Analysis of the impact of Inflation on Health Expenditure in Nigeria (1984-2021)

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Abstract:- This study investigated the relationship between inflation and health expenditure in Nigeria. The continuous and persistence increase in general price level has been a serious challenge to policy makers as well as policy implementation in Nigeria. The research used annual time series data from Central Bank of Nigeria statistical bulletin and World Bank database and Autoregressive Distributed Lag (ARDL) model to estimate the equation. The result shows that a unit change in RHEX will lead to a decrease in mortality rate by 87%, it further indicate that a change in CHE will lead to a 110% reduction in mortality rate. The value of R^2 of 0.992114 or 99% shows that health expenditure can be explained by changes in the explanatory variables as shown in the model. Thus, the result further shows that a unit increase in Money supply will lead to 18% decrease in Life Expectancy Rate in Nigeria, and also shows that a unit change in RHEX will lead to an increase in Life Expectancy Rate by 23%. The study therefore, concludes that, for any nation to develop, it must first prioritize the health of her citizens by investing more in the health sector, "it is often said that health is wealth". The study therefore, recommends among other things that Government should increase her expenditure on the health sector as it will help to provide all the needed facilities in the healthcare and thereby reducing mortality rate and increase the life expectancy of the citizens.

Keywords:- Inflation, Health Expenditure, Economic Growth and Autoregressive Distributed Lag (ARDL).

I. INTRODUCTION

An urgent issue for Nigerian policymakers has always been the rise in price levels. Perhaps more than any other topic, prices are currently the subject of intense debate. This is not surprising because a change in one or more prices might have a positive or negative impact on a person's wellbeing; depending on which side of the transaction they are on. According to Obwana (2017), there is no any debate on the relationship between price level and a decline in standard of living, as well as the unpredictable nature of governmental policy decisions and macroeconomic relationships; it is simple to deduce inflation's effects. Given the same set of pricing as today, a scenario in which proportionally more people are vying for the same bundle of goods and services tomorrow while earning the same real wage income merely indicates adjustments to consumption patterns (Nwankwo, Ademola, & Kehinde, 2018). Therefore, the same collection of commodities and services cannot be consumed tomorrow. Consequently, a decline in the ability to consume and in standard of living is imminent.

According to McPherson and Rakovski (2015), a large body of evidence indicates that inflation is harmful over the long term to both economic growth and health consequences. The key economic costs of inflation, which include the decline in standard of living, the distorting of private agent's economic decision-making with regard to investment, saving, and production, which ultimately results in slower economic growth, and most importantly, the deterioration of health as it affects government budgets for the health sector, are what specifically drive

interest in understanding the process of inflation across countries and how to control it.

According to Makki and Somwaru (2017), inflation is a problem that affects all economies, usually being more severe in less developed nations like Nigeria. In Nigeria, a variety of circumstances have made inflation conceivable; as a result, a number of elements are identified as being in charge of inflation and its escalating pace in Nigeria. Inflation is attributed, Akomolafe, Danladi, and Adebimpe (2015), structural rigidities and supply inelasticity, fiscal and monetary responsibility were also addressed by the authors as factors that contribute to inflation. They maintained that the underlying reasons of the issue are found outside of the acts of the aforementioned economic players, given that inflation could emerge from the actions of customers, producers, or employees.

According to Akinlo (2017), the way that countries organize and manage the production and trade of goods and services in their countries are issues, as well as the policies they employ to maintain their preferred system of production, are two connected elements that are to be blamed for the activities of economic agents. Price can be seen as an aggregate that has a continuous relationship and close interface with the actual macroeconomic aggregate. Additionally, a price increase in one sector of the economy can rapidly spread to others. However, other sectors' responsiveness is frequently not totally commensurate. Due to these interconnectivities, it is difficult to determine how government policy initiatives will affect various sectors and the economy as a whole in relation to inflationary repercussions.

Adigwe, Ezeagba, and Udeh (2015), posited that the sustained rise in the general price level in Ghana and Nigeria over the past 20 years has posed a significant challenge to monetary policy, but the empirical literature has paid little attention to the systematic macroeconomic account of the underlying shocks. The Central Bank of Nigeria (CBN) must also comprehend the dynamic nature of inflationary processes in the country in order to attain and maintain low inflation (Adeolu, 2017). These include the characteristics of the propagation mechanism and the types of shocks that lead to inflationary impulses. It is based on these premises that this study is been designed to appraise the effect of changes in inflation rate on health outcomes in Nigeria. Even while Nigeria's economic history has seen periods of high inflation, contemporary inflation rates, many people quite concerned.

