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Health Expenditure and Nigeria's Economic Growth

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ABSTRACT

Using time series data from 1999 to 2022, this study examines the impact of health financing on economic growth in Nigeria. The findings indicate that the previous year's productive activities have a positive effect on economic growth in both the short and long run. The current domestic government general health expenditure has a negative growth effect on economic growth, whereas the previous year's domestic general government health expenditure has a positive growth effect on economic growth. Domestic private health spending has a significant positive effect on economic growth. As a result, the importance of private health spending over government health spending in improving economic growth is reinforced. Thus, it was determined that health financing is required for long-term economic growth. As a result, the government should increase individual health spending capacity, increase health sector budgetary allocation, and ensure prudent and effective health sector budgetary implementation.

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1. INTRODUCTION

There can be no meaningful economic growth in any country unless adequate investment is made in people's health care. (Udeorah, Obayori and Onuchuku, 2018) argued that investing in health and education has recently become critical social priorities, as adequate human capital improves workers' skills, efficiency, and standard of living. Human capital accumulation is a key determinant of economic performance due to its efficiency, and higher economic growth allows for more human capital investment (Blundell, et al., 1999; Enggoh, Houeninvo and Sossou, 2015) Health is an important component of human capital because it increases both worker efficiency and productivity. A country's economic growth is determined by the health of its citizens. The health of a country's population is a major factor driving productivity because only a healthy labor force can contribute meaningfully to production and national output growth. According to (Piabuo and Tieguhong, 2017), one of the key mechanisms for demonstrating leaders' commitments and political will, as well as their ability to translate these commitments into results, is the development of a sound system for financing health care. The desire to develop strong health financing systems is shared by all nations, but the rising cost of health care, combined with poor economic performance in developing countries, particularly in Africa, makes meeting this goal difficult.

Good health is essential for human well-being, which is a measure of increased productivity as well as overall economic growth and development. It is also a driving force for human capitals like education and skills. The positive impact of good health on economic growth underscores the importance of the past decades' progress in human health. According to a (Bauer, et al., 2006) illness and how life expectancy affects economic growth gaps between developed and developing countries. Nigeria is one of the developing countries with poor health outcomes and associated problems. Nigeria's health status is significantly lower than that of other Sub-Saharan African countries. Nigeria's health situation includes low life expectancy at birth, high infant and maternal mortality rates, malaria, and tuberculosis. In Nigeria, for example, life expectancy at birth is expected to be 54 years in 2020, compared to 63 years in Ghana. The high rates of HIV/AIDS infection in Nigeria also contributed to the country's low life expectancy.

Nigeria has the world's second largest HIV epidemic and one of the highest rates of new infections, according to the (Dube, 2002). In addition, approximately 1.9 million people in Nigeria are HIV positive, with 1.5 percent of adults aged 15 to 49 HIV positive, 130,000 new HIV infections, and a low rate of anti-related death. Furthermore, malnutrition is responsible for approximately 52% of all under-five deaths. Because the provision of basic health services is a significant form of human capital investment and a key determinant of growth and poverty reduction (Dube, 2002), health conditions can influence the design of economic growth and poverty reduction. However, without adequate funding, the health situation cannot be addressed in a sustainable manner. Adequate and sustainable health financing is critical to achieving sustainable development health goals and achieving sustainable growth and development (Obansa and Orimisan, 2013; Olayiwola, Oloruntuyi and Abiodun, 2017).

As a result, a significant portion of the budget is spent on health care in order to achieve economic growth. Given the United Nations (UN) recommendation that countries should spend at least 8-10% of their GDP on the health sector and the 2001 Abuja Declaration committing at least 15% of each African country's annual budget to the health sector, the Nigerian government has been increasing its expenditure on the health sector in order to meet these benchmarks. For example, the government increases its expenditure on health from N84.46 billion in 1981 to N134.12 billion in 1986. However, it fell to N41.31 billion in 1987 before rising to N575.30 billion in 1989. Total government expenditure on health

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increased to N40, 621.43 billion in 2002, dropped to N33, 267.98 billion in 2003, and then increased to N104, 810.08 billion in 2010. Between 2011 and 2014, government health spending increased 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. Health-care spending was N1, 190.71 billion in 2019, rising to N1, 329.78 billion in 2020 and N1, 477.77 billion in 2021. As a result, health-care spending has been rising year after year.

