in these sectors may yield increasing rather than diminishing returns, especially when knowledge is regarded as a non-rival, non-excludable resource that produces consequences. Advocates of the theory, such as Romer (1990), contend that government capital expenditures on infrastructure, education, and technology improve productivity and support long-term development by augmenting the efficacy of both labor and capital. Public investments in infrastructure such as roads, electricity, healthcare, and education not only enhance the immediate productive environment but also bolster the long-term growth prospects of the economy by promoting innovation and knowledge development. Barro (1990) also endorses this perspective, observing that specific categories of government expenditure—especially on productive infrastructure—can enhance economic performance when allocated efficiently. In contrast, critics such as Solow (1956)—despite being an earlier advocate of the neoclassical growth model—contended that capital accumulation by itself is insufficient to explain long-term growth without technological progress, which he regarded as an exogenous factor.

Others, such as Jones (1995), have also challenged the assumption of sustained increasing returns in endogenous models, proposing that diminishing returns remain relevant in specific contexts. Despite these criticisms, the endogenous growth theory provides a robust analytical framework for examining the relationship between government capital expenditure and economic growth in Nigeria. It supports the perspective that targeted capital investments in economic and social infrastructure can promote not only immediate output but also long-term productivity and innovation. In a nation such as Nigeria—where deficiencies in infrastructure, underinvestment in human capital, and fragile research systems hinder development—the theory underscores the importance of public capital expenditure as a crucial driver of enduring economic transformation. By associating development with intentional policy decisions and investment strategies, the theory underpins this study's emphasis on assessing how disaggregated capital expenditures—across sectors such as transportation, education, energy, and health—impact long-term economic performance.

Theory of Public Goods and Infrastructure

The Public Goods and Infrastructure Theory, grounded in classical public finance and extensively elaborated by Musgrave (1959) and Samuelson (1954). The theory suggests that specific goods and services—such as roads, electricity, education, and public health infrastructure—demonstrate properties of non-excludability and non-rivalry, indicating that individuals cannot be prevented from utilizing them and that one person's use does not reduce their availability to others. Since these products are susceptible to market failure, it is incumbent upon the government to finance and supply them through public expenditure, especially capital investment. This theory posits that infrastructure and other public assets generate widespread social and economic advantages that warrant public investment. It also presumes that these commodities produce positive externalities—benefits that extend beyond the immediate consumers to society as a whole—rendering them essential for inclusive development. Musgrave (1959) contended that the allocation function of public finance allows the government to address market failures by allocating resources to products and services that

enhance economic welfare but are inadequately supplied by private entities. Samuelson (1954) similarly demonstrated that the optimal provision of public commodities necessitates collective action, as private markets are unable to supply them efficiently owing to the free-rider problem.

While advocates of the theory highlight its significance in bridging development disparities, critics such as Buchanan (1965) and proponents of public choice theory warn of potential government failures, asserting that political and bureaucratic interests can distort public expenditure decisions, resulting in inefficiencies, corruption, or misallocation of resources. These detractors emphasize that not all government spending on public assets results in economic benefits, particularly in nations with fragile institutions. Nevertheless, the Public Goods and Infrastructure Theory continue to be highly pertinent to this investigation of government capital expenditure and economic growth. In Nigeria, where substantial infrastructure deficiencies persist and hinder productivity, mobility, and access to vital services, the theory endorses the perspective that capital investment in public goods is crucial for fostering economic growth and mitigating inequality.

Empirical Review

Uchenna and Onwumere (2022) used a dynamic panel model with sub-national data from Nigeria's geopolitical zones (2000–2019) to include regional GDP, state-level capital expenditure, population, and educational investment. The study found that locations with more infrastructure and education investment grew faster. It found that national growth requires regional fiscal autonomy and local capital investment. Olayemi and Adefeso (2021) used an ARDL model to examine Nigeria's disaggregated capital spending and economic development. Real GDP, capital spending on economic, social, and administrative services, inflation, and exchange rate are used. Capital investment on economic and social services had a considerable long-term beneficial influence on economic development, but administrative service expenditures were statistically negligible. The research found that redistributing capital spending to productive industries boosts economic performance. Aregbeyen and Akpan (2021) used a VECM framework to evaluate how fiscal policy, particularly capital and recurrent spending, affected Nigeria's economic development from 1980 to 2018. GDP, capital expenditure, recurrent spending, inflation, and government revenue are variables. Capital investment has a greater beneficial impact on economic development than recurring expenditure.

Using ARDL bounds testing, Babatunde and Adegbite (2020) examined the long-term impact of capital spending on Nigerian economic development from 1981 to 2018. Real GDP, capital investment, human capital, FDI, and inflation are used. Capital spending and growth were positively and statistically significantly correlated, especially when human capital was included. The analysis recommended increased government support for capital-intensive and human development industries. However, Omitogun and Ayinla (2020) used disaggregated data to assess capital expenditure components' growth effects. GDP, capital spending on education, health, transportation, and housing were variables. Capital investment on transportation and education had the greatest beneficial impact on growth, whereas housing had just a weak association. The analysis found that capital investment should support key sectors for sustainable growth. According to Okafor, Onwumere, and Nnenna (2017), GDP, electricity, transport, education, and health capital expenditure were used in cointegration and ECM models to analyze sectoral capital spending from 1990 to 2015. Capital investment on electricity and education had the greatest beneficial impact on GDP, whereas other categories had different benefits. The research found that capital expenditures must match national development plans to boost growth.

