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DEBT OVERHANG AND DUAL GAP PERSPECTIVE ON HUMAN DEVELOPMENT IN WEST AFRICA: INSIGHTS FROM THE GHANAIAN AND NIGERIAN ECONOMIES

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ABSTRACT

This study focused on the influence of debt overhang and dual gap theory on human development in West Africa. To enhance its efficacy and promote human development in Ghana and Nigeria, it aimed to assess the significance of the external debt burden and propose solutions. Employing an ex-post facto research design, several macroeconomic and human development variables were utilized to achieve the study's objectives. Two ECOWAS countries were selected to constitute the study's population and sample size. The data were aggregated, analyzed, and tested using country-specific descriptive statistics and ARDL analysis procedures. The analysis revealed that the foreign debt burden had a significant, though negative, impact on Ghana's human development index, while the external debt service payment to gross domestic product was not significant. Furthermore, the external debt service payment to gross domestic product and external debt burden both non-significantly and adversely affected the human development index in Nigeria. This suggests that education, health, and per capita income—all components of the Human Development Index (HDI)—decline as the share of revenue allocated to debt servicing increases. This also occurs as additional debts are incurred, especially beyond the capacity of most West African Monetary Zone member economies. Based on these findings, the study recommended that to reduce Ghana's reliance on external debt funding, the country's economy should consider the external debt thresholds while formulating its external debt management policy. To address the resulting fiscal imbalance, domestically generated revenue—especially tax revenue—should be revitalized and increased to significantly minimize tax evasion and avoidance. The Nigerian government should also seek loans with favorable terms and conditions following a thorough assessment rather than solely based on need, to reduce the cost of debt and alleviate the negative effects of external debt and associated payment obligations. A robust capital market will lower the borrowing rate from external sources.

Keywords: debt overhang, human development, dual gap, West Africa
JEL: F34, Q15, Q55, H63, I31

INTRODUCTION

The government of every country is responsible for maintaining human dignity, supporting businesses, creating jobs, and reducing poverty through effective economic policies. Even in wealthy nations, despite their immense financial, institutional, human, and physical resources, the aforementioned cannot be fully realized. It is well known that developing nations have finite economic resources and a steadily increasing population Hadji (2022). Notably, Sub Saharan African countries have been searching persistently for alternative sources of funds to drive growth

and development. On one hand, they find funding for the project, and on the other hand, current and generational debt burdens are created. Therefore, public borrowing is constantly needed to address the infrastructure deficit, generate employment, and ensure resource allocation equity.

Over the past few decades, the external debt stocks of the West African countries have increased significantly. Nevertheless, these countries are still borrowing, due to poor development and poor performance in some key sectors of their economies (World Bank, 2023). Nonetheless, it has been shown that by the 1980s, when the global debt crisis hit many countries, external debt in African economies had grown to unmanageable levels, and they were also dealing with the associated adverse macroeconomic consequences (Aladejare, 2023).

External debt, sustainability, and overall economic growth and development performance constitute one of the main economic challenges facing many West African countries. According to N'Zue (2020), while borrowing to facilitate development in stipulated areas of the economy, its servicing creates problems for these countries, since the debt has to be serviced from the nation's revenue, and always in an amount greater than the actual amount taken or borrowed. This raises question about whether these debts drive development or inhibit it by worsening human development. While debt grows an economy, its debt servicing imposes a great burden on a nation’s growth, as it drains and restricts financial resources that would have been used in advancing other key sectors of the economy, thus, impacting their growth and development adversely. Additionally, research from the World Bank (2023) showed that the amount and value of external debt in the West African region is rising dramatically, which makes the discussion of its role in funding these nations' development processes very crucial.

The structure and trend performance of West African economies are comparable to those of Sub-Saharan Africa. The weight of accrued foreign debt repayment and servicing is prevalent among the patterns. While it is true that West African economies lack sufficient resources, a significant amount of those resources are allocated to servicing and repaying external debt. It is true that servicing and repaying foreign debts entails significant socioeconomic costs. Weak public financial management, which leads to a variety of negative changes in macroeconomic fundamentals, including exchange rate mismanagement, may necessitate the use of external borrowing. Speculative capital flight is caused by the expectation of currency devaluation (Tarawalie & Jalloh, 2021). As the research further proposes, inadequate capital inflows due to debt overhang can create severe import strangling. Import strangling pulls back export growth, and thereby propagates import shortages. Investment and development are slowed by debt overhang and other uncertainties; a combination of diminishing investment and shortages of necessary imports leads to a decline in real output (N'Zue, 2020). The intensity of debt is also quite concerning when considering the exceptionally limited and fragile production base, as well as the low ability of many African nations to fulfill their debt servicing commitments. These repercussions, which undoubtedly spur additional research, are an empirical issue.

