
Addressing Youth Unemployment in Nigeria: Do Remittances and Education Matter?

Bolaji Titilope Ajileye

Department of Economics, Nile University of Nigeria, FCT, Abuja, Nigeria.
oladapobolaji2018@gmail.com

Abstract

Youth unemployment is a pressing socioeconomic challenge facing the Nigerian economy. This study examines the role of remittances and education in addressing youth unemployment in Nigeria from 1996 to 2023. It focuses on the mediating role of education in the relationship between remittances and youth unemployment. The study employs an autoregressive distributed lagged model (ARDL) and a Pairwise causality test on time series data. The paper revealed that in the long run, remittances and education play a significant role in decreasing youth unemployment in Nigeria. However, the interaction between them has no pronounced impact on unemployment in the long run. The causality test result indicates a unidirectional causality between education and youth unemployment, but an absence of a causal relationship between remittances and youth unemployment. Based on these outcomes, this study recommends that the Nigerian government should ensure the redirection of remittance inflows toward education, skill development, and labour-intensive sectors such as manufacturing, agriculture and services. Also, they should bridge the gaps between education and industry needs by encouraging internships, apprenticeships, and partnerships with businesses.

Keywords: ARDL, Education, Remittances, Youth Unemployment

Introduction

One of the socioeconomic problems facing many developing countries, particularly Nigeria, is the dual challenge of youth unemployment and limited job creation. As Okeke (2021) has stated, youth unemployment occurs when young people within the labour bracket (ages 15-34) are willing to work but cannot find a productive job. Accordingly, the inability to secure paying and stable employment posed both economic and social risks to the nation. As expressed by Olu et al. (2015), structural barriers, including underfunded schools, insufficient vocational training, skill mismatch and financial instability, are some of the major factors hindering Nigeria's young population from participating in productive economic activities. In response to addressing these factors, the Nigerian government has implemented several programs, including N-Power, Youth Enterprise with Innovation in Nigeria (YouWIN!), TraderMoni, and the Presidential Youth Empowerment Scheme (P-YES). However, despite these initiatives, the nation continues to struggle to absorb the young workforce into productive employment.

Statistical evidence from the World Bank (2024) has shown that youth unemployment in 2020 stood at 12.5%, reflecting the effect of the COVID-19 pandemic, which resulted in many job losses, disruption in educational activities, and a slowdown in business activities. Conversely, shortly after the newly elected president Tinubu announced the removal of fuel subsidies, youth unemployment jumped from 5.8% in 2023 to 8.4% in the first quarter of 2024 (NBS, 2024). The aftermath of the 2023 fuel subsidy removal led to an increase in the nation's inflation rate, higher cost of living, rising cost of transportation and many job losses. Although Nigeria's labour market experienced some improvement as the national unemployment rate decreased to 4.3% from 5.3% in the second quarter of 2024. However, underemployment remains a concern, as the statistics stood at 9.2% in the second quarter of 2024 (NBS, 2024). As a result, Nigeria's young population are either unemployed or trapped in low-paying and unstable jobs. Therefore, for Nigeria to achieve the Sustainable Development Goal (SDG) 8, which emphasises decent work and sustained economic growth, it is very important to leverage remittances and education to address youth unemployment in Nigeria.

Remittance is becoming one of the significant sources of financial inflow into Nigeria. It offers a potential avenue for reducing youth unemployment by easing household financial constraints and supporting investments in education. Nigeria is the largest recipient of remittances in Sub-Saharan Africa, with inflows rising from \$19.5 billion in 2021 to \$20,128 billion in 2022 but dropping to \$19,550 in 2023 (UNCTAD, 2024; World Bank, 2024). As asserted by Taylor (1999), remittance inflow into an economy has the potential to enhance human development if invested in education, healthcare and infrastructure. Hence, prioritising consumption over investment will reduce the long-run benefits of this foreign inflow (Adams & Cuecucha, 2010; Ajileye & Anyanwu, 2024). Furthermore, another key driver of shrinking youth unemployment is improvement in a nation's education. Consequently, to secure a stable job in Nigeria, an individual is required to have foundational skills, which are attained at the secondary school education level (Virk et al., 2023). Conversely, the education sector in Nigeria is faced with the issue of government inefficiencies in providing inadequate funding, poor infrastructure, and curriculum mismatches that undermine its effectiveness in meeting labour market demand (Okoli et al., 2024).