The naira devaluation increased pricing of commodities whose production was substantially dependent on imports while simultaneously decreasing aggregate real income and demand. As a result, unsold inventory grew despite consumer backlash. In this case, the National Income (NI) decreased while prices increased, which had an impact on both interest rates and the consumer price index. This has an impact on several government budgets in these nations, particularly the health budget.

II. LITERATURE REVIEW

While Akinifesi (2018) added that inflation typically refers to a continual rise in prices as assessed by an index like the consumer price index or by the implicit price deflation for gross national product, Agba (2016) defined inflation as a scenario when money income is dropping. Given the distinctions made above by the two economists, it was determined that inflation exists when the general price level is consistently rising. The term "continuous" in descriptive definitions refers to prolonged price increases rather than transient, quick price changes. In contrast to changes in the prices of specific goods or services, the general component of the definition speaks of the average behaviour of prices.

➤ *Effect of Inflation*

Different people are affected differently by inflation. Every community has two economic groupings, the fixed income group and the flexible income group, according to Akinifesi (2018). The first group suffers during inflation, whereas the second group benefits. The variation in price movements among various commodities and services is the cause. The majority of prices rise during an inflationary period, yet each price's rate of increase varies. Some goods and services see faster price increases than others, as they simply see no change. The fixed income earners suffers more because their wages and salaries are essentially set yet the cost of goods keeps rising, the lower and middle classes suffer. Businesspeople, industrialists, traders, owners of real estate, speculators, and other people with fluctuating earnings, on the other hand, profit from rising prices at the expense of the former group. The latter group gains wealth; the weath they received are transfers of wealth and income from the poor (Dakwat, 2018).

➤ *Causes of Inflation*

According to Umaru and Zubairu (2018), inflation denotes a persistent rise in the cost of goods and services in a community. Excess aggregate demand (AD), which results from economic development that is too rapid, or cost push factors (supply-side variables), are the main sources of inflation.

➢ *Demand-pull inflation*

A rise in aggregate demand (AD) causes a rise in price level (PL) when the economy is at or near full employment (Taiwo & Adesola, 2018). As businesses exceed their capacity, they react by raising prices, which causes inflation. Additionally, employees can receive higher earnings due to labour shortages and near full employment, which increases their purchasing power.

➢ **Cost-push inflation**

Businesses will pass on any increases in costs to consumers if there are any. Cost-push inflation, according to Dakwat (2018), is a form of inflation brought on by significant price rises for significant goods or services when no suitable substitute is offered. The end effect is higher pricing as a result of rising manufacturing costs brought on by a decline in the total supply.

➢ *Solutions to Inflation*

The government and/or the central bank typically regulate inflation. Monetary and fiscal policies are primarily employed (Owolabi & Arulogun, 2017). However, there are a number of measures to control inflation in theory, such as:

➢ *Monetary Policy*

It is possible for demand to outpace the economy's ability to provide it at a time of strong economic expansion. Due to businesses raising prices in response to shortages, inflationary pressures are created (Owoeye & Ogunmakin, 2018). In order to lessen inflationary pressures, the growth of aggregate demand (AD) should be curbed. The central bank may raise interest rates because doing so will make saving and borrowing more expensive. This invariably results in slower growth in investment and consumer spending.

➢ *Overview of Inflation Rate in Nigeria*

It is generally acknowledged that maintaining price stability is essential for long-term growth and development and should be a top priority for every economy. One of the causes of this is the high and fluctuating rate of inflation, which has a negative impact on price stability, savings, and investment and causes social and economic shocks to the economy (Inyiama & Ekwe, 2018). Given this scenario, the primary goal of monetary policy should rather than focusing on high output or low unemployment, to target low inflation.

With over 8% growth in each of the final two quarters of 2017, the Nigerian economy experienced tremendous expansion. Omeke and Ugwunyi (2019), posit that the National Economic and Development Strategy (NEEDS) effectively implemented the economic reform agenda, which was the cause of the exceptional growth in output seen in these quarters. Agriculture, general commerce, and services were the key factors contributing to output growth throughout the time (CBN, 2019).