However, it should be noted at this point that there is a wealth of empirical evidence showing that foreign loans can be a useful auxiliary to the development of human capital and economic growth provided they are obtained responsibly and used effectively (Musibau et al, 2018; Tarawalie & Jalloh, 2021). South Korea, Chile, Brazil, and Ghana are a few nations that have effectively used debt to further their growth and development (N'Zue, 2020).

Three main categories can be used to group the literature on the relationship between debt and human capital development. According to the first strand, external debt has a detrimental impact on the development of human capital (Edeminam & Aras, 2022; Charles & Abimbola, 2020). This line of thought supports the neoclassical economists' view that debt is equivalent to future taxes and emphasizes the detrimental consequences of excessive debt. According to Musibau et al. (2018), the second strand maintains that external debt has a favorable effect on the development of human capital. Their viewpoint backs up the Keynesians' contention that rising public debt has a beneficial effect on growth and development and is essential for economic recovery. Investigating a non-linear relationship between the two macroeconomic variables is the focus of the third strand, which integrates the prior two strands. While some research, such those by Hadji (2022) and Aladejare (2022), assert that the link between foreign debt and human capital development follows a non-linear pattern, Asafo et al. (2019) find no evidence of a non-linear relationship in this strand. As a result, research on the presence or absence of nonlinearity in the relationship between foreign debt and human capital growth has yielded conflicting results. Musibau et al. (2018) support this claim by arguing that research on the two variables' relationship is far from comprehensive or definitive, particularly for emerging economies.

Although there are proofs that external credit has an impact on growth and the development of human capital, no study has determined and contrasted the ways in which the burden of external debt affects human capital development in Ghana and Nigeria. In light of this, this study aims to investigate how the weight of external debt affects human development in the West African region.

The study specifically aims to:

1. Examine and contrast the degree to which Ghana's and Nigeria's external debt loads impact the human development index;
2. To investigate how Ghana's and Nigeria's human development indices are affected by the ratio of foreign debt service payments to GDP.

LITERATURE REVIEW

Theoretical framework

Diverse theories on external debt and its impact on economic development and growth have been put forth. These hypotheses, however, are the debt overhang theory and the dual gap theory for the purposes of this investigation.

The dual-gap theory

Chenery introduced the concept of the dual gap in 1966, stating that most economies have struggled to close the gap between investment and savings and have turned to borrowing from outside sources to close this gap. This disparity serves as the driving force for external debt, which is to make up for a country's lack of investment and savings, since these two factors together will inevitably boost economic growth and development (Edeminam & Aras, 2022). The dual-gap analysis offers a paradigm that demonstrates how investment drives national development and how this investment necessitates domestic savings, which alone cannot guarantee progress.

The dual-gap hypothesis, which was derived from a national income accounting identity, suggests that the surplus of imports over exports (foreign exchange gap) is equal to excess investment

spending (investment-savings gap) (Asafo et al, 2019).

Debt overhang theory

Krugman introduced the debt overhang idea in 1988. It described a situation in which a nation's debt surpasses its ability to pay it back in the future. According to the debt overhang theory, forecasted debt service obligations will probably increase as a function of a nation's output if its future debt stock is predicted to be greater than its capacity to repay it. According to this idea, high marginal taxes imposed by external creditors on big debt stocks can deter investment and slow growth (Adeve & Karabou, 2022). The detrimental impacts of debt overhang have been the main basis for the association between a nation's foreign debt and growth. According to Chindengwike (2022), debt overhang occurs when the anticipated settlement of external debt is less than the loan's contracted value. A nation's output is severely impacted by the predicted debt service if its foreign debt exceeds its ability to pay it back. As a result, a greater portion of the nation's domestic income is essentially taxed away by both foreign and domestic investors as well as current foreign creditors, which discourages economic growth.