Despite substantial remittance inflows, youth unemployment remains an unresolved issue in Nigeria. Prior studies have examined the effects of remittances and education on

unemployment, but often in isolation. For instance, Okoli, Okaforocha, Osang, and Nwokoye (2024) found that higher educational attainment reduces overall unemployment, while Alhassan, Maswana, and Inaba (2024) highlighted the role of education and remittance-induced household income in shaping labour market participation. Similarly, Datti, Agboola, Gawuna, and Adebawale (2024) emphasised education's role in reducing youth unemployment. However, existing studies have not explored the mediating role of education in the relationship between remittances and Nigerian youth unemployment. Therefore, this study provides a more holistic perspective on how remittances and education influence youth unemployment in Nigeria. Against this background, this study examines the direct and indirect relationships between remittances, education and Nigerian youth unemployment from 1996 to 2023.

Literature Reviews

Theoretical Review

New Economics of Labour Migration (NELM)

The NELM theory presents alternative perspectives to the traditional neoclassical theory of migration. The theory proposed by Stark and Bloom (1985) recognised remittances as financial transfers that migrant workers send home to help their loved ones. The theory emphasises how remittances enhance the economic and social dynamics of an economy. In the Nigerian context, the theory emphasised the role of remittances in achieving long-run development. This development is attained when remittances are used for education, healthcare, and skill acquisition (Taylor, 1999). Thus, remittance will aid in reducing youth unemployment and improving their labour market readiness.

Human Capital Theory

Human capital theory was proposed by Schultz (1961) and expanded by Becker (1964). The theory posits that individuals and societies invest in education, healthcare and skills development to enhance their productivity and stimulate economic growth. As emphasised by the theory, knowledge, skills, experience, and health serve as crucial drivers for increasing both individual income and the national development of an economy (Becker, 1964). For instance, many Nigerian households are faced with significant financial constraints due to the COVID-19 pandemic, fuel subsidy removal and exchange rate liberalisation; this recent occurrence has limited their access to education and quality healthcare. Thus, remittance from families residing abroad can be a critical lifeline.

Empirical Review

A recent study by Okoli et al. (2024) used the autoregressive distributed lagged model approach to demonstrate that government expenditure on education and improved graduation rates at all levels (Primary, Secondary and Tertiary) significantly reduced unemployment in Nigeria in both the short and long term. This finding highlights the critical role of targeted educational investments in addressing unemployment. Contrastingly, Alhassan, Maswana, and Inaba (2024) explored how remittances impact labour supply and occupational choices. Their study used living standard measurement survey data and instrumental variable probit and Tobit techniques. It found that remittances encourage recipients to shift from agricultural to non-agricultural jobs, including paid employment and nonfarm enterprises. Their finding reveals that occupational shift is mostly among less-educated individuals in Northern Nigeria. So, they suggest that remittances can be used to mitigate unemployment by facilitating entry into more formal or lucrative job markets.

Olubusoye, Salisu, and Olofin (2023) further examined the structural nature of unemployment in Nigeria, employing Vector Autoregressive (VAR) and Panel ARDL models. Their findings revealed that youth unemployment in Nigeria is predominantly structural rather than cyclical, with significant sectoral spillovers across agriculture, industry, and service. In addition, a study by Izuchucku (2021) found that international migrant remittances negatively affect unemployment using the two-stage least squares (2SLS) method. The study concludes that remittances can act as a cushion against unemployment. Similarly, Okeke, Utomi, and Ezenekwe (2019) highlighted the potential of remittances to stimulate private investment. They established that remittances positively influence private investment rates in Nigeria, with past investments serving as a determinant of current levels using the ordinary least square estimation method. Urama et al. (2016) employed propensity score-matching and log-linear regression models to show that remittance inflows negatively affect labour supply in agriculture, particularly among teenagers and the elderly. They, therefore, suggest that while some groups benefit from reduced dependency on agricultural work, others may face marginalisation. Furthermore, Sulayman and Akaeze (2015) argue that education plays a significant role in mitigating unemployment. The finding of Sulayman and Akaeze was supported by Okoli et al. (2024), who emphasise that education is crucial to reducing unemployment in an economy. They also show that curriculum reforms are required to ensure that educational outputs align with labour market demands.