Despite inflationary pressures in the first three quarters of the year, the remarkable growth rate in the fourth quarter of 2017 was accompanied by a sharp decrease in inflation, which went from over 24.3% in the third quarter to just 11.3% in the last quarter of the year. The year's first inflationary pressure was brought on by rising food prices resulting from a shortage of food in the country as a result of Nigeria's increased food aid to Niger and Chad during the time (Odusola & Akinlo, 2019).

➢ *Health Outcomes*

Health outcomes track changes in an individual's or a group's health condition that can be linked to interventions (Itari, Habibu, & Muhammad, 2018). By employing precise measurements both before and after treatment, health outcomes of care will be used to assess the effect of the care process or intervention on the patient's life.

There is a widespread understanding that poverty poses a threat to everyone's health. Both developed and developing nations are aware that continuous poverty leaves developing nations more susceptible to social injustice, instability, and poor health conditions (Geckova, Van Dijk, Stewart, Groothoff & Post, 2018). Poor health results are a major development concern for many developing African nations, including Nigeria, as a result of inadequate investment for the industry.

According to Itari, Habibu, and Muhammad (2018), value-based healthcare is no longer simply a theoretical concept; it is actually a movement that is beginning to change the way that healthcare is organized. In order to enhance care, payers, hospitals, and doctors worldwide are tracking and reporting patient outcomes more often.

They must define and choose the appropriate outcomes to measure and report as more payers and providers incorporate value-based healthcare into the core of their management models. Few conventional measurements accurately capture a patient's actual outcomes, including those that arise immediately after therapy, the healing process, mental state, and the restoration of good health (Granger & Newbold, 2014).

➢ *Health Outcome in Nigeria*

The health of an individual, refers to his/her mental fitness to perform a daily activity. Mental health is defined by WHO (2022), as an integral and essential component of health, it is a state of complete physical, mental, and social wellbeing and not merely the absence of disease or infirmity. It is the state of alertness in which an individual realizes his or her potentials, can cope with the normal stresses of life, can work productively, and can make a contribution to his or her community. This is the embodiment of everyone's existence, with or without the presence of a disease.

According to the National Population Commission (2015), Nigeria is hom to about 185 million people, or roughly 2.5% of the world's population. According to a study by Uzochukwu, Ughasoro, Etiaba, Okwuosa, Envuladu, and Onwujekwe (2018), the nation's healthcare system is now ranked 187 out of 197 selected UN member states. This is a sign of the ongoing collapse of the healthcare delivery system brought on by years of disregard for the nation's national health infrastructure. In this context, a nation's health infrastructure refers to the standard of its healthcare system and its accessibility to medical care.

According to Adebayo and Oladeji (2016), it is a component of the broader idea of the health system, which also includes the health policy, financial support, implementation, and oversight. The failure of successive governments to give the healthcare industry the proper attention has hampered the overall effectiveness of the health system. Budgetary allocations and per capita government spending on healthcare have remained low throughout time, and this has had a negative impact on health outcomes, making it impossible for the government to achieve its goals in the health sector. According to Ademiluyi and Aluko-Arowolo (2019), a health infrastructure is made up of the people, institutions, and legal framework that work together to mobilize and allocate resources for health management, disease prevention, and injury and illness treatment. As a result,

this is dependent on the availability of qualified human resources for health, efficient finance and communication, health research, a willing government, and the presence of a uniform framework that recognizes and appropriately handles the population's healthcare demands.

Budgetary allocations to the health sector remain far below the World Health Organization (WHO) and African Union (AU) recommendation of 11% and 15% respectively, of a country's Gross Domestic Product (GDP) (Uzochukwu et al, 2018). The World Health Organization (WHO) had recommended that 11% of a country's budget should be dedicated to its healthcare sector, whereas, in April, 2001, the Heads of State of African Union countries met and pledged to set aside a target of allocating 15% of their annual budget to improve the health sector (World Health Organization 2016). The implication is making health a higher priority in government budgets, since the effectiveness of a country's healthcare delivery system is central to meeting its health goals.

