GENDER DISPARITIES IN EDUCATION AND POVERTY REDUCTION: EVIDENCE FROM ANGLOPHONE WEST AFRICAN COUNTRIES

Biola B. Philips
Department of Economics, Federal University of Agriculture, Abeokuta, Ogun State, **Nigeria**

Olakunle I. Salami*
Department of Economics, Babcock University, Ogun State, **Nigeria**

&
Olalekan B. Aworinde
Department of Economics, Babcock University, Ogun State, **Nigeria**

ABSTRACT

This study examines the impact of gender disparities in education on poverty reduction across Anglophone West African (AWA) countries. Using panel data from 1990 to 2023, the analysis adopts a random-effects model to explore the relationship between the gender parity index, poverty gap, and macroeconomic variables such as the consumer price index and exchange rates. The findings reveal a significant negative correlation between gender disparities and poverty reduction, emphasizing the critical role of gender equality in education for fostering inclusive economic growth. Moreover, exchange rate is shown to significantly influence poverty reduction, while inflationary pressures exacerbate economic inequality. The study underscores that integrating gender-sensitive education policies with macroeconomic stability can create a synergistic effect, improving poverty reduction and driving sustainable economic growth in the region. Policy recommendations include providing equitable access to education for girls, addressing cultural barriers to gender equality, and fostering an inclusive labour market to enhance women's economic participation. These insights highlight the necessity of targeted, context-specific strategies for achieving long-term poverty alleviation and economic resilience in the AWA region.

Keywords: Gender disparity, Education, Poverty reduction, Economic growth, Anglophone West Africa.

JEL Classification Codes: I24, O15, J16, E31, F31

1. INTRODUCTION

Economic growth is a central concern for every nation, and for countries in Anglophone West Africa (AWA), it is especially critical. Despite global challenges, AWA nations – comprising Gambia, Ghana, Liberia, Nigeria, and Sierra Leone – struggle with persistent growth issues, reflecting broader trends in Sub-Saharan Africa (SSA). From a peak of 6% in 2005, economic growth in SSA has fluctuated, with a notable decline to -1.99% in 2020. The region's growth trajectory is often hindered by inadequate infrastructure, political instability, and a lack of skilled labour, making education a key factor in improving economic performance (Maiyo, 2015). Education plays a crucial role in economic development, with the potential to enhance workforce productivity and overall economic growth (Benos & Zotou, 2014; Habibi & Zabardast, 2020). In AWA, however, the relationship between education and economic growth remains complex. Despite substantial investments in education and infrastructure following independence in 1960,

many countries in the region still face significant barriers to translating educational attainment into economic prosperity. While education can foster leadership and essential skills, its impact is often constrained by insufficient investment and a lack of alignment between educational outcomes and labour market demands (Todaro & Smith, 2009).

A critical issue that exacerbates this challenge is the gender disparity in education. Gender inequality in education limits the potential of half of the population, which in turn affects the overall economic growth of the region. Studies show that countries with higher gender equality in education tend to experience faster economic growth (Yahyaoui & Bouchoucha, 2021). However, AWA countries often face significant gender gaps, particularly in rural areas and among marginalized groups, which limits the economic contributions of women and deepens poverty. Gender disparity in education is not just an issue of fairness; it directly influences the poverty gap and real GDP in these nations.

Poverty remains a persistent challenge in AWA, with millions living in multidimensional poverty – lacking access to education, healthcare, and economic opportunities (Cook, 2013). Despite global efforts to reduce poverty, the gap between the rich and poor continues to widen in many African nations (Gyimah-Brempong, 2002). In Nigeria, for instance, over 133 million people live on less than $1 per day, and the National Multidimensional Poverty Index (MPI) highlights significant deprivation in education and basic services (National Bureau of Statistics [NBS], 2022). The key drivers of poverty in AWA are income levels and income inequality, with higher inequality exacerbating poverty (Kolawole et al., 2015; Palomino et al., 2020). Gender disparities in education contribute to this inequality, limiting the economic potential of women and increasing the poverty gap. Thus, understanding the impact of gender disparity in education on both poverty and economic growth is crucial for crafting policies that can break the cycle of poverty and foster sustainable economic development in the region. This study aims to assess how gender inequality in education influences poverty and real GDP in AWA, with a focus on identifying strategies to bridge the education gap and promote inclusive growth.

