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# Government Healthcare Expenditure and Economic Growth In Nigeria: Evidence from an ARDL Approach

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**Abstract**
*This study examined the impact of government healthcare expenditure on economic growth in Nigeria for the period of 1984 to 2025. The study employs time-series econometric Techniques using the Autoregressive Distributed Lagged Model (ARDL) to investigate the dynamic short- and long-run relationships and determine the impact of healthcare expenditure on economic growth. The unit root analysis of the data revealed that the data were integrated of order I(0) and I(1), which justifies the use of the ARDL framework. The cointegration test (Bounds Test) revealed that the variables have a long-run relationship. The results of the analysis revealed that, in the long run, domestic health expenditure has a negative and insignificant effect on economic growth, while foreign health expenditure has a negative, statistically significant effect on economic growth. Life expectancy, however, had a positive and significant effect on economic growth. In the short run, domestic health expenditure negatively and significantly affected economic growth. In contrast, foreign health expenditure and life expectancy positively and significantly influenced economic growth. The error correction term was negative and statistically significant, confirming the existence of a stable long-run relationship among the variables. The study therefore recommends increased and efficient healthcare funding, improved accountability in the health sector, reduced reliance on foreign healthcare financing, and policies to improve life expectancy and healthcare outcomes in Nigeria.*

**Keywords:** Government expenditure, healthcare, life expectancy, exchange rate, economic growth

## Introduction

Health remains one of the most critical determinants of economic productivity, human capital development, and sustainable national growth. A healthy population contributes more effectively to economic activities because individuals with better physical, mental, and social well-being are more productive, innovative, and able to participate actively in the labour force. According to the World Health Organization [WHO] (2023), health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity. This definition underscores the multidimensional importance of health in improving quality of life and strengthening economic performance. The relationship between health and economic growth is bidirectional: improved healthcare services enhance labour productivity, while higher economic growth increases governments' and households' ability to invest in healthcare infrastructure and medical services (Bloom et al., 2020). Increased life expectancy resulting from improved healthcare services also encourages savings, investment in education, and human capital accumulation, all of which stimulate long-run economic growth (Barro, 2021). However, developing economies such as Nigeria continue to experience weak healthcare systems characterised by inadequate funding, poor infrastructure, a shortage of medical personnel, and limited access to quality healthcare services. In Nigeria, government expenditure on health has consistently fallen short of the 15 per cent benchmark recommended by the Abuja Declaration, leading to excessive reliance on out-of-pocket healthcare financing and external donor support (World Bank, 2024). These challenges have

 

weakened healthcare delivery, increased the disease burden, reduced labour productivity, and constrained the health sector's contribution to economic growth.

Although several studies have examined the relationship between government healthcare expenditure and economic growth in Nigeria, important gaps remain in the existing literature. Many previous Nigerian studies have largely focused on aggregate public health expenditure or total healthcare expenditure, without adequately distinguishing between domestic and foreign healthcare expenditure, despite the growing role of foreign health assistance and donor-funded healthcare programmes in Nigeria's health sector (Bukonla et al., 2025; Nwokocha et al., 2025). This limitation makes it difficult to determine the separate contributions of domestic and foreign healthcare financing to economic growth. In addition, existing studies have not sufficiently incorporated life expectancy as a health outcome variable capable of capturing the effectiveness of healthcare investment on human capital development and productivity. Life expectancy is important because it reflects improvements in health conditions, longer productive years, and enhanced labour efficiency. Furthermore, limited empirical attention has been given to models that simultaneously examine the short-run and long-run dynamics among domestic health expenditure, foreign health expenditure, life expectancy, and economic growth over an extended period.

In response to these gaps, this study examines the effect of healthcare expenditure on economic growth in Nigeria, distinguishing between domestic and foreign healthcare expenditure, and incorporating life expectancy as a key health outcome variable. By analysing both the short-run and long-run relationships among these variables, the study provides a more comprehensive understanding of how healthcare financing and health outcomes influence economic growth in Nigeria. The study, therefore, contributes to the existing body of knowledge by providing updated empirical evidence to guide policymakers in designing effective healthcare financing strategies, improving health sector performance, strengthening human capital development, and promoting sustainable economic growth in Nigeria.

