Health-Sector Performance in Post-Independent Nigeria: A Comparative Impact Analysis of Two Regimes

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Abstract

Since independence in Nigeria, the government over the years had increased budgetary allocation to the health sector for the provision of healthcare services. However, available information, using healthcare indices such as life expectancy, under-five mortality, maternal death and a lot more showed that the sector has performed poorly. A lot of studies had been carried out to ascertain the reasons for this poor performance, the findings from these studies are contradictory. Most of the studies in this area have treated health output or performance and health expenditure in Nigeria, without considering its link with governance. Therefore, this study examined the comparative impact analysis of two regimes (military and civilian) on health sector performance post--independent Nigeria from 1977-2013. Several related literature were reviewed and secondary data were used for the regression. The method of analysis used was Ordinary Least Square (OLS), to investigate the impact of the two regimes on health sector performance. The result showed that there was a significant negative relationship between regime and health sector performance in Nigeria. However, as the nation experienced regime change from military to civilian; it has a negative significant impact on the sector performance. Moreover, the funds allocated to the sector have a positive relationship with the

sector's performance also, even though, the impact was not significant. The study therefore recommends that: all democratic institutions should be strengthened, there should be a leveled playing political ground, continuous citizens education on the gains of democratic governance should be encouraged, the government should make effort at meeting the recommended World Health Organization (WHO) percentage allocation to the sector, transparent disbursement of the allocated funds and implementation of policies in the sector.

Keywords: Health-sector performance, two regimes, Post-independent Nigeria, WHO, cooperative impact

Introduction

Health and education are two vital ingredients in human capital development anywhere in the globe. For instance, while education provides the needed training, health would enhance the well-being of the human resources. According to Isola and Alani (2012), human capital is seen as an agent of a nation's development. It provides qualitative human resources to the nation via education and health services. Health seems more primary when discussing human capital development, if we subscribe to the saying that, a healthy nation is prerequisite to development, it logically implies that it is only a healthy body that can receive qualitative training. Schultz (2002) concludes that, good health is a necessary prerequisite for school attendance since a child has to be healthy to endure the rigours of learning. He disposed further that, healthier learners in contrast to their less healthy equals have lower malingering and higher thinking power that guarantee better education. Bakare and Olubokun (2011) agree that better healthcare is fundamental to wellbeing. This shows that central to growth and development of any nation is the well-being of the citizenry. This will in a way guarantee the advancement of the nation. Therefore, to realize this (i.e. the well-being of the people that will enhance progress) a well-developed health sector is needed. The economic growth differentials between the advanced and developing nations of the world are basically as a result of ill-health and low life expectancy (WHO, 2005).

Since post-independence Nigeria, budgetary allocation to this sector has been on the rise. For instance, the total expenditure (that is, recurrent and capital) to the sector stood at N173.57 billion in 1977. By 1980 and 1985, the allocated funds were N199.99 billion naira and 188.22 billion naira respectively. These increases were planetary and represented approximately 15.22% and 8.44% over the 1970 allocation. In 1990 and 1995, the then government allocated the sum of N757.7 billion naira and N5045.9 billion naira as total expenditure to the sector respectively. The increase in funds allocated to the sector continued steadily from N21787.28 billion naira in 2000 to N77314.43 in 2005. By 2010 and 2013, funds allocated to the sector were N189613.2 and N264361.6 billion naira respectively. All these represent the budgetary allocation to the sector since independence.

In spite of the upward budgetary allocation, the sector's performance is still nothing when compared with the allocations to it. The healthcare indices such as infant mortality, under-five deaths, maternal deaths rates, which reveal the state of any nation's healthcare system, are still on the high side for Nigeria. The World Bank (WB) report of 1999 and National Health Policy (NHP) report of 2004 in Nigerian Health Review (2006) have confirmed this.

