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## Micro, Small and Medium Enterprises (MSMEs) financing, employment and national economic welfare in Nigeria

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### Abstract

This study examines the effect of Micro, Small and Medium Enterprises (MSMEs) financing on employment and national economic welfare in Nigeria from 1980 – 2020 using the Autoregressive Distributed Lag (ARDL) technique. MSMEs financing was measured by government loans to MSMEs, while employment was measured by unemployment. Empirical results show that the effect of MSMEs on unemployment was negative and insignificant in the long run and negative and significant in the short run. It was also found that government external debt and labour force participation had a positive and insignificant effect on unemployment in the long and short run. Real GDP growth (annual %) had a negative and significant effect on unemployment in the long and short runs. The findings also showed that MSMEs had a positive effect on economic welfare in the long and short-run but the long-run effect was insignificant, while the short run was significant. On the other hand, the effect of government external debt and labour force participation on economic welfare was found to be negative and insignificant in the long and short run. However, inflation hurt economic welfare in the long and short-run but the effect was significant in the long run and insignificant in the short run. The government should ensure that funds set aside for MSMEs development get to them. Also, training MSMEs periodically on entrepreneurship management is recommended. Laws can be made to guide against the underemployment of labour by the private sector and control the engagement of the labour force.

**Keywords:** Micro, Small and Medium Enterprises (MSMEs) Financing; Employment; Economic Welfare; Entrepreneurship

### 1. Introduction

Entrepreneurship is the setting up of commercial/entrepreneurial activities. Especially in developing countries, entrepreneurship is a way of improving the economic wellbeing of individuals and families. The growth and development of entrepreneurship in a country reduce social unrest because idealness will be reduced as more people including the youths will be preoccupied with commercial and entrepreneurial activities. There are also enormous employment potentials associated with entrepreneurship growth and development, which can go a long way in meeting the employment needs of a country. Entrepreneurship growth and development brings employment possibilities close to the people and will make them self-reliant, have less social support and have autonomy. [1] considered entrepreneurship as a basis for economic growth as well as economic sustenance at the national, household and individual levels in any country, particularly in developing countries. The bigger ideal benefits of entrepreneurship growth and development in developing countries according to [2] are employment generation and an increase in per capita income.

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Employment is the engagement in the paid work as an employee or self-employment. Employment guarantees income and enhances self-worth and confidence by promoting the social and economic welfare of individuals, especially the youths [3]. In developing countries such as Nigeria, as well as in the entrepreneurship literature, Micro, Small and Medium Enterprises (MSMEs) is an aspect of entrepreneurship that has gained prominence in the past decades. Governments of developing countries and Non-governmental Agencies (NGOs) have given priority to the development of MSMEs due to the numerous benefits attached to entrepreneurial growth and development in a country.

MSMEs in developing countries are an aspect of entrepreneurship that has a relatively small share of the market and are mainly labour intensive. In comparison with large firms, in terms of specialization, MSMEs are more flexible and can adapt fast to market and environmental changes. The foundation for industrialization is the growth and development of MSMEs. Indigenous technological know-how can be encouraged through MSMEs. They meet the needs of customers with the use of local resources with little or no foreign exchange requirements. MSMEs can generate employment for an enormous number of people per unit of capital, providing about 70% gainful employment for the Nigerian population [4]. The MSMEs survey report by [4] also showed that about 48% of the national GDP was contributed by MSMEs. The level of growth and development of MSMEs determines how significant the roles MSMEs play. This awareness is also a motivating factor for the effort countries make to develop the MSMEs sector to harness the power of MSMEs to generate employment and propel per capita income growth.

Policies, financial interventions, as well as technical assistance, are some of the ways the government of Nigeria, both past and present have supported the development of MSMEs. Entrepreneurship Development Programmes/Institutions (EDP) and Finance/Micro-credit Programmes and institutions (MPI) have been established to derive MSMEs success in the country. But, MSMEs development is still far from achieving the needed success. Despite policies aimed at making the business environment conducive for MSMEs to thrive, increasing cost of investment, complain of unfavourable economic policies, corruption, insufficient technical and conceptual ability, financial constraints as well as inefficient human capital among others continue to manifest as hindrances to entrepreneurship development in Nigeria. Given the rising unemployment level in the country in addition to the low per capita income, the expected role of MSMEs is a source of concern.