A substantial body of previous research, such as Okoli, Okaforocha, Osang, and Nwokoye (2024) and Alhassan, Maswana, and Inaba (2024), has revealed the potential of remittances and educational attainment in addressing youth unemployment. However, there remain significant gaps in understanding the mediating role of education in influencing remittances to reduce youth unemployment in the Nigerian context. Therefore, we assess both the direct and indirect role of remittances and education in reducing Nigeria's youth unemployment for the period from 1996 to 2023.

Methodology

Data and Sources

This study employed time series data spanning the period from 1996 to 2023. The dependent variable is the Youth Unemployment Rate, measured as "Unemployment, youth total (% of the total labour force ages 15–24)" (modelled ILO estimate), with data sourced from the World Development Indicators (WDI) database of the World Bank. The independent variables include Personal Remittances (% of GDP), which is the proxy for remittances and is sourced from the World Development Indicators (WDI), and School Enrollment, Secondary (% Gross), which is the proxy for education and is sourced from the World Development Indicators (WDI). Further, this study employed the Gross Domestic Product Growth Rate (% Annual), sourced from the Central Bank of Nigeria (CBN), as the control variable.

Estimation Methods and Model Specification

To achieve this study's stated objective, the Autoregressive Distributed Lag (ARDL) model, as proposed by Pesaran and Shin (1998) and Pesaran, Shin, and Smith (2001), was employed as an estimation technique. The ARDL framework is particularly suitable for analysing the short and long-term dynamics of variables that are integrated into mixed orders ($I(0)$ and $I(1)$). Furthermore, a Pairwise Granger Causality Test is conducted to explore causal relationships among the variables.

The study utilises secondary annual data from 1996 to 2023 to estimate the specified models.

Model Specification

The long-run model of the relationship between remittances, educational attainment, and youth unemployment is specified as:

$$YUR_t = \alpha_1 + \sum_{j=0}^{q1} \beta_1 REM_t + \sum_{k=0}^{q2} \beta_2 SSER_t + \sum_{l=0}^{q3} \beta_3 REM * SSER_t + \sum_n^{q4} \beta_4 GDPGR_t + \varepsilon_t \quad (1)$$

Where α_0 is the intercept, while $\beta_1\beta_2\beta_3\beta_4$ are the long-run coefficients of personal remittances, secondary School enrollment, interaction of remittances and school enrollment and gross domestic product growth rate and ε_t is the error term. Once the long-run relationship between the dependent variables and the regressors is established, the ECM model equation is as follows:

$$YUR_t = \alpha_1 + \sum_{i=1}^p \delta_1 \Delta YUR_t + \sum_{j=0}^{q1} \delta_2 \Delta REM_t + \sum_{k=0}^{q2} \delta_3 \Delta SSER_t + \sum_{l=0}^{q3} \delta_4 \Delta REM * SSER_t + \sum_n^{q4} \delta_5 \Delta GDPGR_t + \mu ECT_t + \varepsilon_t \quad (2)$$

Where Δ is the first difference of variables, δ_i is the coefficient of the lagged changes in the dependent variable and $\delta_1, \delta_2, \delta_3, \delta_4, \delta_5$ are the coefficients of the lagged changes in the independent variables. ECT_t represents the error correction mechanism, which measures the speed of adjustment made every year towards long-run equilibrium. It's expected to be negative and significant for cointegration to hold. Akaike's lag selection criteria determine the optimal lag length of the ECM model. Given the limited number of annual observations, the study chose one maximum lag length. In addition, the Augmented Dickey-Fuller unit root test was employed to establish the order of integration in this study.

Results and Discussion of Findings

Stationarity Test

Table 1: Augmented Dickey-Fuller Stationarity Test Result

Variables	Stationarity Order	Critical Value	T-Statistics	Probability	Order of Integration	Remark
YUR	At Level	-2.99806	-3.76115	0.0098	1(0)	Stationary
	1 st Diff.	-3.02068	-5.29078	0.0004	1(1)	Stationary
REM	At Level	-2.97626	-2.20419	0.2094		Non-stationary
	1 st Diff.	-2.98103	-5.11295	0.0003	1(1)	Stationary
SSER	At Level	-3.08100	-1.40510	0.5515		Non-stationary
	1 st Diff.	-3.11991	-4.13297	0.0088	1(1)	Stationary
GDPGR	At Level	-2.97626	-2.04120	0.2686		Non-stationary
	1 st Diff.	-2.99187	-4.19032	0.0035	1(1)	Stationary