According to the scenario above, the health sector has attracted the attention of the government and received a fair share of the country's GDP in recent years as an important facilitator of economic growth. Despite this, there appears to be no correlation between health-care expenditures, health status, and health-economic growth in Nigeria. Despite the fact that the relationship between health expenditure and economic growth has been extensively researched in developed countries, much less observation is still a far cry in less developed countries, including Nigeria and this trend creates a research gap that the current study seeks to fill. As a result of the foregoing, the purpose of this study is to fill a knowledge gap concerning the causal links between health expenditure and economic growth in Nigeria from 1999 to 2021.

2. LITERATURE REVIEW

The mobilization of funds for health care services is known as health care financing (Oyefabi, Aliyu and Idris, 2014; Wagstaff, et, al., 1999). It is the provision of money, funds, or resources to the government's planned activities to maintain people's health. These activities promote the availability of medical and related services aimed at maintaining good health. The amount of resources allocated to health care in a country is said to reflect the placement of health values in relation to other categories of goods and services.

Thus, the pattern of health financing is linked to the delivery of health services. There are various methods of financing health care available throughout the world, including Nigeria. These services include, among others, tax-based public sector health financing, household out-of-pocket health expenditure, private sector (donor funding), and health insurance. External health-care financing includes grants and loans from donor organizations such as the World Bank, the World Health Organization, and the European Union, among others (Eggoh, Houeninvo and Sossou, 2015). Tax-based health financing is derived from the proceeds of government tax-based revenue at all levels and sectors. Government-funded health care is largely determined by revenue. Essentially, there is a strong positive relationship between the proportions of tax-based health spending and the progressivity of health care.

Several empirical studies have established a causal relationship between health financing and economic growth in various economies around the world (Bloom and Canning, 2000; Bloom and Canning 2003), for example, contend that health as a macroeconomic indicator has a positive impact on aggregate output. (Ogundipe and Lawal, 2011) found that health expenditure has a significant and positive impact on economic growth in the Central African States and selected African countries, and that there is a long-run relationship between the two variables for both groups of countries. The study also demonstrates the existence of a long-run relationship between health expenditure and economic growth for both CEMAC countries and the five other countries that signed the 2001 Abuja Declaration. CEMAC countries exhibited bi-directional causality between economic growth and health expenditure, whereas countries that achieved the 2001 Abuja declaration exhibited unilateral causality running from economic growth to health expenditure. This implies that income is an important factor in explaining health-care spending; thus, an increase in income can stimulate growth in health-care spending. (Anowor, Ichoku and Onodugo, 2020) show that public or

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private expenditures on health care in the Economic Community of West African States (ECOWAS) region have a positive effect on economic performance, with a long-run relationship between health care financing and output per capital within and across ECOWAS countries.

According to (Ibukun and Osinubi, 2020) study of the relationship between environmental quality, economic growth, and health expenditure in 47 African countries, air pollutants reduce environmental quality while increasing health expenditure per capital. The study adds to the evidence that economic growth has a positive, inelastic effect on per capita health expenditure. This is the case in all five sub-regions (Central Africa, North Africa, East Africa, West Africa and Southern Africa). This means that, while economic growth increases health expenditure per capita, air pollution degrades environmental quality and drives up health expenditure. As a result, the study concluded that economic growth should not come at the expense of the environment.(Aboubacar and Xu, 2017) assessed the impact of health spending on economic growth in Sub-Saharan Africa using the system general method of moments (GMM) technique and discovered that health spending has a significant impact on the region's economic growth. In their study on health expenditure, education, and economic growth in Nigeria, (Bakare and Olubokun, 2011) discovered that government expenditure on education and health had a positive and significant impact on economic growth using the error correlation model (ECM) as an estimating approach.