Olomola (2019) examined how capital spending affected Nigerian sectoral output using quarterly data from 2000 to 2017. Real GDP, sector-specific capital expenditure, inflation, and interest rates were variables. The study found that infrastructure and manufacturing capital

expenditures affected growth more than administrative spending. Capital investment should be tailored to certain industries and driven by productivity; it found. Effiong (2017) used an ARDL model to assess capital expenditure's influence on Nigeria's economic development from 1981 to 2015. GDP, capital, education, health, and hydrocarbon revenue are included. Capital spending, notably on health and education, boosts economic growth in the short and long term. Iheanacho (2016) examined government expenditure components and GDP growth in Nigeria from 1986 to 2014. The variables were real GDP, capital, recurrent, inflation, and public debt. Capital investment had a greater and more consistent impact on GDP than recurrent expenditure.

Obinna and Nwachukwu (2016) used 1986–2014 time series data to investigate public investment and economic development in Nigeria. GDP, capital spending on economic services, recurrent expenditure, and tax income were used. Capital spending on economic services alone boosted development. Using cointegration, Adeniran and Udejaja (2015) analyzed Nigeria's capital spending effectiveness. GDP, total and sector-specific capital spending, recurrent expenditure, inflation, and state debt are included. Capital spending, notably on infrastructure and human capital, boosted economic growth over time. Thus, Okoro (2013) evaluated how government expenditure affected Nigeria's economic growth from 1980 to 2011 using real GDP, capital expenditure, recurrent expenditure, interest rate, and inflation. Capital spending and economic growth were positively correlated. The analysis found that sustainable economic growth requires increased government capital project spending.

Onakoya and Somoye (2013) used real GDP, capital expenditure, recurrent spending, and private investment in a VAR model for 1980–2011 Nigerian data. Although capital investment positively affected growth, it was not statistically significant, suggesting that poor project execution and institutional ability may restrict its impact. The study stressed financial governance and transparency. Eze and Ogiji (2013) used real GDP, capital expenditure, recurrent expenditure, and sectoral disbursements in multiple regression analysis using 1991–2012 Nigerian data. The results showed that only capital spending correlated positively with GDP. The analysis found that sustained economic development requires long-term capital investments rather than consumption-driven spending. Ofoegbu and Akwu (2013) examined capital spending and economic growth using error correction models. GDP, capital expenditure, recurrent spending, money supply, and government revenue were variables. A long-term equilibrium link between capital spending and GDP was found. The research found that emerging economies need continuing capital investment to sustain progress.

Using 1990–2010 data, Audu (2012) evaluated how public expenditure affected Nigeria's economic progress. GDP, capital expenditures on administrative activities, social services, economic services, and transfers were factors. Capital investment on economic and social services boosted growth, but administrative expenditure was not statistically significant. The report recommended redistributing spending to productive areas. Lawal (2011) analyzed government capital expenditure's impact on Nigeria's economic development from 1980 to 2008. We used real GDP, capital expenditure, recurrent spending, and external debt. The association between capital spending and economic development was weak and statistically insignificant due to corruption and mismanagement. The analysis found that the problem is fund allocation, not expenditure amount. Nurudeen and Usman (2010) evaluated how government expenditure affected Nigerian economic development from 1970 to 2008 using an error correction model. We used real GDP, total government expenditure, capital expenditure, recurrent expenditure, inflation, and trade openness. Capital investment boosted economic growth, but recurring expenditure hurt it.

Bose, Haque, and Osborn (2007) examined GDP growth, capital spending, educational investment, and health expenditure in panel data from over 30 developing nations. Capital spending, especially on human capital, positively correlates with economic development,

according to the data. To encourage long-term prosperity, poor nations should invest in education and healthcare, according to the report. Akpan (2005) examined government expenditure's impact on Nigeria's economic development from 1970 to 2002 using a simple OLS analysis. We used real GDP, capital expenditure, recurrent spending, inflation, and population. Capital investment was more growth-friendly than recurrent expenditures, but inflation mitigated the benefits.

Gaps and Value Addition

Investment in productive areas including infrastructure, education, health, and economic services stands out in the examined empirical research as having a significant beneficial effect on economic growth in Nigeria. Regional and national economic performance may be substantially influenced by sector-specific and sub-national capital expenditure, according to studies such as Olayemi and Adefeso (2021) and Uchenna and Onwumere (2022). Research by Effiong (2017), Aregbeyen and Akpan (2021), Babatunde and Adegbite (2020), and others shows that investments in human capital lead to more noticeable and long-lasting growth. Okafor et al. (2017), Olomola (2019), and Omitogun and Ayinla (2020) are just a few of the other research that back up the idea that investing in transportation, electricity, and manufacturing pays off better than spending money on administration or general services. Government spending should be redirected toward capital projects since, according to the research, recurrent expenditure is typically shown to be less growth-enhancing or even adversely connected to GDP. Uchenna and Onwumere (2022) are among the few that investigate panel data at the sub-national level, as opposed to the majority of research that use time series models like ARDL, VAR, and ECM using national-level data from 1970 to 2019. Nevertheless, there is a significant void in the integration of regional differences, spending efficiency, and institutional capability, even though there have been consistent findings on the positive influence of capital expenditure. The impact of population pressures, government quality, and geopolitical zone features on capital spending productivity has been largely ignored in most research. Also, policymakers don't have a whole lot of information on how capital investment affects localized development results since dynamic panel models don't capture regional variability very well.

Methodology

The Central Bank of Nigeria's (CBN) Statistical Bulletin and the World Bank's World Development Indicators (WDI), 2024, gave this story its secondary data. We used four types of government capital expenditures on social and community service (GCXSCS), economic service (GCXES), and administration service (GCXA) and the Government Effectiveness (GOE) rating as stand-in measurements for Nigeria's economic growth from the first quarter of 2000 to the fourth quarter of 2024. This study used the Augmented Dickey Fuller Unit Root and Auto-Regressive Distributed Lag to check on the stationarity state and variable tests.