Source: E-Views 12 Output

This Augmented Dickey-Fuller unit root test was conducted to address the spuriousness of the regression outcome. At a 5% level of significance, the unit root test result in Table 1

shows that the variables employed in this study are stationary at level 1(0) and first difference 1(1), respectively. Specifically, the youth unemployment rate (YUR) is stationary at level 1(0). In contrast, the ratio of remittance to GDP (REM), secondary school enrolment rate (SSER), and Gross domestic product growth rate (GDPGR) are stationary at first difference 1(1). These outcomes indicate a consistent, predictive trend and reliability of the variables.

Causality Test

Table 2: Pairwise Granger Causality Test Results

Null Hypothesis	F-Statistics	Prob.
REM does not Granger Cause YUR	9.60005	0.9923
YUR does not Granger Cause REM	0.10941	0.7437
SSER does not Granger Cause YUR	5.31638	0.0398
YUR does not Granger Cause SSER	0.38226	0.5480
GDPGR does not Granger Cause YUR	4.13524	0.0532
YUR does not Granger Cause GDPGR	1.59578	0.2186

Source: E-Views 12 Output

This study assesses the direction of causality among the variables using the pairwise Granger causality test. Table 2 indicates the existence of unidirectional causality between secondary school enrolment and youth unemployment. This outcome implies that access to education can influence youth unemployment outcomes in the Nigerian economy. Similarly, causality runs from economic growth to youth unemployment. This outcome implies that as Nigeria's economy expands, it will create more job opportunities, which will aid in the employment of more youth who are able and willing to work (Obiekezie, 2022). Further, the study concludes that there is no causal relationship between remittances and youth unemployment. This outcome suggests that while remittances play a crucial role in enhancing household income, they have no direct contribution to youth unemployment in Nigeria. Thus, this foreign inflow is basically used for immediate consumption, including food, housing, and healthcare, rather than investment in education or in creating business enterprises that could create more employment opportunities for the youth.

Autoregressive Distributed Lagged Bound Test

Table 3: ARDL Bound Test Result

Test Statistics	Value	Significant	1(0)	1(1)
F-statistics	8.185435	10%	2.45	3.52
K	5	5%	2.86	4.01
		2.5%	3.25	4.49
		1%	3.74	5.06

Source: E-Views 12 Output

The Autoregressive bound test result presented in Table 3 revealed a long-run relationship between the variables employed in this study. The F-statistic is 8.185435 and is greater than both the upper and lower bounds at 1%, 2.5%, and 5% levels of significance, respectively. Thus, the study concludes that there is a linear long-run relationship among the variables in the model. Therefore, the long-run effect is conducted to indicate the coefficient impact of all the independent variables on the dependent variable.

Long-Run Effect of Remittance, Educational Attainment and Youth Unemployment

Table 4: ARDL Long-Run Effect Result

Variable	Coefficient	Std. Error	t-Statistics	Prob.
REM	-1.421043	0.766129	-1.854836	0.0883
SSER	-0.188504	0.093799	-4.826508	0.0675
REM_SSER	0.044151	0.023152	-1.546021	0.0807
GDPGR	0.113704	0.074518	0.065056	0.1530

Source: E-Views 12 Output

The long-run contribution of remittances and educational attainment to Nigerian youth unemployment is examined using the ARDL model. Table 4 shows that, in the long run, remittances and secondary school enrollment play a significant role in reducing youth unemployment in Nigeria. Also, the interaction between remittances and education exhibits a significant effect on youth unemployment. On the other hand, economic growth shows no significant influence on Nigerian youth unemployment. Specifically, at a 10% significance level, the outcome concludes that holding other factors constant, a unit increase in remittances will reduce youth unemployment by 1.42 units. This outcome implies that remittances have the potential to decrease youth unemployment. Although alone, the inflow of remittances may not be sufficient to reduce youth unemployment. Conversely, when supported by strong economic policies and an investment-friendly environment, its effect can be more pronounced in the Nigerian economy.

