

BUDGET FACILITY AND ECONOMIC SECURITY IN THE FACE OF ECONOMIC SHOCKS (2020 COVID-19)

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Abstract

Economic security is vital for all economies. The true test of development is anchored on the level of economic security which a society provides to its citizens. Studies have shown that an individual who has economic security is more contented, happy with chances of growth and development. Economic security simply implies that regardless of whatever economic shocks that may occur, the economy's longevity and prowess will not be adversely affected and will consequently tackle such shocks whether financial, social, etc. Sectors which guarantee economic security when invested in include the health sector, education sector, agricultural sector, research and development, humanitarian affairs and social disaster relief sector. These sectors possess the multiplier effect of economic growth across other sectors consequently guaranteeing economic security. The main objective of this work is to measure the impact of adequate budgetary facility in guaranteeing Economic Security in the health sector especially with shocks like the COVID19 from 2003 to 2018. This paper employed Trend Analysis as a method of estimation. The normative expectation from this study is that the Public Health Expenditure would be a major contributor to Life Expectancy, however inferences drawn from trend analysis is based on adaptive expectations. This normative expectation is consistent with the endogenous theories, which argues that an improvement in capital will improve productivity. Other theories which constitute the theoretical framework of this paper include the production theory, and the Grossman model. However, based on the current reality of the Nigerian health sector, it is highly plausible to have the findings hint to a negative relationship which will in turn reiterate the growing need for a reform in the Nigerian budgetary allocation to the health sector.

Keywords: Economic Security, Budget Facility, Health Sector, COVID-19, Shock

Introduction

Economic security is vital for any and every economy. The true test of development is anchored on the level of economic security which a society provides to its citizens. Studies have shown that an individual who has

economic security is more contented, happy and has higher chances of growth and development. Economic security simply implies that regardless of whatever economic shocks that may occur, the economy's longevity and prowess will not be adversely affected and will consequently tackle such shocks whether financial, social, etc. Sectors which guarantee economic security when invested in include the health sector, education sector, agricultural sector, research and development, humanitarian affairs and social disaster relief sector. These sectors possess the multiplier effect of economic growth across other sectors consequently guaranteeing economic security.

Developing countries ought to have a more substantial spending on the aforementioned sectors than developed countries. This is because in developing countries like Nigeria, with low level of technical progress, health, education, research and development assume an added dimension of importance in terms of implications for economic activities. The budgetary allocation to the health sector in particular is expected to be substantial in both relative and absolute terms. In both the developed and developing nations, an obvious proportion of a nation's wealth is expected to be devoted to health. For example, the World Health Reports (2006) gave Nigerian government's expenditure on health as a percentage of the nation's Gross Domestic Product (GDP) for year 2001, 2002, and 2003 as 5.3 percent, 5 percent, and 4.7 percent respectively.

The occurrence of economic shocks (financial, social, technological, demand-side, supply-side) over the years has very much highlighted the prevalent economic insecurity in Nigeria. The Nigerian economy has had shocks which have threatened the health of the populace and often times unable to make provisions for plausible losses. The 1918-1919 influenza was introduced to Nigeria by passengers and crew from ships from overseas. Even though the pandemic ended as soon as it started, the morbidity and panic it had caused adversely affected productivity.

The Nigerian Situation: An Overview

HIV/AIDS became a reality in Nigeria when two AIDS cases were diagnosed in 1985 and reported in 1986. The prevalence of the HIV/AIDS in Nigeria has consequently lead to the death of millions over the years and while there is a vaccine that manages it, HIV/AIDS patients are still worse off with the stigma and discrimination that comes with it. This in turn affects the productivity of the Nigerian economy. According to UNAIDS, as at 2018, there were over 1.9 million people living with HIV and 53000 deaths were AIDS-related. Bird Flu,

Ebola are just a few of other threats the Nigerian health sector has faced in the past.