## Literature Review

Government health expenditure has increasingly become a major subject of empirical inquiry, particularly in developing economies where inadequate healthcare financing continues to constrain health outcomes, labour productivity, and overall economic performance. Health spending is generally regarded as a productive component of human capital development because improved healthcare services reduce morbidity and mortality, increase life expectancy, enhance labour force participation, and improve workers' efficiency. From this perspective, public expenditure on health does not merely serve a welfare function; it also contributes to economic growth by strengthening the productive capacity of the population.

Empirical evidence across countries broadly supports the growth-enhancing role of healthcare expenditure. Studies on Sub-Saharan Africa, West Africa, and OECD economies have shown that healthcare investment promotes economic growth by improving health outcomes, increasing labour productivity, and reducing disease burden. For instance, Kamanda et al. (2022) found that healthcare expenditure and better health outcomes significantly stimulate economic growth in Sub-Saharan African countries. Similarly, Ogundipe and Lawal (2023) reported that public health expenditure contributes positively to economic growth in West African economies by improving workforce efficiency and human capital accumulation. Atilgan et al. (2024) also found a positive, statistically significant relationship between healthcare expenditure and economic growth across OECD countries, suggesting that health investment has long-run macroeconomic benefits.

 

Evidence from Nigeria also indicates that government expenditure can promote economic growth when properly allocated and efficiently managed. Bankole and Adesanya (2024), using the ARDL approach, found that recurrent government expenditure significantly contributes to growth through aggregate demand expansion and infrastructure development. Akaegbobi and Nwosu (2025) similarly showed that both capital and recurrent expenditures positively influence economic growth in Nigeria, particularly when public resources are directed toward productive sectors. In the same vein, Eze and Okeke (2023) observed that government spending on social and economic services, especially health, education, and infrastructure, enhances growth by strengthening the foundations of productivity and development.

More specifically, recent studies on healthcare expenditure in Nigeria largely suggest a positive relationship between public health spending and economic performance. Bukonla et al. (2025), using annual time-series data from 1986 to 2024, found that public health expenditure has a positive long-run effect on economic growth by improving human capital formation and productivity efficiency. Oniyide et al. (2025) also found that health expenditure and life expectancy contribute significantly to economic growth by improving labour productivity and enhancing health outcomes. Similarly, Nwokocha et al. (2025), Ideh et al. (2022), and Ayaga et al. (2024) found that government health expenditure improves human capital development, labour productivity, and economic performance in Nigeria, particularly over the long run.

However, the literature also reveals that the growth effect of healthcare expenditure in Nigeria is not automatic. Some studies argue that the impact remains weak or inconsistent because of structural and institutional constraints. Nweke and Chidi (2025), using the Granger causality approach, found that although healthcare expenditure influences economic growth, the relationship is weakened by poor policy implementation and inefficiencies in healthcare financing. Ogbu et al. (2025) similarly argued that corruption, inadequate health infrastructure, weak institutional frameworks, and poor budget execution reduce the effectiveness of public healthcare expenditure. These findings suggest that the relationship between health spending and growth depends not only on the volume of expenditure but also on the quality of governance, efficiency of allocation, and strength of implementation mechanisms.

Nigeria's broader macroeconomic environment further complicates the effectiveness of public health expenditure. Inflation, exchange rate instability, fiscal deficits, rising debt-servicing obligations, and limited fiscal space have constrained government investment in healthcare and other productive sectors. In addition, continued dependence on out-of-pocket payments and foreign donor support limits equitable access to healthcare and undermines sustainable health sector development. Thus, while public healthcare expenditure can stimulate growth, its effectiveness depends on efficient resource allocation, accountability, institutional quality, and the consistent implementation of health policies.

This study is theoretically anchored on the Human Capital Theory and the Endogenous Growth Theory. The Human Capital Theory, associated with Becker (1964) and extended by Grossman (1972), views expenditure on health, education, training, and skills as productive investment rather than mere consumption. Becker argues that investment in human capital increases workers' efficiency, earning capacity, and contributions to economic production. Grossman further developed this perspective through the concept of health capital, arguing that health is a durable capital stock that produces "healthy time" and enhances individuals' productive capacity. In this regard, healthcare expenditure improves labour productivity by reducing illness-related absenteeism, increasing labour force participation, and strengthening workers' physical and mental capacity.

 

The Endogenous Growth Theory, advanced by Romer (1986, 1990) and Lucas (1988), also provides a relevant framework for this study. Unlike neoclassical growth theory, which treats technological progress as external to the growth process, endogenous growth theory argues that long-run growth is generated internally through investment in human capital, innovation, knowledge, and technology. From this standpoint, government investment in healthcare can have lasting effects on economic growth by improving the quality of human capital, raising productivity, increasing life expectancy, and enhancing the workforce's capacity for innovation and adaptation.

