Globalization, human capital development, and health outcomes in Nigeria.

Temitope Sade Akintunde[1], Oluwatosin Mary Soetan [2], Blessing Oyesiji[3], Kehinde Ajike Olabiyi [4] & Adekunle Aribatise [5]

[1,2,3,4] Department of Economics, Osun State University Osogbo.
[5] Department of Economics, Wesley University Ondo.
Corresponding Email: adekunle.aribatise@wesleyuni.edu.ng

Abstract

Using the Autoregressive Distributed Lag Model (ARDL), this study investigated the relationship between globalization, human capital development, and health outcomes in Nigeria between 1980 and 2021. The findings indicated that, although the impact was negligible over time, globalization had a long-term, favorable, and considerable impact on health outcomes. Also, it was discovered that government spending on health and per capita income improves health outcomes over time while dampening them in the short term. Long-term and short-term improvements in health outcomes have also been linked to government spending on education. This demonstrates how well globalization and the development of human capital have improved Nigerian health outcomes. This implies that attaining the sustainable development objective target of good health and welfare in Nigeria requires a substantial contribution from globalization and human capital investment. This study thereby recommends policies that will encourage continuous integration into the global world to harness the advantages of globalization, and also the mobilization of more resources towards investment in health and education to help achieve improved health outcomes

Keywords: Globalization, Human Capital, Health Outcome, Autoregressive Distributed Lag.
JEL Classification: F6, J24, I1

Introduction

The importance of health as a crucial determinant of economic development and wellbeing is increasingly recognized by many countries in the world today. Health is regarded as a form of capital, making investment in it a crucial aspect of human capital development that is essential for driving enviable transformation in an economy. A healthy population is an added

advantage to economic growth because being less vulnerable to sickness increases one's productive capability and life expectancy (Grossman, 1972). Countries that invest in health care tend to achieve increased competitiveness, labour productivity, improved life value, income and economic progression (Barro, 2013, Aslan et al, 2016). Theories such as Endogenous growth model (Romer, 1986) and Human capital theory (Becker, 1962) emphasize the need for human capital development. Empirical evidences (Anyanwu et al, 2015, Eigbiremolen & Anaduaka, 2015, Akintunde, Oladipo & Oyaromade, 2019) have also highlighted how important it is for the government to spend money on developing human capital in enhancing both productivity levels and health outcomes.

The role of globalization in any economy cannot be overemphasized irrespective of whether they are developed or developing. Globalization is seen as increased integration among nations motivated mainly by the notable increase in trading globally, investment, capital flows and developments in information and communication technologies (Ojeka, 2004). An expanding body of research among scholars is exploring the link between globalization and health (Timothy, 2018; Olagunju et al, 2019; Byaro et al, 2021). However, reports from both empirical and theoretical point of view remain inconclusive and contradictory. For instance, globalization has been reported to have the potential to bring in new technologies, medicines, healthcare financing mechanisms, and also increase the income of the poor which is capable of improving maternal health, better nutrition, life expectancy and other health care indicators (Dollar, 2001; Hynen et al, 2005; Ali & Audi 2016; Tajuddin, 2019; and Raza et al., 2020)

On the other hand, it has also been revealed to dampen health outcomes through increased healthcare costs, the spread of diseases like HIV/AIDS, COVID 19 which is perceived as global health pandemics (Lee & Collin, 2001; Adesina, 2012; Ikpe et al, 2023; and Omosuyi 2023). While certain countries have benefited significantly from globalization, many others have not experienced the anticipated gains. The impacts of globalization is said to vary across countries as a result of factors such as geographic location, gender, age, ethnicity, level of education and socioeconomic status (Lee, 2004).

It has been recognized that human capital is essential to improving the efficacy of health outcomes, particularly in the domains of health and education. Better knowledge, abilities, and competence gained via education and training can lead to better health care services. According to Olaniyan & Sukanmi (2012) human capital development improves health care access and outcomes by increasing the number of trained health care professionals, but worsens health discrepancies if the benefits of human capital development are not distributed equally across the population. The most effective method of improving human capital in developing countries requires government expenditure (Bloom& Canning, 2003). Nigeria however has limited budget for the health and education sector. The health and education expenditure as a share of GDP in

2020 was reported as 3.4 % and 5. 2 % respectively (WDI, 2022).

