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IMPACT OF HEALTH EXPENDITURE ON CHILD MORTALITY RATE IN NIGERIA, 1980-2015

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ABSTRACT

This study is undertaken to investigate the impact of health expenditure on child mortality rate in Nigeria within the period of 1980-2015. The study made use of three explanatory variables: Public health expenditure, private health expenditure and per capital income. Autoregressive Distributed Lagged (ARDL) model was used to expose the long-run relationship that exists among the variables. The variables were first subjected to unit root test, co-integration test, error correction mechanism. Since the variables were not stationary at level, ARDL Bound Co-integration test was used to determine the long run relationship among the variables and they were found to be co-integrated and the ECM was statistically significant indicating short run adjustment to equilibrium in the long run. The long run and ECM results obtained revealed that all the variables used have negative impacts on infant mortality rate and also statistically significant. Thus, in reducing infant mortality rate in Nigeria, there is need for government and private stakeholders to invest adequately in health sector in order to ensure health service that is accessible and affordable to the teeming population of the country.

Key words: Health, Expenditure, Child mortality, Human Capital, Economic Growth

1.0 INTRODUCTION

Health is one of the most important factors that determine the quality of human capital, a necessary factor for economic growth. There is a consensus of opinion among researchers recognizing health as a public good, the demand and supply of which cannot be left at the mercy of invisible hands or profit maximizing individuals as well as on considerations of utility maximizing conduct alone. Hence, the need for the government to play a major role in delivering good and qualitative healthcare services that is accessible and affordable for the teeming population.

The recognition of the importance of the above led the World Health Organization (WHO) to propose at the 2010 World Health Assembly, issues that will address financing of health, which will ensure qualitative and affordable healthcare services (Ataguba and Akazili, 2010). The pattern of health financing is therefore closely and indivisibly linked to the quality of health outcomes (health status), capable of achieving the long term goal of enhancing nation's economic development (Riman, 2012). Alluding to this fact is the evidence towards commitment

of restructuring the health sector in its fiscal operation. The Nigeria government has taken up the responsibility of providing good healthcare facility for its citizens by improving on the amount of its expenditure on health. Available data indicate that on the average 2.1% to 5.8% of total government expenditure was expended on health within 2000 and 2007, (Mordi *et al.*, 2010). These are considered to be inadequate by health experts but there is the belief that these would improve the health of the citizenry that can translate into healthy human capital base with its multiplier effects on economic growth and development. Despite this improvement in health spending, the country still lagged behind compared to other countries in the continent. Statistics have shown that the country's public expenditure on health as a percentage of GDP is 4.1 percent against 4.6 percent African average and over 6.3 percent in developed countries (Yaqub and Ojapinwa, 2012). With these efforts, Nigeria overall health status or sector performance outcomes have not been so encouraging.

According to, the country overall health performance was ranked 187th among the 191 Member States by the World Health Organization (WHO) in 2000. Meeting the commendable United Nation Health Sustainability Development Goals (SDGs) of a reduction by two-thirds in the under-5 mortality ratio; a reduction by three-quarters in maternal mortality and halting and beginning to reverse the spread of HIV/AIDS, malaria and other major diseases will be completely elusive for Nigeria if sufficient attention is not paid to health expenditures. Economic development is no longer confined to a process of persistent increase in per capita income. Other dimensions are now considered central aspects of this process; the most notable of them are improvements in health and education (Olaniyi and Adams, 2002). Undoubtedly, the health of children and young people are among the most important health issues. In this regard, Infant Mortality Rate (IMR) is widely used as credible measure of child health. Available data on these rates shows dramatic decline over the last century in all developed countries. The same trend has been noticed in the developing countries since the World War II. Several socio-economic factors are considered responsible for the observed decline in IMRs. The most commonly sighted in the literature are per capita income, expenditure on health, the level of education mainly for females and the state (cleanliness) of the environment.