Currently we are faced with a global pandemic, the COVID19 which has dealt and is still dealing a huge blow to several economies of the world including Nigeria. As it is yet to be history, the ripple effects of this pandemic cannot be fully measured just yet. With the lockdown and shutdown of business activities in major economies of the world, there has been a significant decline in the demand for oil which is the major source of revenue for the Nigerian economy. Consequently the oil price has taken a downturn to the tune of less than a dollar per barrel. The implications on sectors could vary, for instance, in tourism and aviation, the decline in global travel is expected to reduce the inflow in terms of national revenue.

The Nigerian health sector has also recorded a number of deaths which may not match that of countries like Italy but the likelihood of the death rate to increase is high as we are mainly reliant on foreign aid which is very limited. There are conventional policy measures being taken which includes tax cuts, tax holidays, reduced cost of borrowing through reduction of bank rates. While this may serve demand-side shocks, it is not as effective as shocks from both demand and supply side. The lockdown has consumers indoors, resulting in the decline in consumption. Also, factories and production units are shutting down and in some cases, staff work from home to limit physical contact.

Most developing economies are expected to experience a significant downturn. In the case of Nigeria, which is yet to fully recover from the 2016 economic recession due to global fall in oil price and poor foreign reserve earnings to support imports, it gets worse. The 2020 budget has estimated revenue of 8.4 trillion naira and an estimated expenditure of 10.54 trillion naira. The revenue assumptions are based on increased global oil demand and stable market with oil price benchmark and oil output respectively at \$57 per barrel and 2.18 Million Barrels Per Day. However with the emergence of the COVID19, there is need to review the budget and consider contingency plans.

Adequate funding for sectors such as Health, Education, Research and Development, Agriculture, are required to tackle the challenges posed by shocks such as this. The normative expectation from investing in key sectors like this is a multiplier effect of growth across other sectors. This is required to measure

economic security which most economies require to survive any kind of shock. Therefore key questions to ask include; Are the allocations to the sector cost-effective? How will they guarantee economic security in terms of mortality rate, literacy rate, trade, GDP and other indicators of development?

Salient Issues

There is a significant insufficiency in the resources for the health sector to support humanitarian affairs, disaster management and social development. This relates to prudent measures required by every economy to guarantee that in the face of a threat to human life, there will be quick response in ensuring security. This paper is set out to fill the gap of examining the precautionary measures taken by government to ensure health and longevity. This should provide a clear cut indication of the Nigerian government's preparedness in the face of shocks in the form of epidemics or pandemics such as the COVID19.

Nigeria has the largest population in Africa. This points to the increasing demand of healthcare because of the increasing population. The United Nations project that the overall population of Nigeria will reach about 401.31 million by the end of the year 2050. By 2100, if current figures continue, the population of Nigeria will be over 728 million. However, resources for healthcare provision are very limited.

The 2020 budget of N10.59 trillion was approved by the National Assembly on December 5th, 2019. The 2020 allocation for the healthcare sector is N440.73 billion, which is about 4.16% of the total budget, compared to the approved 2019 budget, it increased by 3.94% from N424.03 billion. Capital expenditure increased by 4.95% from N57.085 billion in 2019 to N59.909 billion in 2020. Nigeria in the last 10 years has been unable to meet the April 2001 African Union declaration which states that 15% of a country's budget should be allocated to the healthcare sector (Editor, 2019).

The essence of the recent law was to correct the inadequacy in the funding of the primary health care system in Nigeria and directed at making available the compensating funds needed to create a tough health system. The NMA's argument is based on the fact that with Nigeria's growing population and need for Medicare, there should be adequate funds made available to sustain the Health sector. This funding issue has led to inefficiencies in health care provision. However some practitioners argue that the budgeting process and

use of funds allocated may be ineffective due to leadership and corruption on the part of the authorities manning the health sector which is why it is necessary to determine how there has been maximization of output with so little input.

The federal government following the budget allocation to the healthcare sector, has set a benchmark of N2000 per head to provide the healthcare services of the estimated 200 million Nigerians. The 2019 health indices for Nigeria indicates the deplorable situation of Nigeria. According to the Global Health Observatory and the Demographic Health Survey program of WHO, the health indices include a life expectancy for men/women at 53/56 years respectively.