Nigeria faces an increasingly high unemployment rate with the government being the major employer of labour in most of the states in the country. In 2016, for example, the unemployment rate rise by 1.7%. At the end of 2017, the rate of unemployment stood at 17.46%, which further rises to 22.562% in 2018. The average unemployment rate between 2017 – 2018 was 29.21% [5]. The unemployment rate as of the second quarter of 2020 was estimated to be 27%. It increased to 28% in the third quarter and 30% in the fourth quarter of 2020 [6]. For many years, the unemployment rate has remained double-digit. Given the high unemployment rate and the inability of the government and the large enterprises in the private sector to absorb the growing number of job seekers, the best way to address unemployment is to leverage the employment-generating potentials of MSMEs. But, for many years, with MSMEs development promotion measures by the government and non-governmental agencies (NGOs), there is no meaningful reduction in the rate of unemployment. The benefits especially the employment generation benefits of MSMEs in Nigeria are not fully reaped, which can also be due to job destruction rates with only 50 per cent of new MSMEs reported to survive until the end of the 5th year. Also, reducing national economic welfare at times of increasing supports for MSMEs requires empirical investigation on the effects of MSMEs on employment and per capita income growth in Nigeria.

Though there have been some studies on the effect of MSMEs on economic growth in Nigeria (see [7], [8], [9], and [10]), this study will deepen our understanding of the effect of MSMEs with focus on unemployment and economic welfare. Economy-wide studies on the effect of MSMEs on economic growth and components are limited, and previous research studies are carried out mostly in the western region of the country. Also, empirical studies on the subject matter have examined the relationship between the MSMEs macroeconomic performance variables are few. They mostly looked at MSMEs and employment generation at the state level (micro-level). This study, therefore, becomes relevant in filling this observed gap. The policy authority would find the recommendations proffered based on the findings of the study useful in their policy considerations. This study will also be useful for academics because the study will contribute to the body of knowledge since little or no information is available at the macro level – mainly on employment and national economic welfare.

## 1.1. Literature Review

### 1.1.1. Conceptual Review

#### Micro, Small and Medium-Scale Enterprises (MSMEs)

MSMEs have no generally accepted definition and, thus, there are many definitions of the concept by different scholars and in different countries. The definitions of MSMEs differ in annual turnover, the number of employees, and total assets. The annual turnover and number of employees are the bases for defining MSMEs in countries like the USA, Britain, Canada and Nigeria. The industry and nature of businesses are also criteria for defining MSMEs in most other countries like Japan. MSMEs in Britain, for example, are defined as enterprises that have an annual turnover of a maximum of two million pounds (£2,000,000) and less than two hundred (200) employees. The European Commission (EUC) views MSMEs as enterprises with less than two hundred and fifty (250) people, maximum of and sixty-seven million pounds (£67,000,000) annual sales and a maximum of fifty-six million pounds (£56,000,000) total assets. According to [7], the Asian Pacific Economic Co-operation (APEC) defined MSMEs as enterprises that have less than one hundred (100) employees. The Central Bank of Nigeria (CBN) defined MSMEs as enterprises that have an asset base of below two million Naira (N2, 000,000) excluding land and working capital, and the number of employees ranging from ten to three hundred. For this study, we adopt the definition of MSMEs by the Central Bank of Nigeria, and it is captured by the government credits to MSMEs.

#### Employment

Employment is defined as every job either in the formal or informal sector, or every person that is employed at the given period irrespective of the employment status, not minding whether the employment is a secondary or the main job of the person. [11] viewed employment as persons who are in one or more work hours in a given period, including temporarily work absentees for reasons such as sickness, holidays or maternity leave. Employment and unemployment are widely considered dependent terms, but not terms that can be determined. The two concepts, in the view of [12], are objective states of affairs applied with subjective meaning for persons passing through these states. Unemployment is defined by [13] as a situation in which people are willing to work at the prevailing wage rate but are not able to find jobs. In other words, anyone who is hired irrespective of type or nature, or quality of the job should not be counted as part of the unemployed labour force. They also posit that unemployment is the difference between the amount of labour employed at current wage levels and working conditions, and the amount of labour not hired at these levels. In this study, however, unemployment is people who are willing to work at the prevailing wage rate but found none. Unemployment is used in this study as an indicator of employment.

#### National Economic Welfare

National economic welfare is the measure of the state of the standard of living in an economy. It is sometimes closely used to mean economic well-being. On this basis, it is defined as the level of income as well as low environmental pollution, increasing literacy rate and healthcare among others. It is welfare that comes with increasing national economic activity. There are different ways of measuring national economic welfare. These among others include the human development index, literacy rate, the level of income or GDP, well-being index, access to healthcare and environment quality. A very common indicator is per capita income growth. Viewing national economic welfare from the perspective of per capita income growth suggests that an increase in per capita income growth will make people generally better-off and, thus, there will be an increase in national economic welfare.

