RESEARCH ARTICLE

Reassessing the Empirical Relationship between Health Expenditure, Governance and Economic Growth in Africa: Analysis of Nigerian Data

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ABSTRACT

As an aspect of human capital, a positive association exists amongst health, productivity, and growth in output per capita. On the other hand, social infrastructure defined by the institution of governance has a direct effect on the environment upon which productive activities take place to determine outcomes. Nigeria like most African countries is bedevilled by the high prevalence of inadequate health financing and poor governance. Health financing for Nigeria consistently has fallen short of the AU health funding commitment of 15% of annual budgetary allocation to the health sector. Secondly, poor governance conditions available resources and shape the state of infrastructure, particularly health infrastructure and socioeconomic conditions. In turn, this determines individuals' level of exposure to health risks and their capacity to actively contribute to productive activity for growth stimulation and sustainability. Against this backdrop, this study added to the existing literature in the context of Nigeria, by theoretically applying the Solow augmented Mankiw-Romer-Weil structural model in the examination of the impact of government size and governance quality in the health sector, on economic growth. Autoregressive Distributed Lag (ARDL) model was adopted in the estimation. Findings show that governance quality adversely affects growth and this reduces the capacity of health spending to stimulate growth by an almost equal margin. As a result, this study recommends legislative backing to the AU health funding commitment in Nigeria.

Keywords: Public health spending; Governance; Economic growth; Solow augmented Mankiw-Romer-Weil structural model; Nigeria

1. Introduction

Theoretically, the existence of a causal link between health and economic growth is no longer an issue for debate. Instead, emphasis is on providing empirical support for the relation. It is well established in the literature that improved health makes a significant contribution to growth through increased productivity. Evidence associates about 40% of national income with good health [1]. This no doubt offers an explanation for growing increases in health expenditure across the globe. National expenditure on health has been growing over the years even among developing economies in line with the increasing cost of health technology. In reaction to the ever growing cost of healthcare, African countries under the African Union (AU) signed an agreement in 2001 to devote 15% of the individual country's annual budget to health financing. Over two decades after, member countries are yet to abide by this agreement; annual budgetary allocation by member nations (with the exception of Botswana, Rwanda and Zambia) remained below 15% [2], hence poor macroeconomic performances across Africa.

For some countries, the depth of this ugly scenario is quite disheartening. In Nigeria for instance, the highest allocation to health as a percentage of the total budget since the Abuja declaration was 5.95% in 2012. Since then, allocation to the health sector has averagely been on the decrease; 5.63%, 5.78%, 4.23%, 4.7%, 3.9%, 4.7%, and 5.75 for the periods 2014, 2015, 2016, 2017, 2018, 2022, and 2023 respectively. On a different note, the prevalence of corruption—an indication of poor quality of governance ensures that a significant proportion of budgetary allocations does not trickle down to productive health investment. Nigeria's corruption index score in 2017, and 2022 for instance is 27, and 24 which rank Nigeria 148 out of 175, and 154 out of 180 countries respectively [3,4]. Similarly, Nigeria maintained a negative score in all indices of good governance since 1996 [5]. In a single model specification, this study reassesses the effects of public health expenditure, and governance quality on economic growth in Nigeria, and ascertained the degree to which the benefits/adverse effect of public health spending is either consolidated by good/poor governance or counterbalanced by the reverse state of governance quality effect.

The implication of the public health spending and governance quality conditions is the fact that the economy is short-changed on two fronts; the economy suffers a lack of adequate health financing and loss of a substantial proportion of allocated funds through fraudulent practices. Consequences of this in the first instance manifest in poor health outcomes given the failure of the state to live up to its responsibility in the health sector. As a result, Nigeria performed poorly in all indices of health outcomes. The maternal mortality rate in Nigeria remained above 100 per 100,000 live births [6]. In terms of children below the age of five, Under-five Mortality Rate (U5MR) for Nigeria is 111 per 1,000 live births [5]. On the other hand, the life expectancy of an average Nigerian is 53 years as against 65 years and 74 years for Madagascar and Morocco respectively [7]. This scenario reflects the poor growth performances of the economy; growth performances for Nigeria mirror that of many other developing countries. This is attributable to declining productivity as a result of unhealthy health conditions. In terms of growth rate, the growth of the economy has consistently remained below 6% for most periods within the last two decades. From 4.4% in 2001, recent performances are 4.5%, 5.4%, 6.3%, 2.7%, –1.6%, 0.8%, and –1.8% over the periods 2012, 2013, 2014, 2015, 2016, 2017, and 2020 respectively. The average growth rate for the economy over the period 1961-2023 stands at 3.65% [8].