Health care provision in Nigeria is a concurrent responsibility of the three tiers of government in the country. Private providers of health care have a visible role to play in health care delivery. The federal government's role is mostly limited to coordinating the affairs of the university teaching hospitals, Federal Medical Centers (tertiary health care providers) while the state government manages the various general hospitals (secondary health care providers) the local government focus on dispensaries (primary health care providers), which are regulated by the federal government through the National Primary Health Care Development Agency (NPHCDA). On the other hand, the private health expenditure could come in form of direct household (out-of-pocket) spending, private insurance in form of National Health Insurance Scheme (NHIS), charitable donations and direct service payment by private corporations. All these are geared toward ensuring a robust health services delivery for formidable human

development from birth to old age. It is against this background that this study investigates the impact of government and private health expenditures on infant mortality rate in Nigeria.

1.2 STATEMENT OF THE PROBLEM

Inadequate investment in both education and health sector are clearly not the only cause of Africa's economic difficulties, the poor health and education of workers is another major factor contributing to her low income. The well-being of individuals in a community is a good and broad indicator of human development in such country (Obassnsa, 2011). That is the reason good health is an important facilitator of human capital accumulation since child malnutrition might lead to cognitive deficiency. Child illness and malnutrition affect attendance and performance of the child in school.

Therefore, health is wealth and a better health care is a primary human need of everyone in a society (Aluko and Aluko, 2017). According to the World Health Organization (WHO, 2005), fifty percent of economic growth differentials between developed and developing nation is attributable to ill-health and low life expectancy. Developed countries spend a high proportion of their Gross Domestic Product (GDP) on Health Care because they believe that their resident health can serve as a major driver for economic activities and development. To this end, Governments in Nigeria, over the years have been making frantic efforts at ensuring that there is an increase in the level of public expenditure on health. In 1980, the total health expenditure was N52.78 Billion. It became N84.46 Billion in 1981 and increased to N134.12 Billion in 1986. By 1987, it dropped to N41.31 Billion and sky rocketed to N575.3 Billion in 1989.In 2002, the total health expenditure has risen to N40, 621.42 Billion and dropped to N33, 267.98 Billion in 2003 and later appreciated to N104, 810.08 Billion in 2010. Between 2011 and 2014, the total expenditure rose to N113,766.30 Billion in 2011, N122,722.60 Billion in 2012, N131,678.87 Billion in 2013 and N140,635.10 Billion in 2014 (WHO, 2010). Similar improvement was witnessed in private disbursements such as huge charity donations, grants from international donor agencies to the country's health sector and introduction of National Health Insurance Scheme (NHIS) to reduce households out-of-pocket spending. Regrettably, despite all these efforts by the government and private stakeholders to improve health conditions of the citizens in Nigeria, the Nigerians' health outcome such as mortality rate and life expectancy are still considered as one of poorest and most miserable in the world (Richardson, Innocent and Okereke, 2015). Therefore, this study assesses empirically the impact of health expenditure on child mortality rate in Nigeria between 1980 and 2015. Specifically, the study seeks to:

a. Examine if public health expenditure has any impact on infant mortality rate (IMR) in Nigeria.
b. Determine if private health expenditure has any impact on infant mortality rate (IMR) in Nigeria.
c. To find out if there is a significant relationship between per capita income and infant mortality rate (IMR) in Nigeria.

2.0 REVIEW OF RELATED LITERATURE

2.1 Empirical Review

Several studies have examined the relationship between different categories of health expenditure and child mortality using different types of data and estimation methods. The results differ across studies. Some studies found no effect of health expenditure on child mortality (e.g. Gupta, Verheven, and Tiongson (1999), (total health expenditure); Gupta *et. al*., 2001 (private health expenditure). Others found limited effect e.g. Filmer and Pritchett, (1999) and yet others have found strong effect of health expenditure on child mortality (see Houweling, Kunst, looman & Mackenbach, 2005; Bokhari, Gai & Gottret, 2006; Baldacci, 2003; Anyanwu & Erhijakpor, 2007).

