

---

# **Analysis of The Impacts of Entrepreneurship Development on Unemployment in Nigeria**

---

**Abdullahi Hussaini\***  
**Bashir Kachalla Muhammad\*\***  
**Hamisu Muhammad\***

\*Department of Economics, Faculty of Social Science, Usmanu Danfodiyo University Sokoto, Sokoto State, Nigeria.

[hussainiabdullahi9@gmail.com](mailto:hussainiabdullahi9@gmail.com)

[hmtukur1978@gmail.com](mailto:hmtukur1978@gmail.com)

\*\*Department of Accountancy, Ramat Polytechnic Maiduguri, Borno State, Nigeria.

[bakmohgreat1@gmail.com](mailto:bakmohgreat1@gmail.com)

\*Corresponding author (Abdullahi Hussaini)

## **Abstract**

The research investigated the relationship between the growth of entrepreneurship and unemployment in Nigeria by utilizing annual time series data covering the years 1980–2023. The Autoregressive Distributive Lag (ARDL) model was utilized in the paper to establish the connection between unemployment and the growth of entrepreneurship in Nigeria. The population, inflation rates, economic growth, and the development of entrepreneurship are among the variables used. The findings showed that there is a short-run negative and significant association between the growth of entrepreneurship and unemployment. There is a long-run positive and significant relationship between economic growth and unemployment in Nigeria exists no relationship between unemployment and population growth over the long-run. Results also confirmed positive and statistically significant linkage between inflation rates and the level of unemployment in the short run in Nigeria, but then again with no long run impact. The study suggested need for government to reform the entrepreneurship centers in the state by providing adequate infrastructure necessary for enhancing entrepreneurship such as Centre where youth can learn entrepreneurship skills.

**Keywords:** Entrepreneurship, Development, ARDL, Unemployment, ECM.

---

## **1. Introduction**

As one of the components of production, entrepreneurship development is increasingly recognized in today's modern economies as a legitimate means of achieving economic growth and development in both developing and rising economies. Many academics have also linked entrepreneurship to the formation of favorable opportunities for wealth creation and employment, perceiving it as one of the primary causes of the economic development of numerous countries. Entrepreneurship development plays a critical role in the economic development of a country by creating jobs, raising investment, and increasing consumption. In a fast-globalizing world, entrepreneurship is increasingly recognized as a source of job creation, empowerment for the unemployed, and economic dynamism (Ifeanyi, chukwu & Nma, 2020).

Before the colonial era, unemployment was seen as uncommon occurrence, this is because people were extremely entrepreneurial and actively engaged in one occupation or the other. For instance, the Northern, Eastern, and Southern regions, as well as the Western region, all have one type of farming, skill, or craft with which they make a living. People can achieve self-sufficiency and economic stability through entrepreneurship as a job strategy. For instance, in order to address the issue of unemployment, the Nigerian Universities Commission (NUC) ordered all of the nation's universities to set up entrepreneurial centers and mandated that all Nigerian undergraduates receive entrepreneurial training in order to equip them with the skills necessary to take advantage of future employment opportunities and transition into employers of labor under the terms of the country's education policy. The entrepreneurship education was created to change the recipients' orientation and attitude, as well as to provide them with the necessary skills and knowledge to enable them to respond positively to the environment and explore its potential in the process of conserving, starting, and managing a business enterprise (Asogwa & Dim, 2016).

Unemployment is also viewed as a socioeconomic problem that each country must handle to the best of its ability. Since Nigeria's independence in 1960, unemployment has been on the rise, with many Nigerians losing their jobs to the point where the government may not even know the current unemployment figure. The situation in Nigeria has grown out of hand, with over 75% of those looking for jobs unable to find it in the country, particularly school leavers and university graduates. Despite significant economic growth of 6.5 percent on average between 2000 and 2021, high unemployment continues to be a major concern for Nigeria's economy (Ifeanyi, et al., 2020).

The unemployment rate is 33.3 percent according to the most recent available data for 2021, the highest since the National Bureau of Statistics (NBS) launched a new technique for assessing unemployment in 2010 (NBS, 2014). The poor pace of job creation in Nigeria, which has lagged well behind labor force growth, is to blame for the country's high unemployment rate. For instance, the average growth rate of jobs between 2010 and 2017 was 1.6%, which was less than the labor force's 3.9 percent rise. We predict that employment growth of at least 4-5 percent is required to lower the unemployment rate. This would result in at least 3 million new employments being created each year. As a result, many young people have turned to robbery, kidnapping, drug and child trafficking, and various forms of armed banditry to make a living. Even though that numerous government policies to combat unemployment through entrepreneurship program in Nigeria, the rate of unemployment continued to rise (NBS, 2023).