### 1.1.2. Empirical Literature

Covering the 1997 – 2018 sample periods, [14] examined the impact of MSMEs on poverty reduction in Indonesia. The Headcount Index (P0), Poverty Gap Index (P1), and Poverty Severity Index (P2) were used to proxy poverty. The study employed the ordinary least square regression technique. It was found that MSMEs statistically affect poverty reduction in Indonesia both directly and indirectly. [15] examined the relationship between economic growth, employment and entrepreneurial culture in Mauritius using primary data. The data was analysed using the descriptive statistics technique. MSMEs were proxied by MSMEs revenue while economic growth was measured by real GDP. The study found that SME revenue had no statistically significant effect on real GDP growth. It was also found that unemployment increases alongside an increase in MSMEs, indicating that MSMEs do not bring about a reduction in unemployment. Contributions of MSMEs to employment in the European Union countries were examined by [16]. The sample period from 2005 – 2016 was covered while the data was analysed using the panel fixed effect and random effect approach. The study found a positive effect of MSMEs service sector employment on total employment. Also, the positive effect of GDP per capita on total employment was found. The role of MSMEs age and size in determining employment was the main focus of the study of [17]. The finding of the study was that size and age of MSMEs played a significant role in

contributing to employment. It was evidenced that the main source of employment is provided by small enterprises, while the age of the enterprises was the driving force of such a result. [18] examined the role of MSMEs in community development in the Anambra south senatorial zone. 55 samples were obtained for their study. MSMEs were found to play many roles including generation of employment, service provision, improvement of living standards and poverty alleviation. [19] examined the relationship between MSMEs and Nigeria’s economic development. Primary data was used for the study. The findings showed that MSMEs are beneficial in alleviating poverty through wealth and job creation. [20] examined the socio-economic factors influencing the capacity of MSMEs to alleviate poverty in the southwestern part of Nigeria. Primary data were used for this study. It was found that business registration, business size, nature of the business, sources of capital were the major factors determining both income and employment generation potentials of MSMEs.

### 1.1.3. Research Gaps

A lot has been done on MSMEs generally, but just a handful of empirical studies are found especially in Nigeria. The reason for the large theoretical studies over the empirical studies could be attributed to data challenges. Most of the studies in Nigeria focused only on the effect of MSMEs on economic growth. However, [18] who considered the unemployment effect of MSMEs used the Anambra south senatorial zone in Nigeria as a case study with 55 samples, which is quite narrow and, therefore, findings may not be robust. Also, to the best of our knowledge, empirical studies on the effect of MSMEs on economic welfare in Nigeria are scarce. Therefore, by considering the unemployment and economic welfare effects of MSMEs in Nigeria, this study adds value to the MSMEs and economic performance literature in Nigeria. This is necessary, considering the rising unemployment and the falling economic welfare in Nigeria, and the increasing interest of the government of Nigeria in recent years to develop the MSMEs sector to solve the unemployment challenges. The availability of empirical evidence will go a long way in facilitating government efforts in this regard. Also, the relative importance of MSMEs, as stated by [7], varies significantly across countries. Therefore, it is imperative to consider unemployment and economic welfare in the study of MSMEs in Nigeria since no known study has examined unemployment and economic welfare effects of MSMEs in their analysis of the relationship between MSMEs, employment and national economic welfare.

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## 2. Material and methods

The data for the study is an annual time series data, from 1980 - 2020. The data were drawn from the World Development Indicators (WDI) of the World Bank. The data for the respective variables in the specified models are obtained from the same data source. The study anchored on the neoclassical growth theory as its analytical framework. The theory posits that output is a function of labour, capital and technological increase. It is stated functionally as;

$$Y = AK^{\alpha}L^{\beta} \dots\dots\dots (1)$$

Where Y is output growth, K is capital stock, L is labour endowment, and A is total factor productivity (productivity of existing technology, and technical process or innovation, etc). Technological progress and innovation by MSMEs enhance economic performance, as widely argued in the entrepreneurship literature. Therefore, total factor productivity (A) in equation (1) is substituted with MSMEs development (measured by government support for MSMEs – government loan to MSMEs). That is;