In post-colonial Nigeria, the administration of the nation's affair has been characterized by two main regimes (the military and the civilian). The two regimes have varied orientations in terms of governance and spending. Therefore, in line with sustainable development whose ideology focuses on improved development in a country without compromising the future, the study investigates the impact of governance (two regimes) on the nation's health sector. Following this introduction, the remaining part of the study will be sectionalized thus: section two following this introduction, presents an overview of Nigeria administration. The review of related studies and theoretical underpinning is discussed in section three. In section four, the materials and methods are discussed, while section five is dedicated to results and discussion and conclusion and recommendations are discussed in section six.

Overview of Nigeria administration

The governance of Nigeria as a country since independence has been characterized by two main regimes, the military and the civilian. These regimes have varied orientations in terms of managing a nation. While one is fundamentally formed to protect the governed and the governors, the other is instituted to administer. However, over the years, the administration of the nation's economy had witnessed an aberration in the area of governance. The military which was originally formed to protect the territorial boundaries of Nigeria and her citizenry, contrary to this, it ruled and managed the country for close to thirty years, which indeed was an aberration. According to Ukpabi (1989) and Miners (1971), the military were expected to protect the lives and properties of British residents, the British trader, and the Christian missionaries in and around Lagos. This was their role before independence, and even after independence they were only seen in the public at ceremonial occasions during Independence Day anniversary (Janowitz and van Doom, 1971). This soon changed after the taking over of the control and management of the economy by the military through a coup d'état on January 15th, 1966. Consequently, the control of the federal, states and the local government affairs automatically came under the jurisdiction of the military.

The control of the nation affairs by the military can be categorized into two phases. The first phase was from January 1966 to October 1979, the second was from December 1983 to May 1999. The periods the socio-economic and political affairs of Nigeria managed by the military were more than they were under the representative government (civil rule). Therefore, one cannot but conclude that the uncivil manner exhibit by both the leading and the led in Nigeria today is a product of the long rule of military. Ekeh (1998) submits that, the military had generated far more disorganization and indiscipline than the unruly behaviour which it had set out to correct.

The civilian regime from inception is about governance in any part of the globe. Contrary to the military, its customary role is to rule the citizenry in line with agreed rules and regulations called constitution. A civilian government, irrespective of its forms, has features which are totally at variant to that of the military. In fact, the

orientation of a civil rule varied considerably from that of its counterpart. On October 1st 1960, when the colonialist disengaged from the control of Nigeria, a democratically elected civilian administration/ government was sworn-in. The regime was short-lived due to a coup d'état which occurred on 15th January, 1966. From that moment on, the Nigerian nation did not witness a smooth civilian rule until May 1999. Apart from this dispensation that started on May 29th 1999, civilian governments before it were cut short by military coups. For instance, the civilian government headed by Dr. Nnamid Azikiwe, was from 1960 to 1966. While the one led by Alhaji Shehu Shagari was between 1979 and 1983. The shortest of all these which is often referred to as diarchy (a system of government which has the features of both the military and the civilian governance) was the one headed by Chief Ernest Shonekan which lasted for just few a months.

On the nation's 54th independence, these regimes have managed the nation's economy, to the point of budgeting and allocating funds to the various sectors of the nation's economy in which the health sector is a part with the aim of development. In spite of this, the performance of this sector is nothing compared to what had gone into it in terms of funding since independence. A lot of studies have been carried out in this regard in order to unravel reasons behind the poor performance of the sector irrespective of funds allocated to it. Most of these studies findings are conflicting. Therefore, this study intends to ascertain if there is any link between health sector performance and governance (that is, the regimes that have managed the country's affairs since independence.