❖ *Theoretical Framework*

➢ *Monetarists*

The monetarists, following from the Quantity Theory of Money (QTM), have propounded that the quantity of money is the main determinant of the price level, or the value of money, such that any change in the quantity of money produces an exactly direct and proportionate change in the price level (Umaru & Zubairu, 2018). The QTM is traceable to Irving Fisher's famous equation of exchange: MV=PQ, where M stands for the stock of money; V for velocity of circulation of money; Q is the volume of transactions which take place within the given period; while P stands for the general price level in the economy

Transforming the equation by substituting Y (total amount of goods and services exchanged for money) for Q, the equation of exchange becomes: MV=PY. The introduction of Y provides the linkage between the monetary and the real side of the economy. In this framework, however, P,V, and Y are endogenously determined within the system. The variable M is the policy variable, which is exogenously determined by the monetary authorities. The monetarists emphasize that any change in the quantity of money affects only the price level or the monetary side of the economy, with the real sector of the economy totally insulated. Ahmed, (2017) assert that this indicates that changes in the supply of

money do not affect the real output of goods and services, but their values or the prices at which they are exchanged only. An essential feature of the monetarist's model is its focus on the long-run supply-side properties of the economy as opposed to short-run dynamics.

❖ *Empirical Review*

Fischer (2018) investigated how Nigeria's inflation impacted the country's economic expansion. He presented a key contribution to the literature in studying the prospect of a non-linear link between inflation and economic growth in the long-run using both cross-section and panel data that encompassed both industrialized and developing economies. In his research, he discovered a significant inverse relationship between inflation and economic growth. In addition to demonstrating the existence of non-linearities in the inflation-growth nexus, he also noted that inverse relationships lower inflation rates after 40%.

The risks and potential of inflation were covered in a 2018 article by Ghosh and Phillips. They contend that while it is undeniable that high inflation is detrimental to economy, there is less consensus regarding the impact of moderate inflation. They discovered a statistically and economically meaningful inverse link between inflation and economic growth that holds steadfastly at all inflation rates save the lowest one using panel regressions that allowed for nonlinearity specification. They concluded that only the most severe disinflations or when the initial inflation rate is well inside the single-digit range are short-run growth costs of disinflation important.

Using the Johansen co-integration methodology, Quartey (2015) looked at whether the rate of inflation in Ghana maximizes revenue and also maximizes growth? He discovered that inflation has a detrimental effect on growth. In addition, the analysis used the Laffer curve to determine that the inflation rate between 1970 and 2006 was 9.14 percent, which maximized revenue. He also demonstrated that an inflation rate that maximizes growth is not a single-digit rate.

Barro (2016), evaluated the impact of inflation on economic performance using information from about 100 different nations between 1960 and 1990. According to the results of his study, if a number of country characteristics are maintained, an increase in average inflation of 10% per year lowers the growth rate of real GDP by 0.2 to 0.3 percent per year and lowers the ratio of investment to GDP by 0.4 to 0.6 percent.

Marbuah (2017) looked into the connection between inflation and economic growth in Ghana from 1995 to 2009 to see if there was a substantial threshold impact. The study, which found evidence of a large threshold effect of inflation on economic growth with and without a structural break, used co-integration and the unit root test. Particularly, the findings indicated that the inflation thresholds should be set at 6% and 10%, respectively, as minimum and maximum levels. Moreover, the study found that adjusting for structural break in the model increases the effect of inflation on growth at a robust threshold level of 10% by a factor of 1.8 or approximately 81%.He concluded by recommending to continue pursuing the inflation targeting framework by keeping inflation targets below 10% for beyond 10% threshold, inflation can be detrimental to Ghana's growth prospects.

Hasanov (2017), in his analysis examined if there was a threshold effect of inflation on economic growth for the period of 2001–2009 using annual data sets on growth rates of real GDP, Consumer Price Index Inflation, and growth rates of real Gross Fixed Capital Formation. The estimated threshold model showed a non-linear relationship between inflation and GDP growth in the Azerbaijani economy, with 13% as the threshold for GDP growth. The statistics showed that lower inflation rates have a statistically significant positive impact on GDP growth; but, when inflation rises beyond 13%, this positive association turns negative. He noted that when inflation rose above the 13 percent level, economic growth was anticipated to drop by around 3%.