$$A = (GOVS\_SMEs) = GOVS\_SMEs^{\varphi} \dots\dots\dots (2)$$

Where *GOVS\_SMEs* is MSMEs financing. We take output growth to be an indicator of national economic performance, which for this study, is proxied by unemployment and per capita GDP. Substituting equation (2) into (1) and representing the capital stock (K) with external debt stock (EXD), labour (L) with labour force (LFORCE) and output growth (Y) with national economic performance yields:

$$ECOPERF = GOVS\_SMEs^{\varphi}EXD^{\alpha}LFORCE^{\beta} \dots\dots\dots (3)$$

Taking logs of equation (3) results in equation (4) as:

$$ECOPERF = \varphi gov\_smes + \alpha exd + \beta lforce \dots\dots\dots (4)$$

The variables in small case letters are logged variables. Economic performance (ECOPERF – unemployment, and economic welfare – per capita GDP) is not logged because the variables are already taken in rate. The parameters,  $\varphi$ ,  $\alpha$ , and  $\beta$  measure the output elasticities of MSMEs financing, capital and labour respectively. Following the specification

in equation (4), the model capturing the effect of MSMEs on employment, which is our first objective, is specified in autoregressive distributed lag (ARDL) form as,

$$UNEMP = \alpha_0 + \alpha_1 UNEMP_{t-1} + \alpha_2 gov_s\_smes + \alpha_3 exd + \alpha_4 lforce + \alpha_5 RGDPG + \sum_{j=1}^p \phi_j UNEMP_{t-j} + \sum_{s=0}^q \rho_s gov_s\_smes_{t-s} + \sum_{m=0}^q \delta_m exd_{t-m} + \sum_{z=0}^q \psi_z lforce_{t-z} + \sum_{z=0}^q \vartheta_z RGDPG_{t-z} + \mu_{11t} \dots \dots \dots (5)$$

In equation (5), UNEMP is the unemployment rate (an indicator for employment) and RGDPG is real GDP per capita. The other variables in the model remained as defined earlier. The short-run variables are the different terms, while the lag terms capture the long-run process. The small lettered variables are logged variables. UNEMP and RGDPG are not logged because the variables are already in rates.  $\mu_{11t}$  is the error term, and  $\alpha_i$  ( $i = 1,2,3, \dots,5$ ) and  $\phi, \rho, \delta, \psi,$  and  $\vartheta$  are the long and short-run parameters of the variables respectively. The optimal lag length is to be determined using the Akaike information lag length selection method.

One key advantage of this model is that it has a small sample property. Also, by this model, we could get unbiased estimates and t-values for the long and short-run periods even endogenous regressors in the model. The model can even be applied when the regressors are stationary at I(0) or I(1) or a mixture of both. If cointegration is found among the variables, then it means that the variables adjust to equilibrium, to be captured by an error correction model, specified as:

$$\Delta UNEMP = a_0 + \sum_{j=1}^p \phi_j UNEMP_{t-j} + \sum_{s=0}^q \rho_s gov_s\_smes_{t-s} + \sum_{m=0}^q \delta_m exd_{t-m} + \sum_{z=0}^q \psi_z lforce_{t-z} + \sum_{z=0}^q \vartheta_z RGDPG_{t-z} + \gamma ECM1_{t-1} + \mu_{12t} \dots \dots \dots (6)$$

Where;  $ECM1_{t-1}$  is the error correction term

To capture the second objective, which is to examine the effect of MSMEs on economic welfare, the following ARDL model is used;

$$PGDP = \beta_0 + \beta_1 PGDP_{t-1} + \beta_2 gov_s\_smes + \beta_3 exd + \beta_4 lforce + \beta_5 INF + \sum_{j=1}^p \vartheta_1 PGDP_{t-j} + \sum_{s=0}^q \vartheta_2 gov_s\_smes_{t-s} + \sum_{m=0}^q \vartheta_3 exd_{t-m} + \sum_{z=0}^q \vartheta_4 lforce_{t-z} + \sum_{z=0}^q \vartheta_5 INF_{t-z} + \mu_{31t} \dots \dots \dots (7)$$