Further, the study also concludes that, with all things being equal, a unit increase in secondary school enrollment will decrease youth unemployment by 0.19 units. This outcome suggests the importance of education in tackling Nigeria's unemployment among the young. Accordingly, equipping the young population with relevant skills will aid in preparing them to maximise the opportunities in the labour market and increase their likelihood of further higher education, which in turn will enhance their job prospects and reduce short-term unemployment in the country.

The result of the mediating role of education shows that in the long run, a unit increase in the interaction between secondary school enrollment and remittance will increase youth unemployment by 0.044 units. Although remittances and secondary school enrollment have the potential to reduce youth unemployment individually, when combined, they increase long-term youth unemployment. This increase may be due to structural labour market challenges, which include skill mismatch, poor economic conditions and insufficient job creation in the economy (Olubsoye et al., 2023).

Additionally, economic growth has an adverse impact on youth unemployment in Nigeria. Holding other variables constant, a unit increase in economic growth insignificantly increases long-run youth unemployment. These findings suggest that Nigeria's economic growth is driven more by sectors such as oil and gas, financial services, and telecommunications, which may not create sufficient jobs. Thus, this makes the economy unable to absorb the growing young labour force as growth in Nigeria is more capital-intensive rather than labour-intensive sectors.

Short-run Effect of Remittance, Educational Attainment and Youth Unemployment

Table 5: ARDL Short-run Effect Result

Variable	Coefficient	Std.Error	t-Statistics	Prob.
C	-2.798046	0.873281	-3.204061	0.0076
YUR(-1)	0.195624	0.067910	-4.917328	0.0108
REM	0.277990	0.011215	-0.082549	0.0737
SSER	0.036876	0.003229	-4.791777	0.0381
REM_SSER	-0.008637	0.083722	-1.505383	0.0659
GDPGR	-0.022243	0.009470	0.064943	0.0358
ECM (-1)	-0.195624	0.026482	7.387122	0.0000
R-squared	0.773273			
Adj. R-squared	0.759103			
Durbin-Watson stat	1.966447			
F-statistics	54.56957			
Prob(F-statistic)	0.000002			

Source: E-Views 12 Output

The short-run estimation result provides insight into the immediate effects of remittances, secondary school enrollment, and economic growth on youth unemployment. It also reveals the adjustment process towards the long-run equilibrium. The short-run result presented in Table 5 revealed that the lagged value of youth unemployment, secondary school enrollment, and economic growth was statistically significant at 5%. In comparison, remittances and the interaction effect were significant at a 10% level of significance. As revealed by the result, previous youth unemployment statistically increases present youth unemployment by 0.19 units. This finding suggests that youth unemployment in Nigeria persists over time and is not quickly resolved.

The findings show that a unit increase in remittances and secondary school enrollment will increase youth unemployment by 0.27 units and 0.04 units, respectively. This rise in youth unemployment may be due to the dependency effect of remittances, skill mismatch, poor investment decisions in the economy, and a delay in market entry. Also, the short-run interaction between remittances and secondary school enrollment reveals a coefficient of 0.009 units decrease in youth unemployment. This outcome implies that when combined, remittances and education will decrease Nigerian youth unemployment. Additionally, economic growth statistically reduces Nigerian youth unemployment by 0.022 units. Thus, an economic expansion in Nigeria will help foster more investment in the productive sector, which can create more job opportunities to absorb the rapidly growing young population of the economy (Ojima, 2019).

Furthermore, the error correction mechanism outcome confirms the existence of a long-run relationship among the variables. The result shows a coefficient of 0.19 with a probability of 0.0000. This finding implies a moderate adjustment pace where, after a short-period shock, the economy will return to equilibrium. Thus, the disequilibrium in the previous period is corrected in the current period. In addition, the value of R-squared, which is 77.3 %, indicates that the model used in this study explains a substantial portion of the variation in youth unemployment. The adjusted R-squared value of 76% confirms the model's robustness. Further, the Durbin-Watson statistic of 1.9664, which is close to 2, indicates the absence of autocorrelation in the residuals. Overall, the probability of the F-statistic, which is 0.00000, confirms that the model is highly significant.

Table 6: Wald Test Result

F-Statistic	139.3462	(5, 12)	0.0000
Chi-square	696.7311	5	0.0000

Source: E-Views 12 Output

The Wald test was used to ascertain the joint significance of the model used in this study. The result revealed that the probability of both the F-statistics and the Chi-square statistics was 0.0000. So, the null hypothesis is rejected, and we conclude that remittance and educational attainment play a vital role in reducing Nigerian youth unemployment.