The detrimental impacts of foreign debt on investments in tangible capital were at the heart of the ideas behind the debt overhang theory. Since a greater portion of domestic and international profits are needed to pay back foreign creditors, a high level of external debt might make it more difficult for the government to implement structural and fiscal changes. Rapid structural reforms are necessary for sustainable rapid economic growth in low-income nations, where this situation has serious negative implications.

Additionally, by increasing uncertainty, debt overhang stifles investment and growth. Investment is negatively impacted by the growing uncertainty surrounding the methods the government will use to settle its debts as the quantity of foreign debt rises. There is a general expectation that the government will raise taxes to pay off its debt, especially as external debt mounting.

If private investors fear impending devaluation and/or tax rises to cover the debt, excessive debt may cause capital flight. According to theoretical literature, external debt can boost growth and investment up to a certain point, after which it has a negative impact. According to Saheed (2015), a sort of Laffer curve can be used to illustrate the relationship between the face value of external debt and investment: as cumulative debt rises above a certain threshold, the expected payback begins to decline as a result of the negative consequences. The implication is that, along the negative side of the debt Laffer curve, an increase in nominal debt leads to an increase in payback up to the threshold level.

Debt crisis in the West African countries

The Ghanaian economy

As of 2013, Ghana's total external debt stocks (DOD, current US dollars) were $15,831,510,000 and $44,839,810.52. Over the course of 53 years, the value of this indicator has varied, ranging from $15,831,510,000 in 2013 to $546,219,000 in 1971. As of 2013, Ghana's external debt service total (TDS, current US dollars) was $931,201,000. Over the course of 43 years, the value has varied from $32,348,000 in 1973 to $931,201,000 in 2013 (World Bank, 2023).

According to the World Development Indicators (WDI-2014), Ghana's economy has potential in

the production and export of digital technology goods, the building and export of ships and automobiles, and the export of rich and varied resources like industrial minerals and hydrocarbons. Ghana now has one of Africa's greatest GDPs per capita as a result. Ghana started a strict tax campaign to meet its debt servicing obligations. Investment has suffered as a result of the tax administration's switch from a single rate to a multiple rate, which was implemented in 1998 (Musibau et al, 2018).

The Nigerian economy

In 2022, Nigeria's entire external debt stocks were valued at $98,335.33 million (current US dollars). Over the last 42 years, the value of this indicator has varied, ranging from N18,702.25 billion to N2.33 billion in 1981. As of 2013, Nigeria owed $486,424,000 in total debt service on foreign debt (TDS, current US dollars). Over the previous 53 years, the value of this indicator has varied, ranging from $8,807,116,000 in 2005 to $94,469,000 in 1971 (World Bank, International Debt Statistics, 2014).

Nigeria's economy is working to use its enormous fossil fuel endowment to lift almost 33% of its people out of poverty, according to the World Development Indicators (WDI-2024). Economists refer to Nigeria's terrible poverty and vast natural resource richness as the "resource curse," even if the resource curse has resulted in poor resource management by the country's population. Nigeria and the Paris Club of lenders came to an agreement in 2005 to erase all of Nigeria's bilateral foreign debt. The majority of the nation's debt will be forgiven by the lenders, and Nigeria will use its oil earnings to settle the remaining balance. Outside of the oil industry, Nigeria's economy is incredibly incompetent. In addition, human capital is not fully developed. The citizens' level of living was not improved in any way by the debt forgiveness (Mqolombeni, Tewari, & Ilesanmi, 2023).

Nigeria attempted to implement the National Economic Empowerment Development Strategy (NEEDS), an economic reform program, between 2003 and 2007. Through a number of reforms, such as macroeconomic stability, deregulation, liberalization, privatization, transparency, and accountability, the NEEDS sought to improve the nation's level of living.

External debt and economic growth in the West Africa

Ghana

External debt stock, external debt service and the impact of debt relief

The early 1980s saw unfavorable macroeconomic conditions for the Ghanaian economy, which were reflected in high levels of public debt and significant budget deficits. Indicators of the nation's external debt increased to unmanageable levels between 1980 and 2000. Ghana's external debt trajectory was altered by the Heavily Indebted Poor Countries (HIPC) project, which led to a decline in the external debt-to-GDP ratio between 2001 and 2006. By ensuring sound fiscal and monetary policies, the nation achieved the completion point in 2004. Ghana's gross debt to GDP ratio had the longest downward trend during the debt reduction era (2001–2006). Due to higher growth brought about by the savings and fiscal space created by the HIPC debt relief, the ratio decreased from 123.4 percent in 2000 to 26.2 percent in 2006 (Twerefou et al, 2020).