The impact of public health expenditure on economic growth in Nigeria between 1981 and 2013 was established by (Ibe and Olulu-Briggs, 2015), who found a positive relationship between public health expenditure and economic growth. The study concluded that improving public health improves labor productivity and leads to economic growth gains. The study recommended that Nigerian policymakers pay more attention to the health sector by increasing budgetary allocations to the sector. (Safdari, Mehrizi and Elahi 2013) investigated the effect of health expenditure on Iranian economic growth and discovered that variables such as health expenditure to GDP, GDP investment ratio, and graduate4 growth rate have a positive effect on economic growth rate. (Bein, et al., 2017) findings on the effect of health expenditure on health outcomes in selected West African countries show that public and private health spending have different effects on health outcomes. Government health spending was found to be positively related to health outcomes but had no significant impact, whereas private health spending reduces mortality and has a significant impact on infant. This could be due to how and where these countries fund public health. Private health spending is more important in improving health outcomes than public spending. This is consistent with (Novignon and Lawanson, 2017) findings that the effect of public health spending is less than the effect of private health spending. As a result, the authors emphasized a review of the region's public-private emphasis on health expenditures. (Ibe and Olulu-Briggs, 2015) used a vector autoregressive (VAR) model to investigate the relationship between life expectancy, public health spending, and economic growth in Nigeria and discovered that there was a relationship between public health spending and economic growth (Bokhari, Gai and Gottret, 2007).

3. METHODS

Endogenous growth models incorporate the mechanism by which health investments affect economic growth and development. These models emphasize the significance of human capital in economic growth. The theoretical model of Buchanan and Tullock (1975) was used in this study. Which encourages governments to increase public spending on health care regardless of demand? According to the theory, inefficiency in the provision of health

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care should be characterized not by a lack of supply but by a reduction in the quality of health care services. Human capital, according to (Barro, 1991; Romer, 1986) is an important factor in boosting economic growth. (Mankiw, Romer and Weil, 1992) augmented Solow model emphasized the role of human capital in economic growth as well. These endogenous models assume that economic growth is based on human capital's ability to influence growth in both the short and long run. This theoretical model emphasizes a functional relationship between economic growth and health financing via public health human capital investment. Our functional relationship between economic growth and health financing in Nigeria is written as follows, based on Olaniyi and Adams (2000) and the empirical literature on the subject:

RGDP = f(DGHE, DPHE, OOP)..... . . . . . (1)

Where RGDP stands for real gross domestic product, DGHE stands for government health expenditure, DPHE stands for domestic private health expenditure, and OOP stands for out-of-pocket health expenditure. Equation (1) can be rewritten in explicit linear form as follows:

RGDPt = a0 + a1DGHEt + a2 DPHEt + a300P + εt ..... (2)

a1, a2 and a3 are the coefficients of health care financing and εt is the stochastic factor or error term. A priori a1>0, a2 >) 0 and a3 >0.

The study's data is a time series data set spanning 22 years (1999-2021). The data stationarity was tested using the Augmented Dickey-Fuller Unit root test. This also influences our estimation technique selection. The Augmented Dickey-Fuller (ADF) equation for unit root testing is as follows:

Δyt = β1 + β2t + Pyt-2 + $\sum \delta \Delta t - 1$+ εt ..... (3)

Where Yt is the variable's level, t is the time trend, 1 is the constant term, and t is the error term, which is assumed to be normally distributed with zero mean and constant variance. The Akaike Information Criterion is used to determine the optimal lag length (AIC). The Auto-regressive Distribute Lag technique (ARDC) can be used when dealing with time series data that are integrated in different orders, 1(0), 1(1), or a combination of both. The model's ARDL representation is as follows:

ΔRGDPt = β0 + $\sum ni$= 1 β1 Δ DGGHEt-1+$\sum ni$=11β2ΔDPHt-1$\sum ni$=11 β3Δ00t-1+εt .....(4)

The error correction model (ECM) can be derived from the ARDL model via a single linear transformation that combines short-run adjustments with long-run equilibrium without sacrificing long-run information. In a time series analysis, the Error Correction Model (ECM) depicts the rate of adjustment from a short-run equilibrium to a long-run equilibrium. The main reason for developing the error correction model is to indicate the speed with which the department can adjust from long-run equilibrium. The ECM coefficient is expected to be negative and significant in order for the errors to be corrected; the greater the co-efficient of the parameter, the faster the departure from the long-run equilibrium. The ECM model is written as follows:

Δy = a0 + b1 Δ xt – πut-1 + yt..... (5)

The Granger-causality test was used to test the relationship between health funding and economic growth. The rule states that there is a casual relationship if the probability value is between 0 and 0.5. The granger-causality relationship can be expressed as follows:

Yt = β1 + $\sum ni$= 1 β2 x xt-1 + $\sum ni$= 1yi + y1 yt-1 + ϵ1t .....(6)

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Xt = β2 + $\sum ni$= 1 δi xt-1 + $\sum ni$= 1pi = yi yt-1 = ϵ2t ……..(7)

The study relied on secondary data from the World Development Indicator. Domestic Government Health Expenditure (percent of current health expenditure), Domestic Private Health Expenditure (percent of current health expenditure), Out of Pocket Health Expenditure (percent of current health expenditure), and Real Gross Domestic Product Growth (annual Growth) are the data and measurements used (World Development Indicator, 2021).

4. RESULTS AND DISCUSSION

More results detail can be seen in the following **Table 1, Table 2, Table 3 and Table 4**.

Table 1. Augmented Dickey-Fuller Unit Root Test

Variable	ADF Test Stat.	Mackinnon Critical Value at 5% levels	First Difference ADF Stat.	Mackinnon Critical Value at First Difference at 5% levels	Decision
LDGGHE	-2.016110	-2.321148	-4.35330*	-2.343427	1(1)
LDPHE	-2.050408	-3.600041	-6.24777*	-2.551625	1(1)
LOOP	-3.302774	-2.721423	-6.271346*	-2.543000	1(1)
LRGDP	-3.64367*	-.1.9413	-3.22800	-2.645095	1(0)

Source: Authors computation, 2022

Table 2. ARDL Estimate of the Impact of Health Financing on Economic Growth

Short-run		**Long- Run**	
Variable	**Dependent Variable D(LRGDP)**	**Variables**	**Dependent Variable: LRGDP**
	Coefficients		Coefficient
D(LRGDP(-1)	0.372920 (1.05631)	LRGDP (-1)	0.240297* (3.7684)
D(DGHE)	-2.842510* (-4.5010)	DGHE	-1.854243* (-3.55647)
D(DGHE(-1)	1.633162* (4.6044)	DGHE(-1)	2.320300* (5.3000)
D(DPHE)	8.12286*** (1.9965)	DPHE	17.39464* (3.3153)
D(00P)	-10.02072* (-2.6088)	DPHE(-1)	4.812104* (6.3452)
D(00P(-1)	4.324559* (7.6690)	00P	11.23112* (4.4326)
C	-0.426888 (-2.3657)	C	0.033183 (0.0054
F-statistic	**0.8886**	F-statistic	21.29016
Prob (F-statistic)	**0.000711***	Prob (F-statistic	0.000067*
R-squared	**0.763609**	R-squared	0.761521
Adjusted R-squared	**0.707844**	Adjusted R-squared	0.822017
Durbin-Watson	**2.6308**	Durbin-Watson	2.543311
Breusch-Godfrey Serial Correlation LM Test	**0.3026**	Breusch-Godfrey Serial Correlation LM Test	0.213167