The rising rates of unemployment resulting to other social vices have exacerbated recent economic and political crises. Issues affecting many countries are how to deal with unemployment, and entrepreneurship development is considered as a solution to this problem. This study on the impact of entrepreneurship development will be of great important to government and policy maker in addressing the problem of unemployment in the country. Accordingly, the study seeks to answer the following research questions; (i) How does entrepreneurship development responded to unemployment in Nigeria? (ii) Is there any long run and short run connection between entrepreneurship development and unemployment in Nigeria? It is, therefore, against this background that this study seeks to explore the impact of entrepreneurship development on unemployment in Nigeria (Asogwa & Dim, 2016). This paper is structured into five sections, section one is introduction,

section two presents the review of literature, section three deals with methodology, section four is results and discussion, and lastly is section five which deals with conclusion and recommendations.

## **2. Review of Literature**

The theoretical groundwork of this study is based on the work of Keynesian theory (1936), Schumpeter theory of entrepreneurship, Kirzner, and Cantillon (1755). The development of entrepreneurship research in economics was largely inclined by the diverse roles attributed to the entrepreneur. The 20th century's most significant figures in entrepreneurship were Schumpeter, Knight, Kirzner, and Baumol. Keynes' theory suggests fiscal policy measures like tax cuts stimulate aggregate demand and job creation by establishing a relationship between government expenditure and unemployment. He argued that reducing taxes stimulates consumption and investment, leading to higher income and employment. Keynes' theory suggests that employment levels in an economy are influenced by aggregate demand and supply functions, with unemployment arising from distortions of effective demand. According to Kumar (2013)'s citation of Schumpeter's theory of entrepreneurship, Cantillon (1755) describes an entrepreneur as an agent who purchases factors of production and combines them to create a new product. An entrepreneur, according to the author, is an expert at taking chances. Schumpeter made a substantial contribution to our understanding of entrepreneurship, namely as it relates to development. The fundamental quality of entrepreneurship is innovation (Schumpeter, 1955). Motivated by Cantillon, Knight (1921) noted that a key factor in the decision to leave work and pursue self-employment, or entrepreneurship, is uncertainty over the prospects for one's business.

The fundamental ideas of "Alertness" and "Entrepreneurial discovery" were first presented by Kirzner in 1973. The concept behind alertness theory is that certain people are born with the ability to see opportunities that others have missed or that there is a situation that just needs to be taken advantage of. He disproved the Schumpeterian view of an entrepreneur by rediscovering them as the equilibrating force in the economic system. The Schumpeterian perspective on entrepreneurship is incorporated into Baumol's work on entrepreneurship, which also offers suggestions for the kinds of incentives that should be in place to encourage innovative and fruitful entrepreneurship. As a result, micro-foundations of entrepreneurship emerged, emphasizing the significance of distinguishing between inventive and replicative entrepreneurship. Replicative entrepreneurship, on the other hand, entails creating or marketing a good or service that is already offered by other means, whereas innovative entrepreneurship comprises launching a product or service that has never been attempted before (Baumol, Litan and Schramm, 2007).

In a recent study by Idris (2021) used annual time series datasets covering the years 1986 to 2020 to examine the effects of unemployment and inflation rates on economic growth in Nigeria. Utilizing Ordinary Least Square (OLS) estimation methods, the study examined the relationship between Nigeria's economic expansion and unemployment. The study's conclusions demonstrated that, during the course of the investigation, there is a negative and significant association between unemployment and economic growth in Nigeria. The work of Adaeze (2019) used a sample of 334 respondents to investigate the relationship between the growth of entrepreneurship and unemployment in the state of Anambra. The study used the Chi-square estimation approach to determine the connection between unemployment and entrepreneurship in Nigeria. The study's findings showed that

the cost of doing business, one indicator of the growth of entrepreneurship in Nigeria, and unemployment have a negative and substantial association. The study by Aminu (2012) examined the connection between unemployment and economic growth in Nigeria using annual time series datasets spanning the years 1986 to 2012. The study used Ordinary Least Square (OLS) methods to examine the relationship between unemployment and economic growth in Nigeria. The investigation's conclusions showed that Nigeria's unemployment rates and economic growth are negatively correlated.