Review of related studies

A lot of studies have looked into the link between public spending and economic growth. Works such as Guptal (1967), Dutt and Ghosh (1997), Rajkumar and Swaroop (2004), and many more have worked in that aspect. Also, some had gone to the extent of examining the relationship between sectorial outcomes and expenditure, especially in the health sector. For instance, Baldacci (2004), Dauda (2004), Bakare and Olubokun (2011), Ricci and Zachariad (2006), and many others are known studies that had been done in this aspect. Osahon (2013), in his assessment of the sector's performance, submits that in spite of

government's efforts to reposition the sector, its performance has not been encouraging. This he attributed to certain factors such as: poor governance at all the levels of government, political instability, policy inconsistency and evident lack of political commitment to health by the three tiers of government, poor spending and allocations to the sector, budgeting less than the stipulated 15% of the total budget to the sector as prescribed by the World Health Organization (WHO), poor state of other social and physical infrastructure, inadequate roads and power supply, etc. He submits further that, despite these challenges, the sector has recorded some notable achievements such as: public hospitals surviving in spite of closure of some government parastatals, improvements in primary healthcare in the "80's and "90's, improved healthcare indices and many more. From Osahon's submission, it is apparent that, the successes attributed to the sector are far less than the down sides. Even the improvements in the health indices seen as successes are nothing compare to some Africa nations not to mention the advanced world. Dauda (2004) examines the impact of health sector expenditure on economic growth in Nigeria. The study adopted the neo-classical growth model, using the ordinary least square mode, the outcome shows that, the link between health sector expenditure and economic growth is greater than zero. This indicates that there is a positive relationship between healthcare spending and economic growth, meaning that, as expenditures on the sector increases, the outcomes also improve. However, Dauda failed to state with what proportion this will occur.

Filmer and Pritchett (1999) show that expenditures on the health sector and health output are weakly linked, that increasing expenditures on the sector twice, about 3% to 6% of the GDP would improve child mortality by say 9% to 13%. The study showed the exact nature of the link between spending and outcome in the sector, and also brought in the proportionality dimension. Still reviewing studies connected with healthcare spending, Baldacci (2004), exploring the role played by health spending on growth, he constructed a panel data set for a hundred and twenty developing nations from between 1975 and 2000 and found that expenditure on the sector at an appointed time affects growth within that same period of time while the lagged periods are of no effect. Baldacci's study has showed that health expenditure on the sector's

output is an example of a flow concept. On the other hand, Olaniyi and Adams (2000) used a descriptive analysis method in their work, to determine the adequacy of the levels and composition of public spending on health sector performance. The study shows that, education and health spending have faced lesser cuts when compared to external debt and defence. The duo further observes that the allocation to both the education and health are insufficient when compared to the recommended benchmark by WHO. Since post-independence in Nigeria, none of the regimes under consideration funded the sector up to half of the recommended benchmark by WHO in the period under consideration. A glance through the table below will show the percentage of the total annual expenditures that have been allocated to the sector since independence.

Table 1: Percentage of total allocations to the health sector in Nigeria, 1980-2013

Year	Total Expenditure	Total Health Expenditure	% of Total expenditure
1980-1989	17,041.47	302.3	1.774
1990-1999	169,104.80	5,203.30	3.077
2000	664,732	18,181.80	2.735
2001	1,018,026.00	44,651.20	4.386
2002	1,188,715.00	63,171.20	5,314
2003	1,225,957.00	39,685.50	3.237
2004	1,302,232.00	59,787.40	4.591
2005	1,799,938.00	71,685.40	3.983
2006	1,900,010.00	195,590	5,557
2007	2,333,659.60	116,628.80	4.998
2008	3,198,440.00	136,902.20	4.287
2009	2,646,904.70	132,876.20	5.02006
2010	2,978,807.80	149,269.80	5.01106
2011	4,712,100.00	320,161.20	6.7944
2012	4,605,400.00	283,301.20	6.152
2013	5,185,300.00	264,361.60	5.098

Source: Asian economic and financial review 2(7), 2010, p821 and author's computation