Model Specification

The model of this study is based on the modification of Olayemi and Adefeso (2021) when investigating the relationship between disaggregated capital expenditure on economic growth in Nigeria. Their model was;

$$GDP = f(CEES, CESS, CEAS, INF) \quad (1)$$

Where: GDP = Gross Domestic Product, CEES=Capital Expenditure on Economic Services, CEAS= Capital Expenditure on Administrative Service, INF = Inflation rate,

So, to reach this study's goal, the researcher changed the model to make room for how well the government works and how much it spends on payments. The new expanded model is thus stated as follows;

$$GDPGR=f(GCXSCS, GCXES, GCXA, GXT, GOE) \quad (2)$$

$$GDPGR= \beta_0 + \beta_1 GCXSCS + \beta_2 GCXES + \beta_3 GCXA + \beta_4 GXT + \beta_5 GOE \quad (3)$$

$$\text{GDPGR}_t = \beta_0 + \beta_1 \text{GCXSCS}_t + \beta_2 \text{GCXES}_t + \beta_3 \text{GCXA}_t + \beta_4 \text{GXT}_t + \beta_5 \text{GOE}_t + \mu_t \quad (4)$$

Where: GCXSCS = Government Capital Expenditure on Social and Community Services, GCXE = Government Capital Expenditure on Economic Services, GCXA = Government Capital Expenditure on Administration, GXT = Government Capital Expenditure on Transfers, GOE = Government Effectiveness, μ = Error term, β_0 = Constant β_1 - β_5 = Estimated Parameters, **apriori expectation:** $\beta_1, \beta_2, \beta_3, \beta_4$ and $\beta_5 > 0$

Description of Variables in the Model

Gross Domestic Product Growth Rate (GDPGR): This checks how the value of all the things made in a country's economy changes each year, measured in percentage form. It shows how quickly the economy is growing or shrinking. It is used to measure economic growth because it shows how well the economy is doing, how productive it is, and how investments, spending, and government spending affect it. The Government Capital Expenditure on Social and Community Service (GCXSCS) and the Gross Domestic Product Growth Rate (GDPGR), which are both measured in percentages. These are the government's investments that support safety and output in areas like education, health, transportation, electricity, and farming. When people spend more on these services, the GDP growth rate goes up because it improves people's skills, makes the facilities better, and creates conditions for higher output and growth in the private sector. So, this paper's hypothesis was that the GDP growth rate would be positively linked to government spending on social and community services. In this paper, the amount of money the government spends on social and community services is used as a stand-in for overall government capital spending, and it is measured in billions of naira each year. So, $\beta_1 > 0$. This is about the money that the government spends on areas that directly help output and economic activities, like transportation, power, farms, and manufacturing.

The GDP growth rate goes up when more money is spent on economic services. This is because it helps infrastructure, lowers the prices of production, makes it easier to get into markets, and pushes people to invest. So, this study thought that the government's spending on economic services would be linked to the growth rate of the gross domestic product in a good way. In this paper, government capital expenditure on economic services is used as a stand-in for government capital expenditure itself, and it is measured yearly in billions of naira. So, $\beta_2 > 0$. GCXA: This refers to the cost of building and maintaining things that the government needs to do its work, like ICT systems, office buildings, and places for public services. Raising this expense can help the GDP growth rate by making institutions more efficient, better service delivery, and creating jobs. These changes can boost economic activities. So, this study thought that the government's spending on administration would be linked to the growth rate of the gross domestic product in a good way.

In this paper, the government's capital expenditure on administration is used as a stand-in for government capital expenditure more generally, and it is measured in billions of naira each year. So, $\beta_3 > 0$. Government Transfer (GXT): This is when the government gives money for things like salaries, handouts, and grants without getting goods or services in return. A rise in transfer payments can lead to GDP growth by raising people's incomes, encouraging them to buy more, and giving social protection that supports economic stability and demand, even though it doesn't directly increase production. So, this study thought that government payments would be linked to the growth rate of the GDP in a good way. This paper uses government payments as a stand-in for government capital spending, which is measured in billions of naira each year. So, $\beta_4 > 0$.

Government Effectiveness (GOE): This shows how well policies are put in place and public services are run. An rise makes GDP grow by better investment, service quality, and economic management. It is used as a control variable to see how the level of institutions affects the effect of government spending. The percentile rank is used to measure how well a government is doing. Thus, $\beta_5 > 0$

Result and Discussion

Graphical Analysis (Trend Analysis)

Trend Specification for Gross Domestic Product Growth Rate in Nigeria for the Period spanning from 2000Q1 to 2023Q4.

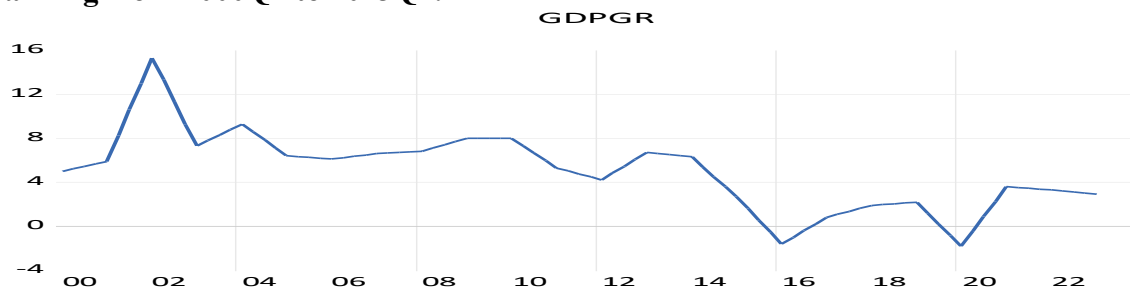


Figure 1

Source: World Bank World Development Indicators (WDI), 2023.