Umaru and Zubairu (2018), in their analysis, all of the unit root model's variables were stationary, and the findings of causality showed that GDP caused inflation rather than inflation causing GDP. The findings also showed that inflation had a favourable effect on economic growth by boosting output and productivity levels as well as the development of total factor productivity.

Mallik and Chowdhury (2015), discovered the following outcomes: First, for Bangladesh, Pakistan, India, and Sri Lanka, there is a positive and statistically significant association between inflation and economic growth. Second, growth was less sensitive to changes in inflation rates than inflation was to changes in growth rates. These findings had policy implications in that they showed that while moderate inflation encourages economic growth, quicker growth absorbs inflation by overheating the economy.

III. METHODOLOGY

This research work will use annual time series secondary data that cover the periods from 1984 to 2022 because of data accessibility. The data for the variable of interest, which are capital and recurrent health expenditure, money supply, consumer price index and real gross domestic products will be obtained from the Central Bank of Nigeria (CBN) statistical bulletin and annual reports, ministry of health and World Bank Database.

Model Specification

$$MR_t = f(CHEX_t, RHEX_t, CPI_t, RGDP_t, MS_t, \varepsilon_t)$$

$$MR_t = \lambda_0 + \lambda_1 \ln CHEX_t + \lambda_2 \ln RHEX_t + \lambda_3 \ln CPI_t \text{ -}$$

Using the life expectancy at birth as dependent variable, the model is expressed as;

$$LEXB_t = f(CHEX_t, RHEX_t, CPI_t, RGDP_t, MS_t, \varepsilon_t)$$

$$LEXB_t = \beta_0 + \beta_1 \ln CHEX_t + \beta_2 \ln RHEX_t + \beta_3 \ln CH$$

Where;
RGDP = Real Gross Domestic Product
CHEX= Capital Health Expenditure
RHEX= Recurrent Health Expenditure

CPI=Consumer Price Index
MS= Broad Money Supply
  ε = *Error Term*

IV. RESULTS AND DISCUSSION OF FINDING

Based on the ADF unit root test result presented in Table 1 below, only one of the results were found to be stationary at level 1(0), while other variables were found to be stationary at first difference 1(1) at 5 per cent critical level. The study confirmed that only one of the variables in the research model is stationary at 1(0) and the remaining six are stationary at first difference 1(1). The findings indicated that the null hypothesis couldn't be rejected for some variables but after differencing the data, the absolute ADF statistic is all significant and above 5% critical values respectively. The unit root of this nature, where some variables are stationary at level and others at first difference warrant the use of Autoregressive Distributed Lag (ARDL) model to estimate the equation.

➢ *ADF Test for Unit Root*

Table 1: showing Unit root test

Variables	ADF Statistics	5% Critical value	Probability	Order of integration	Remark
LER	-3.605764	-2.971853	0.0122	1(1)	Stationary
LOGGDP	-3.393070	-2.945842	0.0178	1(1)	Stationary
LOGRHEX	-10.17404	-2.945842	0.0000	1(1)	Stationary
MR	-5.657223	-2.945842	0.0000	1(1)	Stationary
LOGCHEX	-3.418492	-2.951125	0.0172	1(1)	Stationary
LOGMS	-3.523781	-2.945842	0.0129	1(1)	Stationary
LOGCPI	-7.175765	-2.960411	0.00000	1(0)	Stationary
Sources: Authors computation using Eview 10					

From Table 2 below, showing ARDL Result

The coefficient of the constant intercept β0 is 164.0245 which showed that if all the explanatory variables were held constant, the mortality rate will be 1640245, as increase in the mortality rate in the economy. In relation to our apriori expectation, it is expected that there should be a direct negative relationship between Mortality Rate and the independent variables (CHE,

RHEX, CPI GDP and MS) in Nigeria. The coefficient conforms to the apriori expectation. However, the coefficient of Gross Domestic Product (GDP) does not conformed to the apriori expectation. The coefficient showed a positive and insignificant relationship between GDP and Mortality Rate in Nigeria. Its showed that a unit change in GDP will lead to a 146% increase in Mortality