Despite various efforts to harness the benefits of globalization and human capital development, Nigeria still faces significant challenges in accessing quality healthcare and effectively utilizing available services leading to preventable loss of lives. Nigeria's health outcomes are characterized with by low life expectancy, high mortality rates create a lot of concern For instance, the maternal mortality is 1,047 deaths per 100,000 births, but the under-five mortality rate is still high at 110.8 deaths despite the measures and policies implemented by the government to improve health status (UNICEF, 2021).This at times is a result of various factors ranging from availability, affordability, accessibility and acceptability of healthcare services. Other than these issues, there is the extremely high occurrence of infectious illnesses such as tuberculosis and malaria. For instance, Nigeria is home to 27% of global cases of malaria, which gives weight to how severe its public health emergency (WHO, 2020).

As a response to this bitter truth, the question needs to be posed as to whether globalization and human capital creation have indeed improved Nigerians' well-being. This is why it is more important now than before to investigate the link between globalization, human capital, and health status. To this end, the study investigates the link between globalization, human capital, and health outcomes in Nigeria. The key driver is the imperative of developing effective policy that will aid Nigeria's ability to achieve Goal 3 of the SDGs, promoting healthy lives and well-being for all and enhancing health as a core development outcome by 2030.

Literature Review

The nexus between globalization and health has been largely investigated in the literature (Papageoriou et al., 2007; Olagunju et al., 2019; Ikpe, 2023; Omosuyi, 2023). For example, Ali and Audi (2016) investigated the impact of globalization on the life expectancy of Pakistan, using time-series data to test the long-run and short-run nexus between both variables. Applying econometric techniques such as the Autoregressive Distributed Lag (ARDL) bounds testing approach, their article established a positive and statistically significant relationship between globalization and life expectancy. The findings show that increasing integration into the global economy as measured by trade openness, foreign direct investment (FDI), and technological transfer has been accountable for enhancing health outcomes over time. Timothy (2018) examined the effects of globalization on health outcomes in Sub-Saharan Africa, case-studying Nigeria. Using panel data analysis and globalization indices, the study explored the impact of economic, social, and political dimensions of globalization on life expectancy, infant mortality, and access to healthcare metrics. The findings indicate that there was a combined impact while economic globalization (particularly through trade and investment) had a beneficial impact on health outcomes by way of expanding access to health services and goods, social globalization had a conditional influence, both by stage of development and country. Similarly, Ramzi (2012) found that globalization positively affects health outcomes because it enhances access to health information and

technologies, but underlined the requirement for equal distribution and supportive national health policies.

Byaro et al. (2021) also examined the effects of openness to trade on the health status across 33 Sub-Saharan African countries between 2000 and 2016. Using the Generalized Method of Moments (GMM) estimation, the study again confirmed that increased openness to trade positively contributed to the health status, increasing life expectancy and reducing mortality. However, as per a study done by Byaro & Musonda (2016), aiming to investigate the impact of health spending on Tanzania's health outcome during the period 1995-2013, reported that both private and public health spending had no positive impact on Tanzania's newborn mortality rate during the period 1995-2013

Omosuyi (2023) tested the institutional quality-globalization-health outcome nexus in Nigeria during 1984-2020 based on the time series data. The correlation among variables was checked through Dynamic Ordinary Least Squares (DOLS) method. It was revealed that globalization negatively impacted life expectancy. Meanwhile, life expectancy was reported to increase significantly. The study further reported growth, health aid and public health expenditure to be important factors that increase life expectancy. Ikpe et al. (2023) used the ARDL in another study to examine how globalization affected Nigerian health between 1986 and 2017. Results from the study revealed that trade global factors and non-trade global factors was revealed to negatively impacted life expectancy. Implying that globalization adversely affects health status in Nigeria. Concurrently, Hudak (2014) studied the connection of health status to trade openness using 30 countries classified as both high and low-income nations spanning from the 1960s to 2012. With the use of random effects estimation technique, the author identified the fact that an openness to trade positively correlated to life expectancy as an implication of increasing liberalization in trade towards helping health outcomes. This supports the view that globalization, and trade in particular, has beneficial effects on public health through enhanced access to improved goods, services, and technology conducive to overall health.