In a nutshell, it can be deduced that government health expenditure is an important channel through which human capital development can stimulate economic growth. However, the Nigerian evidence also shows that the effectiveness of health spending is conditioned by institutional quality, fiscal stability, governance, and policy implementation. This creates a basis for further empirical investigation into how government health expenditure influences economic growth in Nigeria, particularly within the context of persistent healthcare financing gaps, weak institutional capacity, and macroeconomic instability. Before journal submission, cross-check all cited studies in your reference list to ensure author names, years, titles, and methods are accurate.

**Methodology**

This study employed an ex post facto research design. The choice of this research design was based on the fact that this study involves the use of time-series secondary data for the period 1984 to 2025, sourced from the official publications of the Central Bank of Nigeria (CBN), the National Bureau of Statistics (NBS), and the World Bank Development Indicators (WDI). The time series data collected were analysed using econometric estimation techniques, including the Autoregressive Distributed Lag (ARDL) model, to investigate the dynamic short- and long-run relationships between Government health expenditure and economic growth. The choice of the model was based on its suitability for estimating short- and long-run relationships among the variables and for assessing cointegration among them. There are two approaches to the relationship between government expenditure and economic growth: the Wagner or Keynesian hypothesis. The model to be adopted is a modified version of the Keynesian theory of public expenditure and economic growth. In this model, national output (GDPgr) is a dependent variable. Domestic Health expenditure (DHEX), External Health expenditure (EHEX) and Life expectancy at birth (LEXP) are the independent variables. The functional form of the model is as follows:

$$GDPgr = f(DHEX, EHEX, LEXP) \quad \text{.....(3.1).}$$

Where;
GDPgr = Gross Domestic Product (Growth)
DHEX = Domestic Health Expenditure
EHEX = External Health expenditure
LEXP = Life expectancy at birth
However, the Econometric Model is expressed as:

$$GDPgr_t = \beta_0 + \beta_1 DHEX_1 + \beta_2 EHEX_2 + \beta_3 LEXP_3 + \varepsilon_t \quad \text{.....(3.2)}$$

Where:
$\beta_0$= Intercept
$\beta_1 - \beta_4$ = Coefficient
The ARDL model is expressed as:

$$\Delta lGDPgr = \omega_0 + \sum_{i-1}^{n-1} w_{1i}\Delta GDPgr_{t-1} + \sum_{i-0}^{n-1} w_{2i}\Delta lDHEX_{t-1} + \sum_{i-0}^{n-1} w_{3i}\Delta lEHEX_{t-1} + \sum_{i-0}^{n-1} w_{4i}\Delta lLEXP_{i-1} + \mu_t \quad \text{.....(3.3)}$$

Where: $\Delta$ is the first difference of the Dependent Variable, $w_0$ is the Intercept, $w_{1i}\ to\ w_{5i}$ are the coefficients of the independent Variables and $\mu_{it}$ is the error term. Furthermore, after estimating the long-run model, the short-run elasticities of the variables are estimated using the Error Correction Mechanism (ECM) framework of the ARDL model. Hence, the ECM of this model can be derived from equation (3.2) as follows:

$$\Delta GDPgr_t = \omega_0 + \sum_{i=1}^{n} \lambda_{1i}\,\Delta GDPgr_{t-1} + \sum_{i=0}^{n} \beta_{2i}\,\Delta DHEX_{t-1} + \sum_{i=0}^{n} \beta_{3i}\,\Delta FHEX_{t-1} + \sum_{i=0}^{n} \beta_{4i}\,\Delta \mathrm{LEXP}_{t-1} + \delta ECM_{t-1} + \varepsilon_{1t} \quad \text{... ... ... ... ... ... ... ... ... ... ... ... ... (3.4)}$$

Where δ is an error correction form, it indicates the speed of adjustment of parameters back to the long-run equilibrium after a short-run shock. The absolute value of the adjustment parameter lies between 0 and 1. The larger the error-correction coefficient is, the faster the adjustment back to its long-run equilibrium after a short-run shock (Pesaran & Shin, 1999).

**Results**

This section presents the study's analysis and interpretations of the results. It also contains a summary of the major findings, as well as a discussion of the findings based on the study objectives.