Contrary to the work of Idris (2021), Adaeze (2019); Dodo and Idris (2022) used annual time series datasets covering the years 1985–2019 to investigate the effect of inflation rates on unemployment in Nigeria. The nonlinear Autoregressive Distributive Lag (ARDL) model was employed in the study to investigate the relationship between Nigeria's unemployment rate and inflation rates. The empirical findings showed that, during the course of the study, there is a long-run, positive, and substantial link between Nigeria's unemployment rate and inflation rates. In the work of Muhammad (2022) used a sample of 331 respondents to investigate the effects of entrepreneurship development on the creation of jobs in Sabon Gari Local Government, Kaduna State, Nigeria. Both descriptive and inferential statistics were used in the study; the analysis used inferential statistics such logit regression techniques and descriptive statistics like mean media, standard deviation, and basic percentages. The results of the study showed a strong and positive association between the growth of entrepreneurship and the employment rate.

Okoye, Nwakoby, and Ezike (2021) investigated, using a sample of 399 respondents, the impact of entrepreneurial education on the decline in unemployment in Anambra State, Nigeria. The study used Analysis of Variance multiple regression estimation techniques for the analysis of the parameters. The findings from the study revealed that there exist positive and significant connection between entrepreneurship development and unemployment in Anambra state, Nigeria. In the same way, In Anambra state, Nigeria, Okolocha et al. (2020) looked at the impact of a skill-acquisition program on young employment for a sample of 100 respondents from the state's chosen local government region. The findings indicate a strong and favorable relationship between youth employment in Anambra state, Nigeria, and skill training programs. It was advised that teachers be required to possess professional skills developing abilities, competency, years of experience through subject matter understanding, and successful student involvement in the delivery of instruction based on the premises of the findings.

Similarly, Babatunde and Awopetu (2020) used annual time series datasets covering the years 1991–2016 to study the effect of population growth on unemployment in Nigeria. The study used multiple regression estimation techniques for the analysis of the parameters. Results from the study showed that there is positive and significant association between population growth and unemployment in Nigeria over the period of the study. This implies that population growth increases the level of unemployment in the Country for the sample period. Also, in Bonny Local Government Area of Rivers State, Nigeria, Dappa and Onuoha (2019) investigated empirically the link between entrepreneurship development programs and employment generation for a sample of 103 respondents. The cross-sectional research design was used for this study since it involves gathering information from respondents in several locations. The empirical results from the study shows that there is positive and significant connection between entrepreneurship development by EDPs such as YOUWIN, NDE and employment generation. Equally,

Oladeji (2019) measured the impact of entrepreneurship development on Youth empowerment and development in the Ondo State, Nigeria for a sample of 584 respondents. The study used Analysis of Variance for the estimation of the parameters. Findings from the study revealed that there is positive and statistically significant association between the degree of employment creation in Nigeria's Ondo state during the research period and the entrepreneurial development program. Likewise, Orji, Nwosu, and Mba, (2019) assessed the impact of ICT on unemployment rate in Nigeria over the period 1985-2015 by applying Ordinary Least Square techniques for the analysis of the parameters. Results of the study revealed ICT had a significant positive impact on unemployment rate in Nigeria over the period of the study.

Additionally, Ajibola, Ogundana, and Ekure (2018) also conducted a comprehensive analysis of the 1981–2011 period data on the connections between economic growth, unemployment, and entrepreneurship. The study's data source is secondary data. The second goal of the econometric approach was accomplished by using the Ordinary Least Square (OLS) method and the Error Correction Model (ECM). The trend analysis shows that the variables have a favorable slope, which suggests that the data is stationary. The econometric technique employed indicates that there is a statistically significant positive association between unemployment and economic growth. The results of the study also showed a favorable correlation between economic growth and unemployment.

Alos, Ekong and Ekong, (2018) explored the impact of entrepreneurship opportunities and the challenges in Nigeria by applying ordinary least square estimation techniques. The study found a significant positive association between entrepreneurship development and economic growth using descriptive analysis. The study showed that entrepreneurship generates employment through the creation of new firms. Additionally, Akinyemi, Oyebisi, and Odot-Ito (2018) examined the relationship between unemployment, entrepreneurship, and economic growth in Nigeria from 1981 to 2011. The study employed both econometric and descriptive method of analysis for the estimation of the parameter. According to their research, there is a statistically significant and noteworthy correlation between unemployment and entrepreneurial activity, which stimulates economic growth. They conclude that economic growth is not linked to total labor force but to the productivity of labor.