The Anglophone West African (AWA) countries remain underdeveloped despite sharing similar colonial histories and initial conditions with other regions. While one AWA economy was identified as among the fastest-growing globally from 2001 to 2010 (Bhorat &Tarp, 2016), it was labelled the world's poverty capital by the World Bank in 2018, with 87% of its population living in extreme poverty (Oxfam, 2020). This paradox underscores persistent challenges in achieving sustainable economic growth. Gender disparity in education significantly influences poverty levels and economic performance, yet its impact on the poverty gap and real GDP in AWA has not been sufficiently explored. The region's economic growth is further shaped by the activities of international conglomerates, regional cooperation initiatives such as ECOWAS and WAMI, and the disruptions caused by insurgent attacks on secondary schools, which have reduced enrolment rates across the region. Addressing these issues is essential to understanding how gender disparities in education contribute to poverty and hinder long-term economic growth in AWA.

Education plays a pivotal role in shaping an individual's ability to contribute to economic, social, and political spheres. It serves as a fundamental driver of national development and economic growth. The educational index, which includes variables such as literacy rates, enrollment ratios, and educational quality, is a critical measure of a country's human capital potential. A well-educated workforce is essential for fostering technological advancements, increasing productivity, and reducing income inequality. While tertiary education is often emphasized for its direct impact on economic growth, primary and secondary education are equally important, as they lay the foundation for higher education and skill development. Quality education, especially in technical

and vocational fields, is crucial for enhancing workforce competencies and supporting sustainable economic growth (Adedeji & Oyinlola, 2019). However, the relationship between education and economic growth is not solely about the quantity of education but also its quality. High-quality education equips individuals with critical thinking and problem-solving skills, which are essential in knowledge-based economies. Moreover, the emphasis on digital and vocational education is becoming increasingly important in the context of modern economies. Policymakers must invest in education to unlock the full potential of human capital, which is essential for long-term economic prosperity (United Nations Development Programme [UNDO], 2020).

The relationship between economic growth and poverty reduction is complex. Growth alone may not be sufficient to address poverty if it is not inclusive. For growth to effectively reduce poverty, it must be accompanied by policies that ensure the poor have access to the opportunities created by growth, such as improved education, employment, and financial inclusion. In West Africa, for example, despite significant economic growth in some countries, poverty remains widespread due to factors such as infrastructure deficits, limited access to education, and governance challenges (African Development Bank [AfDB], 2021). However, initiatives like the ECOWAS Trade Liberalization Scheme and the West African Monetary Zone are aimed at promoting regional economic development and poverty reduction (ECOWAS, 2019). In conclusion, the interconnection between education, poverty, and economic growth is undeniable. Education drives economic growth by enhancing human capital, while economic growth, in turn, provides the resources needed to address poverty. However, for growth to effectively reduce poverty, it must be inclusive and accompanied by policies that ensure all individuals, especially the poor, have access to the benefits of development.

2. LITERATURES REVIEW

2.1 Theoretical Issues

This study draws upon the Human Capital Theory, originally proposed by Gary Becker in the mid-20th century, which views education as an investment, similar to investments in physical capital, with the expectation of future economic returns. According to this theory, individuals make rational decisions to invest in education and healthcare to enhance their productivity and earning potential, anticipating long-term benefits. The theory emphasizes that the skills and knowledge acquired through education are transferable across various sectors, and the labor market rewards individuals with higher human capital by offering higher wages. This creates a strong incentive for individuals to invest in their education, as it leads to increased productivity, career advancement, and adaptability to new technologies.

Scholars such as Theodore Schultz have further supported this theory, highlighting the role of education in driving economic development. Their work has had a global impact, influencing education policies that recognize the importance of human capital in fostering economic growth. Education is seen as a key factor in improving labor market efficiency, increasing lifetime earnings, and facilitating career progression.

However, while the Human Capital Theory offers valuable insights, it has faced criticism for overlooking broader systemic factors. Critics argue that it fails to account for issues such as unequal access to education, disparities in educational quality, and the role of non-cognitive skills in economic outcomes. Additionally, the theory does not fully address contextual factors like social justice, unequal resource distribution, and labour market discrimination, which can limit the effectiveness of education as a tool for economic mobility.

