HEALTH FINANCING AND HUMAH DEVELOPMENT IN SUB SAHARAN AFRICA: THE NIGERIAN EXPERIENCE

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ABSTRACT
This study examines how Nigeria's economic growth is influenced by health financing. Its goals were to determine the effect of government recurrent spending on health and economic growth in Nigeria, as well as the relationship between government capital expenditure and health spending. The study used time series data from 1990 to 2022 and adopted an ex post facto research design. Ordinary least squares (OLS) was used for data analysis. The conclusion was that there is no significant correlation between Nigeria's economic growth and government capital spending on health. Further analysis showed that Nigeria's economic growth and government recurrent health spending do not have a strong relationship. To promote sustainable economic growth, it is recommended that the government increase its budget allocation to the health sector. Additionally, the government should ensure timely payment of health workers' salaries, wages, and benefits, which can motivate them to work more efficiently and increase per capita income.
Keywords: health financing, human development, Sub-Saharan Africa, Nigeria
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INTRODUCTION
There may be a link between overall production and worker health because health impacts productivity. Employees who are healthy tend to be more productive and miss fewer days due to illness. Widespread economic growth has negatively affected health (World Health Organization, 1999). More people are now interested in exploring the relationship between economic growth and health. According to Barro (2008), good health is a valuable capital asset and a driver of economic growth. Ill health and a shorter life expectancy explain half of the differences in economic growth between industrialized and developing countries.

One of the key factors in achieving human capital equality, which is essential for economic progress, is health. Based on the above, scholars have agreed that health is a public good, whose supply and demand cannot solely depend on utility-maximizing behavior or the hidden activities of profit-driven individuals. Therefore, the government must take the lead in providing high-quality healthcare services that the growing population can afford. Recognizing the importance of this, the World Health Organization (WHO) proposed at the 2010 World Health Assembly issues related to health financing, aiming to ensure high-quality, affordable healthcare services.

As a result, the pattern of health financing is closely linked to health outcomes (health status), and it can ultimately support the long-term goal of promoting a country's economic development (Riman, 2012). Based on this information and evidence of its commitment to restructuring the

health sector's financial operations, the Nigerian government took responsibility for providing quality healthcare for its citizens by increasing the percentage of total government spending on health from 2.1% to 5.8% between 2000 and 2005 (Mordi, 2016). They believed this would improve citizens' health, which could then boost human capacity because of its multiplier effects on economic growth and development. Despite the rise in health spending, Nigeria still trails behind other countries on the continent. Statistics show that the country spends 4.1 percent of its GDP on healthcare, compared to an average of 4.6 percent and over 6.3 percent in developed nations. Nigeria's overall health status and sector performance remain unimpressive despite these efforts. The World Health Organization (WHO) ranked the nation's overall health performance 187th out of 191 member states in 2017, according to Yaaub (2016). Good health among citizens is a vital prerequisite for achieving human capital development in any economy because it creates multiplier effects for smart, effective, and profitable investments in human capital, leading to economic growth.

A quick look at the country's overall human development index shows a poor picture of its human resources. In the 2016 human development index rating, the country ranked 153rd out of 187 countries, with a score of 0.47. Although the country's position on the human development index improved from 155th in 2017 to 37th in 2019, it still cannot be among the top 10 African nations with the highest HDIA scores, trailing only Ghana, Kenya, and Cameroon (UNDP, 2019). While increasing budget investments in social services is helpful for developing countries like Nigeria, it alone is not enough to improve service delivery. The infant mortality rate (IMR), which measures the chance of dying before age one, and the under-five mortality rate (U5MR), which measures the chance of dying between ages one and five, expressed per 1000 live births, have decreased since 2001 and are common indicators of children's well-being. However, the current trend remains unacceptable when compared to the rapidly rising health sector spending. The situation suggests that the relationship between healthcare spending and economic outcomes in Nigeria needs to be reexamined. It is well known that the institutional environment within an economy influences some of the differences in development levels across nations. These differences are not limited to natural resources or microeconomic policies.

Developed nations are confident that citizens' health plays a key role in driving economic progress, so they allocate a significant portion of their budgets to healthcare. Since health equals wealth, no country can spend too much on healthcare. The United Nations (UN) suggested that a nation's benchmark spending on health should be between 8 and 10 percent of its GDP. Over the years, the Nigerian government has made a conscious effort to increase public spending on health. This is because health is vital for fostering national development and boosting the economy. However, it should be noted that although government healthcare spending has increased in Nigeria, it still accounts for a very small share of total health expenses.