**Table 1: Descriptive Statistics**

| Variable | Mean | Median | Maximum | Minimum | Std. Dev. |
|---|---|---|---|---|---|
| GDPGR | 3.990019 | 4.212993 | 15.32916 | -6.3689 | 4.128336 |
| DHEX | 0.540489 | 0.493413 | 1.202034 | 0.245650 | 0.228978 |
| EHEX | 8.912683 | 9.567519 | 16.96759 | 5.409049 | 2.455805 |
| LNLEXP | 3.907356 | 3.923243 | 3.997503 | 3.817339 | 0.062190 |

*Source: Authors' Computation (2026)*

The results in Table 1 show that economic growth (GDPgr) has a mean value of 3.99%, indicating that, on average. The median value of 4.21% suggests that growth was slightly skewed towards higher values. However, the wide range between the maximum (15.33%) and minimum (–6.37%) values reflects significant fluctuations in economic performance, including periods of strong expansion and economic contraction. The relatively high standard deviation (4.13) further confirms the volatility of economic growth in Nigeria over time. Domestic health expenditure (DHEX), with a mean of 0.54% of GDP, indicates a generally low level of government spending on healthcare relative to the size of the economy. The median (0.49%) is close to the mean, suggesting a fairly symmetric distribution. The minimum (0.25%) and maximum (1.20%) values indicate that, although there have been slight improvements, there is still room for improvement. The standard deviation (0.23) indicates moderate variability, suggesting that changes in domestic health expenditure have been relatively stable over time.

For foreign health expenditure (EHEX), the mean of 8.91% indicates a notable reliance on external sources of healthcare financing. The median (9.57%) is higher than the mean,

 

suggesting slight negative skewness. The maximum value (16.97%) and minimum (5.41%) reflect variability in external funding inflows, likely influenced by changes in donor priorities and international support. The standard deviation (2.46) indicates moderate fluctuations, implying that foreign health expenditure has not been entirely stable over the period. However, life expectancy (LNLEXP) indicated a mean of 3.91 and a median of 3.92, suggesting a stable and consistent improvement in health outcomes over time. The narrow range between the maximum (3.997) and minimum (3.817) values, along with a very low standard deviation (0.062), indicates minimal variability. This suggests that life expectancy in Nigeria has experienced gradual but steady progress, with no extreme fluctuations.

**Table 2: ADF unit roots test Results with trend and constant**

| Variables | At level test values (prob.) | First difference test values (prob.) | Order of Integration |
|---|---|---|---|
| GDPgr | -3.736685 | -8.977298*** | I(1) |
| DHEX | -3.334143 | -6.740959*** | I(1) |
| EHEX | -7.034312*** | -9.246561*** | I (0) |
| LEXP | -2.846020 | -3.792015** | I(1) |

*Source: Researcher's computation using E-views 9*
**Notes:** a (*) significant at 10%, (**) significant at 5%, (***) significant at 1% and (-) not significant b (prob.) probability.

Based on the ADF results presented in Table 1 with the trend and constant, the results suggest that External Health Expenditure (EHEX) is stationary at level I(0). On the other hand, the other variables modelled were found to be stationary at first difference: Gross Domestic Product (GDP Growth), Domestic Health Expenditure as a percentage of GDP, and life expectancy at birth (LEX). Therefore, the variables are integrated of orders zero and one, which is the required condition for conducting an ARDL analysis; thus, the specified model can be implemented using the bounds testing approach as established by Pesaran, Shin and Smith (2001).

**Table 2: ARDL Bounds Test Result**

| Test Statistic | Value | K | Significance | I0 Bound | I1 Bound |
|---|---|---|---|---|---|
| F-statistic | 6.576599 | 3 | 10% | 2.97 | 3.74 |
| | | | 5% | 3.38 | 4.23 |
| | | | 2.5% | 3.8 | 4.68 |
| | | | 1% | 4.3 | 5.23 |

*Source: Author's computation using E-views 9.0*

The ARDL bounds test is a cointegration test to determine whether the variables modelled have a long-run relationship (convergence). The bounds cointegration test compares the F-statistic value of 6.576599 with the lower and upper bounds. The F-statistic here being greater than the lower and upper bound values suggests that cointegration exists among the variables modelled.