The first strand of literature was the cross-sectional studies relating health expenditure and child mortality. These studies examined the effects of public health expenditure on under-five mortality rates in a sample of 43 countries in Africa, Asia and Latin America with emphasis on differential impact among the rich and poor. OLS estimates used indicated that a 10% increase in public health expenditure per capita would decrease under-five mortality rates by about 1.1% (rich) to 2.4% (poor) Tae and Shannon, (2013). The weakness of this study emanates from not accounting for potential endogeneity of health expenditure in the under-five mortality equation which could occur because of reverse causality.

Using a sample of 127 developed and developing countries, Bokhari *et. al*. (2006) studied the link between per capita public health expenditure and under-five mortality rates. Unlike Houweling *et. al*. (2005) the paper controlled for endogeneity of health expenditure and real per capita GDP by using instrumental variable generalized method of moments-Heteroscedastic OLS estimator (GMM-HOLS) and Heteroscedastic Two-stage Least Squares (GMM-H2SLS). The estimated elasticities imply that a 1% increase in per capita public health expenditure reduced under-five mortality by 0.34% and 0.52% for developed and developing countries respectively. Though the study used GMM models the type of data used does not account for dynamics.

Baldacci (2003) estimated the relationship between 3-year (1996-1998) averages in public health expenditure and both infant and under-five mortality rates for 94 developing and transition economies. To account for potential endogeneity of health expenditure and heteroscedasticity in the cross-sectional data, Weighted Two Stage Least Squares (WTSLS) was used. The cross-section results indicated that an increase in public health expenditure by 1% resulted in decline of under-five mortality rate by about 0.22%. For the infant mortality rate, a rise in public health expenditure by 1% reduced it by 0.13% to 0.22% across three estimation methods (OLS, 2SLS and WTSLS).

Baldacci, (2003) also treated health status (infant and under-five mortality) as a latent variable and used covariance structure model to determine its relationship with government health

expenditure. They found insignificant relationship between health expenditure and both infant and under-five mortality. Even when the income group of a country was taken into consideration, the coefficient of public health expenditure was still insignificant in the health status equation. The authors argued that such a model is appropriate as health status is multidimensional and unobservable and cannot be measured by health indicators.

Similarly, Gupta *et. al*. (1999) applied OLS and 2SLS to investigate the effects of total health spending and public spending on primary health care (public expenditure on clinics and practitioners or on preventive health) on under-five mortality rates in 50 developing countries and transition economies. They found that an increase in primary health care expenditure by 1% reduced under-five mortality rates by 0.97% and 0.95% respectively. The estimation results also indicated that total health expenditure as percent of GDP did not significantly affect under-five mortality rates.

Gottret and Schieber (2006) used several methods (OLS, Heteroscedastic OLS, 2SLS and generalized method of moment Heteroscedastic 2SLS) to investigate the relationship between government health expenditure and under-five mortality rates in 2000 for 113 countries. The OLS estimates indicated that increase in government health expenditure by 1% reduces under-five mortality by 0.17%.

The findings are generally inconclusive. Some studies (Houweling, *et. al*., 2005; Baldacci, 2003; Bokhari, *et. al*., 2007; Gupta, *et. al*., 1999; Gottret and Schieber, 2006; Gupta, *et. al*. 2001) have found a reducing and significant effect on under-five mortality. On the other hand, some studies such as Issa and Quattara (2005) even after controlling for endogeneity found insignificant relationship between public health expenditure and child mortality. In addition, Faisal and Hohen (2010) in a bid to worked establish the relationship between Public Health Sector expenditure and development in Pakistan using ordinary least square method found insignificant link between private health expenditure and under-five mortality while Gupta, *et. al*. (2001) found insignificant relationship between total health expenditure and under-five mortality but found a significant increase in child mortality and infant mortality when level of corruption is high.

In time series study by Anand and Ravallion (1993) the impact of public health expenditure per capita on infant mortality rate in Sri Lanka using multiple regression models. They used data for 1952-1981. OLS estimates showed that increasing public health expenditure per capita by 1% reduced infant mortality by about 0.33%. However, this study did not examine the time series properties of the data used. Thus the estimated relationship may be spurious.