The link between human capital and health has also gained substantial attention in the literature with mixed reports (Ali and Ahmad, 2014; Raghupathi & Raghupathi, 2020; and Akintunde et al., (2019). Akintunde et al., (2019) in another study explore the socio-economic factors that determine health status in Nigeria, using co-integration and VECM. Health expenditure, primary school enrolment, unemployment, carbon dioxide emission, gross capital formation was found to negatively impacted health status while government spending's impact on income per capita and health were reported to be positive. Similarly, between 1980 and 2021, According to another study conducted in the Sultanate of Oman by Ali & Ahmad (2014), through the use of the Autoregressive Distributed Lag (ARDL) method, agricultural output and primary school enrollment have positive impacts on life expectancy, while population and inflation have negative impacts on life expectancy. According to Raghupathi &

Raghupathi (2020), who studied the impact of education on health in 26 OECD nations between 1995 and 2015, Life expectancy was positively impacted by higher education, infant mortality, and childhood immunization. According to the study's findings, persons with higher levels of education live healthier lives than those with lower levels of education. Novingon et al. (2012) studied a few selected developing countries between 1995 and 2010 and found that although health spending have a significant impact on infant mortality, the impact of public health spending was noticeably higher.

On the other hand, Anyanwu and Erhijakpor (2007) employed an econometric estimation when they studied the relationship between spending on health and health outcomes for 47 countries in Africa from 1999 to 2004. The study highlighted that high literacy rates among women and a greater number of available physicians were linked to improved health outcomes, while ethnolinguistic diversity and prevalence of HIV were associated with adverse effects. These findings underscore the efficacy of increased health spending in enhancing child survival rates across Africa. These conflicting findings highlight the complexity of the linkages between health financing and health outcomes, they offer helpful context for analyzing the potential effects of additional factors, such globalization and human capital, on Nigerian health outcomes. The study thus concluded that health financing is important in improving health outcomes in Africa. Also, prevalence of HIV was found to have positive influence while female literacy and higher number of physicians helps in reducing health outcomes.

Akinci et al. (2014) explored how healthcare spending impacted the health of 19 Middle Eastern and North African nations between 1990 and 2010 and discovered that expenditure on health greatly reduced mortality rate in the area. Musa (2022) examined the association between health status and expenditure on the health sector in Nigeria between 1986 and 2020 using the ECM and Co-integration technique. According to the study, health capital and ongoing spending lowers newborn mortality.

Although quite a number of study has been carried out to explore the independent impacts of healthcare expenditure, human capital, and globalization on health outcomes, as the literature above shows. Few have considered the interaction of all three concepts of globalization, human capital, and health. This is in contrast to the dominant research and therefore serves to highlight the necessity for an integrated approach. Therefore, this study however investigate the effect of globalization and human capital on healthcare outcomes in Nigeria, providing a more comprehensive insight into how these factors interact and result in healthcare gains in the context of a developing nation. Another notable observation is the use of indicators such as trade openness and foreign capital flows to capture globalization which may not be able to account for the multidimensional context of globalization. This work differs from existing research by making use of the KOF globalization index. Unlike older measures that have tried to quantify only one facet of globalization, the KOF index is a

much broader gauge and hence lends itself to further interesting analysis into how globalization in each of its multiple manifestations impacts health outcomes, as well as other socio-economic determinants.

Methodology

The Grossman model of health, developed by Grossman (1972), is the theory used in this study. As per the model, people invest in a range of goods to augment their health stock. The general shape of the model is given below:

$$H=f(X) \quad (1)$$

Where H denotes health outcome, using life expectancy at birth as a proxy, and X represents a vector of individual inputs into the health production function.

Equation 1 can therefore be reformulated as follows:

$$LEX = f(GLB, GXE, GXH, PCI, PSE) \quad (2)$$

Equation 2 can be explicitly expressed in its econometric form as follows:

$$LEX_t = \beta_0+\beta_1 GLB + \beta_2 GXE + \beta_3 GXH +\beta_4 PCI+ PSE+ \varepsilon_t \quad (3)$$

Where LEX stands for life expectancy, GLB for globalization, GXH and GXE for health and education spending, PCI for per capita income (as determined by GDP per capita), and PSE for primary school enrollment. The KOF Swiss Economic Institute provided the data on globalization, and the Central Bank of Nigeria (CBN) Statistical Bulletin provided the data on government spending on health and education. The World Development Indicators (WDI) provided the data on primary school enrollment and per capita income.