Additionally, the extent of its influence on economic growth has not been thoroughly examined, likely due to the common misconception that prosperity always equals better health. Naturally, economic growth can lead to more food for healthier lifestyles, higher income levels that reduce healthcare costs, and increased demand for quality medical care. Growth may also bring more public funds that could be invested in health infrastructure. Therefore, the question arises: Does causation flow in the other direction? In other words, is increased growth a result of better health? If so, how much and to what extent does health contribute to economic growth, especially

considering other known factors that promote growth? It's possible that causality runs both ways. Consequently, this study aims to assess the impact of health spending on growth and explore the size and scope of health's contribution to Nigeria's economy.

The study's primary goal is to determine the impact of health financing on Nigeria's economic growth. Nonetheless, the following are the precise goals:
  i. To investigate the effect of government capital expenditure on health and human development index in Nigeria.
  ii. To ascertain the effect of government recurrent expenditure on health and human development in Nigeria.

LITERATURE REVIEW

Theoretical framework
To explain health financing and economic growth in Nigeria, this study uses the Schumpeterian theory of growth, Wagner's law or theory of increasing state activities, and Keynesian economic theory.

Schumpeterian theory of growth
This study examines how health influences economic theory through the Schumpeterian growth model, which was adapted from Howitt in 2005. The Schumpeterian hypothesis of endogenous growth explains differences in growth rates between rich and poor nations by focusing on productivity growth rather than capital accumulation. Early endogenous growth theories combined savings—which led to physical capital growth—and innovation, which drives intellectual capital growth. The theory explicitly differentiates between these two types of capital. It is based on the concept of creative destruction, arguing that new inventions create competitive advantages by rendering older ones obsolete. It also considers the effect of technological spillovers, where a country benefits from the innovations of its neighbors.

According to the theory, a nation at the bottom of the technological scale can benefit from innovations that have already been developed in other countries. Unlike the neoclassical growth theory of slow growth, the theory assumes that technological progress is endogenous, meaning that the growth rate is determined by global technological advancements. This is how the theory differs from the neoclassical theory. Schumpeterian theory has an advantage over neoclassical theory because it attributes variations in growth rates of rich and poor nations to changes in productivity rather than the accumulation of components. For this reason, research and development expenditures are important. Since health is viewed as a part of human capital, it influences and predicts per capita GDP and relative productivity through factors like savings, school enrollment, skill accumulation, research intensity and efficiency, and learning efficiency.

The Wagner's theory of increasing state activities
The "law of the increasing extension of the state" was introduced by Adolf Wegner in 1883. He argued that as economic development advances, there is a long-term trend for the scope of government to grow. Wagner's law refers to his hypothesis, which explains the increasing relative importance of government activities. Wegner states that there are good reasons to support expanding the scope of public activity. First, as countries develop, so do their legal relationships

and communication between them. This, along with more urbanization and higher population density, forces governments to establish the regulatory framework needed to support more complex relationships among economic agents. Second, when income increases, societies tend to demand more public services, entertainment, education, and a fairer distribution of wealth. Ultimately, the government must step in to bridge the gap since the capital infrastructure needed to support an industrialized society's technological demands exceeds what the private sector is willing to supply.

Wagner's law has been tested empirically in various countries, with mixed results. Supporting Wagner's law, Musgrave and Musgrave (1988) argued that as developed nations industrialize, the percentage of the public sector in the economy consistently grows.

Keynesian economic theory
British economist John Maynard Keynes developed Keynesian economic theory in 1936. According to this theory, public spending can stimulate economic growth by increasing government consumption through higher investments, employment, and profits. The idea is that the government can also borrow money from the private sector and spend it in other ways to prevent economic downturns. This approach suggests that the only way to ensure growth and stability is for the government to actively intervene in the market through deficit spending. Such intervention would promote effective resource allocation, market regulation, economic stability, and the resolution of social disputes. Keynes argues that overall economic spending has a significant short-term impact on growth by maintaining stability. According to this view, the economy is inherently unstable and requires vigorous government spending to achieve economic stability.

According to Parkim (1990), Keynesians place little emphasis on financial competence. According to Bowden (1982) in Ojong and Hycenth (2013), Keynesian economics argues that understanding what influences spending levels will help explain the factors that affect employment, output, and income in the economy. According to Keho (2010), a budget deficit encourages savings and capital formation by positively impacting macroeconomic activity. Whether financed through domestic or foreign borrowing, deficit financing involves the public sector using resources that could otherwise be available to the private sector (Okole, Momanyi, Lucas, and Alia, 2013). Keynesian philosophy advocates for government expenditure to stimulate the economy, reduce unemployment, and boost household wealth.