This paper intends to answer the following questions in order to address the concern of government, Nigerian populace, international organizations and donors on the performances of the Nigerian nation.

- a) How effective is the government's attention score in guaranteeing positive health outcomes?
- b) Is public health expenditure to the Nigerian health sector enough to guarantee security in the face of shocks such as the COVID19?
- c) In what ways can the budgetary allocation to the health sector be ameliorated?

The main aim of this paper is to examine the precautionary measures of the Nigerian Health system against shocks in the form of pandemics and epidemics as it affects health outcomes in terms of Life Expectancy. This study is focused on the efficiency of the funding of the Nigerian Health sector and how its present conditions can be ameliorated as has been considered needful through observation.

The specific objectives include the following:

- a) To assess the impact of government spending on health outcomes in Nigeria.
- b) To assess if the government spending is enough to guarantee security for the health sector in cases of disease outbreak.

The following hypotheses are tested in their null and alternative forms.

H_{11} : There is no significant impact of government spending on health on health outcomes in Nigeria.

H₁₂: There is a significant impact of government spending on health on health outcomes in Nigeria.

H₂₁: There is no significant impact of government spending on health in periods of disease outbreak.

H₂₂: There is a significant impact of government spending on health in periods of disease outbreak.

Scope Analysis

The issue of budget facility and economic security of health in the face of shocks (disease outbreaks) in Nigeria shall be examined spanning the period 2003 to 2018. This will be secondary data which will have a trend analysis to establish the causal relationship between the independent variables and dependent variable. This is where the variables which serve as a proxy for budget facility and economic security of health are current health expenditure and life expectancy respectively. This study also includes other variables to adequately capture the impact of government's attention score to health on not just the macro economy but also micro economy. This study covers the production of health care services and how the government's attention score to the health sector guarantees economic security.

Hospitals and health facilities are at the very core of executing interferences and policies which are important to the achievement of the nation's health goals. Specifically, these centers if well funded would ensure positive health outcome in the economy.

Additionally, there are proofs of the meager performance of the Nigerian health sector. The nation's health system was rated 187th out of 191 WHO member countries on the indexes of overall health sector performance; and according to Masiye (2007) hospitals are the key elements of nations' health system performance. These institutions make up the dominant sector and prime resource consuming unit in the health care industry (Rosko, Chilingirian, Zin and Aaronson, 1995: Mackee and Henley, 2002). In that case, if these institutions are inefficiently funded and managed, the likely positive impact on the overall well-being of the population may be reduced. Also, the country is more susceptible to being gravely affected by a threat to health in the form of epidemics or pandemics.

Despite this awareness, there has so far, been little attempt made to measure the impact of public spending on health across nations and analyze factors like health expenditure affecting the efficiency of the Nigerian hospitals. The study therefore, has set out to fill the gap of measuring the adequacy of government's spending on the health sector in Nigeria in curbing deplorable effects of shocks which threaten the health sector. This should provide a clear cut indication of the Nigerian government's performance level and preparedness. This will also provide a policy recommendation path to the Nigerian government.

The data used are sourced from WDI database, and WHO and the research method adopted is the Trend Analysis.

Outline of the Paper

This paper is arranged into five sections. The first section yields the backdrop details of the study, the research hypotheses, the objectives and significance of the study and ends with a phase committed to definitions of terms employed in our analysis.

Section two reviews relevant literatures on the subject of health, health outcomes, budgeting, trend analysis and models. The last section includes conclusions and recommendations.

Conceptual and Theoretical Frameworks

The relationship between public health expenditure and health outcomes in terms of Life Expectancy at birth in Nigeria, especially in the face of shocks in the form of epidemics and pandemics, is a vital area of concern. Despite the level of knowledge brought forward, it has not facilitated significantly the budgeting of the Nigerian health sector. There are glaring and significant loopholes in the amount of attention given to the health sector by the government. This in turn explains the relative slow growth of the Nigerian health sector.