Rate in Nigeria. Consequently, the coefficient of Recurrent Health Expenditure showed that it's conformed to the apriori expectation of a negative relationship. The result is negative and insignificant at 5%. This showed that a unit change in RHEX will lead to a decrease in mortality rate by 87%. This is because a regular payment of workers salary will increase their purchasing power and hence, put them in a better position to be able to afford quality health services that will lead to the reduction of mortality rate. In the same vain, the coefficient of Capital Health Expenditure conformed to the apriori expectation of a negative relationship. The result showed that a change in CHE will lead to a 110% reduction in mortality rate. Increased in expenditure in that regards will help in providing the best medical equipment and health consumables, thereby reducing the mortality rate. The coefficient of the Consumer Price Index also showed that a negative and an insignificant relationship existed between CPI and Mortality Rate. It showed that a change in CPI will lead to 144% reduction in mortality rate. Lastly, the result showed that a unit change in money supply (MS) will lead 123% reduction in mortality rate. An increase in MS will put more money in hands of individuals to buy health consumables, thereby improving the health status of Nigerians and reduce the mortality rate.

The coefficient of determination (R^2) showed the percentage of variations in the dependent variable that can be explained by the independent variables. The R^2 of 0.992114 or 99% showed that health expenditure can be explained by changes in the explanatory variables as shown in the model and the remaining 1% is explained by the dummy variable. The F-statistic which measures the overall significance of the model indicated that it is significant at 5%. This is indicated by the F-statistics and its probability (22.46473 and 0.001287) respectively. We therefore conclude that there is a significant relationship between Health Expenditure and inflation in Nigeria. The Durbin Watson statistics of 2.092653 which is approximately 2 showed that there is no serial correlation. This means that the value of the random term in any particular period is uncorrelated with its preceding values which indicate the absence of autocorrelation.

Table 2: showing ARDL Result

Dependent Variable: MORT				
Method: ARDL				
Date: 06/03/23 Time: 12:35				
Sample (adjusted): 5 38				
Included observations: 34 after adjustments				
Maximum dependent lags: 4 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (4 lags, automatic): LOGCHEX LOGRHEX LOGCPI				
LOGGDP LOGMS				
Fixed regressors: C				
Number of models evalualted: 12500				
Selected Model: ARDL(3, 4, 4, 4, 4, 4)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LOGCHEX	-1.097570	0.650641	-1.686904	0.1524
LOGRHEX	-0.868559	0.997390	-0.870832	0.4237
LOGCPI	-1.468539	2.680108	-0.547940	0.6073
LOGGDP	1.438454	4.734995	0.303792	0.7735
LOGMS	-1.228872	2.525744	-0.486539	0.6472
C	164.0245	54.24808	3.023600	0.0293
R-squared	0.992114	Mean dependent var		15.65850
Adjusted R-squared	0.947951	S.D. dependent var		2.562918
S.E. of regression	0.584713	Akaike info criterion		1.553569
Sum squared resid	1.709447	Schwarz criterion		2.855465

Log likelihood	2.589330	Hannan-Quinn criter.	1.997553
F-statistic	22.46473	Durbin-Watson stat	2.092653
Prob(F-statistic)	0.001287		
*Note: p-values and any subsequent tests do not account for model selection.			

Sources: Authors computation using Eview 10
From Table 3 below, showing ARDL Result

The coefficient of the constant intercept β_0 is 3.100394 which show that if all the explanatory variables were held constant, the Life Expectancy Rate will be 3100394, as increase in the Life Expectancy rate in the economy. In relation to our apriori expectation, it is expected that there should be a direct positive relationship between Life Expectancy Rate and the independent variables (CHE, RHEX, GDP and MS) with a negative relationship with CPI in Nigeria. The coefficient conformed to the apriori expectation. However, the coefficient of money supply (MS) did not conform to the apriori expectation. The coefficient showed a negative and insignificant relationship between MS and Life Expectancy Rate in Nigeria. It showed that a unit increase in Money supply will lead to an 18% decrease in Life Expectancy Rate in Nigeria. Consequently, the coefficient of Recurrent Health Expenditure showed that it's conformed to the apriori expectation of a positive relationship. The result is positive and significant at 5%. This showed that a unit change in RHEX will lead to an increase in Life Expectancy Rate by 23%. This is because a regular payment of workers salary will motivate them to work hard and also some in hands from their income to attain to their health needs, thereby increasing the Life Expectancy Rate. In the same manner, the coefficient of Capital Health Expenditure conformed to the apriori expectation of a positive and significant relationship. The result showed that a change in CHE will lead to a 14% increase in life expectancy rate. Increase in expenditure in that regards will help in providing the equipment, physical facilities and health consumables, thereby increasing the Life Expectancy Rate. The coefficient of the Consumer Price Index also showed that a negative and an insignificant relationship exist between CPI and Life Expectancy Rate. It showed that a change in CPI will lead to 43% reduction in Life Expectancy Rate. This is because, when the price of health consumables such as drugs and medical services increase, it will lead to a reduction in the purchase and consumption of those goods by the less privilege who cannot afford it thereby leading to a reduction in the life expectancy rate. Lastly, the result also showed that a unit change in Gross Domestic Product (GDP) will lead to 51% increase in Life Expectancy Rate. This is because there is a positive and an insignificant relationship between GDP and Life Expectancy Rate. An increase in GDP, means increase in per capita income which will help in buying the health consumables, thereby improving the health status of Nigerians and increase the Life Expectancy Rate. When a country spent more of its income on the health of its citizens, it will help to improve their health status thereby improving their productive capacities.