The percentage of government allocations to the sector fluctuated between '80-'89 and 2013 as seen in Table 1. Of the years considered, the percentage of government allocations to the sector has been an ups and downs movement. The highest ever recorded was in 2011, which was approximately 6.79%. This is far less than the recommended WHO benchmark and it has somehow supported Olaniyi

and Adams submission. On the part of Bakare and Olubokun (2011), they investigated the trend and impact of health care spending on economic growth in Nigeria between '70 and '08, using ordinary least square method. The study shows that the link between the sector spending and economic growth is greater than zero, and that the government over the years allocated more to recurrent spending than to capital spending. Yaqub et al (2012) did something different. They investigated the link between public health spending and heath outcome in Nigeria, with focus on governance impact. The study used 2-stage least squares regression in conjunction with ordinary least squares as method of analysis because of the possibility of reverse causality. The outcome shows that the link between public health spending and health care indicators (infant mortality, under-5 mortalities, and life expectancy) is less than zero. However, with the inclusion of governance indicator, the result shows the contrary. This shows that corruption is one the factors that hinders the expected performance of funds allocated to the sector.

Corroborating this, Pritchett (1996), observes that the negative relationship being observed between public expenditures on health sector and health outcomes is as a result of variety of reasons that he identified as corruption, patronage, and displacement of private sector contribution through public spending. Also, Filmer *et al* (2000) supported Pritchett's (1996) finding that the weak links between expenditures on health and health status is as a result of the crowding out of private sector provision of health care. In addition, Rajkumar and Swaroop (2004) explain that public spending on the health sector does not give the expected improvement in the sector's performance and that the failure of this, can largely be explained by the quality of governance. This submission of Rajkumar and Swaroop has created a lacuna in the body of knowledge, and this work is to bridge the gap.

Theoretical underpinning

The theory of input-output analysis which is basically represented by production function, underpins this study. At the macroeconomic level, when discussing growth and its aggregates, aggregate production function comes to mind. This is because it represents the total inputs and outputs for the whole economy. Adam

Smith heralded the notion of production function. That, an increase in total output (Y) is consequent upon the level of inputs represented by the factors of production, viz: land (H), labour (L), and capital (K). This necessitated the known production function of the form:

$$Y = f\ (L, K, H) \ldots\ldots\ldots\ldots\ldots\ldots \quad (1)$$

Going by what is termed intellectual rivalry between the classical and the Keynesian ideology, Harrod and Domar came up with the ideal that, the growth of any economy (g) is a function of savings within the economy (s) and the capital-output ratio (v). This they represented in the form:$g = s/v$ ……. (2)

Solow (1956) a member of the neoclassical group rejected the Harrod-Domar ideology on the ground that, there is an automatic, direct link between savings and capital-output ratio. Solow however adapted the earlier version of production function by the classical, and modified it. The version as seen in the equation was without human capital. He (Solow) included human capital as one of the factors that determine the output in an economy. The three sources of growth in any economy according to Solow are: increase in the stock of physical capital, increase in the size of labour force, and a residual. This residual as a source of growth in output, is a combination of other factors. The production function as used by Solow is continuous and homogeneous of degree one. Thus, we have the model representing Solow's ideals as:

$$Y = f\ (L, K, T) \ldots\ldots\ldots\ldots\ldots\ldots \quad (3)$$

Where Y is output, K is stock of capital, L is labour and T is the technical change. If technical change is made constant, the equation 3 will be in the form:

$$Y = Af\ (L, K) \ldots\ldots\ldots\ldots\ldots\ldots \quad (4).$$

From the review of the theory as explained by various authorities, this study is therefore supported by the theory in that, the sector's output (Y) is a function of variables such as funds (k) allocated to the sector, human resources (l) who are engaged in the sector.

Materials and methods

Going by the form of the model stated, it is imperative to note that, data which will be used in estimating the equation (which is stochastic in nature) representing the impact of the two regimes on the health sector performance are collated form secondary source, and are in a time series. The scope of the data collated spread across the periods