The Concept of Budget and Budgeting

Budgeting is simply the process of creating a plan on how to spend one's money. The plan in this case is the budget, which is a financial statement which shows the level of revenue in stock and the estimated expenditure. Budgeting forms a

huge part of macroeconomic planning as it sets policy makers and implementation agents on the right path in regards to how resources should be utilized. It is important that a budget stays either on balanced or surplus case as it implies some level of economic security. On the other hand, if a budget is on the deficit, it would require certain measures to ameliorate the situation which involves bridging the financial gap. A budget is a tool that managers use to plan and control the use of scarce resources. A budget is a plan showing the company's objectives and how management intends to acquire and use resources to attain those objectives (Education Unlocked).

Different kinds of budgets are used by companies, non-profit organizations and government units. There are responsibility budgets which are used to judge the performance of an individual or manager. There are also capital budgets which are put in place to serve long term capital projects. Then there is the master budget which includes a planning operating budget and a financial budget. This is the kind of budget that concerns this paper.

The budgeting process involves planning for future profitability because earning a reasonable return on resources used is a primary company objective. A company must devise some method to deal with the uncertainty of the future. An institution that does not plan whatsoever is thereby choosing to deal with the future by default and will only react to events as they occur. Most businesses, however, devise a blueprint for the actions they will take given the foreseeable events that may occur (Education Unlocked). This is in line with the prudence principle that guides managerial accounting.

The same applies at the macro level when it comes to national budgeting. It is required to be inclusive, covering every sector and detailing how much allocation should go to each sector, and how it should be used in capital expenditures. The allocated funds to each sector are prioritized based on the relative importance of the sector. Each country has its own subjective preference scale. However normative expectation requires that key specific sectors such as education, health, agriculture, etc, are to be treated as primary priority to ensure sustainable development. The budget analysis clearly states the national revenue and expected expenditure to ascertain if there is a budget deficit or surplus and how best to manage each situation.

Concept of Health

The World Health Organization (WHO) in 1948 defined health as “a state of complete physical, social and mental well-being and not merely absence of disease and infirmity”. In this way, health is metabolic efficiency while sickness or ill health is metabolic inefficiency. A state of total physical, mental, and social well-being; not just absence of disease or infirmity is a healthy status- a status in which individuals can be functional and productive members of any society.

There is the popular saying that, “health is wealth”. This refers to the human capital which is guaranteed by good health. Factors of production include capital which also includes human capital. A populace with rich human capital has higher chances of a positive production index. This supports the idea that the government of every economy should generously invest in the nation’s human capital. This is an argument widely supported by many scholars with theoretical frameworks backing it up.

Concept of Economic Shocks

This is a sudden event or occurrence which threatens the stability of an economy. An economic shock refers to any change to fundamental macroeconomic variables or relationships that has a substantial effect on macroeconomic outcomes and measures of economic performance, such as unemployment, consumption, and inflation. Shocks are often unpredictable and are usually the result of events thought to be beyond the scope of normal economic transactions. Economic shocks have widespread and lasting effects on the economy, and are the root cause of recessions and economic cycles in Real Business Cycle Theory (Chappelow, 2019).

Economic shocks are believed to mainly affect the economy on either the supply side or the demand side. They can also be group based on the specific sector affected in the economy. As a result of the linkages amongst markets and industries, large shocks on either supply or demand side such as the COVID19 often result to far-reaching macroeconomic impact. Economic shocks can be either positive whereby it helps the growth of an economy or negative whereby it causes harm to the economy.

A supply shock is an occurrence that makes production more difficult, more costly or even impossible for at least some industries. A demand shock is said to occur when there is a sharp shift in the private consumption

pattern/spending of consumers. Looking at the COVID19, it can be very much argued that it is both a supply and demand side shock. The threat to the health sector and the institution of the temporary lockdown, where people had to stay indoors, led to the abrupt cut in demand for goods and services. Also, production was also halted by the regulatory environment and workers were asked to temporarily stop working or work remotely. The unemployment rate since the advent of the pandemic has also been on the rise, thereby affecting supply.