**Table 3: Short-run Estimates of ARDL**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| ΔDHEX | -704.7501 | 111.6319 | -6.313158 | 0.0000*** |
| ΔEHEX | 1.359485 | 0.350781 | 3.875598 | 0.0010*** |
| ΔLEXP | 443.8850 | 168.2120 | 2.638843 | 0.0162** |
| ECM(-1) | -1.061020 | 0.168171 | -6.309178 | 0.0000*** |

*Source: Author's computation using E-view 10 (2026)*
***, **, * denotes the level of significance at 1%, 5% & 10% respectively.

Table 3 revealed that the Coefficient of domestic health expenditure is –704.7501 and is statistically significant at the 1% level (p = 0.0000). This indicates that, in the short run, increases in domestic health expenditure have a negative and significant effect on economic growth. In contrast, foreign health expenditure has a coefficient of 1.359485, is positive, and is statistically significant at the 1% level (p = 0.0010). This suggests that increases in foreign health expenditure positively influence economic growth in the short run. Similarly, life expectancy has a coefficient of 443.8850, which is positive and statistically significant at the 5% level (p = 0.0162). This indicates that improvements in life expectancy positively contribute to short-run economic growth, reinforcing the importance of health outcomes in enhancing labour productivity and human capital development. Lastly, the error correction term (ECM(-1)) has a coefficient of –1.061020, which is negative and highly significant at the 1% level (p = 0.0000). The negative sign confirms the existence of a long-run equilibrium relationship among the variables. The magnitude (–1.06) suggests a very rapid adjustment speed, implying that more than 100% of any short-run disequilibrium is corrected within one period. This indicates an overshooting adjustment, where the system not only corrects past deviations but temporarily exceeds the equilibrium level before stabilising.

**Table 4: Long-Run Estimation Result**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| DHEX | -2.762462 | 5.663502 | -0.487766 | 0.6313 |
| EHEX | -1.557092 | 0.724231 | -2.149994 | 0.0446** |
| LNLEXP | 178.1993 | 67.30121 | 2.647787 | 0.0159** |
| @TREND | -1.027461 | 0.429863 | -2.390206 | 0.0274** |

*Source: Author's computation using E-view 10 (2026)*
***, **, * denotes the level of significance at 1%, 5% & 10% respectively.

Table 4 captures the long-run effects of the explanatory variables on economic growth in Nigeria over the study period. The Coefficient of DHEX is –2.762462, indicating a negative relationship with economic growth. However, this effect is statistically insignificant (p = 0.6313 > 0.05), suggesting that variations in domestic health expenditure do not have a meaningful impact on economic growth within the period under review. EHEX has a coefficient of –1.557092, which is negative and statistically significant at the 5% level (p = 0.0446). This implies that an increase in external health expenditure is associated with a decline in economic growth. The negative relationship may be attributed to factors such as dependency on foreign aid, misallocation of external funds, or the possibility that such funds are not effectively channelled into productivity-enhancing health investments. Additionally, the Coefficient for lnLEXP is 178.1993, indicating a positive, statistically significant relationship with economic growth (p = 0.0159). This suggests that improvements in life expectancy contribute significantly to economic performance. Higher life expectancy reflects better health outcomes, which enhance labour productivity, reduce mortality, and support human capital development, thereby promoting economic growth.

**Table 5: Breusch-Godfrey Serial Correlation LM Test**

| Test Statistic | Value | Prob. |
|---|---|---|
| F-statistic | 0.918335 | 0.4181 |
| Obs*R-squared | 3.120162 | 0.2101 |

*Source: Eviews 12 output (2026)*

The Breusch-Godfrey test results from Table 5 indicate a strong absence of serial correlation in the residuals, as both the F-statistical probability (0.4181) and Obs*R-squared probability

 

(0.2101) are significantly greater than 0.05. This leads to failing to reject the null hypothesis of no serial correlation, implying that the model's residuals are random and unpredictable. Its estimates are reliable and unaffected by autocorrelation, thereby supporting the validity and robustness of the model's results.

**Table 6: Harvey Heteroskedasticity Test**

| Test Statistic | Value | Prob. |
|---|---|---|
| F-statistic | 0.279946 | 0.9859 |
| Obs*R-squared | 4.807795 | 0.9641 |
| Scaled explained SS | 4.404254 | 0.9750 |

*Source: Eviews 12 output (2026)*

The Table 6 results suggest no significant evidence of heteroskedasticity, as the F-statistic probability (0.9859), Obs*R-squared probability (0.9641), and Scaled explained SS probability (0.9750) are all greater than 0.05. This supports the null hypothesis of homoskedasticity, implying that the residuals' variance is constant and that the model's estimates are reliable, thereby validating the model's assumptions and robustness.