Ghana's external debt stock has been sharply increasing in recent years, reaching 70.6% of GDP at the end of 2015, despite the improved financial conditions brought about by the relief in the

early 2000s and consistent good growth performance. Due to persistent and growing fiscal deficits that were funded by ongoing high-interest borrowing from the global capital market and the depreciation of the country's own currency as a result of unfavorable terms of trade, Ghana's external debt-to-GDP ratio continued to rise between 2007 and 2023. The foreign debt continues to limit resources available for accelerating economic growth in crucial areas of the Ghanaian economy due to the high interest payments linked to the growing debt (Ehikioya et al, 2018).

External debt, gross investment, and economic growth - Ghana

Examining Ghana's gross investment, external debt, and economic growth from 1980 to 2023 reveals a variety of patterns and connections. From 1980 to 2000, the nation's external debt increased, with external debt as a percentage of GDP increasing from 56.74 percent in 1980 to 148 percent in 1989, with an average of 47.4 percent. With an average of 7.2 percent, gross investments (calculated as gross capital formation as a percentage of GDP) were quite low during this time. Although it improved from a recession (between 1980 and 1983) to positive growth of 3.3 percent in 1989, real GDP growth during the same time averaged 2.28 percent. Ghana's external debt resumed its upward trajectory between 1990 and 2000, rising from 63.4 percent of GDP in 1990 to 125.5 percent in 2000. During this time, gross investment improved dramatically, rising from 14.4 percent in 1990 to 24 percent in 2000.

Gross investment averaged 24.5 percent, rising from 24 percent in 2000 to 29 percent in 2005. Real GDP grew by an average of 5.3% between 2001 and 2006, from 4.0 percent in 2001 to 6.4 percent in 2006. Between 2000 and 2006, real GDP per capita grew from US$452.43 to US$520.16. Ghana's external debt-to-GDP ratio continued to rise from 2007 to 2023, reaching 70.6% of GDP at the end of 2015, despite improving debt conditions brought about by the reliefs in the early 2000s and consistent good growth performance. Due to the depreciation of the domestic currency brought on by unfavorable terms of trade and ongoing borrowing at high interest rates from the global capital market, this resulted in persistent and growing fiscal deficits. The foreign debt continues to limit resources available for accelerating economic growth in crucial areas of the Ghanaian economy due to the high interest payments linked to the growing debt (Twerefou et al, 2020).

Nigeria

External debt stock, external debt service and the impact of debt relief

Prior to considerable debt relief in 2005, Nigeria's external debt stock and debt servicing were significant causes of worry. While the debt to GDP ratio peaked in 1993, the debt service was at its highest in 1986, accounting for over 40% of exports. Due to rising oil prices that favored its ability to service its debt, Nigeria borrowed heavily in the late 1970s and early 1980s, which is when its debt problem began. According to Adeve & Karabou (2022), the country continued borrowing and used new debt to pay off old debts when the price of oil dropped in 1982. As a result, the nation's capacity to repay its debt declined, and in 1986 it reached its first rescheduling agreement with significant creditors such as the Paris Club.

In 1989 and 1996, the nation kept accruing arrears on additional loan agreements in addition to IMF programs that were consistently off course (Adeve & Karabou, 2022). Due to an agreement reached in 1992, Nigeria's private debt was reduced from $5.6 billion to $1.2 billion, a 62 percent reduction. The nation made payments to private and multilateral creditors in 1993, limiting its debt

payments to 30% of oil income, but it still accrued arrears with the Paris Club. Despite a 1994 prohibition on taking on new debt, the amount of outstanding debt did not decrease.

Between 1980 and 2008, the nation's external debt stock (as indicated by the external debt-to-GDP ratio) increased, going from 13.9 percent in 1980 to 64.6 percent in 1988. Due to the government's failure to pay off the external debt in the 1990s, interest was not paid and the interest collecting on the unpaid debt service became new debt. Between 1989 (122.4 percent) and 1999 (81.1 percent), the external debt varied.