Despite these criticisms, the Human Capital Theory remains a useful framework for understanding the relationship between education and economic development, particularly in Anglophone West Africa. It provides a lens through which to examine how investments in education can drive economic growth, highlighting the importance of educational policy in shaping regional economic transformation. By focusing on the role of education in enhancing human capital, this theory helps to explain how educational advancements can contribute to the broader economic development goals of the region.

2.2 Empirical Issues

Several studies have explored the interconnectedness between education, poverty, and economic growth, particularly in developing regions like West Africa. Nnamdi and Owusu (2023) examined the determinants of poverty in ECOWAS countries, revealing that economic growth, investments in education, and healthcare expenditures significantly reduce poverty levels. Conversely, factors such as inflation and population growth exacerbate poverty. These findings highlight the critical role of targeted investments in education and healthcare to drive sustainable poverty alleviation efforts in the region. Similarly, Asongu and Odhiambo (2022) confirmed the substantial contribution of education to poverty reduction in ECOWAS countries using panel data analysis. Their research aligns with the broader economic theory that education enhances human capital, which is instrumental in improving socio-economic conditions (Becker, 1993). These findings underscore the dual role of education in fostering both individual empowerment and broader societal progress.

In the broader context of sub-Saharan Africa, Adesoji (2023) analyzed the impact of higher education on Nigeria's economic growth and poverty alleviation. The study demonstrated that while education contributes positively to economic growth, high unemployment rates constrain its benefits. This suggests the need for labour market reforms and policies that align educational outputs with market demands to maximize economic outcomes (Psacharopoulos & Patrinos, 2018). Expanding the scope to developing countries in Asia, Liu et al. (2023) highlighted the significant role of secondary education in poverty reduction, emphasizing that increasing school enrolment rates, particularly at the secondary level, directly impacts income levels and poverty alleviation. These findings are relevant to the West African context, where similar investments could yield significant returns. However, Basri et al. (2023) reported a divergent case in South Sulawesi, where education had a statistically insignificant effect on economic growth, highlighting the variability of education's impact based on regional socio-economic dynamics. This underscores the importance of tailoring policies to regional contexts to optimize outcomes (Hanushek & Woessmann, 2020).

The role of education in technological advancement and innovation has also been emphasized. Arvanitis (2021) explored how education in STEM fields drives productivity, innovation, and economic growth. This perspective is vital for West Africa, where innovation could address developmental challenges, fostering economic resilience and growth. Complementing this, Josephine et al. (2021) found a positive correlation between human capital development and economic growth across 140 countries, reinforcing the importance of investments in education to reduce poverty and achieve sustainable development. Within the ECOWAS context, Adekola and Sergi (2021) emphasized the potential of education to reduce income inequality and promote inclusive growth. This aligns with findings by Abubakar and Nurudeen (2020), who identified a bidirectional causality between education and poverty reduction as well as economic growth, using a Granger causality approach. Their research underscores the synergistic relationship between education and economic progress, where improvements in one domain catalyse advancements in the other.

Education has been consistently linked to economic empowerment and poverty alleviation. Spada et al. (2024) examined panel data from 34 European countries and found that investment in education and culture significantly reduces poverty. Their findings align with the work of Hamid and Akram (2025), who highlighted the socio-economic consequences of gender disparities in education and health in Pakistan. The study shows that women's limited access to education and healthcare leads to lower productivity, poverty, and overall economic stagnation. Similarly, Dhasmana and Jain (2023) explored gender disparities in India's urban-rural labour force participation and identified education as a major determinant of employment opportunities for women. Financial development is often considered a tool for economic growth and poverty reduction. However, its impact on gender inequality remains complex. Orazaliyev et al. (2024) found that while financial development decreases gender inequality in Pakistan, it paradoxically increases poverty. The study, using Bayer and Hanck cointegration and the ARDL bound test, reveals that economic growth worsens gender disparities, whereas education plays a crucial role in reducing them. The findings suggest that policies should integrate financial inclusion with gender-sensitive economic strategies to mitigate these effects.

Gender disparities in labour force participation continue to hinder economic growth in developing economies. Dhasmana and Jain (2023) found that cultural norms, limited job opportunities, and educational barriers significantly reduce female labour force participation in India, particularly in rural areas. Hamid and Akram (2025) further reinforced this argument by showing how horizontal gender inequalities in Pakistan's education and healthcare sectors limit women's economic contributions. These findings align with Orazaliyev et al. (2024), who suggest that economic growth, when not accompanied by gender-inclusive policies, can exacerbate gender disparities in labour markets.