The first figure is a graph showing the GDP growth rate, which is a stand-in for economic growth. An optimistic economic period began in 2001 when Nigeria's Gross Domestic Product (GDP) growth rate started at 5%. The economy started to pick up steam in the fourth quarter of that year, with a significant surge to 12.85%, and it continued to accelerate, reaching a remarkable 15.3% by the end of 2002. Gains in the oil industry and regulatory changes may have been the driving forces behind this early spike in economic activity. Nevertheless, progress stalled. The growth rate exhibited increasing structural problems, as it dipped to 7.3% in the first quarter of 2003 and 6.32% in the first quarter of 2005. The economy of Nigeria showed signs of life in the first quarter of 2010 with a growth rate of 8%, which gave rise to renewed confidence. However, in the first quarter of 2011, the growth rate fell again to 5.3%, revealing how fragile the expansion was. During the years that followed, the trend of instability continued, and in the second quarter of 2015, when oil prices were falling and macroeconomic imbalances were becoming more apparent, there was a significant contraction to -1.62%. Following that, there was a growth rate of 2.12% in the last quarter of 2018 and 3.3% in the first quarter of 2021, indicating a gradual but encouraging road to economic recovery. The sensitivity and instability of the Nigerian economy to both domestic and foreign shocks are shown by this trend. It highlights the urgent need for diversification and structural changes to attain steady and sustainable growth, as well as the economy's reliance on oil income and its vulnerability to global price volatility.

Trend Specification for Government Capital Expenditure on Social and Community Services in Nigeria for the Period spanning from 2000Q1 to 2023Q4.

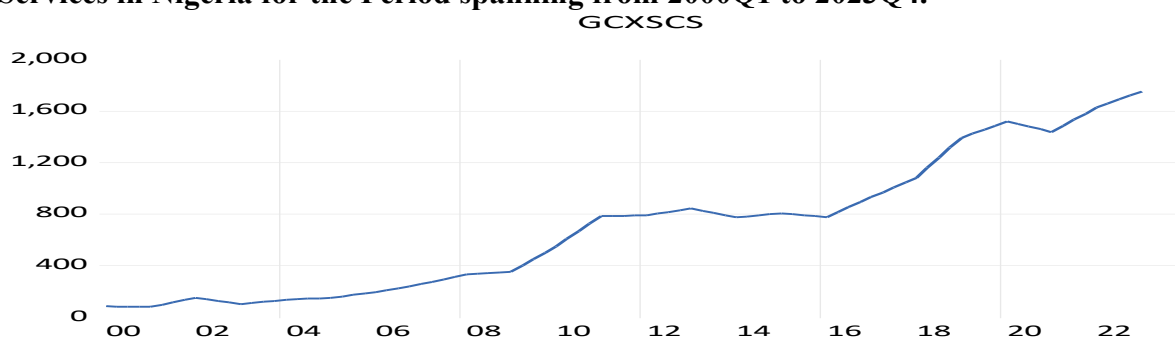


Figure 2

Source: Central Bank of Nigeria (CBN), statistical Bulletin (2023),

Figure 2 shows graphical presentation of Government Expenditure on Social and Community Service (GCXSCS)) as a proxy for government capital expenditure. Government capital expenditure on social and community services in Nigeria began at ₦84.79 billion in the first quarter of 2000, showing a modest commitment to public welfare. This figure climbed

steadily, reaching ₦152.19 billion by the third quarter of 2002. However, a decline followed, with spending dropping to ₦134.4 billion by the third quarter of 2004, signaling a temporary pullback in government investment. The trend reversed dramatically in subsequent years, as capital expenditure surged to ₦256.67 billion in 2007, then more than doubled to ₦550.9 billion by 2010Q1, and reached a remarkable ₦790.0 billion by the first quarter of 2012, reflecting a period of aggressive public sector investment likely aimed at infrastructure development and human capital enhancement. In the years that followed, the expenditure pattern became increasingly volatile. While a significant increase was recorded in 2017Q1 with spending at ₦931.65 billion, an extraordinary leap was observed in 2022 with a capital expenditure of ₦1,628.99 billion, and it further climbed to an all-time high of ₦1,751.7 billion in 2023. This trend highlights Nigeria's evolving fiscal strategy towards social and community services, marked by periods of cautious allocation followed by aggressive spending. The substantial rise in later years indicates growing recognition of the critical role of social infrastructure in driving inclusive development. However, the volatility also points to fiscal instability, inconsistent budget implementation, and the influence of political and economic cycles. Sustainable growth in this sector will require not just increased allocations, but also efficiency, transparency, and continuity in public spending.

Trend Specification for Trends of Government Capital Expenditure on Economic Services in Nigeria for the Period spanning from 2000Q1 to 2023Q4.



Figure 3

Source: Central Bank of Nigeria (CBN), Statistical Bulletin 2023

Figure 3 shows graphical presentation of Government Expenditure on Economic Service (GCXES), as a proxy for government capital expenditure. Government capital expenditure on economic services in Nigeria began at ₦28.79 billion in the first quarter of 2000, reflecting a modest investment in infrastructure and production-enhancing sectors. By the second quarter of 2001, this figure nearly doubled to ₦52.99 billion, and by the end of 2002, it had climbed further to ₦85.23 billion—indicating a growing fiscal commitment to stimulating economic activity. However, in the years that followed, the trend became highly erratic. By the fourth quarter of 2004, capital expenditure had dropped to ₦62.67 billion, highlighting a temporary decline in investment efforts. This was followed by a dramatic surge, reaching a peak of ₦436.62 billion in the third quarter of 2010, likely driven by increased government focus on economic infrastructure and post-recession recovery efforts. Yet again, this momentum was not sustained, as the figure fell sharply to ₦272.6 billion by the fourth quarter of 2013. The pattern of inconsistency persisted through to the first quarter of 2023, with frequent rises and falls characterizing the government's spending behavior.

This fluctuating trend in capital expenditure on economic services underscores the unstable nature of public investment in Nigeria's productive sectors. While periods of high spending suggest strategic interventions to boost growth, the irregularities expose challenges such as fiscal mismanagement, policy discontinuity, and vulnerability to oil revenue shocks. For capital expenditure to translate into long-term economic gains, there is a need for consistent, well-targeted, and efficiently executed investment strategies that prioritize stability, infrastructure development, and economic diversification.