As a proportion of GDP, external debt began to decline in 2000, going from an average of 76.3 percent in 1981–1984, 73.8 percent in 1995–1999, and then dropping to 65.02 percent in 2000–2003. In 2005, Nigeria and the Paris Club reached a debt reduction agreement that included the cancellation of US$18 billion in debt (reported by creditor countries as Official Development Assistance, or ODA) and US$12 billion paid by Nigeria, along with related policy requirements. The country's debt stock decreased from US$36 billion in 2004 to US$4 billion in 2006 as a result of the debt reduction arrangement. Nigeria's external debt to GDP ratio has remained at comparatively low levels since the 2006 deal with the Paris Club and multilateral institutions (Aladejare, 2023). In contrast, Nigeria's external debt represented 11.9 percent of its nominal GDP in 2023, up from 8.9 percent in 2022.

External debt, gross investment and economic growth - Nigeria

The pace of capital accumulation continuously decreased over this time, notwithstanding the high and increasing levels of foreign debt that led to debt relief in 2005. From 34 percent in 1981 to 5.5 percent in 2005, gross capital investment as a proportion of GDP decreased. Since growth was negative for the most of the period (between 1981 and 1991), the nation experienced an economic contraction during that time. The country's gross investment showed a favorable trend following the debt relief in 2005. Although gross capital accumulation (as a proportion of GDP) decreased somewhat between 2011 and 2015, averaging 13 percent, it rose from 5.5 percent in 2005 to 17.3 percent in 2010. Following debt relief in 2005, Nigeria's economic growth rate remained notably high, with an average real GDP growth rate of 6.3 percent from 2006 to 2014 (N'Zue, 2020).

Nigeria's real GDP growth was still quite robust in spite of the recent drop in crude oil production and prices. The real GDP grew by 6.2 percent in 2014, up from 5.5 percent in 2013. The non-oil sector continued to fuel Nigeria’s economic growth, driven by the Services sector. The trend shows that the economy is becoming more diversified and services-oriented, especially in the areas of communication, real estate, retail and wholesale commerce, and information technology. However, particularly in the second quarter of 2023, Nigeria's GDP rose by 2.51% in real terms. The difficult economic conditions being faced may be the reason for this growth rate, which is less than the 3.54 percent reported in the second quarter of 2022.

Empirical review

Aladejare (2022) examined the relationship between external debt and longevity in 14 West African developing nations between 1981 and 2020. In West African and other developing countries, longevity was negatively impacted by unsustainable, illiquid, and insolvent external debt as well as macroeconomic volatility, according to research using the Panel unit root, cointegration, and estimation procedures incorporating panel dataset cross-sectional dependency

and heterogeneity.

The relationship between external debt and economic growth in the ECOWAS members was studied by Tarawalie and Jalloh (2021). The research used panel data from 2000 to 2019. The results indicated that the primary factors influencing economic growth in the ECOWAS nations are external debt, trade openness, and corruption control. Furthermore, growth was positively impacted by trade openness, but negatively by foreign debt and corruption control.
Nwakoby and Ezeaku (2021) investigated how concessional debt affected the West African Monetary Zone's economic growth. For the years 1975–2014, the study used panel regression with fixed and random effects. The study's conclusions showed that both bilateral and multilateral concessional debts significantly raised the region's level of living.

N'Zue (2020) investigated how external debt affected ECOWAS economic growth. The Panel CS-ARDL for the years 1990–2016 was used in the investigation. Results showed that, up to a certain point, external debt improved economic performance. Additionally, the criterion was 45 percent in the short term and 42.52 percent in the long term. Beyond these boundaries, the performance of the regional economy was adversely impacted by further buildup of external debt.
Musibau, Mahmood, Ismail, Shamsuddin, and Rashid (2018) looked into the relationship between ECOWAS member nations' economic growth and external debt. applying the statistical method of panel data over the years 1980–2015. The research and results demonstrated a direct relationship between external debt and economic growth in ECOWAS member nations over the long and short terms.

Using the dynamic panel generalized methods of moments, Adeve and Karabou (2022) evaluated the eight member countries of the West African Economic and Monetary Union for the period of 2004-2018 and looked at the relationship between public debt and development sustainability. The study found that public debt significantly and negatively impacted the development sustainability of the WAEMU countries.

METHODOLOGY
The ex-post facto research design was used for this investigation. This research design was selected because it is appropriate for a study survey of this kind and prohibits the researcher from modifying the study variables.

