ISSN :2584-2706

Human Capital Investment and Consumer Spending in Nigeria

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Abstract
Consumer spending is a central element of aggregate demand and an important channel through which changes in income and human capital are reflected in welfare economics. As a result of dearth of literature, we examined the nexus between human capital investment and consumer spending in Nigeria, with particular attention to adult literacy, secondary-school enrolment, life expectancy and unemployment rate. An ex post facto design was adopted, using annual time-series observations drawn from the National Bureau of Statistics and the World Development Indicators. Instead of using Consumer Price Index (CPI), Final household consumption expenditure (FHCE) was used as the proxy for consumer spending, as the dependent variable. Adult literacy, secondary-school enrolment, life expectancy and unemployment are the explanatory variables. The analysis applies the autoregressive distributed lag (ARDL) framework and its associated error-correction specification. The reported estimates indicated positive and statistically significant coefficients for adult literacy, secondary-school enrolment and life expectancy, whereas unemployment had a negative but significant coefficient. The error-correction estimate also pointed to a statistically significant process through which short-run disequilibrium was reduced. These results suggested that educational attainment and health conditions are associated with stronger household consumption capacity, while labour-market exclusion constrains it. The study therefore underscores the importance of sustained investment in education and healthcare alongside policies that expand productive employment. Such interventions can support household welfare and a more resilient consumption base.

Keywords: *Adult Literacy Rate, ARDL Model, Consumer Spending Pattern, Economic Growth, Household Consumption, Human Capital Investment, Life Expectancy, Nigeria, Secondary School Enrolment, Unemployment Rate.JEL: H51, 52, 53, 75.*

I. INTRODUCTION

Final household consumption expenditure represents the value of goods and services acquired by households and forms a substantial part of aggregate demand. Its composition reflects how families distribute available resources among necessities and discretionary items, including food, clothing, shelter, transport, education, healthcare and recreation. These decisions are not determined by income alone. They may also respond to prices, interest rates, employment prospects, exchange-rate movements, household size, age composition, health, educational attainment, financial knowledge, preferences, cultural practices and public provision of essential services. The relative importance of these influences differs across households and changes as economic and social conditions evolve.

In Nigeria, the analysis of household expenditure has become especially relevant amid elevated living costs and pressure on real purchasing power. Higher consumer prices reduce the quantity of goods and services that a given nominal income can purchase. Households may consequently protect spending on essential items while postponing purchases of durable goods and cutting back on other discretionary consumption. The extent of this adjustment depends on income, household composition, access to credit and the availability of substitutes. Inflation therefore affects not only the total amount spent but also the allocation of expenditure across consumption categories. Any interpretation of nominal consumption trends should distinguish price effects from changes in the volume of goods and services consumed.

The National Bureau of Statistics revised the Consumer Price Index methodology in 2025, setting 2024 as the price reference year and 2023 as the expenditure-weight reference period. The revised basket covered 934 product varieties grouped into 13 divisions, including food, housing, transport, health, education-related services and energy (NBS, 2025). The household response to rising prices is consequential: when a larger proportion of income is absorbed by food, transport, shelter and energy, less may remain for

ISSN :2584-2706

schooling, preventive healthcare, improved nutrition and skills development. Earlier NBS household-expenditure data reported that food represented 56.65 per cent of total expenditure, compared with 43.35 per cent for non-food items; transport, health, education, rent, and fuel and light accounted for 6.44, 6.12, 6.04, 5.28 and 5.01 per cent, respectively (NBS, 2020). These figures provide context for the composition of household budgets, although they should not be treated as current expenditure shares. Changes in the CPI following a rebasing exercise also need to be interpreted as a statistical and methodological revision rather than immediate evidence of improved household affordability (NISER, 2025).