Another study by Yaqub, *et. al*. (2012) estimated the impact of public health expenditure and governance on under-five mortality rates in Nigeria using OLS and 2SLS techniques. The study covers 1980 to 2008. They estimated the direct effect of public health expenditure on under-five mortality and the interaction effect between public health expenditure and corruption levels.

Without the interactive variable the OLS and 2SLS estimates indicated that increasing public health expenditure also increases under-five mortality rates by 0.03% and 0.05% respectively. However, the study used small sample (30 observations) such that with several explanatory variables few degrees of freedom are available for statistical inferences. The paper does not also examine the time series properties of the data. Thus the estimation results maybe spurious. In general time series studies do not control for unobserved heterogeneity. Second, the studies focus on a single country or region. This may impede generalization of the study results to other countries.

It is in view of the above limitations inherent in the studies in the empirical literature that this study examines the impact of expenditure on health on child mortality in Nigeria.

2.2 Theoretical Framework

Public expenditure theory, traditionally, received only a scanty attention till recently. Partly, this lop-sided interest in the theory of public finance is explained by a general acceptance of the philosophy of laissez-faire and belief in the efficacy of free market mechanism. However, with the advent of welfare economics the role of the state has expanded especially in the area of infrastructural provision and theory of public expenditure is attracting increasing attention. Therefore, the theoretical base of this study is adopted from Grossman (1972) who developed a theoretical health production function, which is specified by; Oluwatoyin, Adegboye and Fasina, (2012). The Theory stated that the demand for health care is derived which is produced through a process defined by production function. His model is widely used in empirical studies of health and health care. It is commonly used in analyzing the factors affecting health status and its relationship with economic and non-economic factors. The model can be specified as;

$H = f(A)$.....(2.2.1)

Where H is any measure of health status such as life expectancy, infant mortality and (A) is a vector of other economic (income per capital), social (education), environment (urbanization), demographic (population below or above certain age group), health service variables (like population-doctor ratio, population-hospital ratio etc.), and other variables affecting health status. Although Grossman (1972) presented his model in microeconomic level but number of studies tried to employ his specification at macroeconomic level.

We can write the above equation (2.3) in extended form as follows:

$h = f(g, p, y)$……..…….…….(2.2.2)

g is government health expenditure, g is private expenditure on health, and y is per capita income. Classifying health production function into input and output is necessary, Feldstein (1967) suggested that output definition could be in form of improvements in health (i.e. increase in life expectancy or reduced mortality).

3.0 THE MODEL

The model to be used in this study is adapted from the work of Imoughele, (2013) which is stated as;

$$IMR_t = \beta_o + \beta_1 PHE_t + \beta_2 PRHE_t + \beta_3 PCI_t + U_t \quad (3.3.1)$$

Where,
IMR is infant mortality rate
PHE is public health expenditure
PRHE is private health expenditure
PCI is Per capita Income

3.1 Estimation Techniques

The study was examined with the use of Auto Regressive Distributed Lag (ARDL) model which is applicable in testing for cointegration when the variables are either purely I(0) or I(1) or of mixture of stationarity. If variables are found to be non-stationary, the cointegration test, which is a pre-test for spurious regression will first be carried out thus there is need for pretest for stationarity to detrmine whether the variables are stationary, and to determine the cointegration technique or method of analysis to be used.Also, a pretest for stationarity is necessary in the application of ARDL model since the model does not allow for inclusion of variables that are I(2) and above.

To test for stationarity, the unit root method will be used and will take the form of an Autoregressive model (AR process), with each variable regressed on its own lagged value without an intercept and a deterministic trend. However, to correct for autocorrelation in the error term, the ADF unit root test will be applied. The model used is:

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum_{i=1}^{m} \alpha_i \Delta Y_{t-i} + \varepsilon_t \quad 3.4.1$$

$\delta=\rho-1$

Where;

Y represents all the variables under consideration.
δ represents the coefficient of the lagged value of Y.
Δ is the first difference operator.
Y_{t-i} represents the lagged terms included
ε_t represents pure white noise error term.

The null hypothesis to be tested is such that the variable possess unit root, and as such is non-stationary.