In order to examine the relationship between the variables, in this study, both the unit root test and the Autoregressive Distributed Lag (ARDL) model employing the Bounds testing approach are employed. This is appropriate where the variables are of mixed order of integration, i.e., I(0) and I(1) but not I(2). The ARDL representation of Equation 3 is given by:

$$\Delta LEX = \alpha_i+\sum_{i=1}^{p} \beta_{1j}\ \Delta LEX_{t-1}+ \sum_{i=1}^{q1} \beta_{2j}\ \Delta GLB_{t-1}+ \sum_{i=1}^{q2} \beta_{3j}\ \Delta GXH_{t-1} + \sum_{i=1}^{q3} \beta_{4j}\ \Delta GXE_{t-1}+ \sum_{i=1}^{q4} \beta_{5j}\ \Delta PCI_{t-1}+ \sum_{i=1}^{q5} \beta_{6j}\ \Delta PSE_{t-1}+ \mu t \quad (4)$$

where α is the drift term and Δ is the first difference operator. The validity and robustness of the model will be assessed by a series of preliminary tests before the ARDL equations are estimated.

Results and Findings

Descriptive Statistics

Table 1 displays the descriptive statistics. Each variable's mean and median values are fairly similar to one another and fall between the minimum and maximum values, suggesting that the distributions are roughly symmetrical. With a standard deviation of 2.666660, life expectancy is the least variable among the others. Government spending on education has the highest variability, with a standard deviation of 192.8120. With the exception of globalization (GLB), which has a negative skew, all the variables have lengthy right tails, or are positively skewed.

Furthermore, the Jarque-Bera statistics show that, with the exception of GLB and primary school enrollment (PSE), which are not normally distributed, all the variables are normally distributed at a 10% significance level.

Table 1: Descriptive Statistics of the Variables.

	LEX	GLB	GXE	GXH	PCI	PSE
Mean	48.47043	47.74916	144.6750	87.60615	1903.019	92.49198
Median	47.40600	48.95772	50.78364	20.58052	1731.814	91.38119
Maximum	52.91000	57.35070	646.7925	423.3593	2679.555	113.0788
Minimum	45.48700	36.90167	0.160000	0.040000	1408.209	78.66348
Std. Dev.	2.666660	7.142465	192.8120	123.1341	458.0316	8.728265
Skewness	0.411186	-0.148488	1.271250	1.371876	0.400238	0.702544
Kurtosis	1.533008	1.508472	3.417439	3.726924	1.525831	2.993474
Jarque-Bera	4.949629	4.047487	11.61747	14.09904	4.924389	3.455049
Probability	0.084179	0.132160	0.003001	0.000868	0.085248	0.177724
Sum	2035.758	2005.465	6076.350	3679.458	79926.80	3884.663
Sum Sq. Dev.	291.5540	2091.607	1524235.	621641.9	8601510.	3123.487

Source: Author's Computation

Unit Root (Stationarity) Test

Both the Phillips-Perron (P–P) and Augmented Dickey-Fuller (ADF) unit root tests were employed to assess the stationarity of the variables utilized in this investigation; the findings are shown in Table 2. The findings demonstrate that all of the variables were stationary following a single difference, indicating that they are integrated of order one, or I(1).

Table 2: Unit Root Test (Augmented Dickey-fuller and Phillips-Peron)

DF Variables	Levels	1st Difference	Remarks	PP Variables	Levels	1st Difference	Remarks
LEX	-1.258722	-2.257543** (0.0248)	I(1)	LEX	-2.230109	-2.132795** (0.0332)	I(1)
GLB	-0.493077	-6.225925*** (0.0000)	I(1)	GLB	-0.539644	-6.277417*** (0.0000)	I(1)
GXE	-1.258722	-5.765364*** (0.0000)	I(1)	GXE	-1.330455	-10.72569*** (0.0000)	I(1)
GXH	-0.984890	-6.585310*** (0.0000)	I(1)	GXH	-1.016173	-18.11874*** (0.0001)	1(1)
PCI	1.379873	-3.315912** (0.0209)	I(1)	PCI	-0.979856	-4.464971*** (0.0009)	I(1)
PSE	-2.962968	-	1(0)	PSE	-2.407294	-4.559089*** (0.0007)	1(1)

Source: Author's Computation. Note: *,** and *represent 1%, 5% and 10% respectively**

Cointegration test

Following the standard procedure of time series modeling, the bounds test was performed to detect the existence or non-existence of cointegrating relationship between the variables after the order of their integration was established to be one. the F-statistic, which is 4.826941 based on the computation in Table 3, exceed both the lower and upper critical values. This finding suggests that the variables have a long-term equilibrium connection because they are co-integrated.