Human capital investment offers one explanation for why households with different educational and health characteristics may experience different consumption outcomes. Education can strengthen literacy, occupational competence and access to better-paid work, while improved health can raise productivity and reduce income lost through illness. These channels may increase the resources available for consumption. In this paper, adult literacy, secondary-school enrolment and life expectancy are used to represent key dimensions of human capital investment, while unemployment rate is incorporated as the control variable which captures a labour-market constraint that can weaken the translation of human capabilities into earnings. Their combined influence provided the basis for this investigation. Therefore, the main objective is to assess how human capital investment influence consumer spending. The specific objectives are to:

i. Examine the effect of adult literacy on consumer spending in Nigeria;

ii. Assess the relationship between secondary-school enrolment and consumer spending in Nigeria;

iii. Determine the effect of life expectancy on household consumption in Nigeria;

iv. Evaluate the influence of unemployment rate on consumer spending in Nigeria.

The study addresses the following research questions:

i. How does adult literacy rate affect consumer spending in Nigeria?

ii. What relationship exists between secondary-school enrolment rate and consumer spending in Nigeria?

iii. What effect does life expectancy rate have on household consumption in Nigeria?

iv. How does unemployment rate influence consumer spending in Nigeria?

The corresponding null hypotheses are stated as follows:

H_{01}: Adult literacy has no statistically significant effect on consumer spending in Nigeria.

H_{02}: There is no statistical significance between secondary-school enrolment rate and final household consumption expenditure in Nigeria.

H_{03}: Life expectancy rate does not significant affect household consumer spending pateern in Nigeria.

H_{04}: Unemployment rate in Nigeria has no statistically significant effect on consumer spending pattern.

The remainder of the paper is organized as follows: Section II reviewed the relevant theoretical and empirical literature. Section III sets out the model, variables, data and estimation methods. Section IV reported and discussed the empirical results, while Section V presented the conclusion and recommendations.

II. LITERATURE REVIEW

The paper drew inspiration from the Life-Cycle Hypothesis associated with Modigliani and Brumberg (1954) and the Human Capital Theory developed in the work of Becker (1964). The Life-Cycle perspective proposes that households make consumption decisions with reference to resources expected over their lifetime, rather than responding only to current income. Expectations about future earnings, wealth and retirement can therefore influence present saving and spending choices. Human Capital Theory, in turn, treats education, health and training as investments that can improve individual capabilities and productivity, with potential returns in the form of higher earnings. Taken together, these perspectives suggest a pathway from human capital formation to household consumption: improved education and health may strengthen earning capacity and alter expectations about future resources, which can affect current expenditure. The relationship is not automatic, however. Households may direct additional income towards saving, debt repayment or further investment, depending on uncertainty, preferences and access to financial services.

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The empirical literature generally links education and health to household welfare through their effects on productivity, employment and earnings. Studies cited in the literature report that education-related reforms and vocational preparation can be associated with higher household income and greater capacity to finance both essential and discretionary consumption (Olugbenga & Sulaimon, 2023; Adeyemi & Adebayo, 2022). Research on healthcare investment similarly argues that improved health can reduce work absences and vulnerability to income shocks, supporting more stable consumption (Adeyemi & Babajide, 2020). These proposed channels indicate that the effect of human capital is likely to operate partly through labour-market outcomes and household resources.

The benefits of human capital investment may nevertheless be weakened where the wider economic environment limits the returns to education and healthcare. Inadequate infrastructure, weak implementation of public programmes, governance problems, inflation and limited job creation can prevent improvements in human capabilities from translating into higher or more stable household expenditure. The studies cited by the authors identify these constraints as reasons why the consumption effects of education and health investment may be delayed or uneven (Okeke & Mordi, 2020; Ogun & Adeleke, 2023; Tavakol & Singh, 2020). This qualification is important in the Nigerian context, where increased educational attainment does not necessarily guarantee suitable employment or real-income growth.

Final household consumption expenditure, also referred to in this study as Personal Consumption Expenditure (PCE), is used as the proxy for consumer spending. This measure recorded expenditure on goods and services and is therefore conceptually closer to consumer spending outcome under investigation, rather than the Consumer Price Index (CPI). Unlike, the CPI which tracks changes in prices for a representative basket; it does not, by itself, measure the amount households actually spend on a particular household item.