Trend Specification for Government Capital Expenditure on Administration in Nigeria for the Period spanning from 2000Q1 to 2023Q4.



Figure 4

Source: Central Bank of Nigeria (CBN), Statistical Bulletin 2023

Figure 4 shows graphical presentation of Government Expenditure on Administration (GCXA), as a proxy for government capital expenditure. Government capital expenditure on administration in Nigeria began at ₦144.53 billion in the first quarter of 2000, signaling an early effort to strengthen governance structures and public institutions. By the fourth quarter of 2004, this figure had nearly tripled to ₦400.1 billion, and continued its upward momentum, reaching ₦724.16 billion by the end of 2007. This steady rise in administrative capital spending reflects the government's growing investment in public sector infrastructure, institutional reforms, and administrative efficiency. The trend remained consistent, with expenditure climbing to ₦1,072.42 billion in the second quarter of 2013 and further to ₦1,264.69 billion by mid-2015. By the first quarter of 2020, capital expenditure on administration had surged to ₦2,261.01 billion, and reached an all-time high of ₦2,902.29 billion in the fourth quarter of 2022.

This sustained growth in administrative capital spending illustrates a strategic commitment to strengthening the institutional framework of governance, improving service delivery, and enhancing public sector performance. However, it also raises important questions about the efficiency and productivity of such expenditures. For this investment to yield tangible benefits to the broader economy, it must be matched by accountability, transparency, and reforms that ensure administrative spending translates into real improvements in governance and public service outcomes.

Trend Specification for Government Expenditure on Transfers for the Period spanning from 2000Q1 to 2023Q4.

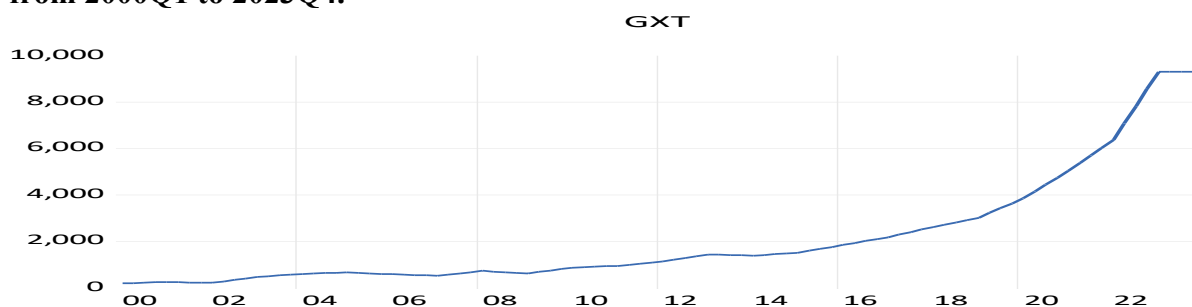


Figure 5

Source: Central Bank of Nigeria (CBN), Statistical Bulletin 2023

Figure 5 shows graphical presentation of Government Expenditure on Transfers (GXT) as a proxy for government capital expenditure. Government expenditure on transfers in Nigeria began at ₦203.69 billion in the first quarter of 2000, reflecting an early effort to support social safety nets, pensions, and other redistributive programs. This figure saw a modest increase to ₦225.32 billion by the first quarter of 2002, but quickly gained momentum, reaching ₦414.52 billion by the end of 2002 and ₦635.75 billion in the first quarter of 2009, with a continued rise into 2015. The post-2015 period marked a significant escalation in

transfer spending. By the second quarter of 2018, government expenditure on transfers surged to ₦2,730.73 billion, followed by an even greater leap to ₦3,644.49 billion in the fourth quarter of 2019. This upward trajectory culminated in a record-high ₦9,303.84 billion by the first quarter of 2023, signaling a dramatic shift in fiscal priorities. This steep and sustained increase in transfer expenditure reflects the government's growing role in social protection, welfare payments, and efforts to cushion vulnerable populations from economic shocks. It may also point to rising public sector obligations, such as subsidies, pensions, and debt-related transfers. While increased transfers can enhance social stability and reduce poverty, the sheer scale of recent growth raises concerns about long-term fiscal sustainability. To ensure effectiveness, such spending must be efficiently targeted, transparently managed, and accompanied by broader economic reforms that expand revenue generation and reduce dependence on borrowing.

Trend Specification for Government Effectiveness for the Period spanning from 2000Q1 to 2023Q4.

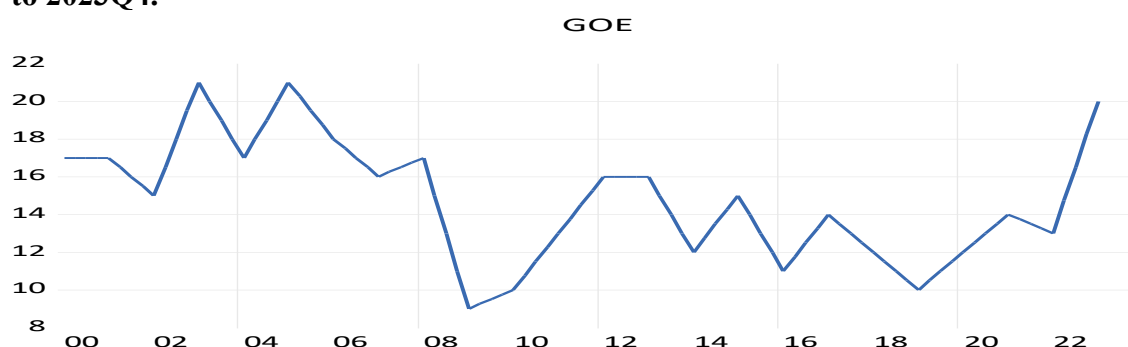


Figure 6

Source: World Bank World Development Indicators (WDI), 2023.