According to a different perspective presented by Opkanachi and Abimiku (2007), a budget deficit can temporarily enhance economic activity by boosting household wealth and, as a result, increasing overall consumption expenditures for both public and private purposes. This suggests that, due to rising money demand and increasing interest rates driven by Keynesian theory, investment will decline. Keynesian economists often argue that active policy responses from the public sector are necessary to stabilize output across the economy. This includes actions by the Federal Ministry of Finance and the Central Bank of Nigeria. Decisions in the private sector can sometimes lead to inefficient macroeconomic outcomes.

Literature review

The Nigerian health care financing system

Nigerian health services are complexly organized. They include a wide variety of providers from both the public and commercial sectors, such as community-based organizations, traditional care providers, and for-profit non-governmental organizations. Nigeria's Federal Ministry of Health (FMOH), State Ministry of Health (SMOH), and Local Government Health Department (LGHD) oversee the public health system. The FMOH develops overall health policies and coordinates the operations of the other levels; it also provides tertiary care through federal medical facilities and teaching hospitals. The SMOH offers secondary care through their comprehensive health facilities and state hospitals. Meanwhile, LGHDs deliver primary healthcare (PHC) services via primary health centers. All three levels of government, along with numerous agencies, are involved in managing PHC, although local governments hold primary responsibility. Sometimes, roles and responsibilities can become redundant, overlap, or cause confusion.

Nigerian health care is funded through a mix of government revenue, donor funds, private health insurance, and out-of-pocket expenses (social and community). Compared to other African countries, Nigeria spends less on health care. From 1998 to 2015, the percentage of GDP spent on total health expenditure (THE) was under 5%, lagging behind emerging nations like Kenya (5.3%), Zambia (96.2%), Tanzania (6.8%), Malawi (7.2%), and South Africa (7.5%). Developing a sustainable health care financing system in Nigeria remains a challenge. Factors such as uncertain economic and political environments, corruption, and limited institutional capacity have been identified as reasons why some health care finance models have not succeeded.

Empirical review

The literature has examined the link between economic growth and health. Mehrara and Musia (2017) use panel co-integration analysis and panel unit root tests to explore the causal relationship between health spending and GDP across a panel of 11 oil-exporting countries. Oil revenues functioned as the third variable in their three-variable model. Their results show a strong causal connection between health spending, oil income, and economic growth in oil-exporting nations. Conversely, the short- and long-term impacts of health spending on GDP are minimal. Their findings highlight how vulnerable countries dependent on oil are to fluctuations in oil revenues. Therefore, establishing an institutional system that separates health expenditure decisions from current revenue is essential to shield the economy from the volatility of oil income.

Riman and Akpan (2015) examined the short- and long-term relationships between government health spending, poverty, and health status in Nigeria. They found a significant reciprocal link between life expectancy and poverty in Nigeria using the Granger causality test and the Vector Error Correction Model (VECM). Additionally, their study shows a consistent correlation between health condition and poverty. However, they identified a non-significant "long run relationship" between government health spending and health status. They conclude that efforts focused on increasing adult literacy rates, reducing poverty, and closing income gaps would be more effective in improving the country's health than solely increasing budget allocations to the health sector without also addressing poverty.

Rivera and Currais (2013) examined the impact of health investments on productivity as a key factor related to building human capital. The researchers found a positive correlation between

income growth and health care spending. Additionally, they discovered that, when other growth variables are kept constant, countries with lower levels of health spending benefit more from the associated improvements in health status. To analyze this, they divided the sample based on the median of total health expenditure.

Odbnmi et al. (2012) examined the relationship between Nigeria's economic growth and health expenditure growth from 1970 to 2011. Using Johansen's multivariate cointegration technique, they found that at least one cointegration vector represented a long-term connection among population, health spending, total savings, and economic growth in foreign aid. However, the cointegration equation shows some variation in the signs of the coefficients for foreign aid and health expenditures, which has been associated with either insufficient funding for health services or some diversification of foreign assistance to other countries.

According to Adeniyi & Abiodun (2011), their analysis of the relationship between health spending and economic growth in Nigeria shows that when funds are wisely allocated to the health sector, the impact on economic growth is both direct and significant. The study used data on birth weight, fertility rate, capital expenditures, and recurrent expenditures from 1985 to 2014. Therefore, it is necessary to improve the quality and scope of healthcare services.