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Evidence relating to adult literacy pointed to a possible nexus between educational attainment, labour productivity and household expenditure. Okoro and Ibrahim (2021), using Ordinary Least Squares (OLS), reported a positive relationship between adult literacy and household consumption in Nigeria. Akinwale and Bello (2023) examined survey evidence from Lagos, Oyo and Ogun States and found that literacy rate was relevant to household decisions concerning education, health and durable goods. Related work by Ogundari and Aromolaran (2014) also linked educational attainment with earnings and per-capita household expenditure on food and non-food items, with stronger returns reported at higher levels of schooling. Furthermore, Olarewaju (2016) examined the relationship between education, wages and household consumption, where he reported that households with better productivity outcomes tend to record higher consumption in terms of their spending patterns. Collectively, these studies supported the proposition that education may affect consumer spending through earnings and employment, although differences in data, methods and geographical coverage should be considered when comparing their findings.

Secondary school enrolment may influence consumption both through the direct costs borne by households and through the longer-term skills and employment prospects of students. Eze and Nwankwo (2022), applied cointegration and vector error-correction methods, to report a positive relationship between secondary-school enrolment and household consumption in Nigeria. Unlike Ogunleye and Sanni (2024) who used survey data from graduates and parents in southwestern Nigeria to identify an association between secondary school enrolment and household expenditure pattern with particular reference to housing, health and education. Their findings suggested that the consumption implications as a result of higher secondary school education may emerge over time as it is expected that improved schooling will improve employability and increase future income.

Life expectancy rate is another indicator of human capital investment that may shape consumer spending. Udo and Martins (2021) used Nigerian time-series data for 19-81–2019 where they reported a positive relationship between life expectancy and household consumption within an ARDL framework. Chukwu and Adebisi (2023), drawing on household survey evidence from Abuja, Kaduna and Enugu, likewise reported that stronger health outcomes are associated with greater financial stability and expenditure on areas such as education, housing and nutrition. A plausible explanation is that better health supports labour-force participation, reduces the frequency and cost of illness, and improves the continuity of household earnings. The strength of this channel will, however, depend on the affordability and quality of healthcare and on the distribution of health gains.

Unemployment rate is also included to account for the labour-market conditions through which human capital investment may, or may not, be converted into income. Adeyemi and Yusuf (2022) reported a negative relationship between unemployment and household consumption in Nigeria, while Balogun and Ibrahim (2024) found that joblessness was associated with lower expenditure, particularly on durable and non-essential items, in their southwestern Nigeria. Thus, unemployment can reduce household resources directly through lost wages and indirectly through uncertainty about future income.

Our study therefore brings together adult literacy, secondary-school enrolment, life expectancy and unemployment rate in a national time-series framework to understanding consumer spending pattern in Nigeria. Its contribution is to examine these indicators jointly rather than treating each relationship in isolation.

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III. METHODOLOGY

Based on the life cycle income hypothesis and the human capital theory, our model is generally expressed in the functional relationship as:

$PCE_t = f(ALR_t, SSE_t, LEXP_t, UNEMP_t)$

While the logged form of the model is expressed as:

$LPCE_t = \beta_0 + \beta_1 LALR_t + \beta_2 LSSE_t + \beta_3 LLEXP_t + \beta_4 LUNEMP_t + \varepsilon_t$

Where:

$LPCE_t$ = Log of Personal Consumption Expenditure, representing consumer spending pattern in Nigeria; $LALR_t$ = Log of Adult Literacy Rate; $LSSE_t$ = Log of Secondary School Enrolment; $LLEXP_t$ = Log of Life Expectancy Rate; $LUNEMP_t$ = Log of Unemployment Rate; β_0 = Constant or intercept term; β_1 = Coefficient of Adult Literacy Rate; β_2 = Coefficient of Secondary School Enrolment; β_3 = Coefficient of Life Expectancy Rate; β_4 = Coefficient of Unemployment Rate ε_t = Error term; t = Time period.
The variables and their expected coefficient signs are summarised in the table 1 below:

Table 1: A'prori Expectation

Variable	Measurement/Proxy	Role	Expected Sign
PCE	Personal Consumption Expenditure	Dependent variable	—
ALR	Adult Literacy Rate	Human capital/education	Positive (+)
SSE	Secondary School Enrolment	Human capital/education	Positive (+)
LEXP	Life Expectancy	Human capital/health	Positive (+)
UNEMP	Unemployment Rate	Labour-market condition	Negative (−)

Positive coefficients are anticipated for adult literacy, secondary-school enrolment and life expectancy because improved education and health may strengthen productivity, employment prospects and income-earning capacity. A negative coefficient is expected for unemployment, since joblessness can reduce labour income and weaken household purchasing power. These are theoretical expectations; the direction and statistical significance of the estimated relationships are determined empirically.

We further used the Autoregressive Distributed Lag (ARDL) approach to investigate both long-run relationships and short-run adjustment. The Augmented Dickey–Fuller test results reported in the paper indicate a mixture of I (0) and I (1) variables. This combination is compatible with ARDL bounds testing, provided that none of the series is integrated of order two, I (2). The bounds test is used to assess the existence of a level relationship. Conditional on evidence of cointegration, the long-run equation and the associated error-correction model are examined. The final manuscript should report only the unit-root procedures actually implemented and provide the selected lag order, deterministic terms and relevant critical values.

IV. DATA PRESENTATION AND RESEARCH FINDINGS

Table 2: Descriptive Statistics of the Variables

Statistics	PCE	ALR	SSE	LER	UER
Mean	54.7824	62.4518	48.3265	54.9137	8.7642
Median	53.9642	63.1054	47.8921	55.4216	8.3527
Maximum	72.6385	71.8426	56.7348	58.9215	12.8473
Minimum	38.5267	52.3168	39.2845	49.7654	5.4218
Std. Dev.	10.2146	5.4837	5.1924	2.8465	2.2148
Skewness	0.3467	-0.2845	0.4186	-0.5127	0.6874
Kurtosis	2.6418	2.3745	2.8936	2.8164	3.1457
Jarque-Bera	0.9125	0.6458	1.2846	1.8624	2.7468
Probability	0.6334	0.7241	0.5263	0.3942	0.2531
Sum	2246.0784	2560.5260	1981.3865	2251.4617	359.3322

ISSN :2584-2706

Sum Sq. Dev.	418.5327	118.6245	105.7836	35.4187	19.8642
Observations	41	41	41	41	41

Source: Authors' computation using E-views 6.0

Table 2 summarises the central tendency, dispersion and distributional characteristics of the five series. The reported mean of consumer spending (CSP) is 54.7824, while its median is 53.9642. The minimum and maximum values, 38.5267 and 72.6385, indicate a sizeable range over the observations; the standard deviation of 10.2146 also points to variation in the series. These movements may reflect changes in household resources, prices and wider macroeconomic conditions, although descriptive statistics alone cannot identify the contribution of individual factors.

Adult literacy has a reported mean of 62.4518 and a median of 63.1054, with observations ranging from 52.3168 to 71.8426. Secondary-school enrolment averages 48.3265, with a minimum of 39.2845 and a maximum of 56.7348. The standard deviations of 5.4837 and 5.1924 respectively indicate variation in both education indicators over the sample. Life expectancy records a mean of 54.9137 and a comparatively smaller standard deviation of 2.8465, with values between 49.7654 and 58.9215. The unemployment series has a mean of 8.7642, ranging from 5.4218 to 12.8473, and a standard deviation of 2.2148. These summary measures describe the sample but should not, on their own, be interpreted as evidence of a steady trend or of the causes of change.

The reported skewness values are positive for CSP, SSE and UER, and negative for ALR and LER, indicating differing degrees of asymmetry. Kurtosis ranges from 2.3745 to 3.1457, relatively close to the normal-distribution benchmark of three. The Jarque–Bera probabilities for all five variables exceed 0.05; accordingly, the null hypothesis of normality is not rejected for each series at the 5 per cent level. This test concerns the marginal distribution of the observed variables and does not establish that the regression residuals are normally distributed. The table reports 41 observations, a point that must be reconciled with the stated 1990–2025 period, which contains 36 annual observations if the endpoints are inclusive.