Figure 6 shows graphical presentation of Government Effectiveness (GOE) as a control. Government effectiveness in Nigeria stood at 17 in the first quarter of 2000, signaling a moderate level of institutional performance and public service delivery at the turn of the century. By the first quarter of 2002, it experienced a slight decline to 15, suggesting early signs of administrative inefficiencies. A recovery followed in 2003Q1, with government effectiveness improving to 21—an indication of strengthened institutional capacity. However, this was short-lived as it dropped again to 16 in the third quarter of 2004, before rebounding slightly to 20.25 in 2005Q2. The years that followed were marked by pronounced volatility, reflecting instability in governance quality. A sharp decline to 9 in the first quarter of 2009 raised concerns about weak institutional performance and governance setbacks. Although there was a partial recovery to 16 in the fourth quarter of 2012, this was followed by another dip to 13 in 2015Q3 and a further fall to 10.5 in 2018Q4. This fluctuating trend persisted through to 2023, mirroring the cyclical nature of governance performance in the country. This trend reflects the fragile state of government effectiveness in Nigeria, characterized by inconsistency in public sector performance and policy implementation. While occasional improvements suggest periods of reform or administrative focus, frequent declines highlight deep-rooted challenges such as corruption, weak institutions, bureaucratic inefficiency, and policy instability. For sustainable development, consistent improvements in government effectiveness are essential—requiring strong political will, institutional reforms, and greater accountability in public service delivery.

Table 1: Descriptive Statistics Test Result

	GDPGR	GCXSCS	GCXES	GCXA	GXT	GOE
Mean	5.085484	698.0390	286.9560	1114.321	2081.175	14.71505
Median	5.675000	782.9750	275.5575	1111.800	1121.922	14.50000
Maximum	15.30000	1751.700	600.9900	2631.030	9303.840	21.00000
Minimum	-1.800000	79.63000	28.59000	144.5300	203.6900	9.000000
Std. Dev.	3.355579	514.3471	174.5444	715.5093	2339.859	2.997869
Skewness	0.165745	0.468229	0.080190	0.541518	1.839283	0.144408
Kurtosis	3.209576	2.023244	1.796375	2.255675	5.577351	2.195101
Jarque-Bera	0.596004	7.095138	5.713430	6.692071	80.69835	2.833700
Probability	0.742300	0.028795	0.057457	0.035224	0.000000	0.242477
Sum	472.9500	64917.63	26686.91	103631.9	199792.8	1368.500
Sum Sq. Dev.	1035.912	24338871	2802849.	47099724	5.20E+08	826.8239
Observations	93	93	93	93	96	93

Source: Author Computation 2025

Table 1 Shows the study factors' descriptive data. This study looked at 93 cases, each with five factors (one dependent and four independent). The Gross Domestic Product Growth Rate (GDPGR) had a standard deviation of 3.355579, a mean value of 5.085484, a low of -1.800000, and a high of 15.30000. The average amount the government spent on social and community services (GCXSCS) was 698.0390, while the least and most amounts reported were 79.63000 and 1751.700, respectively, with a standard deviation of 1.619940. Similarly, the average amount the government spent on economic services (GCXES) was 286.9560. While both extremes showed a number of 28.59000 and 600.9900, the standard deviation was 174.5444. The average cost of government administration was 1114.321, while the lowest number recorded was 144.5300 and the highest was 2631.030. The standard deviation was 715.5093. The average amount the government spent on payments was 2081.175, the least was 203.6900, and the most was 9303.840.

The standard deviation was 2339.859. Lastly, Government Effectiveness (GOE) had a mean value of 14.71505, a standard deviation of 2.997869, a minimum value of 9.000000, and a maximum value of 21.00000. About the study's other variables: Jarque-Bera, skewness, and kurtosis. The skewness result showed that GCXSCS, GCXES, GCXA, and GOE are fairly skewed (0.468229, 0.080190, 0.541518, and 0.144408, respectively) and that GXT is highly skewed. It is within 1 coefficient. Kurtosis, on the other hand, measures how flat or pointy the distribution of a series is. So, GDPGR has a kurtosis value of 3.20, which means it is mesokurtic because the coefficient is exactly or close to 3. On the other hand, GXT is leptokurtic because its coefficient is more than 3. But GCXSCS, GCXES, GCXA, and GOE are platykurtic since their number is under 3. The Jarque-Bera measures how much the skewness and kurtosis of each quantity vary from each other. The Jarque-Bera p-value of the variables shows that GCXSCS, GCXA, and GXT are all less than 0.05, which means that the null hypotheses are rejected, but GDPGR, GCXES, and GOE are all more than 0.05. In this case, they are usually spread. The values are tested for unit root, then.

Unit Root Test

The Augmented Dickey Fuller (ADF) unit root test is used to establish the stationarity of the time series data used in the study. The result in table 2 are shown below;

Table 2: The Augmented Dickey Fuller (ADF) Unit Root Test

Variables	Levels		First Difference		Order of Integration	P-value
	ADF Statistics	5% Critical Value	ADF Statistics	5% Critical Value		
GDPGR	-2.401947	-2.998064	-4.131564	-3.020686	I(1)	0.0000
LGCXSCS	-1.156528	-2.998064	-6.650667	-3.004861	I(1)	0.0000
LGCXES	-1.430941	-3.004861	-4.333522	-3.004861	I(1)	0.0029
LGCXA	-2.295719	-2.998064	-4.284961	-3.004861	I(1)	0.0002
LGXT	3.751174	-3.029970			I(0)	0.0000
GOE	-2.683723	-2.998064	-6.607417	-3.004861	I(1)	0.0000

Source: *Author Computation 2025** Level of significance at 5%

Table 2 displays the results of the Augmented Dickey-Fuller (ADF) unit root tests that were used to verify the order of integration of the variables in this study. Augmented Dickey-Fuller (ADF) findings revealed alternative orderings of variable integration or a mix of I(0) and I(1) series. It was found by the ADF that LGXT is stationary at levels I(0), whereas LGDPGR, LGCXSCS, LGCXES, LGCXA, and GOE all become stationary after first differencing I(1). To examine the long-term connection between these variables, the Autoregressive Distributive Lag (ARDL) Bounds test method of co-integration is suitable under these conditions.