Policy measures to ensure sustainable growth has consistently been focused on diversifying the economy in the direction of non-oil production and creating an enabling environment for foreign investment. On the other hand, the independent corrupt practices commission (ICPC) and economic and financial crimes commission (EFCC) was set up to fight corruption and ensure good governance. From the perspective of research, previous research efforts in the context of Nigeria are drawn along distinct lines.

Some examined the impact of health expenditure on economic growth, neglecting the role of governance in providing enabling environment [9-13]. Some others focused on the impact of governance on economic growth in the absence of health expenditure variables [14-17]. Studies by Rotimi et al. [18] and Ibraheem et al. [19] were concerned with the impact of corruption on growth; different indices of corruption were adopted. This particular investigation departs from existing Nigerian studies by focusing on the impact of public health expenditure on economic growth in the presence of governance variables using the World Bank index on control of corruption as a proxy for governance quality. This is aimed at examining the impact of both the size and quality of governance in the health sector on economic growth. Therefore, research questions guiding this investigation are: what is the impact of public health spending on economic growth? What is the impact of governance quality on economic growth?

2. Overview of Nigerian economy

2.1 Public health expenditure and healthcare financing

Public health investment through annual budgetary allocation is abysmally low such that cannot adequately support good health. As a result, healthcare is financed through a combination of public funding, out-of-pocket payment, donor funding and health insurance. Among these sources, a greater burden of health financing is born through out-of-pocket payment. As a percentage of private expenditure, out-of-pocket payment in Nigeria as at 2012 stood at over 90% [20]. This figure is 71.7% as a percentage of total health expenditure as at 2014. More recently, a survey across Nigeria states shows that 82% of Nigerians still pay out-of-pocket for health services as against 2% free healthcare services [21]. This indicates that a greater burden of healthcare expenditure is born by the individuals in a country where about 50% of its citizens live below the poverty line [22]. National health insurance scheme (NHIS) through which the burden of healthcare expenses could have

been taken off the shoulders of individuals is however not functioning efficiently, and it is incomprehensive. A survey by World Bank in 2008 showed that only 0.8% of the population is covered by NHIS.

This development points to the inadequacy of public health expenditure over the years. Although significant increases in budgeting allocation to health are observed in absolute terms over the years in line with expanding role of the state, these are paltry sums relative to total budgetary expenditures and the health need of the population. Public health expenditure as a percentage of annual budgets has remained below 6% since the year 2010. This means that Nigeria has made little or no effort towards abiding by the health funding commitment by AU member nations despite being a signatory to the agreement. It is also disheartening that in the midst of poor health funding by the state, a high proportion of allocated funds does not trickle down to productive health investment. A significant proportion of these most times are lost due to high level of corruption among political office holders and top ranks public health workers.

2.2 Government and good governance

It has been widely accepted and supported in literature that good governance enhances economic outcomes [23,14,16]. For desired economic outcomes, the government is not only required to be socially accountable for in-service delivery but also required to be responsive to the citizens' well-being. This has the tendency of creating a democratic environment necessary for inclusive growth and development. The World Bank identified six indices of good governance including (i) voice and accountability, (ii) political stability, (iii) governance effectiveness, (iv) rule of law, (v) regulatory quality, and (vii) control of corruption. Nigeria has performed poorly in each of these indicators of good governance. For instance, control of corruption measures the extent to which public power is exercised for private gains. On a scale of –2.5 to 2.5, where –2.5 represent extremely bad performance, 2.5 denote extremely good performance. Nigeria's control of corruption index lies

below –0.89 since the year 2000; the governance effectiveness index for Nigeria lies below –0.96 over the same period [5].