between 1977 and 2013. These data were sourced mainly from the Central Bank of Nigeria Statistical Bulletin, and the National Bureau of Statistics. These include data on life expectancy used as proxy for the health sector performance and data on health sector expenditure. Ordinary lease squares (OLS) which still remains the primary technique of estimation was used. The study tests the null hypothesis that: there is no significant difference between health sector performance and the forms of governance in Nigeria since independence. In specifying the model, the study adapted the model developed by Rajkumar and Swaroop (2004), and modified it to suit the study's purpose. The study modelled health outcome in relation to some independent variables. These independent variables according to them are: per capita income (GDPP) and the ratio of public spending on health (Pubexp) to Gross Domestic Product (GDP). Thus,

$$\text{Outcome} = \text{GDPP}^{\alpha} \times \left(\frac{Pnbexp}{GDP}\right)^{\beta} \text{where } \alpha > 0, \text{ and } \beta \geq 0 \qquad (5).$$

The performance of the sector could be for instance, the indicator of health status such as life expectancy, infant mortality/under-5 mortality rates and maternal mortality rate. From equation 5, it is inferred that with increase in public spending on healthcare and increase in the per capita income, there will be improvement in the sector's performance/outcome via the improved health indicators. Equation 5 is linearized by taking its log. Therefore, we have equation 6 as stated below:

$$Log\ Outcome = aLogGDPP + \beta Log\left(\frac{Pubexp}{GDP}\right) \qquad (6).$$

The study's focus is to investigate the influence of two regimes on the performance of the health sector in line with the submission of Rajkumar and Swaroop (2004). Therefore, the study modified equation 6 by infusing Odusola (1998) and Solow (1956) ideals into Rajkumar and Swaroop (2004) model, that performance is a function of human capital, and some residual factor. The residual factor in this instance is being represented by the two regimes that has governed the nation since post-independence, and is captured by a dummy variable (D). This is indeed the concern of the study. The regime with more years shall be assigned zero (0), while the one that has governed less shall have one (1). The research is equally not bothered about the individual income but by total expenditures allocated to the sector, which is proxy by the health

sector expenditure (HSexp). To integrate this line of reasoning, the equation 6 is modified thus:

$$Ln\ HSper = B_1 Ln\ (HSexp) + B_2\ (DUM) \quad (7).$$

Consequent upon the model in equation (7), we estimated the stochastic equation below:

$$Ln\ HSper = B_o + B_1 Ln\ (HSexp) + B_2\ (DUM) + \varepsilon_t \quad (8).$$

where β_1 *and* $\beta_2 > 0$

Where *HSper* is Health sector performance, which in this work is captured by life expectancy at Birth of the Nigerian people and ε_t is the error term.

Results and discussion

Regression output

The static ordinary least square (OLS) outcome as shown in Table 2 revealed that both the health sector expenditure represented by log (HSexp) and the regimes captured by dummy are positively related to the health sector performance, log (HSper). It means that, the money invested in the sector during the period under investigation has a positive coefficient and is significant at one percent level. This shows that a unit increase in log (HSexp) in the period under consideration led to an increase in the sector performance by about 0.10 percent. In spite of the direct relationship between HSexp and HSper, the effect of HSexp on the performance of the sector is insignificant. This is consistent with Yaqub et al (2010) and Filmer and Pritchett (1999) findings. The dummy variable (DUM) which represents regime change in the nation's economy under the reviewed periods has a positive relationship with the sector performance, and it is significant at three percent. Now, let us consider the statistical significance of the parameter estimate of the model. To do this, the study verifies the adjusted R-squared, standard error test, the F-statistic and the Durbin-Watson statistics. (i) The value of the adjusted R-squared (R^2) for the model 69.37%, and this is indeed a high one. By this, it shows that the explanatory variables (health expenditure and the dummy) explained about 69.37% systematic variations in the dependent variable (HSper). However, 30.63% of the variation not explained is due to determining variables not included in the model. In all, the result represents a goodness of fit of the model. (ii) The F-statistics shows the robustness of the entire model at one percent

level of significance. Which indicates the study is 99% confident of the model specified and estimated. Lastly, the value of the model's Durbin-Watson is 0.576936. It reveals the presence of serial correlation in the model. At this juncture, further econometrics tests were conducted to ascertain Stationarity mode and long-run relationships among all variables and thereafter ran the error correction modeling (ECM).