Post-Diagnostics Test Result

Table 7: Breusch-Godfrey Serial Correlation LM Test Result

F-Statistic	0.730976	Prob. F(2,10)	0.5055
Obs*R-Squared	2.295868	Prob. Chi-Squared (2)	0.3173

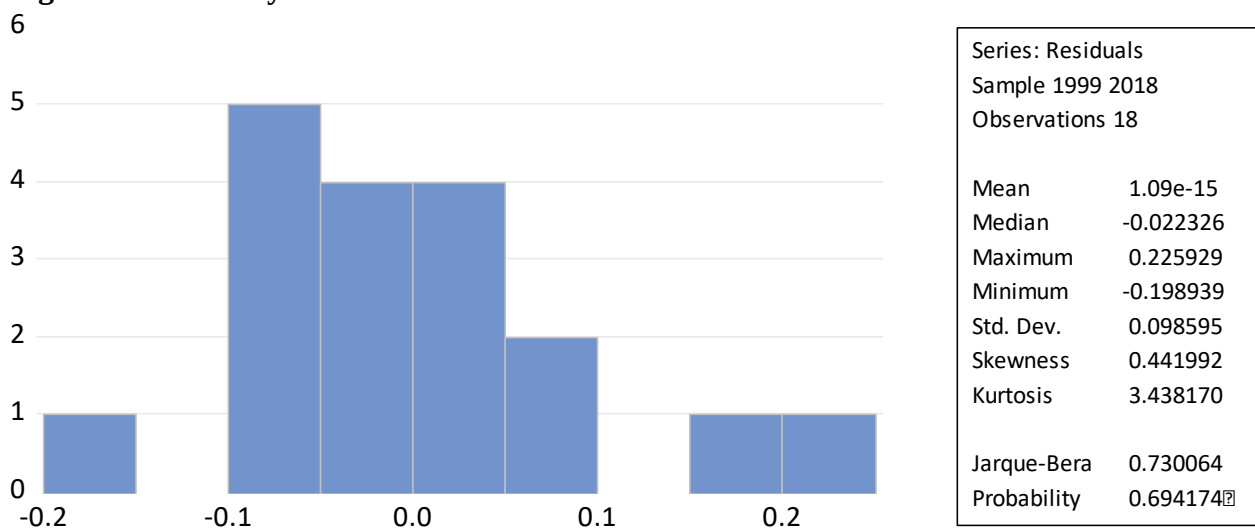
Breusch-Pagan-Godfrey Heteroskedasticity Test Result

F-Statistic	0.597531	Prob. F(4,13)	0.6709
Obs*R-Squared	2.795443	Prob. Chi-Squared (4)	0.5926
Scaled explained SS	3.285144	Prob. Chi-Squared (4)	0.5113

Source: E-Views 12 Output

This study conducted the Breusch-Godfrey Serial Correlation LM Test and the Breusch-Pagan-Godfrey Heteroskedasticity Test to ascertain the model's robustness. The result in Table 7 reveals the absence of serial correlation and heteroskedasticity at a 5% level of significance. Hence, these post-diagnostic test results validate the reliability and robustness of the model estimations employed.

Figure 1: Normality Test Result



Source: E-Views 12 Output

In Figure 1, the Jarque-Bera statistic result is 0.730064, and the probability value is 0.694174. Since the p-value is greater than the typical 0.05 significance level, we fail to reject the null hypothesis that the residuals are normally distributed. Overall, the regression model is well-specified, with no serious violations of normality in the residuals.

Conclusion and Recommendations

This study examines the role of remittances and educational attainment as tools in reducing youth unemployment in Nigeria. Specifically, it investigates the role of education in mediating between remittance and youth unemployment. The study concludes that in the long run, remittances and secondary school enrollment play a significant role in addressing youth unemployment in Nigeria. However, the interaction between them raises youth unemployment in the long run. In contrast, in the short run, there was a reduction. The study also found that economic growth raises youth unemployment in the long run, and a decrease was seen in the short run. The study, therefore, concludes that structural reforms are needed to make remittance inflows and education more impactful in reducing youth unemployment in both the long run and the short run.