These indicate the prevalence of poor governance in Nigeria which has adverse implications on the growth and general well-being of citizens. For the purpose of this study, the control of corruption index is used as a proxy for governance quality. This is chosen because it is the classification that has more and direct influence on public expenditure on health through corruption which manifests in diverse forms in Nigeria. This in Nigeria's context manifests in abuse of power and authority by public office holders. Although government agencies like Independent corrupt practices commission (ICPC) and Economic and financial crimes commission (EFCC) were established to fight this menace at all levels. However, rather than do the needful, successive regimes use these organs of the state as tools for fighting perceived political opposition. As a result, the dream of good governance has so far been a mirage.

3. Brief empirical literature

Outcomes of international literature on the impact of public health expenditure on growth are mixed; while a greater number of studies found a significant positive impact [2,24-29], few others discovered a significant negative impact instead [30,31]. Similar pattern of outcome was equally observed among Nigerian studies. While some discovered significant positive impact [9,32,33,11], some others found negative impact [10]; Akinbode and Tella [12] provided evidence of a short-run negative relation, and a long-run positive relation, while Olayiwola et al. [13] failed to find any relationship—this indicates an inconsistency in previous findings requiring further investigation.

Specifically, Piabuo and Tieguhong [2] in a review of the literature and analysis between the economic and monetary community of central Africa (CEMAC) region and selected African countries, utilized the panel ordinary least square (OLS), fully modified OLS (FMOLS), and dynamic OLS (DOLS) estimation techniques to examine the relationship between health expenditure and economic growth. Findings show that health expenditure significantly and positively affect economic growth in each of the estimated sample for the study. On the other hand, by using the OLS technique of estimation, Eboh et al. [11] discovered a significant positive relationship between government capital expenditure on health and economic growth in Nigeria. The study emphasized that increased budgetary allocation to the health sector needs to be complemented with a good public finance system that will ensure appropriate and transparent utilisation of allocated funds. In the context of the Wagner's increasing state activities, Olayiwola et al. [13] re-examined the link between public expenditure on health and economic growth in Nigeria by using the Granger-causality test approach. Results show no causal link between public expenditure on health and economic growth measured by real GDP. However, by building on the endogenous growth theory and employing the autoregressive distributed lag (ARDL) model of estimation, Akinbode and Tella [12] discovered a short-run negative trend effect of health capital expenditure on economic growth and a long-run positive trend effect instead.

On the impact of governance on economic growth, there seems to be an overwhelming consensus among studies that good governance positively stimulates economic growth [23,34-43]. Nigerian specific studies include Uda and Ayara [15], Ovat and Bassey [44], Adenuga and Avbuomwan [14], Adegboyega and Arikewuyo [16], and Wasurum and Tamunowariye [17]—all conclude that good governance is important for growth. Individual specifics of findings from the studies indicate that studies like Afolabi [43] deployed the system general method of moments (system GMM) approach in the analysis of the relationship between governance indicators and economic development in West Africa. Results provided evidence of a positive relationship between four indicators of governance (political stability, governance effectiveness, voice and accountability, and rule of law) and economic growth, and a negative relationship between control of corruption, and regulatory quality.

In the context of Nigerian specific studies, Adenuga and Evbuomwan [14] earlier examined the necessi-

ty of effective governance in ensuring increased investment and economic growth in Nigeria deploying the Johansen-Juselius estimation approach. Evidence validates the hypothesis that the combined effect of governance and investment positively influences economic growth. Wasurum and Tamunowariye [17] examined the impact of trade openness and governance on economic growth in Nigeria by employing the ARDL technique of estimation; governance institution was measured by three indicators of governance (control of corruption, voice and accountability, and political stability). Evidence shows that control of corruption and political stability have a significant positive effect on economic growth. Similarly, by earlier adopting the same method of analysis, Adegboyega and Arikewuyo [16] empirically examined the popularly held view that governance quality and property rights system are prerequisites for market effectiveness. Results show that, while control of corruption and Foreign direct investment (FDI) to GDP ratio have a significant positive effect on economic growth, stock market capitalization, government regulatory quality, and voice and accountability have a negative effect on economic growth.