The data for the measurement of the variables were collected using various secondary sources, ranging from World Development Indicator, United Nation Development Programme and Central Bank Statistical Bulletin of various countries studied for the period.

Based on the theories under review in this study, and the hypotheses of this study, a model showing the effect and relationship amongst/between the variables of interest shall be specified in consonance with the work of Mezni & Djebali (2022).

HDI = f (EXDB, EDSP)
Where:
EXDB = External debt burden,
EDSP = External debt service payment to GDP
HDI = Human development index

$$HDI_{it} = \partial_0 + \partial_1 LOGEXDB_{it} + \partial_1 LOGDSPGDP_{it} + \varepsilon_{it}$$

Regression constant= ∂_0
Regression coefficient = ∂_1
Stochastic error term = ε

The ARDL model is to basically ascertain the short and long run connection between debt burden and human development index of the understudied countries. The ARDL method has many benefits when compared with other co-integration techniques, and can be used notwithstanding if the underlying variables are wholly 1(0), 1(1) or jointly co-integrated, and can also be estimated with little sample features. The study shall design the ARDL model for appraisal as stated beneath:

$$logHDI_{it} = \alpha_0 + \sum_{k=1}^{n} \alpha_1 \Delta logHDI_{1t-1} + \sum_{k=1}^{n} \alpha_2 \Delta logEXDB_{1t-1} + \sum_{k=1}^{n} \alpha_3 \Delta logDPSGDP_{1t-1} + \partial_1 logHDI_{1t-1} + \partial_2 logEXDB_{1t-1} + \partial_3 logDPSGDP_{1t-1} + \varepsilon_{it}$$

DATA ANALYSIS, RESULTS AND DISCUSSIONS

Data presentation

Table 1: Descriptive statistics

Averages	EDSP			EXDB		
	$\bar{x}$	σ	CV	$\bar{x}$	σ	CV
Nigeria	3.08	2.41	0.78	4.15	2.00	0.48
Ghana	1.38	2.04	1.48	1.68	1.36	0.81

$x = Mean, \sigma = Standard\ deviation, CV = Coeeficient\ of\ variation$

Source: Authors' computation

The measures of central tendency and dispersion of the datasets as well as their respective coefficients of variations are reported. The full details of the descriptive statistics especially the normality profile shows consistency with the behaviour of economic time series. The datasets are observed to be largely fat-tailed (positively skewed) and highly peaked (leptokurtic).

Table 2 displays the stationarity characteristics of the variables under investigation in both nations. Given that the series' order of integration is a crucial evaluation criterion for this purpose, the results of the stationarity test assisted in choosing the best estimation technique.

Table 2: Unit Root test

	Nigeria			Ghana		
	ADF-Stat	**CV @ 5%**	**INF**	**ADF-Stat**	**CV @ 5%**	**INF**
EDSP	-8.44	-3.57	I(0)	-8.44	-3.57	I(0)
EXDB	-6.07	-3.56	I(1)	-6.07	-3.56	I(1)

Source: Computed by the authors using E-views

For the country variables, the stationarity test yields a combination of order one (1) and order zero (0) variables. For levels and first differences, the null hypothesis that there was no stationarity was rejected. Because the Autoregressive Distributed Lag model admits both I(0) and I(1) variables, this offered a solid defense for its application.

The unit root test using IPS and LLC are in table 3.

Autoregressive Distributed Lag Results

Table 3 displays the findings of the study's country-specific autoregressive distributed lag model, which served as the foundation for testing the theories developed to achieve the study's goals.

Variables	**Nigeria**			**Ghana**		
	C	**T-stat**	**P-value**	**C**	**T-stat**	**P-value**
EDSP	-0.00	-0.58	0.59	0.04	1.89	0.08
EXDB	-0.04	-1.64	0.17	-0.01	-5.83	0.00
C	-0.31	-0.88	0.42	0.47	4.94	0.00
BGLM	2.42 (0.20)			0.71 (0.50)		
BPG	1.77(0.24)			0.59 (0.83)		
CUSUM	Stable			Stable		

Source: Computed by the authors using E-views

The diagnostic tests listed in table 3's lower rung are examined first. When the serial correlation Langrage multiplier test is performed according to the Breusch Godfry methodology, the suspicion of autocorrelated residuals is eliminated. All of the countries' p-values are less than 0.05, which suggests that the null hypothesis—that there is no serial correlation in the two (2) countries cannot be rejected.