In equation (7), PGDP is per capita GDP (an indicator for economic welfare) and INF is inflation. The other variables in the equation remained as defined earlier. The different terms are the short-run variables while the lag terms represent the long-run process. The small lettered variables are logged variables. PGDP and INF are not logged since the variables are already in rates.  $\mu_{31t}$  is the error term, and  $\beta_i$  ( $i = 1,2,3, \dots,5$ ) and  $\vartheta_i$  ( $i = 1,2,3, \dots,5$ ) are the long and short-run parameters of the variables respectively. The optimal lag length is to be determined using the Akaike information lag length selection method. If cointegration is found among the variables, then it means that the variables adjust to equilibrium, to be captured by an error correction model, specified as:

$$\Delta PGDP = a_0 + \sum_{j=1}^p \vartheta_1 PGDP_{t-j} + \sum_{s=0}^q \vartheta_2 gov_s\_smes_{t-s} + \sum_{m=0}^q \vartheta_3 exd_{t-m} + \sum_{z=0}^q \vartheta_4 lforce_{t-z} + \sum_{z=0}^q \vartheta_5 INF_{t-z} + aECM_{t-1} + \mu_{32t} \dots \dots \dots (8)$$

Where;  $ECM3_{t-1}$  is the error correction term

Before estimating the models, the order of the ARDL will be empirically determined. Then, the models will be estimated using the Ordinary Least Square (OLS) technique. This method is the Best Linear and Unbiased Estimator (BLUE) among the class of estimators. It is a linear function of a random variable like the dependent variable in a regression model, and unbiased. Estimation of the ARDL model in this study shall begin with the test for the appropriate lag order using Akaike information model selection criteria. Also, before estimating the equations, the variables were tested for unit root using the Augmented Dickey-Fuller (ADF) and Philips Peron (PP) unit root tests. After the unit root tests, we conducted a test for a long-run relationship among the variables to determine the presence or absence of cointegration among the variables in the respective models.

### 3. Results and discussion

#### 3.1. Unit Root Test

We tested for the order of stationarity of the variables using the Augmented Dickey-Fuller and the Phillips-Perron tests. The test results are presented in Table 1.

**Table 1** Augmented Dickey-Fuller and Philips–Perron unit root test results

Variable	Augmented Dickey-Fuller Result		Philips–Perron Result		Lag order	~I(d)
	Level	1st Difference	Level	1st Difference		
UNEMP	-1.285	-2.477*	-1.514	-4.167*	2	I(1)
govs_msmes	-1.641	-3.925 *	-1.630	-4.318*	2	I(1)
Exd	-2.389	-5.170*	-2.549	-4.684*	2	I(1)
Lforce	-4.390*	-	-5.268*	-	2	I(0)
PGDPG	-3.491	-3.894*	-1.944	-3.944*	2	I(1)
INF	-2.569	-4.297*	-3.160	-5.604*	2	I(1)

Source: Author’s Computation: Where \* denotes significance at 5% and the rejection of the null hypothesis of the presence of unit root. The optimal lag length was chosen according to Akaike’s Final Prediction Error (FPE), and Akaike’s information criteria. The ADF 5% critical value at levels is -3.556 and at the 1st difference is -3.560, while the Philips–Perron critical value at levels is -3.548 and at the 1st difference is -3.552. A trend is included in both the Augmented Dickey-Fuller and Philips–Perron unit root test models that were estimated.

Both the Augmented Dickey-Fuller and Philips–Perron unit root tests indicate that the variables were not stationary at a level, except for labour force. The test statistics in both tests (except labour force) is lower than the respective ADF and Philips–Perron critical values at the level. Therefore, the null hypothesis that the variables contain a unit root at level is accepted at the 5 per cent level. But the null hypothesis of the presence of unit root is rejected at the level form for the labour force. Therefore, the rest of the variables apart from the labour force were differenced once and the test was conducted again. At the 1<sup>st</sup> difference, the test statistics in both tests became greater than the 1<sup>st</sup> differenced critical value. Thus, the null hypothesis of the presence of unit root is rejected at the 5 per cent level for the rest of the variables. Thus, we say that labour force is stationary at level – integrated of order 0, I(0), while the rest of the variables are stationary at 1<sup>st</sup> difference – integrated of order 1, I(1).

#### 3.2. Effect of MSMEs on Employment

This section presents and discusses the results for objective one. We begin with the [21] Bounds test result for the existence of a level form relationship (cointegration) of the variables. The result is reported in Table 2.