Moreover, Oluwakemi, Olawale & Qudus (2018) investigated the effectiveness of entrepreneurial skills acquisition as a tool for employment generation among polytechnic graduates in Nigeria for a sample of 647 respondent. The variables of interest used are job orientation, job creation and self-employment; and its associated self-reliance, job satisfaction on employment generation. A descriptive and inferential techniques was adopted for the analysis. Positive and significant relationship exists between entrepreneurial skills, job orientation, and employment generation. Similarly, Iyaji, Achoba, & Kolawole (2018) examined the role of vocational training in curbing unemployment in Nigeria. The methodology employed is research survey field visits, interaction with stakeholders of vocational skills graduates. In addition, secondary data were used. The results were presented using descriptive statistics. The result revealed that vocational skills development is a fertile avenue for creating employment in Nigeria. The development of vocational skills is another area that, if given careful consideration, may significantly lessen the detrimental effects of unemployment in Nigeria.

In contrast to the study of Idris (2022), Adaeze (2020), Jeliloy et al., (2016), Ademola and Badiru (2016); the work of Also, Samuel, Victoria, and Chibuzor (2021) explored the relationship between inflation rates and unemployment in Nigeria using annual time series dataset over the period 1980 to 2018. The study used Autoregressive distributive Lag (ARDL) model for analysis of the connection between inflation rates and the level of unemployment. The empirical findings indicated that there exists non-significant relationship between inflation rates and the level of unemployment in Nigeria throughout the period of the study. Furthermore, Onyeoma (2020) used annual time series datasets covering the years 1980–2018 to investigate the effects of population growth on unemployment and poverty in Nigeria. The study used Autoregressive distributive Lag (ARDL) model for the estimation of the parameters. The empirical result from the study showed that there is no connection between population growth rates and the level of unemployment in Nigeria throughout the period.

### **3. Data and Methodology**

The study employed annual time series dataset over the period 1980 – 2023 for the estimation of the impact of entrepreneurship development on unemployment in Nigeria. The variable used includes entrepreneurship development, economic growth, population, and inflation rates. The dataset was source from the statistical bulletin of the Central Bank of Nigeria (CBN), and National Bureau of Statistics (NBS).

#### **3.1 Model Specifications**

The study aims at analyzing the impacts of entrepreneurship on unemployment in Nigeria. The study adopts an econometric model with modification which is in line with the work of Dodo and Idris (2022)

$$UNP = f(EDP, GDP, POPG, INFR) \dots\dots\dots (3.1)$$

Where: “UNP” represent unemployment, “EDP” connote Entrepreneurship Development, “GDP” is Gross Domestic Products as measure of economic growth, “POPG” denote Population Growth, “INFR” is Inflation Rates. This model can be translated to an econometric model by including error terms. It is specified below:

$$UNP_{t-1} = \beta_0 + \beta_1 EDP_{t-1} + \beta_2 GDP_{t-1} + \beta_3 POPG_{t-1} + \beta_4 INFR_{t-1} + \varepsilon_t \dots\dots\dots (3.2)$$

Where: “t-1” represent the time series variable, “ $\beta_0$ ” is the constant term or intercept of the parameters to be estimated, and “ $\beta_1 - \beta_4$ ” denotes the coefficient of the parameters to be estimated, and “ $\varepsilon_t$ ” is the error term or disturbance term. The above econometric can be restated to capture the natural logarithms of the variables to be analysis, it is specified as:

$$UNP_{t-1} = \beta_0 + \beta_1 \ln EDP_{t-1} + \beta_2 \ln GDP_{t-1} + \beta_3 \ln POPG_{t-1} + \beta_4 \ln INFR_{t-1} + \mu_t \dots\dots\dots (3.3)$$

Where: “ $\ln EDP$ ” is logarithms of entrepreneurship development, “ $\ln GDP$ ” represent logarithms of gross domestic product measure of economic growth, “ $\ln POPG$ ” denote logarithms of population growth, and “ $\ln INFR$ ” is logarithms of inflation rates.

#### **3.2 Methods of Data Analysis**

Both descriptive and inferential tests are used in the test estimation technique for this study in order to analyze how the growth of entrepreneurship affects unemployment in Nigeria. The mean, median, standard deviation, lowest value, maximum value, skewness, and Kurtosis are the descriptive statistics that were employed in this investigation. Using

frequencies, percentages, mean, median, maximum, minimum, bar charts, pie charts, graphs, and other visual aids to summarize and draw conclusions is the focus of descriptive approach (Garba, 2021). By evaluating hypotheses and making inferences based on the statistical significance of the model's estimated parameters, the inferential technique analyzes data (Salvatore & Reagle, 2002; Garba, 2021). The Autoregressive Distributive Lag (ARDL) model and the unit roots test are two examples of the inferential statistics used in this work. For each of the stationarity-related factors, the study employed the Philips Perron (PP) and Augmented Dickey-Fuller (ADF) unit root tests. In order to confirm the regression model's breakdown and try to fix it, diagnostic tests such as the residual normality test, the heteroskedasticity test, and the serial correlation test are performed. The following is the equation for the ADF with constant terms and trend:

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum_{k=1}^m Y_k \Delta Y_{t-k} + \mu_t \dots \dots \dots (3.4)$$

Where:  $\Delta Y_t$  = First difference of  $Y_t$ ,  $Y_{t-1}$  = Lagged value of  $Y_t$ ,  $\delta$  = Test coefficient,  $\mu_t$  = Error term,  $\beta_1$  = Constant,  $\beta_2$  = Coefficient of the time variable. This is in line with the work of Bhalli, Muhammad, and Tahir (2013).

The Phillips-Perron test developed by Phillips and Perron (1988) model is given as:

$$\Delta Y_t = \beta D_t + \lambda y_{t-1} + \mu_t \dots \dots \dots (3.5)$$

Where:  $y_t$  is the series variable,  $\beta$  and  $\lambda$  are the parameters,  $D_t$  is the vector of the deterministic terms (constant and trend),  $\Delta$  is the difference operator,  $y_{t-1}$  is the previous value of a series,  $\mu$  is the error term while  $t$  time trend within the study period. The autoregressive distributed lag Model was advocated originally by Pesaran and Shin (2000) and then by Pesaran *et al* (2000) for both the long-run and short-run model is written as follow:

$$\begin{aligned} [(UNP_t)] &= \beta_0 + \beta_1(UNP_{t-1}) + \beta_2(EDP_{t-1}) + \beta_3(GDP_{t-1}) + \beta_4(POP_{t-1}) + \beta_5(INFR_{t-1}) \\ &+ \sum_{i=1}^p \alpha_1 UNP_{t-i} + \sum_{i=1}^m \alpha_2 \Delta(EDP_{t-i}) + \sum_{i=1}^n \alpha_3 \Delta(GDP_{t-i}) + \sum_{i=1}^o \alpha_4 \Delta(POP_{t-i}) \\ &+ \sum_{i=1}^p \alpha_5 \Delta(INFR_{t-i}) + \varepsilon_t \dots \dots \dots (3.7) \end{aligned}$$

From the above ARDL model, un<sub>p</sub>, ed<sub>p</sub>, pop, inf stands for the lag length, the short-run effect of entrepreneurship development on unemployment in Nigeria are detected by the sign and significance of  $\theta_s$ , also the sign and significance of  $\beta_1$  normalized on  $\beta_4$  showing the long-run effects. The error correction model measures short-run associations that exist among time series variables. The error correction model can be specified as follows:

$$\begin{aligned} \Delta \ln UNP_t &= \beta_0 + \beta_1 \sum_{t=1}^{edp} \Delta \ln EDP_{t-1} + \beta_2 \sum_{t=1}^{gdp} \Delta \ln GDP_{t-1} + \beta_3 \sum_{t=1}^{pop} \Delta \ln POP_{t-1} + \beta_4 \sum_{t=1}^{inf} \Delta \ln INFR_{t-1} + \varepsilon_{ECM}(-1) \\ &+ \mu_t \dots \dots \dots (3.8) \end{aligned}$$

Where:  $\Delta$  = Difference or changes capturing short-run impact,  $\varepsilon$  = Capturing long-run impact,  $ECM(-1)$  = Error Correction Term,  $\mu_t$  = Error Term. The short-term influence is handled in the above equation by the individual coefficients of the various components, and the specification's ECM coefficient indicates whether or not the historical values of the variables have an impact on the current values.

## 4. Results and Discussion

### 4.1 Descriptive Statistics

**Table 4.1: Result of the Descriptive Statistics**

Varbs.	Mean	Media	Max	Min	Std.Dev.	Skew.	Kurt.	J-Bera	P-val.	Obs.
UNP	4.222	3.749	8.389	3.288	1.454	2.2182	6.194	49.806	0.0000	40
LEDP	24.34	24.12	25.66	22.94	0.827	0.1730	1.579	3.5635	0.1683	40
LGDP	31.11	30.89	31.90	30.41	0.524	0.3160	1.549	4.1711	0.1242	40
POP	2.581	2.582	2.709	2.488	0.066	0.1271	1.790	2.5472	0.2798	40
INF	18.95	12.38	72.83	5.388	16.88	1.8244	5.157	29.945	0.0000	40