$H_0 : \delta = 0$ ($\rho = 1$) presence of unit root
$H_0 : \delta \neq 0$ ($\rho < 1$) no unit root

The decision rule will be such that if the absolute ADF statistic is greater than the absolute critical values, the null hypothesis will be rejected.

In view of the fact that the variables are of different levels of stationarity (i.e either I(0) or I(1)), the study used ARDL to conduct the cointegration test. The ARDL model is specified as follows:

$$\Delta IMR_t = \alpha_0 + \sum_{j=1}^{m} \alpha_{1j} \Delta IMR_{t-j} + \sum_{j=1}^{m} \alpha_{2j} \Delta PHE_{t-j} + \sum_{j=1}^{m} \alpha_{3j} \Delta PRHE_{t-j} + \sum_{j=1}^{m} \alpha_{4j} \Delta PCI_{t-j} + \theta_1 IMR_{t-1} + \theta_2 PHE_{t-1}$$
$$+ \theta_3 PRHE_{t-1} + \theta_4 PCI_{t-1} + U_t \quad \text{3.4.2}$$

Where;
IMR is infant mortality rate
PHE is public health expenditure
PRHE is private health expenditure
PCI is per capita income
α_i and θ iare coefficients to be estimated,
$U_t$is the Gaussian white noise that is independently and identically distributed random variable.

3.2 Data Sources

Data collection technique for the research is time series in nature, and in the secondary form sourced mainly from the World Development Index under the World Bank and World Economic Outlook (WEO). Data on Per Capita GDP is collected from CBN statistical Bulletin, Data on Mortality Rate are collected from World Development Index.

3.3 Variables Measurement

Four variables were used in this study. The dependent variable is the infant mortality rate which is measured as the total number of under 5 death rate recorded per year. The explanatory variables are: Public health expenditure, measured as total amount of fund invested in public health in Naira; Private health expenditure which is measured as total amount of fund invested per annum in private health care centres in Nigeria; and per capita income which is measured as annual income per head.

4.0 PRESENTATION AND ANALYSIS OF RESULTS

The results of the study are presented and analysed in this section. All results to be analyzed were computed using E-views 9.0 statistical software packages.

4.1 Stationarity Test Results

The Augmented Dickey-Fuller test was used to test for unit root. All the variables were regressed on trend and intercept to determine if they have trend, it was discovered that the four variables have trend and intercept, hence the unit root test involve trend and intercept. The result is presented:

Table 4.1: Results of ADF Test

Variables	ADF Statistics	Critical Value	Stationary Status
PCI	-7.460302	-4.26274(1%)	I(1)
PHE	-8.382534	-4.26274(1%)	I(1)
PRHE	-6.009893	-4.26274(1%)	I(1)
IMR	-4.611492	-4.26274(1%)	I(0)

The critical values for rejection of hypothesis of unit root were from MacKinnon (1991) as reported in e-views 9.0.
Source: Author's Computation using e-views 9.0

The four variables (Per Capita Gross Domestic Product, Public Health Expenditure, Public Health Expenditure and Infant Mortality Rate) underwent unit root test using the Augmented Dickey-Fuller (ADF) test. Three variables were found to be non-stationary at levels except IMR which was stationary at levels. The three variables (PCI, PHE and PRHE) were found to be stationary at first difference.

4.2 Cointegration Result

The result of cointegration based on ARDL model is presented in Table 4.2.2 and based on three maximum lag selections.

Table 4.2.1 ARDL Bound test for Cointegration
Null Hypothesis: No long-run relationships exist

Test Statistic	Value	K
F-statistic	8.019585	4

Critical Value Bounds

Significance	I0 Bound	I1 Bound
10%	2.45	3.52
5%	2.86	4.01
2.5%	3.25	4.49
1%	3.74	5.06

Source: Author's Computation

The Cointegration test was done using the ARDL Bound test. This became necessary to avoid a spurious regression result. Using the ARDL Bound test with critical value from Narayan (2005), the variables were cointegrated at 1per cent level of significance since the Wald F- statistics is greater than the critical lower and upper bound (see Table 4.2.1)