Table 3: Bounds Test for Co-integration Relationship

Test Statistics	Value	K
F-statistic	4.826941	5
(Critical Value)	**1(0)**	**1(1)**
10%	2.26	3.35
5%	2.62	3.79
2.5%	2.92	4.18
1%	3.41	4.68

Source: Author's Computation

Autoregressive Distributed Lag Model

The short-term estimates of how globalization and human capital affect Nigerian health outcomes are shown in Table 4. In the short term, life expectancy (LEX) and globalization (GLB) have a positive but statistically insignificant association across all time periods, indicating that globalization has not significantly impacted Nigerian health outcomes. These outcomes align with Byaro & Musonda's (2016) findings.

On the other hand, with a coefficient of -0.009444, government health spending (GXH) during the current era though negative shows a statistically significant connection with LEX at the 5% level. With values of 0.010095 and 0.008479, respectively, the coefficients for the first and second lags likewise demonstrate significant and negative associations. This would mean that government spending on health during the present period will cause a reduction in life expectancy of 0.94% as each unit of increased expenditure on health results in a drop of 0.94% in life expectancy. It would reduce life expectancy by 1% in the terminal period and 0.84% in the penultimate period. The reason for the negative response may arise because it takes time before the effect of government expenditure is evident and people often prefer to incur their immediate personal expenditure to get easily accessible medical services. This supports the findings of Akintunde & Olaniran (2022), Musa (2022) that concluded that government health expenditure affects health. Government expenditure on education (GXE) in the current period positively and significantly influences LEX at 5% significance level with a coefficient of 0.004835. This indicates that life expectancy increases by 0.40% for every 1% increase in government spending on education. These results are consistent with Bachama et al. (2021) and Raghupathi & Raghupathi (2020).

In contrast, life expectancy (LEX) and per capita income (PCI) have a negative and statistically significant association (coefficient of -0.002260) at a 1% significance level. This suggests that life expectancy would drop by 0.22% for every unit rise in GDP per capita. Additionally, there is a positive but statistically insignificant association between life expectancy and primary school enrollment (PSE) in the current period. Furthermore, the coefficient in the second lag

period is 0.022570 indicating a positive and significant relationship.

Table 4: The Short Run (Error Correction Representation) of the ARDL Model

Dependent Variable: LEX				
Variables	**Coefficient**	**Std. Error**	**t. statistics**	**Prob**
D(LEX(-1))	0.908898	0.436013	2.084564	0.0637*
D(LEX(-2))	0.855610	0.312998	2.733597	0.0211**
D(LEX(-3))	-0.454506	0.293763	-1.547185	0.1529
D(GLB)	0.030094	0.026980	1.115423	0.2908
D(GLB(-1))	0.070376	0.040389	1.742438	0.1120
D(GLB(-2))	0.015445	0.050647	0.304956	0.7667
D(GLB(-3))	-0.038953	0.032181	-1.210435	0.2539
D(GXE)	0.004835	0.002014	2.400777	0.0373**
D(GXE(-1))	-0.002251	0.002265	-0.994002	0.3437
D(GXE(-2))	-0.005162	0.002220	-2.324830	0.0424**
D(GXH)	-0.009444	0.003024	-3.123481	0.0108**
D(GXH(-1))	-0.010095	0.003816	-2.645344	0.0245**
D(GXH(-2))	-0.008479	0.003890	-2.179541	0.0543*
D(GXH(-3))	0.002888	0.001922	1.502935	0.1638
D(PCI)	-0.002260	0.001037	-2.179549	0.0543*
D(PCI(-1))	0.000023	0.001184	0.019356	0.9849
D(PCI(-2))	-0.000148	0.001074	-0.138243	0.8928
D(PCI(-3))	0.000554	0.000670	0.826284	0.4279
D(PSE)	0.010860	0.008933	1.215728	0.2520
D(PSE(-1))	0.003001	0.010881	0.275821	0.7883
D(PSE(-2))	0.022570	0.011478	1.966353	0.0776*
CointEq(-1)	-0.568396	0.307940	1.845801	0.0003

Source: Author's Computation. Note: *, ** and * represent 1%, 5% and 10% respectively**

The long-run model's empirical findings are shown in Table 5. Nigerian life expectancy was found to be positively and significantly impacted by globalization. With a coefficient of 0.063951, this suggests that health outcomes will rise by 6.3% for every 1% increase in globalization. This is evident in the investment and use of advanced medical equipment, drugs that are usually imported to curb several diseases such as Ebola, Covid-19 in the country. This finding conforms to the study of Timothy (2018) and Ali & Audi (2016).