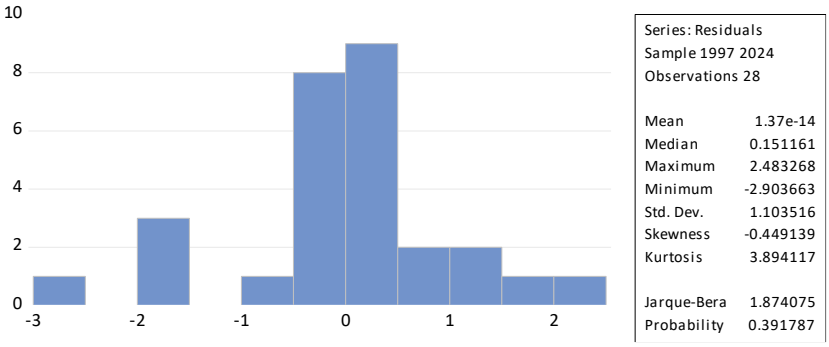


**Figure 1: Normality test**

The above Figure 1 indicates that the residuals are approximately normally distributed, with no significant deviations from normality. Specifically, the Jarque-Bera test further confirms that the residuals do not significantly deviate from normality (p-value = 0.39).

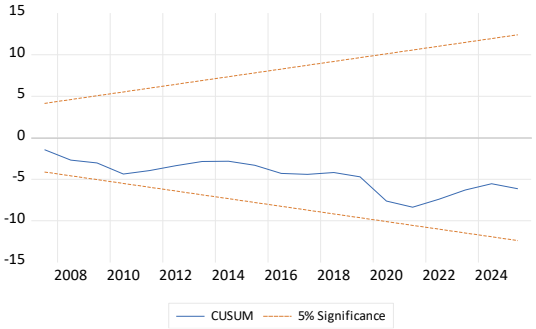


**Figure 2: CUSUM Test**

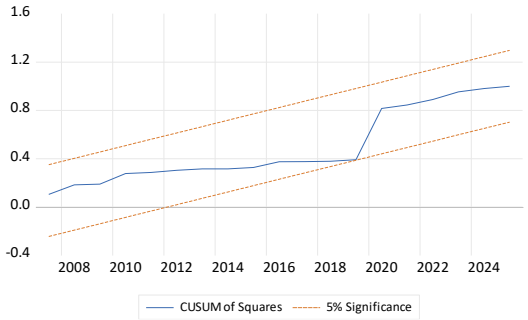


**Figure 3: CUSUM of Squares test**

Figures 2 and 3 indicate parameter stability in the model, as the cumulative sum lines stay within the 5% significance critical bounds. This suggests that the model's parameters are stable over time, with no significant evidence of structural breaks or parameter instability, supporting the model's reliability and consistency and indicating that the relationships between variables are well captured and stable.

**Discussion**

The findings of this study provide important empirical evidence on the relationship between government healthcare expenditure and economic growth in Nigeria over the period 1986–2025. The results reveal both short- and long-run dynamics, with varying effects across domestic and foreign health expenditure and life expectancy. The study found that domestic health expenditure (DHEX) exerts a negative, statistically insignificant, long-run effect on economic growth. In contrast, its short-run effect is negative and significant. This finding suggests that increases in government domestic healthcare spending have not translated into immediate or substantial improvements in economic growth during the study period. The negative outcome may be attributed to inadequate funding, poor implementation of health policies, corruption, weak institutional frameworks, and the concentration of expenditure on recurrent rather than capital projects. This finding is contrary to the Keynesian proposition that public expenditure stimulates economic growth through enhanced productivity and aggregate demand.

The result, however, differs from the findings of Bukonla et al. (2025), who reported that public healthcare expenditure positively contributes to economic growth in Nigeria in the long run. It is also inconsistent with Ideh et al. (2022), who found that public healthcare expenditure significantly promotes economic development in Nigeria, particularly when expenditure is channelled towards healthcare infrastructure and capital investment. The disparity may arise from differences in variable measurement, model specification, and the disaggregation of healthcare expenditure adopted in the present study.