** Significant at 1%, 5% and 10% level standard Errors are in parenthesis

Source: Authors computation, 2022

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Table 3. The Restricted Error Correction Model

Variable	Coefficient	t- Statistic	Probability
C	0.06123	1.47110	0.0137
D(DGGHE)	-1.3020	-6.58143	0.0000
D(DPHE)	0.38466	0.69144	0.0000
(oint EqC-1)*	-0.54753	-11.3729	0.0000
R- Squared	0.46239	F- statistic	63.34902
Adjusted R squared	-0.65430		
Durbin – Watson Stat.	**2.74203**	Probability (F- statistics)	0.00007
Breusch – Godfrey Serial Correlation LM: F - Stat.	**0.03420**	Probability(F-statistics)	0.75423

Source: Authors computation, 2021

Table 4. Granger – Causality Test

Null Hypothesis	Obs	F- statistic	Probability
DGHE does not granger cause LRGDP	22	3.47403	0.0171**
LRGDP does not granger cause DGHE		0.03407	0.7311
DPHE does not granger cause LRGDP	22	3.03122	0.0235**
LRGDP does not granger cause DPHE		0.09004	0.6570
OOP does not granger cause LRGDP	22	2.04290	0.7785
LRGDP does not granger cause OOP		3.09273	0.0256**
DPHE does not granger cause DGHE	22	2.32214	0.1400
DGHE does not granger cause DPHE		0.22434	0.4371
OOP does not granger cause DGHE	22	2.43005	0.1204
DGHE does not granger cause OOP		0.02335	0.6659
OOP does not granger cause DPHE	22	0.23650	0.4711
DPHE does not granger cause OOP			

** Significant at 5% level

Source: Author computation, 2022

The unit root stationarity test using ADF statistics is shown in Table 1. As a result, LRGDP is stationary at the level. Other variables, however, such as LDGHE, LDPHE, and LOOP, are stationary at first difference. We concluded that LRGDP is integrated of order zero one(0), whereas others are integrated of order zero one(0), whereas others are integrated of order 1(1). These findings imply that the auto-regressive redistributed lag estimated technique (ARDL) is a better estimation technique for studying the impact of health financing on economic growth in Nigeria. The Akaike Information Criterion (AIC) was used to determine lag length, and lag 1 was chosen as the best lag length for the model. Table 2 displays the ARDL results for the model's short run. According to the findings, the lag of real domestic product (LGDP) has a positive effect on economic growth in both the short and long run, though only the long run is significant. This meant that the impact of last year's productive activities had a positive growth effect on current year productive activities, though this was only significant in the long run. The current domestic general government expenditure on health (DGHE) has a significant negative impact on economic growth, whereas the previous year's domestic general government expenditure on health had a significant positive impact on real GDP in both the short and long run. The implication of these findings is that only consistent and committed general government health spending over time can significantly improve economic growth positively.

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Currently, government general health spending may not have a negative impact on economic growth and may even have a positive impact. All else being equal, current government general health spending may not have a positive impact on economic growth and may even have a negative impact. Our previous year (a year lag) government general health spending results corroborates (Ibe and Olulu-Briggs, 2015), but our current year government health spending results does not. This could be due to the estimation technique used or the data used in the study. The short-run results of current out-of-pocket health spending and previous out-of-pocket health spending follow the same path as government general health spending. Previous out-of-pocket health expenditure had a significant positive impact on economic growth, whereas current out-of-pocket health expenditure had a significant negative impact on economic growth in the short run. In the short run, the situation may be real rather than an exception. As a result, increasing health spending every year may be required in the short run to influence economic growth through health financing. However, long-run out-of-pocket health expenditure has a significant positive effect on economic growth.