Based on these outcomes, the following policy recommendations are suggested. The Nigerian government and policymakers should ensure the redirection of remittance inflows toward education, skill development, and labour-intensive sectors such as manufacturing, agriculture and services. Also, they should bridge the gaps between education and industry needs by encouraging internships, apprenticeships, and partnerships with businesses.

REFERENCES

- Adams, R. H., & Cuecuecha, A. (2010). Remittances, Household Expenditure and Investment in Guatemala. *World Development*, 38, 1626-1641.
- Ajileye, B.T. & Anyanwu, S.O. (2024), Effect of Institutional Quality, Diaspora Remittances and Foreign Direct Investment on Economic Growth in West Africa Monetary Zone. *Journal of Economics and Allied Research*, 9(3), 43-53.
- Alhassan, U., Maswana, J.-C., & Inaba, K. (2024). International remittances and labour supply in Nigeria: Do educational attainment and household income matter? *African Development Review*, 36, 471–485.
- Becker, G. (1964). Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. Columbia University Press, New York.
- Datti, M. I., Agboola, Y., Gawuna, M., & Adebawale, M. (2024). Effect of Education on Youth Unemployment in Nigeria. *International Journal of Business and Management Research*, 5(2), 111-130.
- Izuchukwu Chetachukwu Okeke (2021). Impact of International Remittances on Unemployment in Nigeria. *Journal of Economics and Sustainable Development* 12(1).
- Nigeria Bureau of Statistics (2024). <https://www.nigerianstat.gov.ng/>
- Obiekezie, L. C. (2022). Impact of youth unemployment on economic growth in Nigeria. *Economic & Business Review*, 3(3), 132-149
- Ojima, D. (2019). Unemployment and Economic Development in Nigeria (1980-2017). *Advances in Social Sciences Research Journal*, 6(1) 110-121.

- Okeke, I.C., Utomi, F.I., & Ezenekwe, U. (2019). Impact of International Remittances on Private Investments in Nigeria. *Saudi Journal of Economics and Finance*. 3.(4)2.
- Okoli, Chike K., Chika M. Okaforocha, Paul Osang, and Ebele S. Nwokoye. (2024). Unemployment and Educational Attainment in Nigeria. *South Asian Journal of Social Studies and Economics* 21 (3).
- Olu Ajakaiye, Afeikhena T. Jerome, David Nabena & Olufunke A. Alaba, (2015). Understanding the relationship between growth and employment in Nigeria, WIDER Working Paper Series wp-2015-124.
- Olubusoye, O.E., Salisu, A.A. & Olofin, S.O. (2023) Youth unemployment in Nigeria: nature, causes and solutions. *Qual Quant*, 57, 1125–1157.
- Pesaran, M. H., Shin, Y. (1998). An Autoregressive Distributed Lag Modelling Approach to Co-integration Analysis. *Econometric Society Monographs*, 31, 371–413.
- Pesaran, M. H., Shin, Y., Smith, R. J. (2001). Bounds Testing Approaches to the Analysis of Level Relationships. *Journal of Applied Econometrics*, 16(3), 289–326.
- Urama, N., Nwosu, E.O. Yunni, D., and Aguegbah, S. (2016). International Migrant Remittances and Labour Supply in Nigeria. *International Migration*, 54(4)
- Schultz, T. W. (1961). Investment in human capital. *American Economic Review*, 51, 1-17.
- Stark, O., & Bloom, D. (1985). The New Economics of Labor Migration. *American Economic Review*, 75, 173-178
- Sulayman Dauda Gidado and Philo Akaeze (2015) Distributive Education: A Viable Tool for Reducing Youth Unemployment in Nigeria. *International Journal of Academic Research in Business and Social Sciences*. 5(9).
- Taylor, J. E. (1999). The new economics of labour migration and the role of remittances in the migration process. *International Migration*, 37, 63-86. doi:10.1111/1468-2435.00066
- UNCTAD. (2024). United Nations Conference on Trade and Development statistics. <https://unctad.org/statistics>
- Virk, A., Nelson, E.-U., & Dele-Adedeji, I. (2023). The challenge of youth unemployment in Nigeria. *Journal of International and Comparative Social Policy*, 39(3), 319–329.
- WorldBank. (2024). World Bank Indicators. <https://documents.worldbank.org/en/publication/documents>
- World Bank. (2024). Migration and Remittances: Recent developments and outlook. World Bank <https://documents.worldbank.org/en/publication/documents>