The quality of education has emerged as a pivotal factor. Hsieh and Urquiola (2021) revealed a strong positive correlation between cognitive skills and economic growth, emphasizing that improving educational quality is as crucial as expanding access. This complements the findings of Mingat et al. (2020) and Pop-Eleches and Urquiola (2020), who argued that the economic benefits of education depend on the acquisition of market-relevant skills. These insights are particularly critical for West African nations, where challenges in educational quality persist despite efforts to increase enrolment rates (UNESCO, 2022).

The global COVID-19 pandemic further highlighted the interdependence of education, health, and economic resilience. Asare and Barfi (2021) documented how the pandemic exacerbated poverty and hindered economic growth, emphasizing the importance of investments in health and education to build more resilient economies. Similarly, Chen and Wang (2021) found that addressing educational disparities is critical for alleviating poverty at both regional and household levels, a finding that resonates across developing economies. Finally, the role of public expenditure in education has been well-documented, for instance, Suwandaru et al. (2021) found that education-related public investments significantly contribute to economic growth in Indonesia, a finding echoed by studies in sub-Saharan Africa. Putri and Prasetyanto (2021) linked the Human Development Index (HDI), which includes educational attainment, to poverty reduction, suggesting that human capital development is vital for economic progress.

In summary, the empirical literature consistently demonstrates that education is a fundamental driver of economic growth and poverty reduction. While education universally enhances socio-economic outcomes, the nuances of its impact vary across regions, highlighting the importance of quality and context-specific policies. For West Africa, strategic investments in secondary and

tertiary education, coupled with labour market reforms and quality improvements, are crucial for maximizing education's potential to reduce poverty and foster sustainable development.

3. METHODOLOGY

3.1 Model Specification

The study adapted the model of Khdraoui et al. (2012) and Kundu (2015) with little modifications to incorporate inflation and exchange rate volatility as control variables. The relevant regression models specified the functional relationships between the dependent and independent variables. To achieve the study's objectives, static panel data framework modelling was employed considering the geographical scope of the study; panel data techniques were applied. According to Hsiao (2007), panel data have several advantages compared to other types of data, as it allows one to cater for a country's heterogeneity, granting more degrees of freedom with a more efficient estimator and testing more complicated models. Thus, the empirical model is specified according to the stated objective of the study. The functional relationship between gender disparity and poverty while controlling for exchange rate and consumer price index is specified thus:

$$pov = f\left(gpi, exr, cpi\right) \tag{1}$$

The pooled effect regression model is for (1) is presented as:

$$pov_{it} = \delta_1 + \sum_{j=2}^{k}\delta_j X_{jit} + \sum_{f=1}^{p}\varphi_f Z_{fi} + \beta_t + \mu_{it} \tag{2}$$

Where: pov connotes poverty gap, X_{it} is a $k \times 1$ vector of the explanatory variables, δ_j is a $k \times 1$ vector of coefficients, the index i indicates the uniti of observation, the Anglophone West African countries, t ditcates the time period, as j and f are used to capture the observed and unobserved regresssors, while Z_f are variables answerable to unovserved heterogeity, constituting nuisance component in the model, hence, we define the unobserved effect, capturing the combined effect of Z_f variables on *lexrv* as w_i thus:

$$w_i = \sum_{f=1}^{p}\phi_f Z_{fi} + \beta_t$$

$$\Rightarrow pov_{it} = \delta_1 + \sum_{j=2}^{k}\delta_j X_{jit} + w_i + \beta_t + \mu_{it} \tag{3}$$

Given the comtemporaneous exogenous state of w_i to the conditional error, hence, we have:

$$E\left[\mu_{it} | w_i\right] = 0, t = 1, 2, 3, \ldots, T \tag{4}$$

The strict exogeneity is imposed on equation (4) so to avery estimation challeng as follows:

$$E\left[\mu_{it} | y_{i1}, y_{i2}, \ldots y_{iT}, w_i\right] = 0, t = 1, 2, 3, \ldots, T$$

$$\Rightarrow E\left[pov_{it} / y_{it}, w_i\right] = \delta_1 + \sum_{j=2}^{k}\delta_j X_{jit} + w_i + \beta_t \tag{5}$$