Budget Facility and Economic Security

The relationship existing between budgetary allocation to health and economic security is important especially for developing countries like Nigeria. Gupta *et.al* (2001) observed that budgetary allocations to key sectors such as health and education can enhance equity, growth and development and reduce poverty through its positive effects on human capital formation (Sanjeev, Benedict, & E., 1998).

Bokhari (2007) concluded that while economic growth is an important contributor to health outcomes, government spending on health is just as important a factor (Farasat, Pablo, & Gai, 2007). Bhalotra (2007) in her research argued that there is a significant effect of health expenditure on infant mortality when considering rural households in India (Bhalotra, 2007). Azmat (2008) published a work on health care financing and health outcomes in Pacific Island countries. He argued based on empirical findings that per capita health expenditure is an important factor in determining health outcomes (Azmat, 2009).

Somoye, Olayiwola, Bidmoz, Oke, and Odubunmi (2008) from their findings suggested that increasing budgetary allocations for education and health may not be an effective way of increasing education and health sector output and that more attention needs to be given to increasing efficiency of public expenditure in these two sectors.

Moreover, Anyanwu and Erhijakpor (2009), in their work on health expenditures and health outcomes in Africa, supported this view that total health expenditures are important contributors to health outcomes. Therefore, improvement of the health outcomes of the macro and micro economy reiterates health security which in itself is economic security.

Endogenous Growth Theory

The basic development of endogenous growth theory over the previous models is that it extensively tries to model technology (that is, considers the factors that influence technology) rather than feigning it to be exogenous. Most times, economic growth is a resultant effect of technological progress, which is simply the ability of an economic organization to use its productive resources more adequately over time. Much of this ability is derived from the process of schooling to handle newly instituted production centers in a more productive way or more generally from learning to cope with quick adjustments in the structure of production which industrial progress must imply (Verbeck, 2000).

In his 1988 paper, Nobel laureate Robert Lucas presented a model in which the ultimate goal is to endogenise economic growth. In that model, the 'engine' of growth is human capital, as human capital accumulation raises the productivity of both labor and physical capital. In spite of having been much upgraded by other contributors, the importance of the Lucas model resides in the fact that he provided the first human capital approach to endogenous growth. An individual accumulates human capital by investing on him/herself. His level of human capital upon leaving school and entering the labor force depends: On the length of his investment period, which he chooses. On the effectiveness of the time spent, which is determined by the social stock of knowledge. An individual's investment period influences his wage in the labor market.

Grossman Model (1972)

This model seeks to analyze how age, education, health status and income influence the production of health through the demand for health capital. This model suggests that health is wanted by people. The model also indicates that health is not passively purchased from markets and that it is produced in combining time with purchased medical inputs. Another special feature of this model is that health is a capital good which does not depreciate instantly. Also, this model indicates that health can be treated as a consumption good and an investment good. Grossman's idea goes ahead to stress that health being treated as an investment good yields net returns over time. These net returns translate to the health outcomes including those discussed in this literature review.

Doctrine of Prudence

This is an accounting principle which canvasses for making provision for losses. Under the prudence concept, do not overestimate the amount of revenues recognized or underestimate the amount of expenses. Also, one should be conservative in recording the amount of assets, and not underestimate liabilities. The result should be conservatively-stated financial statements (Accounting Tools, 2020). The budgetary allocations should be done in such a way where resources are safely and concisely kept aside for the plausible occurrence of losses and unforeseen expenditure. Economic shocks, when on the negative side, incurs losses and expenses such as can be seen with the COVID19. The preparedness of an economy in the face of shocks is deeply rooted in the concept of prudence.