Table 2: Simple ordinary least square result

Variable	Coefficient	Std. Error	t Statistic	P Value
Constant	3.753360	0.013734	273.2937	0.0000
Log(HSEXP)	0.009451	0.001845	5.122837	0.0000
Dum	0.030085	0.010422	2.886604	0.0067
R-squared	0.710722		Mean dependent var	3.847659
Adjusted R^2	0.693706		S.D. dependent var.	0.045424
S.E. of regression	0.025139		Akaike info criterion	-4.451178
Sum squared resid	0.021487		Schwarz criterion	-4.320564
Log likelihood	85.34680		Hannan Quinn criter	-4.405131
F. statistic	41.76708		D.W statistic	0.576936
Prob (F. statistic)	0.000000			

Source: author's computation via e-views

Stationarity test

Literature has shown that, most time series variables are non-stationary. If they (non-stationary variables) are estimated in a model without first ascertaining the Stationarity, the outcome will be spurious. The first or second difference terms of most variables are usually stationary. Following the Engel and Granger (1987) procedure, the study tested for the order of properties of the variables of interest, using Augmented Dickey-Fuller (ADF) unit root test. Adoption of the simple economic relationship of random walk with drift, the results of the unit root tests are reported in Table 3. From the ADF unit root test as indicated in the table, the two variables are stationary at 2^{nd} difference at 1% significant level. The decision rule is that the ADF value must be greater than the Mackinnon critical value at 1 % or 5% and at absolute value. By implication, the result reveals that expenditure on the sector will only impart on the sector two years after. However, there is the need to test for the long run relationship among the variables, which is commonly called Co-integration test.

Table 3: The unit root test – A test for stationarity

Variables	ADF @ level	ADF @ 1st Diff	ADF @ 2nd Diff	Order of Integr
HSPER	-1.255064	2.944132	-7.93966 ***	I(2)
HSEXP	3.192219	6.077668	-22.67396 ***	I(2)

Source: authors' computation via E-view software
Note ***, ** and * represent 1%, 5% and 10% level of significant respectively.

Long run test

The result of Johansen co-integration test in Table 4, shows that there exist two Co-integrating equations i.e. Trace test and Max-eigen values test. Using both tests at 5% level of significance, the outcome indicates that all included variables have long run relationship at 1% level of significance.

Table 4: The Johansen co-integration result
Unrestricted co-integration rank test (Trace)

Hypothesized No. of CE(s)	Eigen value	Trace Statistic	0.05 Critical value	Prob.**
None*	0.0683670	52.13736	15.49471	0.0000
At most 1*	0.287281	11.85339	3.841466	0.0006

Unrestricted co-integration rank test (Maximum Eigen value)

Hypothesized No. of CE(s)	Eigen value	Max. Eigen Stat.	0.05 Critical Value	Prob.**
None*	0.0683670	40.28397	14.26460	0.0000
At most 1*	0.287281	11.85339	3.841466	0.0006

*Denotes rejection of the hypothesis at the 0.05 level
**mackinnonhaugmichelis (1999) p value
Source: authors' computation e-view software.

Causality test

To further understand the nature of relationship that exists between the dependent and independent variables, granger causality test was carried out. The result reveals that there is a bi-directional relationship between the variables. By implication, this means that the health sector performance in a nation can induce government to spend

more on the sector. On the other hand, government spending on the sector can cause the sector to perform.

Table 5: Pair-wise granger causality tests

Null Hypothesis	Obs.	F. Statistic	Prob.
HSEXP does not Granger Cause HSPER	35	17.1525	1. E05
HSPER does not Granger Cause HSEXP		9.19297	0.0008

Source: Authors' computation via e-view

Parsimonious error correction mechanism

The study further estimates the regression equation using the second level difference and the over-parameterized error correction modelling (ECM). However, the study's focus is on the parsimonious error correction modelling which is derived from the over-parameterized modelling (see outcome in Table 6).