4.3 Error Correction Mechanism Result.

Table 4.3.1: Error Correction Mechanism

Dependent Variable: log(IMR)

Variable	Coefficient	P-Value
D(IMR(-1))	-0.119026	0.0000
D(IMR(-2))	0.198751	0.5504
D(MR(-3))	-0.688393	0.2257
D(PHE)	3.520958	0.0000
D(PHE(-1))	23.158041	0.3023
D(PHE(-2))	41.065085	0.0427
D(PHE(-3))	40.678262	0.2650
D(PRHE)	10.614407	0.0355
D(PRHE(-1))	2.210811	0.8962
D(PRHE(-2))	14.003188	0.3947
D(PRHE(-3))	30.899143	0.4775
D(PCI)	3.426728	0.0031
D(PCI(-1))	20.691957	0.4656
D(PCI(-2))	39.049723	0.1035
D(PCI(-3))	21.09416	0.4283
CointEq(-1)	-0.670909	0.0029

Source: Author's Computation

Since the variables were found to be cointegrated implying that they have long-run equilibrium relationship, it is necessary to test for shor-run relationship. From table 4.3, the lag length is determined automatically using Akaike info criterion. ECM parameter is negative (-) and significant which is -0.670909. This shows that 67 percent disequilibrium in the previous period is being corrected to restore equilibrium in the current period. Therefore, it has been established that the variables are cointegrated and also have short run relationship as established from the ECM.

4.4 Estimated Long Run Coefficients

Table 4.4.1: Long-run Coefficients
Dependent Variable: IMR

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(PHE)	-0.579718	0.141279	-4.124312	0.0084
LOG(PRHE)	-6.526849	1.230998	-6.637948	0.0011
LOG(PCI)	-4.789113	0.968745	-4.577049	0.0037
C	35.949076	10.430379	3.521496	0.0068

R^2 = 0.913842
Adj RR^2 = 0.903841
F stat = 95.94482
Prob = 0.00000
DW = 1.82921
Source: Author's Computation

From the result, a percentage increase in public health expenditure will lead to 0.579718 percentage decrease in infant mortality rate. In addition to this the impact is statistically significant at 1% level of significance. This shows that public health expenditure has a negative impact on infant mortality Rate. This result fulfils apriori expectation and is consistent with other results on health and infant mortality rate e.g Chaabouni (2010) and Garba (2012). Also, a percentage increase in private health expenditure will leads to 6.526849 percent decrease in infant mortality rate. The increase is statistically significant at 1% level. This result implies that increase in private spending on health will lead to decrease in infant mortality rate. This shows that Health expenditure has a negative impact on infant mortality rate. This result fulfils apriori expectation and is consistent with empirical findings by Imoughele and Ismaila (2013). In addition, a percentage increase in per capita income will lead to 4.789113 decrease in infant mortality rate. The result is statistically significant at 1% level. This conforms to a priori expectation.

The R-Squaredand the adjusted R-Squaredshows that 91% and 90% change in infant mortality rate is accounted for by changes in the independent variables. The Durbin-Watson (D-W) Statistics is 1.82921 approximately 2 indicating the absence of autocorrelation in the model. In addition, the F-statistic reveals that the model is is significant and well specified. From the F-distribution table with 5per cent and degree of freedom (v1 = k-1 = 4-1 = 3 and n-k=36-4 = 32)

at 5 percent level of significance, the critical F value 2.92 was obtained. This value is less than the calculated value of 95.94482, leading us to rejection of the null hypothesis of insignificant model implying that the independent variables are significant explanatory factors of the infant mortality rate in the long run.