Theory of Production

Microeconomic theory of production makes available the system for our assessment of local competence of health sector. The theory of production considers a firm as a producing system where inputs defined as the resources used in the production process are transformed or converted into desirable outputs. In production theory, resource inputs and outputs are flows (Pindyck and Rubbinfield, 2005). This derives from the fact that a given amount of inputs are employed overtime to generate varying outputs quantities. Inputs are goods or services that go into the process of production while output represents the goods or services that come out of the process. The technical relationship which exists between inputs combined and the output generated from such inputs is often termed production function or frontiers (Abiodun, 2011). The function or frontiers present the commensurate relationships between inputs and outputs. Besides, the production represents the technical level of a firm, of an industry or of the economy as a whole as the case may be. And, because production function allows inputs to be combined in varying proportion, output could be made in many ways.

Furthermore, production function may take the form of a schedule of table, graphed line or curve, an algebraic equation or a variety of mathematical modeling. In algebraic or mathematical structure, for instance, the interconnection between capital input (K) combined with labor input(L) to produce output Q can be expressed as $Q = f(K, L)$. This mathematical expression describes the technical chances of the firm in reference.

Budgetary Allocation and Economic Security

This part of this research work provides a review of various empirical models, findings and conclusions that other researchers have made on the subject budgetary allocation and economic security in the health sector.

The study on sectoral budgetary allocation and economic development in Nigeria by Osagie Osifon and A. E. Uwubanmwun produced findings which suggests a positive relationship between budgetary allocations to education, health and agriculture and economic growth in Nigeria. However, public expenditure on defense, which often takes a larger chunk of the allocations, has a negative relationship with the economic growth in Nigeria. The study is concluded with a recommendation that there should be increased, and judicious spending on these sectors of the economy as well as institutional mechanism to properly monitor the resources spent on them, so that the allocated funds are properly channeled for rapid economic growth and development (Uwubanmwun & Osagie, 2016).

The study by Abada et al examined the effects of budgetary allocations on public sector reform agenda in Nigeria. In particular, allocations to the health sector were analyzed in order to ascertain whether they have positive impact on the life expectancy of the citizenry. The findings showed that the Federal Government budgetary allocations to the health sector have a positive but insignificant impact on life expectancy. Conclusion was drawn and it was recommended based on the findings of the study among others that the Federal Government should go on with the implementation of the public sector reform program but should strengthen the audit institutions to be able to carry out the responsibilities which the reform of public sector demands (Abada, Okeluemaka, & David, 2016).

Jimoh and Wahab (2016) in their study on Health Care Financing and Budgetary Allocation in Ondo State employed the use of primary and secondary data as well as descriptive statistics and trend analysis in the data analysis. A multi-stage sampling technique was adopted to select and elicit information from the respondents. This study concluded that health care financing was inadequate in the study area and recommended an increase in government budgetary allocation.

Several papers that have been reviewed while carrying out this study have been found to have some inappropriate method. Some violated the central limit theorem which states that under certain conditions the arithmetic mean of a sufficiently large number frequency of independent random variables, each with a well defined and summarized expected value and well-defined variance, will be approximately normally distributed regardless the underlying distribution.

Yaqub, Ojapinwa, Yussuff (2012) used the ordinary least squares and two-stage least squares to analyze the secondary data gotten from relevant sources from 1980 to 2008. According to the central limit theorem, this result will be spurious due to insufficiency of data to ascertain the appropriate result that is desired. The amount of data employed should be well above 30 units to fine-tune the result of the analysis.

Trend Analysis of the Nigerian Health Sector Budgeting An Overview

Through the 59 years of Nigeria's history, her health sector like other sectors of the country's economy has had its great and worst times with unrewarding national health indices traceable to years of minimal civil order and best practices, a weak private health sector, badly instituted social infrastructure, including policies which are inconsistent. Some of the contributing factors to this include: Bureaucracy at most levels of government; Political instability, policy inconsistency and obvious presence of political apathy to health by most state and local governments in Nigeria; Foundational corruption and infrastructural decay; Undue politicization of the health sector coupled with declining professionalism and non-adherence to best practices; Poor constitutional and legal framework for health in Nigeria, particularly the absence of a National Health Act; Poor co-ordination, integration and implementation of health policies, programs, projects and donor support; Poor funding and budgetary provisions for health, far less than the stipulated 15% of the National budget as prescribed by the World Health Organization and affirmed by the 2001 Abuja declaration of African Heads of State; and so much more.