Thus, the pooled panel model is obtained as:

$$pov_{it} = y_{it}\delta + \varphi + \mu_{it} \qquad (6)$$

Under tbhe usual assumptions of consistency and unbiasedness, the estimate of δ is obtained by centering the data between transformation and hence specified in between estimator model as:

$$pov_{it} = \delta_1 + \sum_{j=2}^{k} \delta_j X_{jit} + \varphi_i + \mu_{it}$$

$$\overline{pov}_{it} = \delta_1 + \sum_{j=2}^{k} \delta_j \overline{X}_{jit} + \varphi_i + \overline{\mu}_{it} \qquad (7)$$

In the effect, the coefficient estimate of δ uses the cross-sectional Anglophone West Afican countries data by ignoring the time series deviation, making the pool estimator becomes:

$$\delta_{POLS} = \delta + \frac{\sum_{i=1}^{N}\sum_{t=2}^{T}[\ pov_{it-1} - \frac{1}{NT}\sum_{i=1}^{N}\sum_{t=2}^{T} pov_{it-1}\ ][\ e_{it-1} - \frac{1}{NT}\sum_{i=1}^{N}\sum_{t=2}^{T} e_{it-1}\ ]}{\sum_{i=1}^{N}\sum_{t=2}^{T}[\ X_{it-1} - \frac{1}{NT}\sum_{i=1}^{N}\sum_{t=2}^{T} X_{it}\ ]^2} \qquad (8)$$

$$\Rightarrow \delta_{POLS} = \delta + \frac{\frac{1}{T}\sum_{t=1}^{T}\frac{1}{N}\sum_{i=1}^{N} pov_{it} e_{it}}{\frac{1}{T}\sum_{t=1}^{T}\frac{1}{N}\sum_{i=1}^{N} X^2_{it}} \qquad (9)$$

$$\delta_{POLS} - \delta = \left[\frac{1}{\sqrt{nt}}\right]\frac{G_{NT}}{H_{NT}} \qquad (10)$$

$$G_{NT} \xrightarrow{d} N\left[0,\Omega_G^2\right],\ H_{NT} \xrightarrow{s} Q_H \ \ as\ N,T \to \infty\ jointly$$

Furthermore, using the pooled OLS residuals, we estimate the variance-covariance matrix thus:

$$\Omega_G^2 = \frac{1}{NT} E\left[\sum_{t=1}^{T}\sum_{i=1}^{N} X_{it} e_{it}\right]^2$$

$$\Rightarrow \frac{\sigma_e^2(i)}{1-\rho_i^2}\begin{bmatrix} \sigma_1^2 & \rho_i & ... & \rho_i^{T-1} \\ \rho_i & \sigma_2^2 & ... & 0 \\ \rho_i^{T-1} & \rho_i^{T-2} & ... & \sigma_N^2 \end{bmatrix}$$

$$= \frac{1}{NT} E\left[X_{11}e_{11} + ... + X_{1T}e_{1T} + X_{21}e_{21} + ... + X_{NT}e_{NT}\right]^2 \qquad (11)$$

$$= \frac{1}{NT} E\left[X_{11}^2 e_{11}^2 + ... + X_{1T}^2 e_{1t}^2 + X_{21}^2 e_{21}^2 + ... + X_{NT}^2 e_{NT}^2\right] + E$$

$$\Rightarrow cross\ products$$

In effect, the error term is a vector white noise generating process with

$$E(e_t) = 0\ and\ E(e_t e_s') = \begin{cases} \Omega & s=t \\ 0 & s \neq t \end{cases}$$ where the covarince matrix Ω is positive definite connoting

serially uncorrelated but contemporaneously correlated error term. Hence, given that

$E\left[e_{i1}e_{i2}\right] \neq 0$ due to the contemporaneous correlation, the mathematical expectation of the cross products are not equal to zero, leading us to estimate the Newy-West (1987) positive semi-definit, heteroscedascity and autocorellation consistent variance-covariace matrix thus:

$$\Omega_G^2 = X'\Omega X + \frac{N}{N-k}\sum_{\ell=1}^{p}\left[1 - \frac{\ell}{p+1}\right]\sum_{t=\ell+1}^{N}e_i e_{t-\ell}\left[x_t' x_{t-\ell} + x_{t-\ell}' x_t\right]$$