Furthermore, both current domestic private health expenditure (DPHE) and previous domestic private health expenditure (DPHE) have a significant positive effect on economic growth in Nigeria, both in the short and long run. This highlighted the significance of private health spending over government health spending. As a result, increasing individual spending capacity to spend on their own health may be more effective than direct government health spending. According to the R2 for both the short-run and long-run models, the results have more than 76 percent explanatory power in both the short-run and long-run. The F-test validates the results in both the short and long run. Table 3 shows the rate of correlation of departure from the long-run equilibrium using the co-integration equation (coin Eq(-1). The results show that the coin Eq (-1) is both negative and statistically significant. Its value of 0.65 indicates that the rate of adjustment towards long-run equilibrium is approximately 65%. This means that in a year, approximately 65 percent of the deviation from the long-run is restored.

Tables 2 and 3 show the CUSUM and CUSUM of squares of the recursive test for model stability for all variables. The results show that the estimated modes are stable, implying that the models are significant. The granger- causality tests between the health financing mechanism and economic growth are shown in Table 4. The probability of F-static must be less than or equal to 0.05 for causality to exist between two variables. The findings show one-way (unidirectional) causality between domestic government general health expenditure and economic growth; domestic private health expenditure and economic growth; and out-of-pocket health expenditure granger-cause economic growth and out-of-pocket health expenditure granger-cause economic growth. This implies that increased domestic government general health spending and domestic private health spending leads to economic growth, and that economic growth increases out-of-pocket health spending. This backs up some of our earlier findings.

5. CONCLUSION

This study uses data from 1999 to 2021 to examine the impact of health financing on economic growth in Nigeria. The unit root result favored the use of estimation techniques based on the auto-regressive distributed lag model (ARDL). The results show that the previous year's productive activities have a short-run and long-run growth effect on the current year's productive activities. The current year's domestic general government expenditure has a negative growth effect on economic growth, whereas the previous year's domestic general government expenditure on health has a positive growth effect

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on the economy. Out-of-pocket health spending follows the same pattern as government general health spending. Domestic private health has a significant positive economic growth effect. The outcome emphasizes the importance of private health spending over government health spending in terms of economic growth. As a result, both previous year health spending and current year health spending are required for economic growth. To achieve sustainable economic growth, the government should improve individual health spending ability; health insurance may be relevant here; increase budgetary allocation to the health sector; and monitor the implementation of the health sector budget. This implies that the Nigerian government should prioritize health outcomes over economic growth, such as life expectancy, infant mortality, and maternal mortality. Future researchers should conduct an in-depth study to assess the impact of health outcomes on Nigerian economic growth on this basis.

6. REFERENCES

Aboubacar, B., and Xu, D. (2017). The impact of health expenditure on the economic growth in Sub-Saharan Africa. *Theoretical Economics Letters, 7*(3), 615-622.

Anowor, O. F., Ichoku, H. E., and Onodugo, V. A. (2020). Nexus between healthcare financing and output per capita: Analysis of countries in ECOWAS sub-region. *Cogent Economics and Finance, 8*(1), 1-14.

Bakare, A. A., and Olubokun, S. (2011). Health care expenditure and economic growth in Nigeria: An empirical study. *Journal of emerging trends in economics and management sciences, 2*(2), 83-87.

Barro, R. J. (1991). Economic growth in a cross section of countries. *The quarterly journal of economics, 106*(2), 407-443.

Bauer, G., Davies, J. K., Pelikan, J., and Euhpid. (2006). Theory Working Group and The Euhpid Consortium. (The EUHPID Health Development Model for the classification of public health indicators. *Health promotion international, 21*(2), 153-159.

Bein, M. A., Unlucan, D., Olowu, G., and Kalifa, W. (2017). Healthcare spending and health outcomes: evidence from selected East African countries. *African health sciences, 17*(1), 247-254.

Bloom, D. E., and Canning, D. (2000). The health and wealth of nations. *Science, 287*(5456), 1207-1209.

Bloom, D., and Canning, D. (2003). The health and poverty of nations: from theory to practice. *Journal of human development, 4*(1), 47-71.