Unit Root Test Result

The Augmented Dickey–Fuller (ADF) procedure is used to assess the stationarity of each series. A series is treated as stationary when the unit-root null hypothesis is rejected at the chosen significance level, taking account of the deterministic specification and critical values used in the test.

Table 5: Augmented Dickey-Fuller (ADF) Unit Root Test Results

Variable	Method	ADF at Level (Prob.)	5% Critical Value	ADF at First Difference (Prob.)	5% Critical Value	Order of Integration
CSP	ADF	-2.1846 (0.4718)	-2.9389	-6.4385 (0.0000)	-2.9411	I (1)
ALR	ADF	-2.5364 (0.2987)	-2.9389	-5.7642 (0.0001)	-2.9411	I (1)
SSE	ADF	-2.4175 (0.3516)	-2.9389	-6.8924 (0.0000)	-2.9411	I (1)
LER	ADF	-2.6843 (0.2265)	-2.9389	-5.5478 (0.0002)	-2.9411	I (1)
UER	ADF	-3.7458 (0.0184)	-2.9389	-6.1247 (0.0000)	-2.9411	I (0)

Source: Authors' computation (2026)

The ADF results show that CSP, ALR, SSE and LER are not stationary in levels at the 5 per cent level but become stationary after first differencing; these variables are therefore classified as I(1). By contrast, the reported ADF statistic for UER is significant at level ($p = 0.0184$), indicating I(0) behaviour. The mixture of I(0) and I(1) series supports consideration of the ARDL approach, subject to confirmation that no variable is I(2). The table and accompanying discussion should identify the deterministic terms and lag-selection rule used in the ADF tests.

The reported bounds-test F-statistic is 5.6847, exceeding the stated 5 per cent upper-bound critical value of 4.01. On the basis of these reported values, the null hypothesis of no level relationship is rejected. This provides evidence of a long-run association between consumer spending and the selected education, health and labour-market indicators. The result permits estimation of the long-run relationship and an error-correction representation, subject to the validity of the model specification and the critical values appropriate to the sample size and deterministic case. It does not, by itself, establish causal effects.

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Table 6: ARDL Long-Run Coefficient Estimates

Variable	Coefficient	Std. Error	t-Statistic	Probability
ALR	0.4268	0.1425	2.9956	0.0054
SSE	0.3185	0.1267	2.5138	0.0178
LER	0.5874	0.2216	2.6508	0.0126
UER	-0.3927	0.1538	-2.5539	0.0161
Constant	18.4625	5.3274	3.4652	0.0017

Source: Author's computation, 2026.

In Table 6, the adult-literacy coefficient is reported as 0.4268, with a p-value of 0.0054. The positive estimate is statistically significant at the 5 per cent level and indicates that higher adult literacy is associated with higher consumer spending, conditional on the other regressors. If both variables are measured in logarithms, the coefficient can be read as an elasticity; otherwise, the interpretation must reflect the variables' actual units. A possible economic channel is that literacy improves access to information, training and employment, potentially strengthening household earning capacity. The result is consistent with the human-capital perspective advanced by Schultz (1961) and Becker (1964).

The estimated coefficient for secondary-school enrolment is 0.3185 and is statistically significant ($p = 0.0178$). The positive sign suggests that greater participation in secondary education is associated with higher consumer spending, holding the other model variables constant. Education may contribute to this relationship by developing foundational skills and improving subsequent access to productive employment. The null hypothesis of no significant relationship is rejected at the 5 per cent level. The finding is broadly in line with the education–welfare relationships discussed by Ogundari and Aromolaran (2014), although comparisons should take account of differences in samples and estimation methods.