The related t-statistics becomes:

$$t_\delta = \frac{\delta}{\sqrt{\left[\sum_{i=1}^{N}X_i'X_i\right]^{-1}\left(\sum_{i=1}^{N}X_i'e_ie_i'X_i\right)\left[\sum_{i=1}^{N}X_i'X_i\right]^{-1}}}$$

3.2 Data and Sources

The study's data were culled from the World Bank's World Development Indicators (WDI, 2022) and United Nations Development Programme (UNDP). These data sources possess world-quality data. Cross-sectional and time series data between 1990 and 2023. The study covers five (5) Anglophone West African countries of Ghana, Nigeria, Sierra Leone, Liberia and Gambia. Additionally, the study's endogenous and exogeneous variables are poverty gap (pov) and gender parity index (gpi), respectively, while consumer price index (cpi) and exchange rate (exr) are control variables.

4. RESULTS AND DISCUSSION

4.1 Descriptive Analysis

The study utilised annual time series data from 1990 to 2023 from five (5) Anglophone West African countries. Table 1 presents the descriptive statistics, revealing significant variability across the variables. The gender parity index averages 6.6, indicating persistent gender gaps in education. The poverty gap index ranges from 0.1 to 8.79, reflecting substantial disparities in poverty levels across the region. High CPI variability highlights inflationary pressures that further exacerbate poverty.

Table 1: Descriptive statistics

	Mean	Maximum	Minimum	Std. Dev.	Skewness	Kurtosis	Jarque-Bera	Probability	Obs
POV	2.93	8.79	0.10	2.21	0.57	2.37	11.77	0.00	165
CPI	100.07	441.67	1.88	90.22	1.47	5.11	82.06	0.00	151
GPI	6.60	19.66	0.79	5.30	0.79	2.39	19.72	0.00	165
EXR	14.08	83.46	0.00	14.04	2.74	13.01	815.11	0.00	150

Source: Authors' Compilation, 2024.

4.2 Correlation Matrix

The use of correlation analysis establishes the intensity and direction of the association among independent variables. Table 4.2 shows the correlation results among the variables for the effect of

gender disparities in education and poverty reduction in AWA. The correlation matrix is an important indicator that tests the linear relationship between explanatory variables. This analysis also shows the extent of multicollinearity among the models' explanatory variables, which can provide initial indications concerning the efficiency of the estimators used in the study

Table 4.2 presents the correlation matrix of the explanatory variables in the model. A cursory view of the correlation matrix shows that there is a lower correlation coefficient in bivariate pairs of all the variable as none is up to 0.8 either positive or negative. Since the coefficients of correlation are less than these aforementioned either positive or negative, then there may be not a severe problem of collinearity or multicollinearity among the independent variables used in this study, as none of the correlation coefficients is greater the 0.80 or 80%.

Table 4.2 Correlation Matrix

	LCPI	LEXRV	GPI
LCPI	1.0000		
LEXRV	-0.1826	1.0000	
GPI	0.3878	-0.0302	1.0000

Source: Authors' own computation

4.3 Results and Discussion

In examining the relationship between investment, shares, and capital, the Pooled Ordinary Least Squares (POLS), Fixed Effects (FE), and Random Effects (RE) estimators are employed. It is important to highlight that these variables are analyzed in their logarithmic form, enabling a discussion based on percentage changes. Notably, the POLS estimator does not account for individual country-specific effects, making it less suitable for addressing heterogeneity among firms. Consequently, our focus is on the FE and RE estimators, which effectively address these heterogeneity issues. To determine the more efficient estimator between FE and RE, the Hausman test is employed. A rejection of the null hypothesis indicated by the statistical significance of the F-statistic associated with the Hausman test favours the FE estimator, while a non-rejection of the null hypothesis supports the use of the RE estimator. In other words, under the null hypothesis, the RE estimator is efficient, whereas, under the alternative hypothesis, the FE estimator is the efficient choice. The results presented in Table 1 confirm the efficiency of the FE model, as evidenced by the statistical significance of the F-statistic associated with the Hausman test. A priori, the lesser the gender parity index the closer the poverty gap as this would enable more income for the family to vend for its wellbeing. For instance, if the disparity between the male-female employment dichotomy reduces, eligible and qualified women get employed thereby increasing the family purse hence reducing the family poverty line. Similarly, a lower consumer price index empowers the citizens to embolden their purchasing power as this gives room for more savings and further investment leading to more income generation and, hence reduction in the poverty gap. Finally. if the rate of each of the AWA countries' domestic currency to USD reduces (i.e., the local currency appreciates against the USD), the poverty gap will be further closed. Based on the foregoing, we hypothesize a negative nexus among the poverty gap, gender parity index and exchange rate, with a positive relationship with the consumer price index.