Analysis of the empirical evidence shows that there appear to be quite a significant number of Nigerian specific studies but, each independently examined impact of public expenditure and governance in isolation. Studies conducted in that manner cannot capture the influence of governance as a stimulating factor on the effectiveness of public health expenditure on economic growth stimulation [14]. The models are not able to assess either the consolidating or counterbalance effect of governance quality on the benefit/adverse effect of health expenditure since the individual effects of the health expenditure and governance variables on growth are exclusively examined. Secondly, though quite a few studies employed government control of corruption as a measure of governance quality, findings are mixed [43,16,17]. Inconsistency in findings calls for further investigation.

4. Methodology

4.1 Data and measurement issues

Data for the study are time series macroeconomic aggregates; GDP is the gross domestic product; the log form is used as a proxy for economic growth. GfCap is the gross fixed capital formation which is used as a proxy for the stock of physical capital. Labour is the total labour force for the population; a proxy for the stock of accumulated human capital. HExp is government recurrent health expenditure as a component of total government expenditure on economic services; a proxy for public health expenditure. Quality of governance (Gov) is proxied by government control of corruption. It takes up values –2.5 to 2.5; higher values represent better governance. Exch is the official exchange rate of Naira to the US dollar; it is included to capture openness of the Nigerian economy in line with integration in global trade relation. GDP, HExp, GfCap and Exch were sourced from the central bank of Nigeria's statistical bulletin, while Gov and Labour are sourced from the World Banks database. Data for periods whose values are not available were computed using the average growth rate for the series.

World Bank identifies six dimensions of governance quality to include, political stability—which measures perceptions of destabilisation of regimes in power by way of elections and violence, voice and accountability which measures tendencies of political process, civil liberties and media independence, government effectiveness measures the quality of public service administration, regulatory quality—it measures the capacity of the government to enforce laws that could ensure favourable market economy, rule of law which measures citizens' perception of rules that govern the society and the extent to which they comply with them, and control of corruption; it measures the degree to which public office holders use public power to their personal gains. In Nigeria, only a paltry sum of public expenditure actual-

ly trickle down to productive investment. Greater chunk of allocated funds end up in private accounts through corrupt practices that manifest in various forms by those in positions of authority. Rather than work in the interest of society, people assume the position of power in order to use the instrumentality of the state for their personal gains. Given the organization of the investigation, situation like this is best captured by the degree of government control of corruption, therefore is here utilized as a measure of governance quality in the study. A number of studies have provided evidence indicating the importance of this measure of governance in growth models [14,17].

4.2 Theoretical framework, model and estimation

Empirical analysis herein is founded on the Solow augmented Mankiw-Romer-Weil [45] growth model. From the model's perspective, capital is not limited to physical capital but includes human capital, skills and experience. Accumulation of these in addition to the influence of governance, accounts for changes in levels of productivity of the average worker. As a result, economic growth is determined by levels of physical and human capital, as well as institutions of governance.

The model is specified as:

$$y(t) = Ak(t)^{\alpha} h(t)^{\beta} (\delta(t)e^{\mu^{\theta}})^{\Upsilon} \qquad (1)$$

where y(t) is output, k(t) is stock of physical capital, h(t) is human capital. The quantity dimension of the government investment is measured by human capital while Θ measures the quality dimension. In linear econometric form, Equation (1) is thus specified as:

$$\begin{aligned} logGDP_t &= \alpha_0 + \alpha_1 logGfCap_t \\ &= \alpha_2 logLab_t + \alpha_3 logHExp_t + \alpha_4 Gov_t \\ &\quad + \alpha_5 logExch_t + V_t \end{aligned} \qquad (2)$$

where GDP is gross domestic product, GfCap is gross fixed capital, LAB is labour, HExp is public health expenditure, Gov is control for quality of governance, and Exch is exchange rate. V represents error term, t is time subscript and log is the logarithmic term. Coefficients of HExp, Exch and GfCap are expected to be positive. Gov and labour is expected to

be greater or less than zero, it is expected that good governance will promote growth, as against poor governance which will have an adverse effect on growth. The effect of labour depends on the economy's capital-labour ratio. Where the economy's level of capital-labour ratio is within the range that could generate a positive marginal productive effect, then the effect of labour will be greater than zero/positive; if otherwise less than zero/negative effect.