The Nigerian economy has for decades suffered health insecurity on grounds of ineffectual budgetary allocations. According to the Nigerian 2020 budgetary analysis, the federal government still spends less than 11% of national budget on its education and health sector combined. Looking at the 2020 budgetary

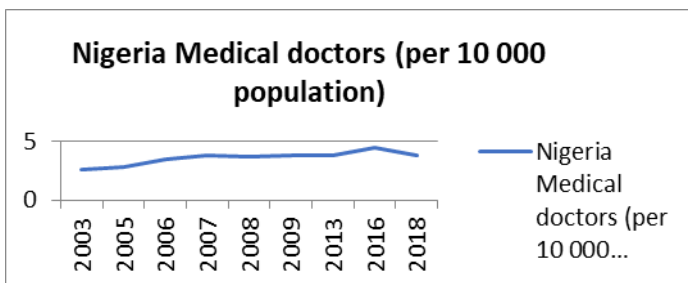
allocation analysis, it is important to study the sectoral allocations. The Nigerian 2020 approved budget framework had a trajectory of 8.4trn revenue and 10.59trn expenditure, having a deficit of 2.18trn. The ministry of humanitarian affairs was allocated N453.27bn. Prior to the review, only 13% of the national budget was allocated and this was supposed to tend to victims of harsh economic climate such as the current situation. The health sector was allocated N441bn prior to the review which is a 13.3% increase from the previous year (BudgIT, 2020).

Following the emergence of the COVID19 pandemic, there was a review of the 2020 national budget. The senate passed the revised N10.8trn 2020 budget in June, where N500 bn was laid out for the fight against COVID19 and the health sector was allocated a meager N186bn for capital projects. Prior to this review the allocation for capital projects in the health sector was N159 bn. The Director of BudgIT which is a non-governmental organization, Seun Onigbinde has sent an appeal urging the senate to reinstate the initial N159bn for capital projects in the health sector and also arguing that key sectors should be prioritized (Folorunsho-Francis, 2020).

Trend Analysis

Nigerian Medical Doctors (per 10000 Population)

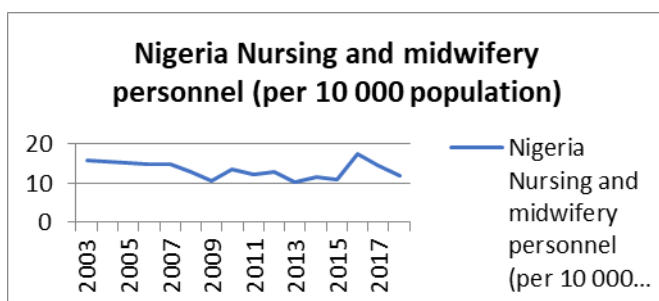
The records for the medical doctors (per 10000 population) for Nigeria has always been flawed in the sense that the figures do not guarantee the sufficient amount of supply healthcare services. As at 2003, it was 2.648 according to WHO and as at 2018, it was 3.806, which indicates a 43% increase in 15 years. While this points to progress, there's still need for improvement with the growing demand for healthcare.



Source: WHO

Nursing and midwifery personnel (per 10000 population)

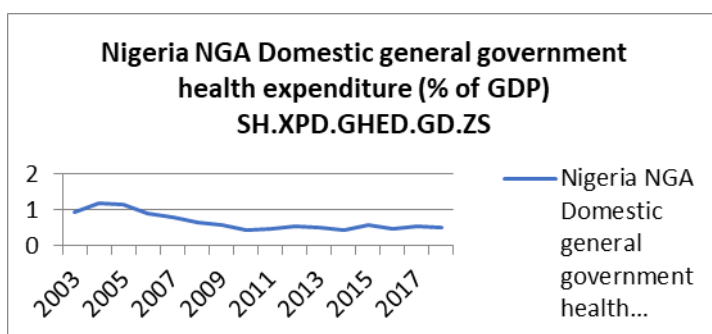
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Source: WHO

Domestic General Government Health Expenditure (% GDP)

There has been a downward trend in the domestic general government expenditure (%GDP) in Nigeria. This explains the slow and very little growth of the Nigerian health sector. It also highlights the level of health insecurity as the government's attention score to health is very poor.

