

# Nexus between Labour Force Participation, Decent Work and Economic Growth in Nigeria

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## ABSTRACT

This work investigated the impact of labour force participation on economic growth in Nigeria for the period 1990 to 2021 using annual time series data on real gross domestic product (RGDP), male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR). The objectives are to examine the impact of male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR) on economic growth in Nigeria and to ascertain the causality relationship between male labour force participation rate, female labour force participation rate, and economic growth in Nigeria using ARDL Bounds Testing methodology. The result indicated that male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR) had statistically significant impact on economic growth in Nigeria in the short run. The result also revealed that, in the long run, male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR) had statistically insignificant impact on economic growth in Nigeria. A uni-directional causality relationship is found between male labour force participation rate (MLFPR) and economic growth (RGDP) in Nigeria over the period covered with the causality running from economic growth to male labour force participation rate. The result further indicated that there is no significant causality relationship between female labour force participation rate (FLFPR) and economic growth in Nigeria over the period covered. The study therefore recommended that government should design active policy for male and female participation in labour force and seriously empower women to participate in labour force in Nigeria.

**Key words:** Male labour force participation rate, and female labour force participation rate, economic growth, ARDL.

## INTRODUCTION

The interest and the desire of developed as well as developing countries in speeding up growth of their economies cannot be overemphasized. Developing countries, like Nigeria, therefore consider labour force participation and decent work availability for the labour force as major features for achieving and maintaining sustainable economic growth and development of their economies in addition to improved social well-being, and income of the citizens at large. It is noted that decent work means opportunities for everyone to get work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration. It is also important that all women and men are given equal opportunities in the workplace. A continued lack of decent work opportunities, insufficient investments and under-consumption lead to an erosion of the basic social contract underlying democratic societies: that all must share in progress. Labour has for long remained an integral part of human life because of its unique ability to harness factors of production: land, capital, and entrepreneurship. The existence of the organized factors of production by man metamorphosis into employment opportunities, thereby creating an employer-employee relationship. The subsistence of this relationship together with its happenings is the focus of this work because the 8th Sustainable Development Goal of the United Nations which borders on decent work did not emerge as a relatively new concept but has its roots in the idea that employers are implored to give unto their employees

what is just and fair in terms of treatment. The concept of decent work and economic growth are potent weapons in sustaining and achieving transformational development globally. Decent work and economic growth are two streams of water flowing into the same channel which cannot be separated in the long run. There cannot be decent work without any nation attaining a certain climax in its economic development owing to the irrefutable truth that employers are at the mercy of the dictates of the economy of any nation and will be bound to bargain based on the tenets of the economy. Hence, for a contracting economy like Nigeria where inflation is galloping at an astronomical rate, labour legislations are as archaic as the world, and enforcement level is minimal, one cannot but expect less in terms of employee welfare and social protection.

The labour force population covers all persons aged 15 to 64 years who are willing and able to work regardless of whether they have a job or not. Nigeria has a labor force of over 80 million people. As of 2020, Nigerians aged 25 to 34 years old represented the largest labor force population in the country, with around 23 million people. Individuals from 35 to 44 years old made up the second most numerous group, with over 20 million people. Nigeria labor force participation rate for 2021 was 31.89%, a 1.4% increase from 2020. Nigeria labor force participation rate for 2020 was 30.49%, a 2% decline from 2019. Nigeria labor force participation rate for 2019 was 32.48%, a 1.55% increase from 2018. Nigeria labor force participation rate for 2018 was 30.94%, a 1.51% increase from 2017 (International Labour Organization, ILOSTAT database, 2019). Labour force participation rate which is a measure of the proportion of a country's working-age population that engages actively in the labour market, either by working or looking for work and which provides an indication of the size of the supply of labour available to engage in the production of goods and services relative to the population at working age, is considered more critical to economic growth of a country. The breakdown of the labour force (formerly known as economically active population) by sex and age group gives a profile of the distribution of the labour force within a country.

Iyoha (1978) opined that employment generation is a significant drive of the growth rate of GDP in Nigeria. However, in the Nigerian economy, most employment is in the informal sector. A large proportion of these people are under self-employment with very low income (Jodie and Ogunrinola, 2011). Individuals and firms were motivated to go into informal economy activities for survival purposes following the economic downturn experienced by the country. Structurally, the country shifted from the agricultural sector to the petroleum industry following the oil boom in 1973. This resulted in unemployment, as persons moved from the agricultural sector in search of opportunities that were none existent in the official sector, thereby increasing the number of shadow economy activities. Thus, most of the time, decent works are very hard to come by in the country. Economic growth is defined in terms of increase in a nation's output of goods and services as measured by the Gross Domestic Product (CBN, 1995). Kuznets (1971) defined a country's economic growth as a "long-term rise in capacity of supply increasing diverse economic goods to its population, this growing capacity, based on advancing technology and the institutional and ideological adjustments that it demands". It therefore encompasses growth, structural and institutional changes and the essential elements that make up life such as education, health, nutrition, environment (that is human and development indices).