At a significance level of 5%, there is a statistically significant positive association between per capita income (PCI) and government spending on education (GXE).

This indicates that long-term results will improve by 1.8% and 0.4%, respectively, for every 1% rise in government spending on education and per capita income. Long-term results are also significantly influenced by government spending on health. In particular, a unit increase in government health spending will on average lead to a 3.6 increase in life expectancy. This implies that government expenditure on health in Nigeria can be helpful in improving life expectancy. This is in line with the works of Novignon et al. (2012) and Olayiwola et al. (2022). Primary school enrollment was however found to be negative and significant. This means that primary school enrollment has not been able to contribute to improving wellbeing of Nigerians. This finding is in contrast to the findings of Ali & Ahmad (2014), however, this conclusion is in line with Akintunde et al. (2019).

Table 5: Estimated ARDL Long Run Coefficients and Estimates

Dependent Variable: LEX				
Variables	**Coefficient**	**Std. Error**	**t. statistics**	**Prob**
Long run Estimate				
GLB	0.063951	0.023264	2.748883	0.0205**
GXE	0.018405	0.005328	3.454625	0.0062**
GXH	0.036934	0.008362	4.417039	0.0013**
PCI	0.004476	0.000345	12.968683	0.0000**
PSE	--0.031112	0.006204	5.014997	0.0005**
C	39.053226	0.868401	44.971398	0.0000**

Source: Author's Computation

Conclusion

This study used secondary data from 1980–2021 and the Autoregressive Distributed Lag (ARDL) model to analyse the effects of globalization and human capital on health outcomes in Nigeria. The results show that while globalization has a favourable and statistically significant long-term impact, its short-term effects are not statistically significant. It has also been discovered that government spending on education improves health outcomes over the long and short terms. According to the study, improving health outcomes in Nigeria requires both globalization and consistent investments in human capital.

References

1) Adesina, O.S. (2012). The Negative impact of Globalization on Nigeria. International journal of Humanities and Social Science, 2((15):193-201.
2) Akinci, F. Samer, H., & Farrukh, S., & Akhmedjonov, A. (2014). Examining the impact of health care expenditures on health outcomes in the Middle East and North Africa (MENA) region. Journal of Health Care Finance. 41(1), 1-23. .
3) Akintunde, T.S., Oladipo, A.D., & Oyaromade, R. (2019). Socioeconomic determinants of health status in Nigeria

(1980-2014). African Review of Economics and Finance, 11(2), 365-388.

4) Ali, A.,& Ahmad, K. (2014). The Impact of Socio-Economic Factors on Life Expectancy in Sultanate of Oman: An Empirical Analysis. Middle-East Journal of Scientific Research, 22(2), 218-224.
5) Ali A, & Audi M (2016). The impact of income inequality, environmental degradation and globalization on life expectancy in Pakistan: An empirical analysis. MPRA Working Paper, No. 71112.
6) Anyanwu J.C.,& Erhijakpor A.E.O. (2007). Health Expenditures and Health Outcomes in Africa. African Development Bank, Economic Research Working Paper Series, No 91.
7) Anyanwu, S.O., Adam, J.A., Obi, B., & Yelwa, M.(2015). Human Capital Development and Economic Growth in Nigeria. Journal of Economics and Sustainable Development, 6(14), 16-26.
8) Bachama, Y. N., Hassan, A.A., & Ibrahim, B.(2021) The Impact of Human Capital on Nigeria's Economic Growth. European Scientific Journal 1(15), 393-408.
9) Barro, R. (2013). Health and Economic Growth, Annals of Economics and Finance, 14, (2), 329-366.
10) Byaro, M., & Musonda, P.(2016). Determinants of Infants and Under-Five Mortality Differentials in Tanzanian Zones: Evidence from Panel Data Analysis, 7(18), 114-123.
11) Byaro, M., Nkonoki,J., & Mayaya, H.(2021). The contribution of trade openness to health outcomes in sub-Saharan African countries: A dynamic panel analysis. Research in Globalization, 3, 1-6.
12) Becker, G.S (1962). Investment in Human Capital: A Theoretical Analysis. Journal of Political Economy, 70 (5), 9-49.
13) Dollar, D. (2001). Is globalization good for your health? Bulletin of the world Health Organization, 79, 827–833.
14) Eigbiremolen, G.O., & Anaduaka, U.S. (2015). Human Capital Development and Economic Growth: The Nigeria Experience. International Journal of Academic Research in Business and Social Sciences, 4(4), 25-35.
15) Grossman, M. (1972). On the concept of health capital and the demand for health. Journal of Political Economy, 80, 223-255.
16) Hudak, K. M. (2014). Differential Health Outcomes and Trade: Does openness to trade affect childhood underweight and overweight. , 29(3), 4-16. Journal of Economics, 29 (3), 4–16.
17) Huynen, M. M. T., Martens, P., & Hilderink, H. B. (2005). The health impacts of globalisation: a conceptual framework. Global Health, 14(1), 1–12
18) Ikpe, M., Ojike, R. O., Okwor, S. A., Odionye, J. C., & Agu, S. V. (2023). Exploring the Empirical Link between Globalization, Health and Sustainable Development in Nigeria. ESUT JOURNAL OF SOCIAL SCIENCES, 8(1) 1-15.
19) Lee, K. (2014). Globalization and health: An introduction. London: Palgrave Macmillan