Life expectancy also has a positive and statistically significant estimated coefficient (0.5874; $p = 0.0126$). The result indicates that better health outcomes are associated with higher consumer spending in the long run, conditional on the remaining variables. Improved health can support more consistent labour-force participation, reduce the income losses associated with illness and extend the period over which individuals can earn. The estimate therefore provides support for treating health as an important dimension of human capital. It should not be interpreted as proof that an increase in life expectancy alone will mechanically raise expenditure, since income, healthcare costs and other conditions may also influence consumption.

The unemployment coefficient is negative (-0.3927) and statistically significant ($p = 0.0161$). This indicates an inverse association between unemployment and consumer spending in the estimated long-run relationship. Joblessness can reduce wage income and increase uncertainty, prompting households to defer durable purchases and concentrate limited resources on essential goods and services. The result is consistent with the expected role of employment in supporting household purchasing power. The manuscript cites Tokoya and Singh (2020) and Bula and Dogo (2023) in connection with this relationship; the bibliographic details of these sources should be checked against the original publications.

The intercept is estimated at 18.4625 and is statistically significant ($p = 0.0017$). It represents the fitted value of the dependent variable when the included regressors take a value of zero, under the model's specified functional form. Since a zero value may not be economically meaningful for the logged indicators, the constant should be interpreted primarily as a model parameter rather than as a direct measure of a separate baseline level of household welfare.

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Table 7: Error Correction Model (Short-Run Dynamics) Results

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.142583	0.048216	2.957416	0.0061
ALR	0.186425	0.078632	2.371744	0.0248
SSE	0.124736	0.053821	2.317138	0.0286
LER	0.241568	0.102746	2.350086	0.0259
UER	-0.216394	0.091574	-2.363239	0.0251
ECT	-0.284615	0.091428	-3.112854	0.0042
R-squared	0.672846			
Adjusted R-squared	0.614372			
F-statistic	5.438721			
Prob(F-statistic)	0.000286			
Durbin-Watson	1.782634			

Source: Author's computation, 2026.

The short-run estimates in Table 7 indicate positive and statistically significant coefficients for adult literacy (0.1864; p = 0.0248), secondary-school enrolment (0.1247; p = 0.0286) and life expectancy (0.2416; p = 0.0259). These signs suggest that short-run improvements in the education and health indicators are associated with increases in consumer spending, conditional on the other terms in the equation. Literacy may support access to information and employment, enrolment may proxy improvements in the future skills base, and better health may reduce work-related income interruptions. The estimates are associations within the specified dynamic model and should be interpreted in conjunction with the lag structure and variable transformations.

The short-run unemployment coefficient is negative (-0.2164) and statistically significant (p = 0.0251), consistent with the proposition that joblessness constrains household expenditure. The lagged error-correction term is also negative (-0.2846) and significant (p = 0.0042). Its sign and significance support convergence towards the estimated long-run relationship. The magnitude implies that approximately 28.46 per cent of the preceding period's disequilibrium is corrected in each period, assuming the dependent variable and model specification are correctly reported. Because the data are annual, this adjustment is conventionally interpreted as occurring per year.

The ECM regression reports an R-squared of 0.6728 and an adjusted R-squared of 0.6144. On this measure, approximately 67.28 per cent of the in-sample variation in the dependent variable is accounted for by the regressors in the estimated equation; the adjusted statistic takes account of the number of explanatory terms. The remaining variation may reflect omitted influences and random shocks. Potential determinants of household consumption include real disposable income, inflation, interest rates, exchange-rate movements, household debt, remittances, savings, poverty and demographic structure. These factors are possible explanations rather than variables directly tested in the present specification.

The reported F-statistic is 5.4387, with a probability value of 0.000286. This indicates that the explanatory variables are jointly statistically significant at conventional levels. The Durbin–Watson statistic is 1.7826. Since the Durbin–Watson statistic alone is not a comprehensive serial-correlation diagnostic for a dynamic ARDL model, the paper should also report an appropriate residual serial-correlation test before drawing a conclusion about model adequacy.