Table 6: Parsimonious error correction model result

	Coefficient	Std. Error	t.Statistic	Prob.
Constant	-0.052282	0.096409	-0.542294	0.5922
D(HSPER(-1))	5.819909	1.126816	5.164915	0.0000
D(HSPER(-2))	-4.808373	1.337455	-3.595166	0.0013
D(HSEXP(-1))	3.84E 05	1.86E 05	2.070928	0.0484
D(HSEXP(-2))	-3.49E 05	9.79E 06	-3.563737	0.0014
DUM	0.057390	0.294133	-0.195117	0.0068
ECM(-1)	-3.17E 05	1.61E 05	-1.963648	0.0603
R. squared	0.843857		Mean dep. Var.	0.063939
Adj. R. squared	0.807824		S.D. dep. Var.	0.840556
S.E. of regression	0.368483		Akaike info criterion	1.026987
Sum squared resid	3.530271		Schwarz criterion	1.344428
Log likelihood	-9.945279		Hannan Quinn criter.	1.133796
F.statistic	23.41897		Durbin Watson stat	1.536534
Prob(F.statistic)	0.000000			

Source: Author's computation via E-views

From the parsimonious error correction modelling output in Table 6, the equation 9 below is derived.

D(HSPER) = - 0.052282 + 5.819909D(HSPER(-1)) – 4.808373D(HSPER(-2)) + 3.84E-05D(HSEXP(-1)) – 3.49E-05D(HSEXP(-2)) – 0.057390DUM – 3.17E-05ECM(-1) ……..... (9)

An in depth study of the result reveals that, the sector's performance depends partially on the sector's previous performance and exceedingly on the sector's budgetary expenditure. This shows that, budgetary allocation to the sector in a particular year would only impart the sector after two years of it's' implementation. The dummy variable (DUM) which represents regime change in the reviewed periods has a negative relationship with the sector's performance; this means that as the nation experienced a change from Military regime to Civilian era; the change impacted negatively on the sector's performance. In other words, it indicates that the sector performed better under military regimes than in times of civil rule. The speed of adjustment which is the error correction variable ECV coefficient is negative as expected, that specifies a short-run disequilibrium correctable in a year and few months – an adjustment from short-run drift to long-run equilibrium.

Conclusion

The paper looks at the comparative impact of the two regimes (Military and Civilian) on the performance of the Nigerian health sector between 1977 and 2013 by means of the ordinary least square method. However, the model's Durbin-Watson value of 0.576936 reveals the presence of serial correlation. That called for further econometric tests to ascertain the stationarity and the error correction modeling. The study establishes a link between the sector's performance, previous performance and budgetary allocations to the sector; however, their impacts are not impressive. The regime change which is proxy by dummy, the focus of the study, has a negative relationship with the sector's performance. This shows that, the sector recorded a better performance during the military regime. Also, a bi-directional relation has been ascertained between HSEXP and HSPER. The study outcome is consistent with those of Dauda (2004), Filmer & Pritchett (1999), and Filmer *et al* (2000). However, the result of the study is at variance with Baldacci (2004), which sees no relationship between the lagged periods and the sector's performance. Also, the study does not support Olayide & Ikpi (2010), that, the economy performed better under democratic rule. The paper therefore concludes that, the form of regime that manages the affairs of a nation matters a lot.

The government should as a matter of necessary, endevour to meet the prescribed benchmark of 14% allocation to the sector as recommended by the World Health Organization (WHO). In addition to this, the study makes the following policy recommendations, that: i) the government should make efforts at meeting the recommended world health organization percentage allocation to the sector, ii) there should be transparent disbursement of allocated funds and implementation of approved health policies in the sector, and iii) since the study has linked the sector's performance to its lagged periods, there is the need for better manpower planning in the sector to ensure sustained performance.