**Table 2** Bounds test result for level form relationship (level effect) of the variables

Critical Values (0.1-0.01), F-statistic, Case 3							
90%		95%		97.5%		99%	
I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
2.45	3.52	2.86	4.01	3.25	4.49	3.74	5.06
Critical Values (0.1-0.01), t-statistic, Case 3							
90%		95%		97.5%		99%	
I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
-2.57	-3.66	-2.86	-3.99	-3.13	-4.26	-3.43	-4.60
K 4; F = 4.316 t = - 3.968							

Source: Author’s computation

We compare the F-value of 4.316 with the 5 per cent critical values and found that it is greater than the lower and upper bounds critical values of 2.88 and 4.01. Since it is greater than the upper bound, we reject the null hypothesis of a level form relationship. That is, the variables are cointegrated. However, the t-value (-3.968) fall between the 5 per cent lower and the upper bounds critical values of -2.86 and -3.99 in an absolute sense. Since the t-value fall between the two bounds, it means that with the t-value, we cannot determine the presence or absence of cointegration. In order words, the test using the t-value is inconclusive, while using the F-value, there is a long-run relationship. We present the error correction result in Table 3 below.

**Table 3** Error correction estimates of the effect of MSMEs on employment

<b>The dependent variable is unemployment (UNEMP)</b>				
<b>UNEMP</b>	<b>coefficients</b>	<b>Standard Errors</b>	<b>t-Statistics</b>	<b>P-value</b>
Adjustment	-0.1119	0.1484	-2.75	0.000
<b>Long-Run</b>				
govs_msmes	-0.0214	0.0254	-0.84	0.410
exd	10.5674	11.6132	0.91	0.373
lforce	1.9413	2.2061	0.88	0.388
RGDPG	-0.3992	2.1657	-2.41	0.014
<b>Short-Run</b>				
UNEMP	0.3339	0.2745	1.22	0.235
govs_msmes	-9.0800	3.5748	-2.54	0.000
exd	0.5433	0.6313	0.86	0.399
lforce	1.7452	1.5309	1.14	0.268
RGDPG	-0.0558	0.0208	-2.69	0.002
Constant	-542.0919	269.8591	-2.01	0.057
R2				0.6780
Adjusted R-Squared				0.3458
F-statistics				9.44 (0.0038)
Durbin-Watson d-statistic (15, 37)				1.9275
Breusch-Godfrey LM Chi-square Statistics				0.368 (0.5440)

Source: Author's computation

The result showed an error correction adjustment coefficient of -0.1119 with a t-value of -2.75. The significant negative value of -0.1119 means that when there is disequilibrium in the short run, the variables in the model for objective one adjust back to equilibrium in the long run at a significant speed of 11.19 per cent every year.

In the long run, the MSMEs coefficient is -0.0214 with a t-value of -0.84. Since the t-value is less than 2 in an absolute sense, we accept the null hypothesis of no significant effect of MSMEs on unemployment in Nigeria. The insignificant p-value (0.410>0.05) also supports the acceptance of the null hypothesis, which means that there is no significant error in accepting the null hypothesis. MSMEs have a negative and statistically insignificant effect on unemployment in the long run. In specific terms, percentage growth in MSMEs through government support for MSMEs in the form of loans to MSMEs brings about a 0.02 per cent insignificant decrease in unemployment in the long run. Also, in the short run, the coefficient of MSMEs is -9.0800 with a t-value of -2.54. The significant t-value suggests the rejection of the null hypothesis in the short run. The significant p-value of 0.000 means that there is no significant error in rejecting the null hypothesis at the 5 per cent level. This means that in the short run, MSMEs have a negative and statistically significant effect on unemployment. Specifically, percentage growth in MSMEs leads to a 9.08 per cent significant reduction in unemployment in the short run.

Government external debt has a positive and insignificant effect on unemployment in Nigeria. It shows that a percentage increase in external debt results in a 10.57 per cent insignificant increase in unemployment in the long run. Also in the short run, external debt showed a positive and statistically insignificant coefficient. Thus, both in the long run and short-run government external debt has a positive and statistically insignificant effect on unemployment.

In the long run, an increase in the labour force participation rate leads to a 1.94 per cent insignificant increase in unemployment. A similar result showed up in the short run. A percentage increase in labour force participation leads to a 1.75 per cent increase in the unemployment rate.

An increase in real GDP growth (annual %) brings about a 0.39 per cent significant reduction in unemployment in the long run. Also, in the short run, if GDP growth (annual %) increases by a percentage, unemployment reduces significantly by 0.06 per cent.

The  $R^2$  coefficient is 0.6780. This means that the independent variables explain about 67.80 per cent change in unemployment in Nigeria. The F-value is 9.44 with a p-value of 0.0038. The p-value is significant since it is less than 0.05. Therefore, the null hypothesis that the independent variables have no joint effect on the dependent variables is rejected. The Durbin-Watson d-statistic is approximately 2. Therefore, the null hypothesis of no autocorrelation is accepted. Similarly, the insignificant Breusch-Godfrey LM Chi-square Statistics of 0.368 ( $p = 0.5440$ ) means that the independent variables are not serially correlated.