Table 8: ARDL Long-Run Dynamics Results for Human Capital Investment and Consumer Spending Pattern

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	16.82451	4.682731	3.593726	0.0013
ALR	0.438216	0.152684	2.869654	0.0074
SSE	0.351724	0.138572	2.538217	0.0171
LER	0.612843	0.246315	2.488541	0.0189
UER	-0.427516	0.168924	-2.531998	0.0168
R-squared	0.718436			
Adjusted R-squared	0.659742			
F-statistic	7.126483			
Prob(F-statistic)	0.000009			
Durbin-Watson	1.814526			

Source: Author's computation, 2026.

ISSN :2584-2706

The long-run estimates reported in Table 8 show positive and statistically significant coefficients for adult literacy (0.4382; p = 0.0074), secondary-school enrolment (0.3517; p = 0.0171) and life expectancy (0.6128; p = 0.0189). The estimates suggest that improvements in education and health indicators are positively associated with household consumption over the long horizon. Greater literacy and schooling may expand access to productive employment and improve earning potential, while better health can support productivity and income continuity. Unemployment has a negative and significant coefficient (-0.4275; p = 0.0168), indicating that weaker labour-market conditions are associated with lower consumer spending. The estimated intercept is 16.8245 (p = 0.0013); as with the other model, it is a parameter determined by the functional form and should not be assigned a separate behavioural interpretation without considering the variables' transformations. The signs of the coefficients are consistent with the study's stated expectations. Importantly, the estimates in Table 8 differ from those presented in Table 6. The authors must establish whether the two tables represent different model specifications or whether one contains an earlier or erroneous set of estimates; both should not be presented as the same long-run result without explanation.

V. CONCLUSION

The unit-root evidence reported in the study indicated that four variables are I(1), while unemployment is I (0). This mixture of integration orders is consistent with the use of ARDL bounds testing, provided that none of the variables is I (2).

The reported bounds statistic exceeds the stated upper critical bound at the 5 per cent level. The study therefore finds evidence of a long-run relationship between consumer spending and the selected human-capital and labour-market indicators.

The long-run coefficient tables report positive and statistically significant associations between consumer spending and adult literacy, secondary-school enrolment and life expectancy. Unemployment is estimated to have a negative and statistically significant relationship with the dependent variable.

The error-correction estimate is negative and statistically significant. Its magnitude indicates that about 28.46 per cent of the previous period's deviation from the long-run relationship is eliminated within one period, supporting gradual adjustment towards equilibrium.

Taken together, the reported findings suggested that education and health indicators were positively associated with consumer spending in Nigeria, whereas unemployment was negatively associated with it. The results are consistent with the view that human capital investment can strengthen household consumption capacity through productivity and earning opportunities, but that these gains depend on access to employment and the broader economic environment. The study consequently concluded that human-capital investment and employment creation should be considered complementary elements of policies aimed at improving household welfare.

VI. RECOMMENDATIONS

In view of the reported positive associations for adult literacy, secondary-school enrolment and life expectancy, and the negative association for unemployment, the following policy directions are proposed:

i. Public authorities, working with private and community stakeholders, should strengthen the quality and accessibility of education. Priorities include maintaining school facilities, reducing financial and geographical barriers to attendance, supporting adult-literacy initiatives and directing assistance towards underserved communities.

ii. Education policy should place greater emphasis on relevant learning outcomes and the transition from school to work. Technical and vocational education, digital competencies, entrepreneurship training and partnerships with employers can help align graduates' capabilities with changing labour-market requirements.

iii. Investment in primary healthcare, preventive services, health infrastructure and the availability of essential medicines should be strengthened. Improving access to effective healthcare can protect household resources, support productive participation and contribute to longer, healthier lives.

iv. Employment policy should combine support for labour-intensive sectors with skills development, enterprise growth and an enabling environment for private investment. Particular attention should be paid to young people and groups facing persistent barriers to formal employment.

Further research could extend the analysis through cross-country comparisons or disaggregate household consumption into food, health, housing, transport and durable-goods expenditure. Such work could clarify whether human-capital indicators affect different categories of consumption in similar ways and whether the relationships vary across income groups or regions.

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