Estimation

The time series properties of the macroeconomic variables indicate that some of the variables are stationary at level (GDP and Gov), while others are stationary at their first difference (see **Table 1**). All variables with the exception of Gov are in their log level.

Table 1. Result of stationarity test.

Variable	ADF statistics	Critical value		Order of integration
		1%	5%	
LogGDP	−3.315758	−3.670170	−2963972	I(0)
LogGFCap	−5.324817	−3.689194	−2.971853	I(1)
LogLab	−5.068406	−3.679322	−2.967767	I(1)
LogHExp	−9.838067	−3.679322	−2.967767	I(1)
Gov	−3.436776	−3.689194	−2.971853	I(0)
LogExch	−5.482424	−3.679322	−2.967767	I(1)

Given the order of integration of the variables, the autoregressive distributed lag (ARDL) bound test method of estimation was adopted in the analysis. The specific equation for the ARDL model is as specified:

$$\begin{aligned} \Delta logGDP_t &= \beta_0 + \sum_{i=1}^{p} \beta_i \Delta logGDP_{t-i} \\ &+ \sum_{j=0}^{q} \alpha_j \Delta logGfCap_{t-j} + \sum_{k=0}^{q} \lambda_k \Delta logLab_{t-k} \\ &+ \sum_{l=0}^{q} \varphi_l \Delta logHExp_{t-l} + \sum_{m=0}^{q} \eta_m \Delta Gov_{t-m} \\ &+ \sum_{n=0}^{q} \theta_n \Delta logExch_{t-n} + \delta_0 logGDP_{t-1} \\ &+ \delta_1 logGfCap_{t-1} + \delta_2 logLab_{t-1} \\ &+ \delta_3 logHExp_{t-1} + \delta_4 Gov_{t-1} \\ &+ \delta_5 logExch_{t-1} + \epsilon_t \end{aligned} \qquad (3)$$

The cointegration test equation as proposed by Pesaran, Shin and Smith [46] which is based on an

asymptotic non-standard F-test on the coefficient of the lag level variables of the unrestricted correction model is thus specified as:

$$\Delta logGDP_t = \beta_0 + \sum_{i=1}^{p} \beta_i \Delta logGDP_{t-i}$$

$$+ \sum_{j=0}^{q} \alpha_j \Delta logGfCap_{t-j} + \sum_{k=0}^{q} \lambda_k \Delta logLab_{t-k}$$

$$+ \sum_{l=0}^{q} \varphi_l \Delta logHExp_{t-l} + \sum_{m=0}^{q} \eta_m \Delta Gov_{t-m}$$

$$+ \sum_{n=0}^{q} \theta_n \Delta logExch_{t-n} + \Omega Ect_{t-1} + \mu_t \qquad (4)$$

where Ect(–1) defines the error correction term and Ω is the speed of adjustment to equilibrium. Other variables are as previously defined.

5. Results and discussion

5.1 Result of long-run regression

The long-run result as presented in **Table 2** shows that all variables conform to theoretical expectations with respect to the signs of coefficient of each of the explanatory variables. Also, all but Exch significantly accounts for changes in level of economic growth. Specifically, 1% increase in HExp (public health spending) significantly stimulates growth to the rate of 0.58%, while a similar increase in Gov variable reduces growth by 0.57%. These outcomes are consistent with Piabuo and Tieguhong [2], Eboh et al. [11], but inconsistent with Olayiwola et al. [13]—for HExp; it is inconsistent with Afolabi [43], Adenuga and Evbuomwan [14], Wasurum and Tamunowariye [17], Adegboyega and Arikewuyo [16]—for Gov respectively. This points to the fact that public expenditure

on health enhances economic growth in Nigeria. When interpreted differently, it means that there is a tendency for the economy to grow by 58% should the authorities increase expenditure on health by 100% of the initial value. However, in the absence of good governance, there is an equal tendency for the economy to lose this expected gain from public health spending. This is exemplified by the fact that level of governance quality adversely affects growth by 0.57%. This is not unconnected with the fact that Nigeria has for many years been a perfect example of a country with bad governance both in Africa and globally. The consequence of this growth is the fact that it has rubbed the economy of growth which should have accrued from the health sector by as high as 98%.