METHODOLOGY

The Schumpeterian growth theory forms the basis of this model. It suggests that since health spending is part of human capital, it impacts and predicts per capita GDP and relative productivity through efficiency gains.

The following parameters can be used to assess the effect of health financing on economic growth, which stems from the theoretical premise and work of Koreem et al. (2017):

HDI   = f (GCEH, GREH)
Where:
HDI   =   Human development index
GCEH =   Government capital expenditure on health
GREH =   Government recurrent expenditure on health

The econometric form of the model can be written as:
PCI   =   b0 + b1GCEH + b2GREH + u

Where:
b0   =   Regression constant
b1-b2 =   Coefficient to be estimated
u   =   Stochastic error term

DATA ANALYSIS, RESULTS AND DISCUSSIONS

Data analysis

Table 1: Regression result
Dependent Variable: HDI
Method: Least Squares
Date: 06/19/24   Time: 11:51
Sample: 2003 2022
Included observations: 20

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.324643	0.015780	20.57285	0.0000
GCEH	0.004359	0.010978	0.397033	0.6963
GREH	0.077664	0.008245	9.419670	0.0000
R-squared	0.923320	Mean dependent var		0.503400
Adjusted R-squared	0.914299	S.D. dependent var		0.029545
S.E. of regression	0.008649	Akaike info criterion		-6.525237
Sum squared resid	0.001272	Schwarz criterion		-6.375877
Log likelihood	68.25237	Hannan-Quinn criter.		-6.496080
F-statistic	102.3501	Durbin-Watson stat		1.086035
Prob(F-statistic)	0.000000			

Source: Researchers' computation using E-Views 12

Test of hypothesis
The decision, as stated below, will be used to test the hypotheses for this study.

Decision Rule:
The decision rule is to reject the null hypothesis if the t-calculated is greater than the t-tabulated, and accept the null hypothesis if the t-calculated is less than the t-tabulated.

Hypothesis one
HO: There is no significant relationship between government capital expenditure on health (GCEH) and the human development index in Nigeria.

Results
T-calculated   = 0.397033
T-tabulated   = 2.82

Based on the results and decision rule above, we reject the null hypothesis and conclude that there is a significant relationship between government capital expenditure on health (GCEH) and the human development index in Nigeria.

Hypothesis Two
HO: There is no significant relationship between government recurrent expenditure (GREH) on health and economic growth in Nigeria.

Results
T-calculated   = 9.419670
T-tabulated   = 2.82

Based on the results and decision, we accept the alternate hypothesis and conclude that there is a significant relationship between government recurrent expenditure on health (GREH) and the human development index in Nigeria.

This indicates that health expenditure affects human capital development, but the government needs to increase funding for the health sector to meet the Abuja Declaration's recommended 15 percent. The results show that GCEH had a positive but insignificant impact on Nigeria's human development index, while GREH had a positive and significant effect. This aligns with Bakare and Olubokun's (2011) study of healthcare spending and economic growth in Nigeria, which used multiple regression analysis with ordinary least squares and data from 1970 to 2008. Their analysis showed a strong, negative correlation between Nigeria's economic growth and healthcare spending.

The F-statistic measures overall significance. The study in Nigeria showed a strong linear link between health spending and the human development index, indicated by the F-statistic value of 102.350 and the adjusted R-squared of 91.42999.

CONCLUSION AND RECOMMENDATIONS
Since the variables are co-integrating, the analysis indicates a long-term relationship between government health spending and economic growth in Nigeria. The study also concludes that government capital expenditure on health (GCEH) and recurrent expenditure on health (GREH) positively affect the human development index. For example, for every 1% increase in GCEH and GREH, the index rises by 9.419670 and 0.397033, respectively. Because Nigeria continues to lag behind other developing African nations in public health spending, the government should increase its contribution to the health sector as recommended by the Abuja Declaration.

In any nation, maintaining good public health is essential for both national security and the maintenance of a healthy population, as poor human capital deters economic growth. The research's conclusions led to the following suggestions being made:
1. The Nigerian government must quadruple the budget allocation for the health sector to ensure sustainable economic growth. Proper management of disbursed funds for capital projects can be achieved by establishing a strong administrative/monitoring team.
2. In order to encourage health personnel (such as doctors, nurses, lab technicians, etc.) to work more productively and raise per capita income, the government should guarantee the timely payment of salaries, wages, and other benefits.

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