*Source: Author's Computation*

The findings of the descriptive statistics for the independent variables (LEDP, LGDP, POP, and INF) and the dependent variable (LUNP) are displayed in Table 4.1. The mean, standard deviation, maximum, and lowest values of the variables over the chosen number of years are the primary descriptive statistics. As the primary variable of interest, unemployment (LUNP) and entrepreneurial development (LEDP) receive the most attention. Since the average mean unemployment rate is 4.22, it may be inferred that it is located around the bottom of the distribution. The unemployment rate ranges from 3.29 to 8.39, with 8.39 being the highest value. This indicates that, as was previously mentioned, the unemployment rate tends to move higher. Nevertheless, on average unemployment is high in Nigeria. In comparison the mean average value of 24.34 of entrepreneurship development (LEDP) lies at the higher end of the distribution, this implies that entrepreneurship development is relatively larger than unemployment in Nigeria.

### 4.2 Inferential Statistics

#### Unit Root Test

**Table 4.2 Result Unit Root Test**

Variables	Augmented Dicky Fuller Test		Philip Perron Test	
	Level I(0)	First difference I(1)	Level I(0)	First difference 1(1)
UNP	-4.4795***	-1.9732	-0.8720	-5.0399***
LEDP	-3.2455*	-5.1584***	-3.3519*	-5.0844***
LGDP	-1.8057	-3.6752**	-3.0947	-3.6752**
POP	-3.0571	-6.6720***	-2.8775	-4.2733***
INF	-4.0752**	-5.6878***	-2.9104	-10.8239***

*Note: (\*), (\*\*), and (\*\*\*) means statistically significant at 10%, 5%, and 1%.*

*Source: Author's Computation*

Table 4.2 demonstrated that, in line with the autoregressive distributed lag model (ARDL), some of the variables are stationary at a level and some are stationary after the first difference. Variables such as LGDP and POP are stationary after the first difference I(1). The test statistics of both LGDP and POP are negative and statistically significant, the test statistic is also greater than the critical value of both the upper bound I(1) and the lower bound I(0). Also, variables such as LUNP, LEDP, and INF were both stationary at level



and stationary after the first difference, the value of the test statistics is negative and statistically significant and also greater than the critical value of the upper bound I(1) and the lower bound I(0) respectively. The alternative hypothesis, which holds that there is stationarity among the variables, is thus accepted while the null hypothesis, which holds that there is no stationarity among the variables, is rejected.

**ARDL Estimation Test**

**Table 4.3: Results Co-integration Tests (ARDL Bound Test Result)**

Test Statistics	Value	Sign. Level	Upper Bound	Lower Bound
F-statistics	8.63	1%	4.37	3.29
K	4	5%	3.49	2.56
		10%	3.09	2.2

Significant at 1 %(\*\*\*), 5 %(\*\*), 10 %(\*)

*Source: Author’s Computation*

Table 4.3 shows that there is co-integration bound test among the time series variable. This is because the value of the F-statistic of 8.63 is greater than the critical value of the upper bound I(1) of 4.4, 3.5, 3.1 at 1%, 5%, 10% and the lower bound I(0) of 3.3, 2.6, 2.2 at both 1%, 5%, 10% level of significance. Therefore, the alternative hypothesis that there is co-integration among the variables at the 5% level of significance is accepted, rejecting the null hypothesis, which holds that there is no co-integration. The implication is that LEDP, LGDP, LPOP, LINP, and LUNP, all have equilibrium conditions that keep them together in the long-run.

**Table 4.4: Result of the Short-Run and Long-Run ARDL**

Short-run ARDL				
Dependent Variable: UNP				
Indep. Variables	Coefficients	Standard Error	T-statistics	P-Value
ΔLEDP	-0.1800	0.0623	-2.8810	0.0007***
ΔLGDP	-0.4116	0.3596	-2.8810	0.2614
ΔLPOP	-0.0602	0.6023	-0.9910	0.9210
ΔINF	0.8051	0.3927	2.0504	0.0491**
Long-run ARDL				
Dependent Variable: UNP				
Indep. Variables	Coefficients	Standard Error	T-statistics	P-Value
LEDP	-1.1486	0.7229	-1.5887	0.1226
LGDP	2.1261	1.0282	2.0679	0.0474**
LPOP	10.1791	9.6612	1.0536	0.3005
INF	-0.0088	0.0079	-1.1070	0.2771
C	45.8406	22.4764	2.0395	0.0503**
ECM	-0.1546	0.0369	-4.1856	0.0000***

R<sup>2</sup> = 0.92, Adjusted R<sup>2</sup> = 0.90, Durbin Watson = 2.4916, F-stat = 54.4291, F-stat. (P-Val.) = 0.0000

*Source: Author’s Computation. Note: Significant at 1 % (\*\*\*) , 5 % (\*\*), 10 % (\*)*

Table 1.5 revealed the long-run and short-run estimation of the impact of entrepreneurship development on Unemployment in Nigeria. Results show that there is a negative and significant relationship between entrepreneurship development and unemployment in Nigeria in the short-run. A 1% increase (decrease) in entrepreneurship development will lead to about -18 decreases (increase) in unemployment in Nigeria. According to the findings of this study, an increase in entrepreneurship development

decreases the level of unemployment in Nigeria. The development of entrepreneurship in Nigeria enhances the level of employment in the country.