In terms of other variables in the model, results show that economic growth increases by 0.63% for every percentage increase in GfCap but, reduces by 4.63% for same marginal increase in labour. The implication of this is that the economy's level of stock of private capital is an important growth driver. This means that gap exists in the economy's required level of accumulated private physical capital, hence its positive marginal contribution to growth. Conversely, the economy's level of accumulated human capital is such that does not require further addition to labour given the economy's capital-labour ratio. This offers an explanation for the observed negative relation between the stock of human capital and economic growth. As a matter of fact, the same outcome had earlier been observed by Onodugo et al. [47] who reported that Nigeria's industrial sector is at the point of diminishing returns to total output from labour.

Table 2. Long-run regression model.

Dependent variable	Independent variables	Coefficients	Std errors	t-statistics	p-values
	-	-	-	-	-
	LogGfCap	0.626437	0.077318	8.102077	0.0000
	Log Lab	–4.627909	0.845040	–5.476556	0.0006
LogGDP	LogHExp	0.574963	0.048494	11.856392	0.0000
	Gov	–0.566547	0.243286	–2.328730	0.0483
	LogExch	0.035225	0.054999	0.640473	0.5398
	C	82.573409	14.206085	5.812538	0.0004

5.2 Result of short-run regression

The short-run dynamic model shows that all variables but Gov conform to a priori expectations. Non-conformity of governance's inability to control corruption is often felt after a lag of time. Among these variables, GfCap, labour and HExp significantly explain changes in economic growth, while Gov and Exch do not. R squared of 0.99 indicates a very high explanatory power of the model in accounting for changes in economic growth. On the other hand, while the result of the F-statistics makes a strong statement about the significance of the entire regression model. Based on Akaike information criterion, ARDL (2, 3, 3, 3, 0, 3) was selected, and the error correction term ECt_{t-1} is negative and statistically significant with 97% speed of adjustment to equilibrium. See **Table 3**.

Table 3. Short run dynamic regression model.

| Variables	Coefficients	Std errors	t-statistics	P-values
Log GfCap	0.380383	0.081934	4.288064	0.0017
Log Labour	15.76503	3.688735	4.273831	0.0027
Log HExp	0.100814	0.045469	2.217196	0.0574
Gov	0.353449	0.225608	1.566653	0.1558
Log Exch	0.034033	0.051994	0.654556	0.5311
CointEq(−1)	−0.966154	0.201852	−4.786437	0.0014
R^2	0.99			
Adj R^2	0.99			
D Watson	2.19			
F statistic	1891.33			

5.3 Diagnostic tests

The model passed the various diagnostic tests conducted as all the results indicate failure to reject each of the null hypotheses (**Table 4**). For instance, the probability value of the correlogram Q-statistics shows that there is no serial autocorrelation in the model. J.B. test of normality showed that the error term is normally distributed at 5% level of significance. Both Breusch-Pagan Godfrey test of Heteroscedasticity and Breusch-Godfrey LM test of serial correlation indicates the failure to reject the null hypotheses. These imply the absence of Heteroscedasticity and serial correlation. Also, the model passed the usual test of omitted variable bias

given a P-value of 0.0622 for the Ramsey reset test. Again, the results of Cusum and Cusum of Squares tests (**Figure 1**) show that the coefficients of the model are stable over time.

Table 4. Results of diagnostic tests.