Co-integration Test

Table 3: ARDL Bound Test

Test Statistics	Value	K
F-statistics	7.702984	5
Significance	I (0)	I(1)
10%	2.35	3.50
5%	2.78	4.01
1%	3.72	5.16

Source: *Authors computation 2025*

The F-statistic value of 7.702984 surpasses both the lower and upper bound critical values, indicating the existence of long term correlations among the variables (table 3). We conclude that there must be a long-term association and reject the alternative hypothesis. What this suggests is that in the long run, capital expenditures made by the Nigerian government do correlate with GDP growth.

Short and Long-Run Estimation Results for the Model

The results of the short and long-run dynamics association of model one are presented in table 4 below

Table 4: ARDL Short and Long-run Result for the Model

Short Run Coefficient				
Variable	Coefficient	Std. Error	t-Statistics	Prob
D((LGCXSCS)	0.764336	0.103693	7.371861	0.0000
D(LGCXES)	0.845134	0.284079	2.974798	0.0040
D((LGCXA(-1)	0.776987	4.097963	0.189603	0.8501
D(LGXT(-1)	-0.049385	2.349852	-0.021016	0.9833
D(GOE)	-0.053538	0.116984	-0.457654	0.6486
ECM(-1)	-0.031314	0.004445	7.043882	0.0000
Long Run Coefficient				
Variable	Coefficient	Std. Error	t-Statistics	Prob
D((LGCXSCS(-1)	0.943397	0.247665	3.808876	0.0008
D(LGCXES(-1)	0.989461	0.336827	2.937597	0.0011
D((LGCXA(-1)	-0.472703	0.571407	-0.827262	0.4104
D(LGXT(-1)	0.255315	0.349970	0.729535	0.4677
D(GOE)	-0.258911	0.546211	-0.474013	0.6367
C	0.480207	0.070049	6.853312	0.0000
Adj R² = 0.646919, F-statistics = 11.19167 (0.000000), DW = 1.898093				

Source: Authors computation using E-view 13 2025

There is a negative value for the coefficient estimate of the error correcting term, ECM(-1) at the 0.05 level of significance. The model will reach long-run equilibrium every year at a rate of 0.03%, according to the results. Therefore, with an annual adjustment speed of 0.03%, it is feasible to rectify the error from the previous year. The independent variables (LGXT & GOE) explain 48% of the total variance in the dependent variable (GDPGR), according to the modified R-Square (R²) value. Given that the F-statistic is noteworthy at the 5% level of significance, every component of the model is intriguing. Durbin-Watson statistics of 1.898093, which is near to 2, show that the model cannot work without serial correlation.

Table 4 displays the model's short-term and long-term outcomes. The relationship between government capital expenditure on administration (LGCXA) and gross domestic product growth rate in the previous year's short-run was positive but insignificant. However, in the current year's short-run, the rate of growth was positively and significantly affected by the logarithm coefficient of government capital expenditure on social and community service (LGCXSCS) and the log value of government capital expenditure on economic service (LGCXES). The short-term relationship between GDP growth rate, the logarithm of government expenditure on transfers (LGXT), and the coefficient of government effectiveness (GOE) was shown to be negative and insignificant. Government capital spending on social and community service (LGCXSCS) and economic service (LGCXES) positively and significantly affected the rate of GDI growth, according to the long-term analysis results displayed in Table 3. In contrast to the positive but statistically insignificant correlation between GDP growth rate and the log coefficient on government spending on transfers (LGXT), the long-term link between government effectiveness (GOE) and GDP growth rate was negative.

Diagnostic Test

Table 5: Ramsey Reset Test, Serial Correlation LM Test and Homoscedasticity Test Results

	F-Statistic	Prob-Value
Ramsey Reset Test	6.415463	0.1137
Breusch-Godfrey Serial Correlation LM Test	19.91555	0.6331
Breusch-Pagan-Godfrey Heteroskedasticity Test	1.466050	0.1203

Source: Authors computation 2025

According to Table 5, the diagnostic test results demonstrate that the linearity test using the Ramsey Reset test yielded an f-statistic of 6.415463 and a computed p-value of 0.1137, both of which are greater than the 5% (0.05) critical value. Consequently, the study rejects the null hypothesis and concludes that the model is correctly specified. The f-statistic is 19.91555 and the Chi-Square probability value is 0.6331 according to the Serial or Autocorrelation Test utilizing the Breusch-Godfrey Serial Correlation LM Test. The investigation demonstrates that there is no serial correlation in the model since the probability value of roughly 63% (0.6331) is larger than the crucial value of 5% (0.05). The f-statistic is 1.466050 and the Chi-Square probability value is 0.1203, according to the heteroscedasticity test that was conducted using the Breusch-Pagan-Godfrey test. With a probability Chi-square value more than 5% ($P > 0.05$), the results point to the absence of heteroskedasticity in the model. This means that the residuals are homoscedastic, which is a desired quality in regression, and that their variance is constant.