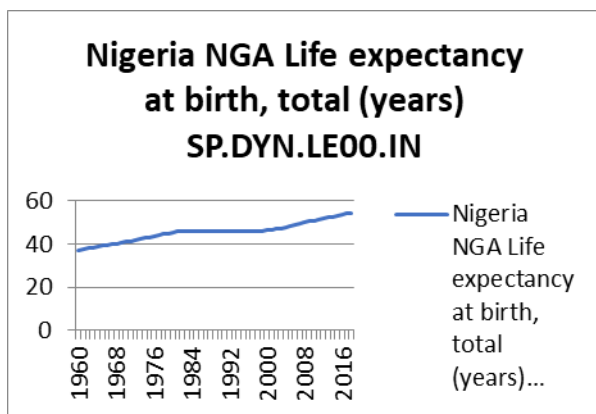


Source: WDI

Life Expectancy

The life expectancy at birth in Nigeria has had growth and improvement over the years. However, this growth has been at a very slow pace and with very little

improvement. According to the World Bank's World Development Index, Nigeria as at 2003 had a life expectancy (at birth) of 47.242 years and in 2018, it was 54.332. The little difference over such a short period of time reiterates the slow growth of the Nigerian health sector.



Source: WDI

Conclusions

Adequate health expenditure in any economy is a vital source of strength for the health sector of any economy hence ensuring economic security. However, the impact of public health expenditure on health outcomes seems to be going the opposite direction in Nigeria. It is expected that the public health expenditure will enhance positive health outcomes whether in developing or in developed countries, and also ensure that it equips the economy against the likelihood of shocks or any threat to health.

This study is a time series study of the health outcome variables and economic security, and the data covered the period of 2003-2018. The study examines two vital aspects of the research questions. They include – the causal relationship, and the impact of government spending on health outcomes within Nigeria and also how it guarantees health/economic security against shocks in the form of threat to health. The ultimate goal of this research is to establish the causal relationship between government health expenditure and health outcomes in Nigeria. The technique of estimation used is the Trend Analysis of both dependent variable (Life Expectancy) and independent variables.

The theoretical framework used for this study is the Grossman model. A number of studies have been done on human capital and health during the past few years. People invest in themselves to improve their ability and capacity.

Expenditure on education and health is widely accepted as investment by economists because it provides productive asset in the form of human capital. Grossman has developed a model on demand for health care services where he emphasized that investment in health care services generates good health which helps in just not improving labor productivity and producer's monetary benefit but also individual utility function.

The deduction from the trend analysis is the slow and little improvement in the health indices of Nigeria and how this is partly as a result of insufficient funding from budgetary allocations. Also, the current state reiterates the unpreparedness of the economy against unforeseen occurrences like the COVID19. There seems to be improvement but the truth based on findings, is that there is need for more improvement and a more prudent approach to budgeting to aid other resources needed for health security.

Recommendations

Over the years, the government has introduced a number of policy measures to promote the public health expenditure of Nigeria so as to help residents have better chances of access to good health. A major difficulty with the implementation of these policy measures is that there are not enough funds laid out to fully actualize this goal.

From the analysis, the following recommendations are made for implementation:

The government of Nigeria should in the course of budgetary allocation, pay more attention to key sectors like the health and education sector. This would ensure provision of enough resources which would result in efficiency in the health sector, and in turn ensure economic security. The government should create a stable institution that would ensure proper utilization of funds allocated to health through checks and balances.

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