### 3.3. Effect of MSMEs on Economic Welfare

Similar to the previous sections, we start by discussing the [21] Bounds test result for the existence of a level form relationship (cointegration) of the variables. The result is reported in Table 4 below.

**Table 4** Bounds test result for level form relationship of the variables

<b>Critical Values (0.1-0.01), F-statistic, Case 3</b>							
<b>90%</b>		<b>95%</b>		<b>97.5%</b>		<b>99%</b>	
I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
2.45	3.52	2.86	4.01	3.25	4.49	3.74	5.06
<b>Critical Values (0.1-0.01), t-statistic, Case 3</b>							
<b>90%</b>		<b>95%</b>		<b>97.5%</b>		<b>99%</b>	
I(0)	I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
-2.57	-3.66	-2.86	-3.99	-3.13	-4.26	-3.43	-4.60
K: 4; F: 2.950; t: -3.997							

Source: Author's computation

We compare the F-value of 2.950 with the 5 per cent critical value and found that it falls within the lower and upper bounds critical values of 2.86 and 4.01. Since it within the lower and upper bound, we cannot reject nor accept the presence of a long-run relationship among the variables in the model. Similarly, the t-value cannot guide us to conclude on accepting or rejecting the null hypothesis at the 5 per cent level. Notwithstanding, we estimated the error correction model and the result is presented in Table 5.

**Table 5** Error correction estimates of the effect of MSMEs on economic welfare

<b>The dependent variable is economic welfare</b>				
<b>PGDPG</b>	<b>coefficients</b>	<b>Standard Errors</b>	<b>t-Statistics</b>	<b>P-value</b>
Adjustment	-0.5368	0.1931	-2.78	0.000
<b>Long-Run</b>				
govs_msmes	3.5729	1.1949	2.99	0.000
Exd	-2.4285	2.4480	-0.99	0.332
Lforce	-3.9415	2.8154	-1.40	0.175
INF	-0.1493	0.0622	-2.40	0.034
<b>Short-Run</b>				
PGDPG	0.2449	0.1213	2.02	0.320
govs_msmes	3.1669	1.8949	1.67	0.109
Exd	-1.9586	1.7328	-1.13	0.271
lforce	-7.0008	4.6410	-1.51	0.144
INF	-0.0533	0.0511	-1.04	0.308
Constant	743.6243	622.9444	1.19	0.245
R2			0.6425	
Adjusted R-Squared			0.4149	
F-statistics			2.82(0.0143)	
Durbin-Watson d-statistic (15, 37)			2.0056	
Breusch-Godfrey LM Chi-square Statistics			0.786 (0.3752)	

Source: Author's computation

The result showed an error correction adjustment coefficient of -0.5368 with a t-value of -2.78. The significant negative value of -0.5368 means that when there is disequilibrium, the variables in the model for objective three adjust back to equilibrium in the long run at a significant speed of 53.68 per cent annually.

In the long run, the MSMEs coefficient is 3.5729 with a t-value of 2.99. Since the t-value is significant, we reject the null hypothesis of no significant effect of MSMEs on economic welfare in Nigeria. The significant p-value ( $0.000 < 0.05$ ) also supports the rejection of the null hypothesis, which means that there is no significant error in rejecting the null hypothesis. Therefore, MSMEs have a positive and statistically significant effect on economic welfare in the long run. In specific terms, percentage growth in MSMEs through government support for MSMEs in the form of loans to MSMEs brings about 3.57 per cent significant improvement in economic welfare in the long run. Also, in the short run, the coefficient of MSMEs is 3.1669 with a t-value of 1.67. The insignificant t-value, however, suggests the acceptance of the null hypothesis in the short run. The insignificant p-value of 0.109 means that there is no significant error in accepting the null hypothesis at the 5 per cent level. This means that in the short run, MSMEs have a positive and statistically insignificant effect on economic welfare. Specifically, percentage growth in MSMEs leads to a 3.166 per cent in significant improvement in economic welfare in the short run.

Government external debt has a negative and insignificant effect on economic welfare in Nigeria in the long run. It shows that a percentage increase in external debt results in a 2.43 per cent insignificant decrease in economic welfare in the long run. Also in the short run, external debt showed a negative and statistically insignificant coefficient on economic welfare.