Throughout the study period, there was no connection found between unemployment and economic growth in Nigeria. Results also indicated there is no association between population growth and unemployment in Nigeria throughout the study. The result also revealed that there is a positive and significant association between inflation and unemployment in Nigeria in the short-run. A 1% increase in inflation will bring about a 0.8% increase in the level of unemployment in the country. This means that according to the findings of this study, inflation increases the level of unemployment in Nigeria over the sample period.

The long-run relationship between the growth of entrepreneurship and unemployment in Nigeria is displayed in Table 4.2. The study's conclusions showed that, over the course of the investigation, there was no correlation between the growth of entrepreneurship and unemployment in Nigeria. This implies that the development of entrepreneurship in Nigeria had no any substantial impact or influence in curbing the rate of unemployment. Other result shows that there exists long-run positive and significant association between economic growth and unemployment in Nigeria for the study. There will be a 2.1% increase in unemployment for every 1% increase in entrepreneurship development. This means that an increase in the gross domestic product in Nigeria brings about an increase in the unemployment level in the country. This implies that an increase in the gross domestic product as an indicator of economic growth does not translate in a reduction of unemployment in Nigeria. Hence, an increase in economic activity does not necessarily mean creating more jobs. Results also indicated that there exists no long-run connection between population, inflation, and unemployment in Nigeria. This implies that their population and inflation had no influence on the level of unemployment in the country throughout the study.

The result shows that the Error Correction Model (ECM). The ECM is negative and statistically significant which implies that the model is a good fit. This suggests that entrepreneurship development and unemployment converge to long-run equilibrium. The ECM result confirms that there is long-run association between entrepreneurship and unemployment from the unit root test and the co-integration bound test respectively. Furthermore, the regressor result produced an  $R^2$  of 92%, this means that 92% of the changes in entrepreneurship development are explained by the variables captured in the model while the remaining 8% represents other variables not captured in the model, but accounted for by the error term. This shows a very goodness of fit of the regression.

The adjusted  $R^2$  coefficient determination of 90% means that the model can accommodate more variables conveniently without the  $R^2$  declining beyond 90%. Also, the F-statistics coefficient of 54.4291 (0.0000) is regarded as commendable being positive and statistically significant. This suggests that the dependent variable and the explanatory variables have a statistically significant relationship. At the 1% level, the overall F statistics of 0.0000 are statistically significant and correctly sign. There is no indication of autocorrelation between the variables or selected data, according to the Durbin Watson of 2.4916.

### **Diagnostic Test**

A diagnostic test was carried out to test for the presence of autocorrelation in the model using Serial Correlation, and Heteroskedasticity.

**Table 4.5: Results of the Diagnostic Test**

Tests	F-statistics	P-value
Heteroskedasticity	0.2034	0.6200
Serial Correlation LM	0.3051	0.2134

*Source: Author's Computation*

Table 4.4 indicated the result of the diagnostic test. The test was carried out using Heteroskedasticity and serial correlation LM test. Testing for heteroskedasticity and serial correlation is mostly done to look for violations of the linear regression's assumptions, which are necessary for the validity of the standard statistics that go along with the linear regression. With an F-statistics value of 0.2034, a probability value of 0.6200, and a probability value of 0.2134, respectively, the null hypothesis that there is no serial correlation is accepted and the alternative hypothesis that there is serial correlation is rejected because the F-probability value is greater than 0.05.

### **5. Conclusion and Policy Recommendation**

This study examined the impact of entrepreneurship development on unemployment in Nigeria by applying ARDL estimation techniques. The results from the study indicated that there is a short-run negative and significant association between the entrepreneurship development and unemployment. This implies that entrepreneurship development in Nigeria reduce the level of unemployment over the period of the study. The study's conclusions led to the formulation of the following recommendations: Entrepreneurship development had a substantial effect on unemployment in Nigeria. An increase in entrepreneurship development reduces the level of unemployment in the country, meaning to say entrepreneurship creates more jobs in Nigeria. The study suggested that there is a need for government to reform the entrepreneurship centers in the country by providing adequate infrastructure necessary for enhancing entrepreneurship in both long run and short run respectively. There is also need for government to reduce the cost of doing business and government must also provide financial support in form of loans to individual to strengthen them so that they will be able to embrace entrepreneurship.