Table 4.3: Gender disparity and Poverty reduction in Anglophone West African Countries

DV: *pov*

Variables	OLS	FEM	REM
Constant	3.9070***	3.7530 ***	3.7633***
	(0.7623)	(0.3455)	(2.0023)
gpi	-0.0692***	-0.1150***	-0.1148***
	(0.0351)	(0.0242)	(0.0239)
lcpi	-0.0328	0.1116*	0.1111*
	(0.1418)	(0.0672)	(0.0665)
lexrv	-0.1632	-0.1778**	-0.1778**
	(0.1800)	(0.0803)	(0.0795)
Observations	148	148	148
Numbers of id	5	5	5
R-squared	0.2296	0.7962	0.0985
Adjusted R-squared	0.2153	0.7817	0.0817
F-statistics (prob)	16.00 (0.000)	9.54(0.000)	29.18(0.000)
Pesaran CSD Test		F (4,140): 2.566	
		Prob: 0.010	
FE Testparm		F(4,140): 9.54	-
		Prob: 0.000	
Breusch-Pagan LM Test		-	$Chibar^2(01)$:1418.37
			Prob: 0.000
Hausman Test		-	$Chi^2(3)$: 135.26
			Prob: 0.000
Modified Wald test for Heteroskedasticity		$Chi^2(5)$:20425.70	-
		Prob: 0.000	
Wooldridge test for autocorrelation		F(1, 4): 823.807	-
		Prob: 0.000	

Source: Author's compilation (2024) from STATA 15
Notes: DV: dependent variable, OLS: Ordinary Least Squares, FEM: Fixed effect model, REM: Random effect model, FGLS: feasible generalized least square. Statistics ***, ** and * indicate significance at 1%,5% and 10%, respectively.

Our results (see Table 4.3) align with the highlighted hypothesis, revealing a negative relationship between gender parity index and poverty gap and between exchange rate and poverty gap over the analysis period. Specifically, as the disparity in gender and demand for USD of the selected AWA firms reduces, likely due to improved public confidence and proposed policy implementation, this will lead to a tangible close-up in poverty gap. Furthermore, exchange rate has a greater impact on poverty gap compared to gender parity as shown through the magnitude. This disparity could stem from the exogenous factors linked to exchange rate with substantial Indigenous factors, compared to purely endogenous factors linked to gender parity, allowing AWA to efficiently promulgate laws that could aid gender equality in their respective countries.

Quantitatively, a 1% increase in the gender parity and exchange rate corresponds to a 0.11% and 0.18% reduction in poverty gap, respectively. Similarly, a 1% increase in the consumer price index results in a 0.11% rise in poverty gap. These findings align with previous research that has argued gender parity is instrumental in poverty reduction, consistent with Liu et al. (2023) and Fambeu and Yomi (2023), who found similar results in developing regions. However, this study's emphasis on the simultaneous role of macroeconomic variables, such as the consumer price index (CPI) and exchange rate (EXR), offers a more complex understanding of poverty dynamics. The findings

reveal that reductions in CPI and EXR significantly boost economic stability, further contributing to poverty alleviation. This aspect contrasts with the work of Basri et al. (2023), which suggests that macroeconomic stability alone, without addressing gender disparities, may not sufficiently impact poverty reduction. The divergence between this study's findings and some prior research could be attributed to the unique socio-economic and institutional contexts of the AWA countries. For instance, while Ziberi et al. (2022) emphasized the critical role of broad macroeconomic policies in Southeast Europe, the AWA context may require a more targeted approach focusing on gender-sensitive educational reforms. The study's findings on the significant effect of exchange rate stability on both GDP growth and poverty reduction further highlight the interconnectedness of educational equality and broader economic policies. The significant negative impact of CPI on poverty points to the importance of controlling inflation to enhance the purchasing power of households, thereby reducing poverty.