In the long run, an increase in labour force participation leads to a 3.94 per cent insignificant decrease in economic welfare. A similar result showed up in the short run. Labour force participation has a negative and insignificant effect

on economic welfare. Specifically, a percentage increase in labour force participation leads to a 7.00 per cent decrease in economic welfare in the short run.

An increase in inflation brings about a 0.15 per cent significant decrease in economic welfare. Also, in the short run, if inflation increases by a percentage, there will be an insignificant decrease in economic welfare by 0.05 per cent.

The  $R^2$  coefficient is 0.6425. This means that the independent variables explain about 64.24 per cent change in economic welfare in Nigeria. The F-value is 2.82 ( $p = 0.0143$ ). The p-value is significant because it is less than 0.05. Therefore, the null hypothesis that the independent variables have no joint effect on the dependent variables is rejected. Thus, the independent variables have a joint significant effect on economic welfare. The Durbin-Watson d-statistic is approximately 2. Therefore, the null hypothesis of no autocorrelation is accepted. Similarly, the insignificant Breusch-Godfrey LM Chi-square Statistics of 0.786 ( $p = 0.3752$ ) means that the independent variables are not serially correlated.

### 3.4. Policy Implications of the Findings

The negative effect of MSMEs on unemployment in the long and short-run – insignificant in the long run and significant in the short run, implies that MSMEs significantly reduces unemployment, especially in the short run. The insignificant effect, in the long run, could be due to the inability of most MSMEs in Nigeria to survive beyond five years after start-up. The majority of MSMEs are short-lived and, therefore, employment is significantly generated in the short run than in the long run. Thus, measures to keep MSMEs surviving up to the long run can make the unemployment reducing-effect of MSMEs to be significant both in the long and short run. The positive and insignificant effect of government external debt on unemployment both in the long and short-run implies that external debt contributes to unemployment insignificantly in the long and short run. It could be that external debt is not put to productive activity capable of generating employment. Labour force participation had a positive and insignificant effect on unemployment in the long and short run. This is because more people are joining the labour force but the available job opportunities are not enough to absorb the increasing labour force participation, therefore, resulting in to increase in unemployment. Real GDP growth (annual %) had a negative and significant effect on unemployment in the long and short runs. This implies that economic growth is unemployment reducing.

The finding that MSMEs had a positive effect on economic welfare in the long and short run – the effect been significant in the long run and insignificant in the short run means that the ability of MSMEs to significantly improve economic welfare is in the long run. In the short run, MSMEs face a lot of challenges. Therefore, even though they generate employment in the short run, economic welfare is not significantly enhanced. The reason could be low pay and the absence of other enumeration due to their small size in the short run. But those that survive in the long run become bigger and stronger as an enterprise, and, can give high pay and other enumeration that lead to economic welfare enhancement. Supports for their quick growth and to remain in business can go a long way in ensuring significant welfare improvement by MSMEs in the short and long run. The effect of government external debt on economic welfare was found to be negative and insignificant in the long and short run. This is a clear indication that external debt is no longer a clear option for welfare improvement in Nigeria. This could be due to embezzlement of the external fund, corruption, excessive external debt beyond the threshold, etc. that has led to waste of funds. Also, labour force participation had a negative and insignificant effect on economic welfare in the long and short run. This could be as a result of the large labour force that is not in any employment or underemployed, leading to a decrease in economic welfare. Inflation is also found to be detrimental to economic welfare. This means that the inflation rate is too high and, is negatively affecting economic welfare.

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## 4. Conclusion

The effect of MSMEs on employment and national economic welfare in Nigeria has been examined. Based on the findings, we conclude that in Nigeria, the employment benefits of MSMEs are significantly derived only in the short run. Most of the MSMEs struggle to survive in the long run and employment is not significantly generated in the long run. External debt and labour force participation insignificantly contribute to unemployment, while economic growth reduces unemployment. MSMEs significantly ameliorate economic welfare only in the long run. Other variables such as external debt, labour force participation and inflation have been detrimental to economic welfare. The government should ensure that funds set aside for MSMEs development get to them. Also, training MSMEs periodically on entrepreneurship management is recommended. We also recommend against heavy reliance on foreign debt. Laws can be made to guide against the underemployment of labour by the private sector and control the engagement of the labour force. Inflation reduction should be a top priority in the macroeconomic policy agenda. With low inflation, economic welfare can be enhanced in the short run and maybe sustainable in the long run.

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## Compliance with ethical standards

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The authors have no conflict of interest.

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