The coefficient of determination (R^2) showed the percentage of variations in the dependent variable that can be explained by the independent variables. The R^2 of 0.999929 or 99% showed that health expenditure can be explained by changes in the explanatory variables as shown in the model and the remaining 1% is explained by the dummy variable. The F-statistic which measures the overall significance of the model indicated that it is significant at 5%. This is demonstrated by the values of F-statistics and its probability (5301.265 and 0.00000) respectively. We therefore conclude that there is a significant relationship between Health Expenditure and inflation in Nigeria. The Durbin Watson statistics of 2.228231 which is approximately 2 showed that there is no serial correlation. This means that the value of the random term in any particular period is uncorrelated with its preceding values which indicate the absence of autocorrelation.

Table 3: showing ARDL Result

Dependent Variable: LER			
Method: ARDL			
Date: 06/03/23　Time: 12:36			

Sample (adjusted): 5 38				
Included observations: 34 after adjustments				
Maximum dependent lags: 4 (Automatic selection)				
Model selection method: Akaike info criterion (AIC)				
Dynamic regressors (4 lags, automatic): LOGCHEX LOGRHEX LOGCPI				
LOGGDP LOGMS				
Fixed regressors: C				
Number of models evaluated: 12500				
Selected Model: ARDL(1, 4, 4, 2, 4, 4)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LOGCHEX	0.139048	0.044170	3.148050	0.0118
LOGRHEX	0.226827	0.053225	4.261636	0.0021
LOGCPI	-0.427389	0.221654	-1.928178	0.0859
LOGGDP	0.510661	0.337488	1.513123	0.1645
LOGMS	-0.181384	0.146404	-1.238926	0.2467
C	3.100394	5.659706	0.547801	0.5972
R-squared	0.999929	Mean dependent var		49.12794
Adjusted R-squared	0.999741	S.D. dependent var		3.347977
S.E. of regression	0.053917	Akaike info criterion		-2.861276
Sum squared resid	0.026164	Schwarz criterion		-1.738952
Log likelihood	73.64169	Hannan-Quinn criter.		-2.478532
F-statistic	5301.265	Durbin-Watson stat		2.228231
Prob(F-statistic)	0.000000			
Sources: Authors computation				

Sources: Authors computation using Eview 10

V. CONCLUSION AND RECOMMENDATIONS

In conclusion, it is often says that "health is wealth" and for any nation to develop, it must first prioritize the health of her citizens by investing in the health sector. The study showed that not much attention have been given to the health sector that is why the relationship between capital health expenditure, recurrent health expenditure and mortality rate is insignificant, though it conformed to the apriori expectation. All the variables exhibited an insignificant relationship.

Government should increase her expenditure on health as it will help to provide all the facilities needed in the healthcare sector thereby reducing mortality rate and increase the life expectancy of the citizens. Government should liaise with private sector for partnership in the healthcare sector to improve the sector to a standard that will help improve the health status of individual in Nigeria. Government should make sure that her allocation to all the aspect of the health sector in the economy are distributed very well as such that it will help to improve the GDP thereby helping to reduce mortality rate instead of increasing it as shown in the research, as this will also improve the Life Expectancy Rate

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