The confirmation that all the residuals are homoscedastic is shown by the results of the Bruesch-Pagan-Godfrey test for heteroscedasticity. The null hypothesis of no heteroscedastic residual cannot be rejected for all the countries which is evidence in favour of constant variance of the error term for all succeeding lags.

The Cumulative Sum of Square (CUSUM) test proved that the models for all the countries as estimated are stable, followed the correct functional form, had no redundant variables and had no specification biases.

The results of the diagnostic tests confirm that the results are fit for purpose and are good enough for meaningful inferences.

The hypotheses testing was done using the country-specific estimates ARDL results were used as robustness checks.

Test of hypotheses
Test of hypotheses one and two
The two hypotheses are restated in null and alternate forms as follows:

H_{01}: There is no significant effect of external debt burden on human development index in Ghana
H_{A1}: External debt burden significant affect human development index in Ghana
H_{02}: There is no significant effect of external debt service payment to gross domestic product on human development
index in Ghana
H_{A2}: External debt service payment significantly affects human development index in Ghana

Decision rule:
Reject the null hypothesis and accept the alternative if, by general rule, the t-statistics are larger than 2.5 and the p-value is less than 0.05; if not, do not reject the null hypothesis.
The relevant empirical results for the test of hypotheses one and two are shown in table 4 below:

Table 4: Summary of ARDL results for objective one and two – Ghana

Independent Variable: HDI			
	C	**T-stat**	**P-value**
EDSP	0.04	1.89	0.08
EXDB	-0.01	-5.83	0.00
C	0.47	4.94	0.00
BGLM			0.71 (0.50)
BPG			0.59 (0.83)
CUSUM			Stable

Source: Computed by the authors using E-views

According to Ghana's results, the human development index was positively and marginally impacted by the payment of foreign debt service. The human development index, however, was significantly impacted by the burden of external debt. The result shows that external debt burden worsens human development index in Ghana by 1% for every unit change. This is to say that education, health and per capital income which are the components of HDI deteriorate as more debts are contracted especially above the size of the economic growth threshold.

Decision on hypotheses one and two
For hypothesis one, the null hypothesis cannot be rejected given that the t-statistics is less than 2.5 and the associated p-value greater than 0.05.

For hypothesis two, the null hypothesis is rejected and the alternate accepted with the conclusions that external debt significantly but adversely affects human development index in the Ghanaian economy.

Test of hypotheses three and four
The two hypotheses are restated in null and alternate forms as follows:

H03: Nigeria's human development index is not significantly impacted by the country's foreign debt load.
HA3: Nigeria's human development index is significantly impacted by its external debt load.
H04: Nigeria's human development index is not significantly impacted by the ratio of external debt service payments
to GDP
HA4: Nigeria's human development index is greatly impacted by the payment of external debt service.

Decision rule:
Reject the null hypothesis and accept the alternative if, by general rule, the t-statistics are larger than 2.5 and the p-value is less than 0.05; if not, do not reject the null hypothesis.
The relevant empirical results for the test of hypotheses one and two are shown in table 5 below:

Table 5: Summary of ARDL results for objective three and four – Nigeria

Independent Variable: HDI			
	C	**T-stat**	**P-value**
EDSP	-0.01	-0.58	0.59
EXDB	-0.04	-1.64	0.17
C	0.04	3.82	0.01
BGLM			-0.31
BPG			2.42 (0.20)
CUSUM			1.77(0.24)

Source: Computed by the authors using E-views

The findings indicate that both the external debt burden and service payments have no discernible effects on Nigeria's human development index. While external debt service payment caused 1% adverse change in HDI, external debt burden brought about 4% negative change in HDI. This is to say that education, health and per capital income which are the components of HDI deteriorates as the level of revenue that goes to debt servicing gets higher and debt burden gets higher. These findings are found to be non-significant in both cases as the t-statistics and the associated p-value fall outside the acceptance region.

Decision on hypotheses three and four
The conclusions that external debt and its service payments have a negative but non-significant impact on the human development index in the Nigerian economy cannot be accepted, and the null

hypotheses in both cases cannot be rejected because the t-statistics are less than 2.5 and the corresponding p-values are all greater than 0.05.