References

Bakare, A.S and S. Olubokun (2011).Health Care Expenditure and Economic Growth in Nigeria, *an Empirical Study Journal of Emerging Trends in Economics and Management Sciences (JETEMS) 2 (2) 83-87.*

Baldacci, E.B. (2004). The Impact of Poor Health on Total Factor Productivity, *the Journal of Development Studies 42 (6) 918-938.*

Central Bank of Nigeria (2008).Statistical Bulletin of Central Bank of Nigeria, *Golden Jubilee Edition.*

Central Bank of Nigeria (2012).Statistical Bulletin of Central Bank of Nigeria, *vol 23.*

Dauda, R.O.S, (2004). Health Care Spending and the Empirics of Economic Growth, *Journal of Society, Development and Public Health (1) 72-82.*

Dutt, S. and D. Ghosh (1997).An Examination of Public Expenditure-Economic correlations, *South Oklahoma Economic Review, 12 (4) 14-26.*

Ekeh, P.P. (1998). Theory and Curse of Military Rule and the Transition Programme, *Association of Nigerian Scholars for Dialogue.*

Filmier, D.J. Hammer and L. Pritchett (2000).Weak links in the Chain: A Diagnosis of Health Policy in Poor Countries, *the World Bank Research Observer, 15 (2) 199-224.*

Gupta, S.P, (1967).Public Expenditure and Economic Growth: A Time series Analysis, *Public Finance, 22 (4) 423-461.*

Isola, W.A. and R.A. Alani (2012).Human Capital Development and Economic Growth: Empirical Evidence from Nigeria, *Asian Economic and Financial Review 2 (7) 813-827.*

Janwitz, M. and J.A.A. vanDoorn(1972).On Military Intervention, *Rotterdam University Press.*

Miner, N. (1971).The Nigerian Army, Methuen.

Nigerian Health Review (2006).

Odusola, E.A. (1998).Rekindling Investment and Economic Development in Nigeria, *Nigerian Economic Society (NES) Selected Papers for 1989 Annual Conference.*

Olaniyi, O.O and A.A. Adams (2002).Public Expenditure and Human Development in Nigeria, *Human Resource Development in Africa. NES Conference Papers in Ibadan, 157-198.*

Olayide, O.E. and A.E. Ikpi (2010). Political System, Budget performance and Economic Growth in Nigeria, 1970-2004. *Journal of Sustainable Development in Africa, 12 (8) 90-99.* Accessed 27th October, 2015.www.researchgate.net/publication/262i83311.

Osahon, E. (2013). My Assessment of Nigeria's Health Sector Performance at 53rd, *Sahara Reporters on 30/9/2013, assessed 8/7/2014.*

Pritchett, L. (1996). Mind your P's and Q's: the cost of public investment is not the value of public capital, *Policy Research working Paper, 1660. Development Economics Research Group. World Bank, Washington, D.C.*

Rajkumar, A.S and V. Swaroop (2004). Public Spending and Outcomes: Does Governance Matter? *World Bank Working Papers No. 2840, Washington D. C: World Bank.*

Ricci, F. and M. Zachariadis (2006).Determinants of Public Health Outcomes: Macroeconomic Perspective, *Computing in Economics and Finance, Society for Computational Economics.*

Schultz, T.P. (2002). Wage Gains Associated with Height as a Form of Human Capital, *American Economic Review, Papers and proceedings, 349-353.*

Solow, R.M. (1956). A Contribution to the Theory of Economic Growth, *Quarterly Journal of Economics, 1 (70) 65-94.*

Ukpabi, S.C. (1989). Mercantile Soldiers in Nigerian History: A History of the Royal Niger Company Army (1886-1900), *Gaskiya Corporation Ltd, Zaria Nigeria.*

World Health Organization (2005). World Development Indicators. Washington, D. C.

World Bank. (1999).World Development Report 1991 Challenges of Development, *New York Oxford University Press for the World Bank.*

Yaqub, J.O., T.V. Ojapinwa and R.O. Yussuff (2012).Public Health Expenditure and Health Outcome in Nigeria: The Impact of Governance, *European Scientific Journal 13 (8)180-201.*