4.5 Heteroscedasticity Test on ARDL Model

Table: 4.5.1: Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.800768	Prob. F(18,12)	0.6746
Obs*R-squared	16.91647	Prob. Chi-Square(18)	0.5289
Scaled explained SS	8.165821	Prob. Chi-Square(18)	0.9761

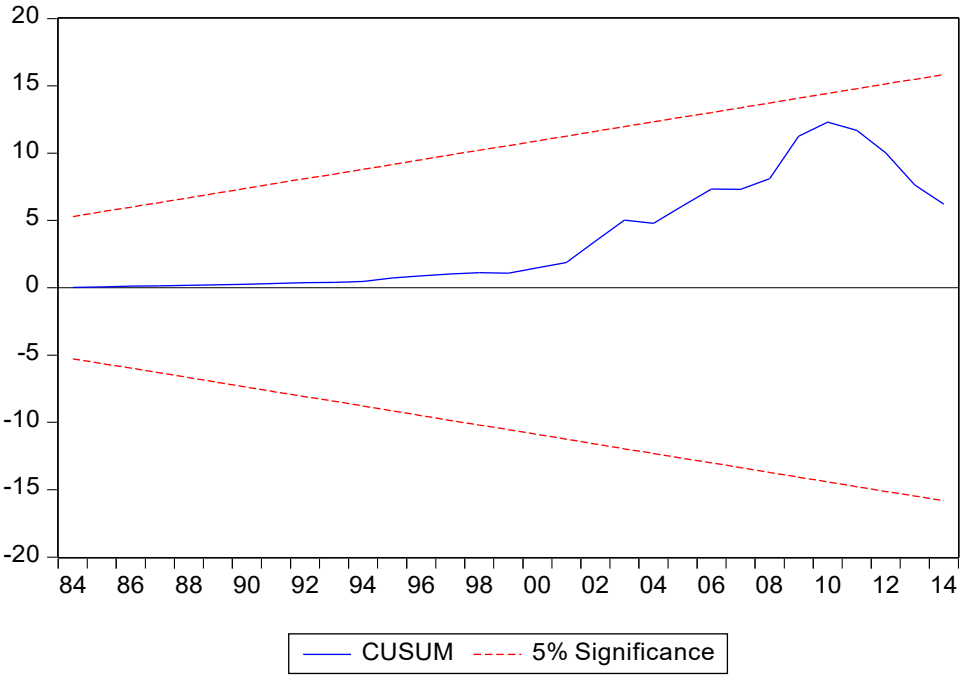
Source: Author's Computation, 2019.

From table 4.5.1, the Breusch-Pagan-Godfrey Test shows that the ARDL model is free from Heteroscedasticity, the F-test, Observed R squared and the Scaled Explain Sum of Square all indicated that the model is free from Heteroscedasticity, with the Probability values all greater than 0.05 (5% level of significance).

4.6 Cumulative Sum Test for ARDL Model Stability

The cumulative sum (CUSUM) test shows that the CUSUM falls within the critical region. This shows that the parameters are stable over the sample period studied (1980 – 2015).

Figure 4.6.1 Cusum Test



5.0 CONCLUSION AND RECOMMENDATION

The evidence from various econometrics analyses from this study revealed that, Health expenditure have a statistically significant impact on Infant Mortality Rate but private health spending has an insignificant impact on Infant Mortality Rate. This is evident given the contributions of Public Health input in the economy, and most importantly, it was deduced that, there exist short-run relationship between health expenditure and infant mortality rate. The implication of this is that an improvement in Public Health Expenditure reduces Infant Mortality Rate and leads to gains in health population, while good health care appears to lead to large Health gains, particularly at low levels of economic development. Hence, it is important for the Government to ensure that greater attention is given to enhance the improvement in Health expenditure which is the main Health input used in this study. This is without doubt that it will translate to the expected health outcome if the process of expending the fund allocated to the Health sector is properly monitored and its efficiency is ensured.

From the findings, the following recommendations are made:

i. Federal Government of Nigeria should increase the allocation of fund to the Health sector (infrastructure, personnel and advocacy) and develop strategies for the monitoring of the disbursement of such fund as well as increase the awareness of the availability of various Health services to the society.

ii. Since it has been found that Income is related to Infant Mortality Rate, increasing Income Level by the Federal Government in a developing nation like Nigeria will have a positive influence on health care.

iii. Population should be controlled through public enlightenment on the advantages of birth control. The control of population will reduce the pressure on natural resources increasing sustainability of these resources. Government should create enabling environment for employment so that more labour force can be employed through the introduction of more employment scheme and capital projects.

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