Tests	Statistics	P-values
Jarque-Bera		
Breusch-Pagan	0.243216	0.885496
Godfrey	0.698981	0.7530
Breusch-Godfrey	0.911936	0.4510
LM	4.912785	0.0622
Ramsey Reset		
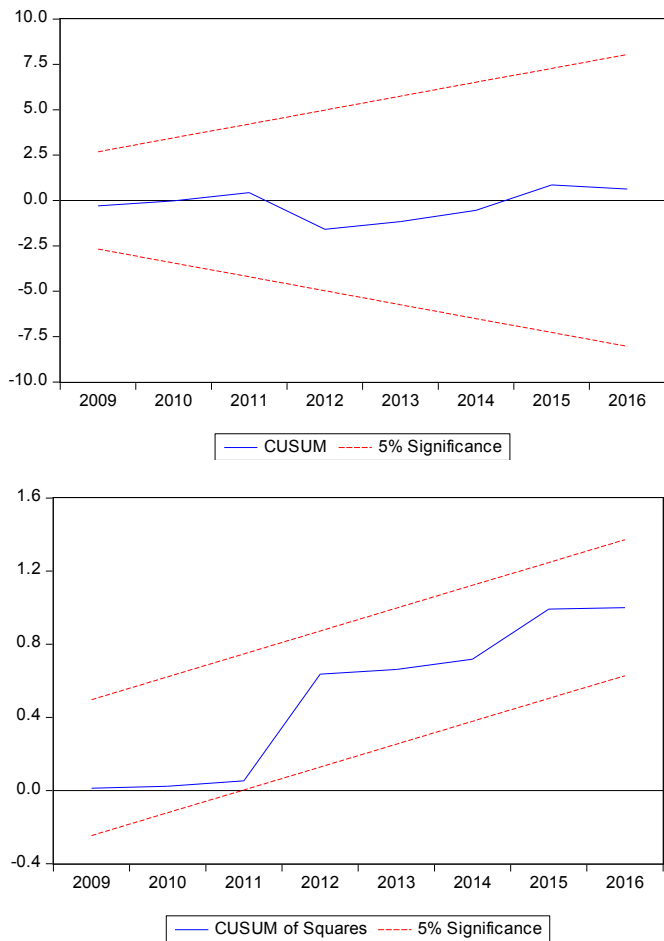
Figure 1. Stability plots.

6. Conclusions and policy implication

On the basis of findings from this investigation, it is the conclusion of the study that public investment in the health sector as a definition of government size is vital for economy-wide growth. In empirical terms, 1% increase in the size of public investment

in health increases growth performance by 0.58%. This restates the importance of health for growth through improved productivity, therefore, should be one of the major components of government budget allocation. This is in consonance with findings by Bakare and Olubokun [9], and Aigbedion et al. [33]. On the other hand, the adverse effect of governance quality on growth is born out of the prevalence of poor governance in Nigeria and its attendant negative growth consequences. It points to the fact that good governance is a precondition for growth. The fact that the governance variable reduces growth by –0.57% means that meaningful growth effort through public health investment is eroded away by poor governance at almost the same margin. The finding is in line with findings by Ovat and Bassey [44] as well as that by Adenuga and Evbuomwan [14].

Policy measures aimed at addressing this menace lie in legislative action and strict implementation. An act that defines 10% of the annual budget as minimum budget allocation to the health sector should be established and implemented both at federal and state levels. This should be subject to an upward review every decade. It will help narrow the gap between the actual and that required by the AU 2001 declaration. This will help improve the aggregate contribution of public health investment on growth. In the meantime, the authorities should step-up efforts at addressing the problem of poor governance through a multifaceted approach. Such a multifaceted approach includes (though not limited to) electoral reforms to address issues relating to the process of ascension to power, so that those who get to the position of power and authority are actually those that truly have the mandate of the people. Secondly, it requires making the judiciary truly independent with full financial autonomy; the agencies charged with fighting corruption should be situated within the judiciary. It also requires cutting down the cost of governance; legislative duties should be made a part-time job rather than full-time as presently constituted.

Authors' Contributions

The conception of design of the work: Marius Ikpe conceived the idea and design of the study; Sunday A. Okwor reviewed relevant literature for the study; Data collection and preparation were undertaken by Sunday V. Agu.; Data analysis and interpretation of results were carried out by Marius Ikpe; All authors critically reviewed the manuscript; All authors read and approved the final version of the paper prior to submission.

Conflict of Interest

The authors of the manuscript state that there is no conflict of interest to declare that is relevant to the manuscript in either financial or personal relations that could lead to biased decisions.

Data Availability

All data used for the study are freely available in the following outlet: GDP, HExp, GfCap and Exch from CBN statistical bulletin www.cbn.gov.ng/documents/statbulletin.asp; Labour from WDI World Bank https://data.worldbank.org/indicator; Gov from World Bank https://info.worldbank.org/governance/wgi/

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