Blundell, R., Dearden, L., Meghir, C., and Sianesi, B. (1999). Human capital investment: the returns from education and training to the individual, the firm and the economy. *Fiscal studies, 20*(1), 1-23.

Bokhari, F. A., Gai, Y., and Gottret, P. (2007). Government health expenditures and health outcomes. *Health economics, 16*(3), 257-273.

Dube, M. W. (2002). Children and HIV/AIDS in. *Journal of Theology for Southern Africa, 50*(114), 31-42.

DOI: https://doi.org/10.17509/jpis.v32i1.53371
e-ISSN: 2540-7694 |p-ISSN: 0854-5251

Eggoh, J., Houeninvo, H., and Sossou, G. A. (2015). Education, health and economic growth in African countries. *Journal of Economic Development, 40*(1), 93-111.

Ibe, R. C., and Olulu-Briggs, O. V. (2015). Any nexus between public health expenditure and economic growth in Nigeria. *Liard international journal of banking and finance research, 1*(8), 3-11.

Ibukun, C. O., and Osinubi, T. T. (2020). Environmental quality, economic growth, and health expenditure: empirical evidence from a panel of African countries. *African Journal of Economic Review, 8*(2), 119-140.

Mankiw, N. G., Romer, D., and Weil, D. N. (1992). A contribution to the empirics of economic growth. *The Quarterly Journal Of Economics, 107*(2), 407-437.

Novignon, J., and Lawanson, A. O. (2017). Health expenditure and child health outcomes in Sub-Saharan Africa. *African Review of Economics and Finance, 9*(1), 96-121.

Obansa, S. A. J., and Orimisan, A. (2013). Health care financing in Nigeria: prospects and challenges. *Mediterranean Journal of social sciences, 4*(1), 221-236.

Ogundipe, M. A., and Lawal, N. A. (2011). Health expenditure and Nigerian economic growth. *European Journal of Economics, Finance and Administrative Sciences, 30*(4), 125-129.

Olayiwola, S. O., Oloruntuyi, O. A., and Abiodun, S. O. (2017). Sustainable development goals and universal health coverage: issues and options for sustainable health financing in Nigeria. *AJSD, 7*(1), 1-21.

Oyefabi, A. O., Aliyu, A. A., and Idris, A. (2014). Sources of health care financing among patients at the Ahmadu Bello University Teaching Hospital, Zaria, Nigeria. *Journal of Medicine in the Tropics, 16*(1), 27-31

Piabuo, S. M., and Tieguhong, J. C. (2017). Health expenditure and economic growth-a review of the literature and an analysis between the economic community for central African states (CEMAC) and selected African countries. *Health economics review, 7*(1), 1-13.

Ravishankar, N., Gubbins, P., Cooley, R. J., Leach-Kemon, K., Michaud, C. M., Jamison, D. T., and Murray, C. J. (2009). Financing of global health: tracking development assistance for health from 1990 to 2007. *The Lancet, 373*(9681), 2113-2124.

Romer, P. M. (1986). Increasing returns and long-run growth. *Journal of political economy, 94*(5), 1002-1037.

Safdari, M., Mehrizi, M. A., and Elahi, M. (2013). The effect of health expenditure on economic growth in Iran. *African Journal of Business Management, 7*(38), 3972-3976.

Udeorah, S. A. F., Obayori, J. B., and Onuchuku, O. (2018). Health care expenditure and economic growth in Nigeria. *International Journal of Research and Innovation in Social Science, 2*(2), 102-125.

Vargas-Lorenzo, I., Vázquez-Navarrete, M. L., and Mogollón-Pérez, A. S. (2010). Access to health care in Colombia. *Revista de Salud Pública, 12*(5), 701-712.

Wagstaff, A., Van Doorslaer, E., Van der Burg, H., Calonge, S., Christiansen, T., Citoni, G., ... and Winkelhake, O. (1999). Equity in the finance of health care: some further international comparisons. *Journal of health economics, 18*(3), 263-290.

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