Finally, the findings reveal the critical need for integrated policy approaches that combine gender parity in education with macroeconomic stability to achieve comprehensive socio-economic development in AWA countries. The agreement with studies by Asongu and Odhiambo (2022) and Siregar et al. (2021) on the importance of stable economic conditions reaffirms the notion that sustainable economic growth and poverty alleviation should be strategically addressed. This study contributes to the empirical literature by demonstrating that gender disparities in education exacerbate poverty, necessitating urgent policy interventions. The slight discrepancies with other studies highlight the importance of context-specific strategies and the need for continuous empirical exploration to adapt global lessons to local realities.

Overall, the findings call for integrated policy approaches that combine gender parity in education with macroeconomic stability to drive comprehensive socio-economic development in AWA countries. This perspective aligns with studies by Asongu and Odhiambo (2022) and Siregar et al. (2021), which underscore the importance of stable economic conditions for poverty alleviation. By demonstrating that gender disparities in education not only impede and exacerbate poverty, this study makes a valuable contribution to the literature. The observed discrepancies with other research underscore the importance of context-specific strategies and highlight the need for the ongoing empirical inquiry to tailor global insights to local realities.

4.4 Policy Implication

4.4.1 Local Stakeholders' Implications

Engaging with local stakeholders and education policy experts in Anglophone West Africa would provide a deeper, context-specific understanding of how gender disparities in education contribute to poverty and how best to address them. Here are some key ways to involve these stakeholders. Engaging with policymakers in Ghana, Nigeria, Liberia, Sierra Leone, and Gambia could provide insights into existing gender-focused education policies and potential areas for reform. The ECOWAS and African Union (AU) Education Initiatives should have programs targeting education and gender equality, and their frameworks could be leveraged to scale solutions. Also, institutions such as the University of Ghana, Babcock University (Nigeria), and the African Centre for Economic Transformation (ACET) research gender, education, and poverty reduction. Since cultural norms influence educational access, engaging with local leaders can help drive grassroots change. By incorporating these diverse perspectives, policies can be more practical, sustainable, and culturally responsive to the unique challenges of Anglophone West Africa.

4.4.2 Global Implications

Countries such as Pakistan, India, and Afghanistan also experience severe gender disparities in education, with cultural norms restricting girls' access to schooling. The study's emphasis on targeted policies like scholarships and community outreach could help address similar issues in these regions. While Latin American nations have relatively higher gender parity in education, income inequality and poverty remain significant concerns. The study's findings suggest that investing in gender-equitable education can be a key factor in poverty reduction efforts. Even in developed nations, gender disparities in STEM education and workforce participation exist. The study underscores the economic benefits of closing gender gaps, reinforcing global discussions on gender-equal education and labour market inclusion.

5. CONCLUSION

This study is birthed to examine gender disparity in education-poverty reduction nexus while controlling for consumer price index and exchange rate in Anglophone West African countries, investigated by using the random effect estimator. The data was collected from the World Bank's World Development Indicators (WDI) and UNDP from year 1990 to 2023 for empirical observations. It is depicted in the major results of this work that gender disparity in education negatively influences poverty reduction in the AWA countries when the cpi and exchange rate are controlled for. Furthermore, the strength of the association between gender disparity and poverty reduction reflects that the lack of education and gender imbalance is stepping forward day by day in these AWA countries causing poverty increase in these regions, as they are harshly facing the troubles of gender inequality, poor health, and educational facilities, and increasing trends of poverty leading towards vulnerable situation.

As concerned with the policy recommendation, governments should implement policies to improve access to education for girls and women. These policies should include scholarships and financial incentives to encourage female enrollment at all educational levels. Addressing cultural and societal barriers that hinder gender equality in education through community outreach and awareness programs and also establishing inclusive school environments with gender-sensitive infrastructure and curricula to support female students. Also, to overcome the severe issue of education gender disparity, governments in the AWA countries should provide equal employment opportunities to expose the hidden talents of women so that they can contribute well to their economies. Similarly, policies are suggested by authors for equal treatment of women during working hours, representation and promotion of women in public and private sectors, and promotion of women empowerment so that they can raise their voice against any violence in their rights, ensure equal opportunities for health and education for both men and women, and formulate the regulation and protection against honour killing, domestic violence, and abuse, and the programs and sessions should be conducted at a community level for the development of women. The study's key takeaway – that reducing gender disparities in education fosters economic growth and reduces poverty – has wide-reaching relevance. Policymakers globally can draw from its findings to implement gender-sensitive education policies and macroeconomic stability measures to drive sustainable development.

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