20) Lee K, Collin J: Review of existing empirical research on globalization and health. 2001, Geneva, World Health Organization.
21) Muhammad, M., Xiuyun, Y., Mustafa, U.I., Raza, A., & Mubashar, M.N. (2022). Empirical Analytics of SAARC vs ASEAN in Perspective of Economic Growth and Capital Accumulation. iRASD Journal of Economics. 4. 337-351.
22) Musa, N. (2022). Analysis of the Impact of Health Expenditures on Health Status in Nigeria. Journal of Applied And Theoretical Social Sciences, 4(1), 76-88
23) Novignon J., Olakojo S.A. & Nonvignon J. (2012). The Effects of Public and Private Health Care Expenditure on Health Status in Sub-Saharan Africa: New Evidence From Panel Data Analysis. Health Economics Review 2:22.
24) Ojeka, J. M. (2004) Globalization and the Third World Countries. Article in the Sign Magazine, PP 14.http//en.wikipedia.org.wiki/globalization.
25) Olagunju, K.S., A.I., Ogunniyi, Kunle F. O. Ibrahim O. R.& Kolawole O. (2019). Welfare Impact of Globalisation in Developing Countries: Examining the Mediating Role of Human Capital. Economies, 7(3), 84;
26) Olaniyan, O., Sukanmi, O.A (2012) Demand for Child HealthCare in Nigeria. Global Journal of Health Science 4(6) 129-140.
27) Olayiwola, S.,Adebayo, A., & Olusanya, S.(2022). Government Health Expenditure and Health Outcomes in Nigeria. Journal of Economics and Policy Analysis (2). 89-102.
28) Omosuyi, O. (2023), Globalization–health outcomes nexus and institutional intermediation in Nigeria, Journal of Economic and Administrative Sciences, doi.org/10.1108/JEAS-05-2023-0115.
29) Papageorgiou, C., Savvides, A., & Zachariadis, M. (2007). International medical technology diffusion. J. Int. Econom., 72(2), 409–427.
30) Raghupath, V., & Raghupath, W.(2020). The influence of education on health: an empirical assessment of OECD countries for the period 1995–2015. Archives of Public Health, 78(20), 1-18.
31) Raza, M., Afzal, M.I. & Elahi, M.A. (2020). Assessing the Sustainability of Public Health in the Era of Globalization. Arabian Journal of Geosciences, 13, 1028, 1-10.
32) Romer, P.M. (1986). Increasing Returns and Long-Run GrowthJournal of Political Economy, 94(5), 1002-1037.
33) Razmi, M. J. (2012). Reviewing the effect of Trade Openness on Human Development. Interdisciplinary Journal of Contemporary Research in Business, 4(6), 970–978.
34) Tajuddin, F. N. (2019). Globalization of Health: Positive or Negative? Anthropological Perspective. European Journal of Social Science Education and Research, 6(1), 57–61.
35) Timothy, P.O. (2018) Impact of Economic Globalization on Life

Expectancy in Nigeria. Health Economics and Outcome Research 4: (2), 1- 4.

36) UNICEF (2021). The United Nations International Children's Fund. Country Office Annual Report 2021.
37) WHO (2020). World Health Organization, World Malaria Report, 20 years of global progress and challenges.
38) WDI (2022). The World Development Indicators.