Discussion of Findings

Government Capital Expenditure on Social and Community Services and Gross Domestic Product Growth Rate in Nigeria

Government spending on social and community services (GCXSCS) is positively and significantly correlated with GDP growth rate (GDPGR) in both the long and short term, according to conclusions drawn from the Auto-Regressive Distributive Lag (ARDL) Model. A higher GDP growth rate is likely the result of better human capital, better infrastructure, more favorable circumstances for increased productivity, and the expansion of the private sector, all of which are influenced by the positive and statistically significant relationship between government capital expenditure on social and community services (GCXSCS) and GDP growth rate (GDPGR). Government capital expenditure on social and community (GCXSCS) and gross domestic product growth rate (GDPGR) are negatively correlated, however the study's p-value suggests that this is not the case. Therefore, the results of the study contradict the null hypothesis, which claims that the GCXSCS and GDPGR are not statistically related. Previous research by Uchenna and Onwumere (2022) and Olayemi and Adefeso (2021) is in agreement with the results of this examination.

Government Capital Expenditure on Social and Economic Services and Gross Domestic Product Growth Rate in Nigeria

Results from the Auto-Regressive Distributive Lag (ARDL) Model infer that, both in the long and short run, there is a positive and statistically significant relationship between government spending on economic services (GCXES) and GDP growth rate (GDPGR). Government capital expenditure on economic services (GCXES) has a positive and statistically significant relationship with GDP growth rate (GDPGR). This suggests that more GCXES spending improves infrastructure, lowers production costs, increases investment, and opens up more markets. This study did find a statistically significant correlation between government capital expenditure on economic services (GCXES) and GDP growth rate (GDPGR), according to the p-value. Therefore, the results of the study contradict the null hypothesis, which claims that the GCXES and GDPGR are not statistically related. Consistent with earlier research by Olayemi and Adefeso (2021) and Omitogun and Ayinla (2020), this study confirms.

Government Capital Expenditure on Administration and Gross Domestic Product Growth Rate in Nigeria

A positive but negligible association between government spending on administration (GCXA) and gross domestic product growth rate (GDPGR) in the current year's short-run was inferred from the research utilizing the Auto-Regressive Distributive Lag (ARDL) Model. Increases in government capital expenditure on administration (GCXA) have a positive but insignificant relationship with GDP growth rate (GDPGR). This suggests that GCXA can

improve service delivery, create jobs, and increase institutional efficiency, all of which stimulate economic activities and positively impact GDP growth rate. However, the study's p-value suggests that there is no statistically significant association between GDPGR and government capital expenditure on administration (GCXA). Therefore, the results of the study provide credence to the idea that the GCXA and GDPGR are not significantly related, as stated in the null hypothesis. Previous research by Olayemi and Adefeso (2021) contradicts the results of this analysis.

Government Expenditure on Transfers and Gross Domestic Product Growth Rate in Nigeria

A long-term positive but statistically insignificant association between government spending on transfers (GXT) and GDP growth rate (GDPGR) was suggested using the Auto-Regressive Distributive Lag (ARDL) model. There is a weak but positive correlation between government spending on transfers (GXT) and GDP growth rate (GDPGR), which means that more transfer spending can boost GDP growth through increasing household income, consumption, and social protection, all of which contribute to economic stability and demand. Government spending on transfers (GXT) and GDP growth rate (GDPGR) do not appear to have a statistically significant association, according to the study's p-value. Therefore, the results of the study provide credence to the idea that the GXT and GDPGR are not significantly related, as stated in the null hypothesis.

Rate of Growth in Gross Domestic Product and the Efficiency of the Nigerian Government

The results of the Auto-Regressive Distributive Lag (ARDL) Model's research showed that, over the long term, GDP growth rate (GDPGR) is negatively and insignificantly related to government effectiveness (GOE). As a result of better investment, service quality, and economic management, GDP growth is boosted by a rise in government effectiveness (GOE), according to the negative and negligible link between the two variables. This study found no statistically significant correlation between government effectiveness (GOE) and GDP growth rate (GDPGR), according to the p-value. Therefore, the results of the study provide credence to the idea that the GOE and GDPGR are not significantly related, as stated in the null hypothesis.

Conclusion and Recommendation

Conclusion

The study on the relationship between government capital expenditure and economic growth concludes that government capital expenditure on social and community services and government capital expenditure on economic service has a positive and significant relationship with gross domestic product growth rate as a stand-in for economic growth while government expenditure on administrative service and government expenditure on transfers reported a positive but insignificant relationship with gross domestic product growth rate. However, government effectiveness had a negative and insignificant relationship with gross domestic product growth rate. Hence, it was concluded that government capital expenditure via government capital expenditure on social and community services and government capital expenditure on economic service is a key driver to Nigerian economic growth.

Recommendations

- i. The Federal Ministry of Finance, Budget, and National Planning should prioritize and increase capital allocations to social and community services and economic services. Since these expenditures show a significant positive impact on GDP growth, sustained investment in these sectors can serve as a reliable engine of economic development.
- ii. Budget Office of the Federation should conduct periodic reviews and impact assessments of administrative expenditure and transfer payments. Given their positive but insignificant

relationship with GDP growth, reforms should focus on ensuring these funds are efficiently targeted, especially toward productivity-enhancing programs such as pensions, conditional cash transfers, and public service delivery.

- iii. Office of the Head of Civil Service of the Federation (OHCSF) and Bureau of Public Service Reforms (BPSR) should implement comprehensive public sector reforms to improve government effectiveness. The negative and insignificant impact of government effectiveness on GDP growth indicates inefficiencies, possibly due to weak institutions, poor service delivery, or corruption. Strengthening performance monitoring, digital governance, and accountability mechanisms is critical.
- iv. Also, the National Assembly Committees on Appropriation and Public Accounts should enhance their oversight function to ensure that approved expenditures are not only disbursed timely but are also effectively implemented. This will help convert fiscal allocations—especially those currently yielding insignificant results into impactful growth-oriented investments.
- v. Finally, the National Planning Commission and Nigerian Economic Summit Group (NESG) should collaborate in designing evidence-based policy frameworks that reallocate more public funds toward sectors with proven economic returns, such as social and economic infrastructure, while gradually restructuring less impactful areas like administrative overheads and unproductive transfers.

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