The findings further show that foreign health expenditure (EHEX) has a negative and significant long-run effect on economic growth. However, its short-run effect is positive and significant. The positive short-run impact implies that external health funding may provide immediate support for healthcare delivery and emergency interventions. However, the negative long-run effect suggests that excessive dependence on foreign health financing may not be sustainable for long-term economic growth. This could be due to inefficiencies in fund utilisation, donor dependency, policy conditionalities, or the diversion of external resources away from productive investment. This finding contrasts with the results of Kamanda et al. (2022), who found that health expenditure positively influences economic growth across Sub-Saharan African countries by improving health outcomes. Similarly, Nweke and Chidi (2025) found a positive relationship between health expenditure and economic growth in Nigeria. The inconsistency may stem from the fact that the current study specifically isolates foreign health expenditure, thereby capturing the long-run challenges associated with external financing.

The study also found that life expectancy (LEXP) has a positive, statistically significant effect on economic growth in both the short and long run. This implies that improvements in population health contribute meaningfully to economic performance by enhancing labour productivity, reducing mortality, and increasing human capital development. The result supports the human capital theory and aligns with the Keynesian view that investment in social sectors promotes long-term economic growth. This finding is consistent with the studies of Oniyide et al. (2025) and Kamanda et al. (2022), both of whom reported that improvements in life expectancy and health outcomes significantly enhance economic growth. It also supports the position of Bloom et al. (2019), who argued that healthier populations are more productive and contribute positively to national output.

 

Furthermore, the Error Correction Model (ECM) indicates a negative, statistically significant adjustment coefficient, confirming the existence of a stable long-run equilibrium relationship among the variables. The speed of adjustment suggests that deviations from equilibrium are corrected rapidly, reinforcing the robustness of the ARDL model used in the study. The Granger causality results revealed no causal relationship between domestic health expenditure and economic growth, nor between foreign health expenditure and economic growth. This suggests that healthcare expenditure alone may not sufficiently predict economic growth in Nigeria without complementary institutional and structural reforms.
However, the study found unidirectional causality running from domestic to foreign health expenditure, suggesting that increased domestic commitment to healthcare may influence the inflow of foreign health assistance.

**Conclusion**

This study concludes that government healthcare expenditure plays an important role in influencing economic growth in Nigeria. However, the effects differ across the components of healthcare financing. The findings suggest that domestic healthcare expenditure has not significantly translated into sustained economic growth, largely due to inefficiencies in resource allocation, inadequate funding, weak institutional structures, and poor implementation of healthcare policies. Similarly, while foreign healthcare expenditure contributes positively to economic growth in the short run, its negative long-run effect indicates that overreliance on external funding may not provide a sustainable foundation for economic development. Dependence on donor assistance may expose the health sector to funding uncertainties and policy conditionalities that could limit long-term developmental outcomes. The study further concludes that life expectancy remains a critical determinant of economic growth in Nigeria. Improved health outcomes enhance labour productivity, human capital development, and economic efficiency, thereby contributing positively to national output. This underscores the importance of prioritising healthcare investments that directly improve the quality of life and population health. In general, the study concludes that the impact of healthcare expenditure on economic growth is not determined solely by the amount spent, but also by the efficiency, accountability, and effectiveness with which healthcare resources are managed and utilised. Sustainable economic growth, therefore, requires not only increased healthcare funding but also reforms to strengthen healthcare delivery systems and improve institutional performance in the sector.

**Recommendations**

Based on the findings of the study, the following recommendations are made:

i. The Nigerian government should increase budgetary allocation to the health sector in line with international standards and ensure that healthcare expenditures are efficiently utilised to improve healthcare infrastructure, service delivery, and human capital development.
ii. Greater emphasis should be placed on capital healthcare expenditure rather than recurrent expenditure to ensure long-term improvements in healthcare facilities, medical equipment, and healthcare accessibility.
iii. The government should strengthen monitoring and accountability mechanisms in the health sector to reduce corruption, mismanagement, and wastage of healthcare resources.
iv. Policymakers should reduce excessive dependence on foreign healthcare financing by strengthening domestic healthcare funding mechanisms and promoting sustainable health financing strategies.

 

v. Efforts should be intensified towards improving life expectancy through enhanced healthcare services, disease prevention programmes, public health awareness, and improved access to quality medical care, particularly in rural areas.
vi. The government should encourage public-private partnerships in the health sector to complement public investment and improve the efficiency of healthcare delivery in Nigeria.
vii. Macroeconomic policies aimed at stabilising the economy should be integrated with healthcare policies to ensure that improvements in population health translate effectively into sustained economic growth.

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