Discussion of findings

According to Ghana's results, the human development index was positively and marginally impacted by the payment of foreign debt service. The human development index, however, was significantly and negatively impacted by the burden of external debt. According to the findings, Ghana's human development index deteriorates by 1% for each unit change in foreign debt. This is to say that education, health and per capital income which are the components of HDI deteriorates as more debts are contracted especially above the size of the economic growth threshold. According to research by Hassan & Meyer (2020) and Olusegun et al. (2020), paying off external debt had a favorable but negligible effect on economic growth and human development. According to research by Edeminam & Aras (2022), Saengchai et al. (2019), and Onyekwelu et al. (2014), paying off external debt has a detrimental and substantial effect on both economic growth and human development. Nonetheless, the study's findings showed that the goals had been adequately achieved. The dual gap theory, which postulates that most countries have struggled to close the gap between investment and savings and have turned to borrowing from outside sources to do so, theoretically supports the conclusion.

The findings for Nigeria indicate that both external debt service payments and external debt load have a non-significant effect on the human development index, with external debt service payments causing a 1% negative change in HDI and external debt burden causing a 4% negative change. This is to say that education, health and per capital income which are the components of HDI deteriorates as the level of revenue that goes to debt servicing gets higher and debt burden gets higher. These findings are found to be non-significant in both cases as the t-statistics and the associated p value fall outside the acceptance region. In their research, Omotor (2021), Odejimi & Ozor (2018), and Mezni & Djebali (2022) discovered that the external debt and its service payments had a non-significant and adverse effect on economic growth and human development. Nonetheless, the study's findings showed that the goals had been adequately achieved and that they also supported the debt overhang argument.

CONCLUSION AND RECOMMENDATIONS

Up to a point where high levels of external debt servicing set in and have an impact on growth as the focus shifts from financing private investment to debt repayment, external borrowing has a major impact on a country's investment and growth. According to the study, debt has a positive influence on growth while it is low, but above certain thresholds, accumulated debt starts to have a negative effect on growth because excessive debt service payments divert funds from the social, educational, and health sectors. This obfuscates the goal of borrowing from outside sources, which is to promote development and progress in West Africa, as opposed to becoming enmeshed in debt service obligations, which consume the majority of the Zone's resources and impede growth because of hefty interest payments on external debt. However, the primary reason for the external debt issue among West African member nations is that these foreign loans aren't being utilized for development. They cover it up in secrecy rather than putting it into capital projects that will boost the economy.

Loan principal and interest must be paid on schedule in order to service debt, and the GDP is used

to assess the state of the economy as a whole at the time of payment. The study's conclusions showed that excessive foreign debt is one of the main obstacles to economic stability and growth because most West African nations frequently take on large amounts of external debt, which has resulted in the accumulation of trade debt arrears at extremely low interest rates. Due to the fact that accumulated debt service payments are far more than the amount owed, they cause a lot of issues for countries, particularly emerging ones, and slow down their rate of economic progress. The failure of an economy to make its debt service payments commitments has resulted in debt overhang or debt service load that has militated against her growth and development.

However, wealth is a prerequisite for human development, and financial stress has a negative impact on people's standard of living, education, and health. High debt payback levels can operate as a proactive cause of worry, resulting in bad physical, health, and financial conditions that may exacerbate the welfare of society as a whole. Such strains caused by the debt effect can tend to encourage unhealthy behaviours and inadequate health services, high literacy rate and adverse to the citizenry's level of living. In order to provide the general public with high-quality healthcare, food services, education, and a standard of living, indebted economies frequently take on more debt. Debt accumulation can lead to a vicious cycle in which a big amount of debt may be the cause or result of poor health, education, and standard of living. It can also reduce the availability of future resources for investments connected to human development.

Recommendations

1. To lessen their dependency on external debt funding, the Ghanaian economy should take the external debt thresholds into account while developing their external debt management strategies. To close the resulting spending imbalance, domestically generated revenue, particularly tax revenue; should be revitalized and boosted in a way that significantly reduces tax evasion and avoidance.
2. The Nigerian government should look for loans with favorable terms and conditions following a thorough assessment, not based on need, in order to lower the cost of the debt and lessen the negative impact of external debt and the associated payment obligation. A robust capital market will lower the rate of borrowing from outside sources.

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