### **References**

- Asogwa, O. Sheila & Dr. Dim, E. Mary (2016). Entrepreneurship Development and Unemployment Reduction in Nigeria. *International Journal of Business and Management Review*, 4(18), 27 - 43.
- Akinyemi, A., Oyebisi, O., & Odot-Ito, E. (2018). Entrepreneurship, Unemployment and Economic Growth in Nigeria. *Covenant Journal of Entrepreneurship*, 1(1)
- Aminu, U. (2012). Effects of Unemployment and Inflation Rates on Economic Growth in Nigeria, 1986 – 2012. A Thesis submitted to the School of Post Graduates studies, Ahmadu University Zaria.
- Adaeze, O. C. (2019). Reducing unemployment rate in Nigeria through entrepreneurship development: a study of selected small businesses in Anambra state. *European Journal of Research and Reflections in Management Sciences*, 7(1), 2056 - 5992.
- Babatunde, A. & Awopetu, O. B. (2020). Population Growth and Unemployment in Nigeria. *Journal of Economics and Sustainable Development*, 11(2), 98 - 106.
- Dodo, F. E., & Idris, M. M. (2022). Impact of Inflation on Unemployment in Nigeria. *Global Journal of Management and Business Research*, 22(2).

- Dappa, K. B. & Onuoha, B. C. (2019). Work environment and employee performance in selected private business organizations in River state. *Nigerian Academy of Management Sciences*, 15, 112 - 203.
- Ekong, U. M & Ekong, C.U (2018). Skills Acquisition and Unemployment Reduction in Nigeria: A case Study of National Directorate of Employment (NDE) in Akwa Ibom state. *International Journal of Economics & Management Sciences*, 5(8).
- Ifeanyichukwu, E. & Nma, O. O. (2020). Entrepreneurial Development and Employment Generation in Nigeria. *International Journal of Scientific & Engineering Research*, 11(6).
- Iyaji, S. O, Achoba, M. I. & Kolawole, O. B. (2018). Role of Vocational Skills Acquisition in Reducing Unemployment among Architecture Graduates in Nigeria. *Journal of Good Governance and Sustainable Development in Africa*, 4(2).
- Idris, M. (2021). Effects of unemployment and Inflation Rates on Economic Growth in Nigeria. *GOJAMSS Journal*, 21.
- Muhammed, F. R. (2022). Impact of Entrepreneurship Development on Employment Generation in Sabon Gari Local Government Area of Kaduna state, Nigeria. *International Journal of Entrepreneurship and Project Management (IJEPM)*, 7(1).
- NBS (2014). Report of national stakeholders' workshop on the review of definition and methodology for computing unemployment statistics in Nigeria.
- NBS (2023). Nigerian Labour Force Statistics Reports Q4 2022 – Q1 2023.
- Okoye, V. C, Nwakoby, N. P & Ezike E. N (2021). Effects of Entrepreneurship Education on Unemployment Reduction in Anambra State, Nigeria. *African Journal of Business and Economic Development*, 1(2).
- Orji, A, Nwosu, E.O & Mba, P.N (2019). ICT Usage and Unemployment rate Nexus in Nigeria: An empirical analysis. *Journal of banking and commerce*, 7(5).
- Oladeji O. F. (2019). Skills Acquisition Programme and Youth Empowerment in Ondo State of Nigeria: An empirical study. *Global Journal of Human-Social Science*, 19(6).
- Oluwakemi O. O., Olawale L. A., & Qudus O. A. (2018). Entrepreneurial skills“ Acquisition and Employment Generation among Polytechnic Graduates in South West, Nigeria. *Journal of Humanities*, 3(2).
- Onyeoma, S. (2020). Influence Of Rising Population on Poverty and Unemployment in Nigeria. *Journal of Economics and Allied research*, 5(1).
- Okolocha, C. B., John, A. C. R., & Muogbo, U. S. (2020). Effect of skill acquisition on youth employability in Nigeria. *International Journal of Research in Finance and Management*, 3(1), 33 - 37.
- Samuel, U. D., Victoria, C. I., & Chibuzor, B. C. (2021). Relationship between Inflation and Unemployment in Nigeria: testing the Philp's Curve hypotheses and Investigating the Causes of Unemployment in Nigeria. *Path of Science*, 7(9).