Nigeria, like other nations, experiences labour force participation of her work force in the production of goods and services for a greater improvement in growth of the economy and reduction in the level of poverty in the country. Poverty eradication is only possible through stable and well-paid jobs. About 2.2 billion people live below the US\$1.90 poverty line. Labour force participation is therefore critical for better performance of an economy. Nigeria has, over the years, encountered low growth rate and high incidence of poverty among other macroeconomic problems despite the labour force participation in the production of goods and services in the country. However, what is not clear is whether the proportion of the country's work force that actively take part the production of goods and services in Nigeria is adequate or high enough for the purpose intended, as substantial growth rate is yet to be recorded in the country. This work therefore intends to investigate the nexus between labour force participation rate, disaggregated into male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR), decent works and economic growth in Nigeria for the period 1990 to 2021. Specifically, the objectives are to: determine the impact of male labour force participation rate on economic growth in Nigeria, determine the impact of female labour force participation rates on economic growth in Nigeria, ascertain the causality relationship between male labour force participation rate and economic growth in Nigeria, and ascertain the causality relationship between female labour force participation rate and economic

growth in Nigeria.

## LITERATURE REVIEW

### The concept of labour force

Labor force comprises people ages 15 and older who supply labor for the production of goods and services during a specified period. It includes people who are currently employed and people who are unemployed but seeking work as well as first-time job-seekers. Not everyone who works is included, however. Unpaid workers, family workers, and students are often omitted, and some countries do not count members of the armed forces. Labor force size tends to vary during the year as seasonal workers enter and leave.

### The Concept of Labour Force Participation

The labor force participation rate (LFPR) is a measure of the proportion of a countries' working-age population that engages actively in the labor market, either by working or by looking for work. McConnell, Brue and Campbell (2009) as cited in Iweagu, Yuni, Nwokolo, and Bulus (2015) noted that labour force participation rate is determined by comparing the actual labour force with the potential labour force or what is sometimes called the "age-eligible population". The actual labour force in the US consists of people who are employed and those who are unemployed but who are actively looking for a job, while the potential labour force can be categorized as the "age eligible population" which excludes young people under 16 years of age and people who are institutionalized, such as in penal or mental institutions or nursing homes or over age 64. In Nigeria, the concept of labour force refers to the International Labour Organization (ILO) definition that classified the working age population, according to (Iweagu, Yuni, Nwokolo, and Bulus , 2015), as persons of 15 years old and over and the labour force as persons of 15 years old and over who, in the previous week, were working, were temporarily absent from work but have a job, and those who did not have work and were looking for work.

### The Female Labour Force Participation Rate

The Female Labour Force Participation Rate is defined as the proportion of the female population of working age who are employed (including self-employed) or are seeking work. However, the concept seems to be particularly difficult to apply to developing countries because of the problem in defining the concepts of work and non-work in a subsistence economy. It is quite hard for western analysts to make the distinction between work and non-work in developing countries because both activities (work and non-work) are combined. For instance, in the case of Nigeria, many married women may work in the field growing vegetables as well as taking care of the children (Julius, 2011). Female labour force participation refers to the ratio of females who are classified as economically active in the labour force and the females inactive in the labour force. Economically active females include those who are employed and those who are unemployed but looking for work. This also includes women who are already in the labour force plus the inactive population which excludes unemployed persons such as children, inmates of institution, the disabled and the elderly. Therefore, the appropriate definition of female labour force participation is the percentage of the female population that has worked in the reference period or is willing to work.

### The concept of Economic Growth

Economic growth, often proxied by GDP, as Balami (2006) noted, refers to increase in output of an economy's capacity to produce goods and services needed to improve the welfare of the country's citizens. It is a steady process that involves increasing the level of output of goods and services in the economy. Growth is meaningful when the rate of growth is much higher than population growth because it has to lead to improvement in human welfare. Therefore, growth is seen as a steady process of increasing the productive capacity of the economy and hence, of increasing national income, being characterized by higher rates of increase of per capita output and total factor productivity especially labour productivity.

### The Nigerian Labour Force Participation

Based on ILO time series data from 1980 to 2009 and the data from the 2005 cross-section study for all the

members of the labor force, the Labor Force Participation Rate (LFPR) for males is over 70% but steadily declined from 77% in 1980 to 73% in 2009. In contrast, the female LFPR increased steadily from 36% in 1980 to 39% in 2009. While the youths in the 15-24 age cohort show a similar LFPR pattern like that for the total population, they, as a group, report the lowest participation rates. For all the members of the labor force, the males in the 25-54 and 55-64 age cohorts record the highest LFPR for the period 1980 to 2005. The former age grade maintains a male LFPR of about 96% while the female participation rate rose steadily from 46% in 1980 to 51.5% in 2009. The latter age cohort (55-64 years) exhibits the highest female labor force participation ranging from 59.9% in 1980, dropped to 50.6 in 1990 and rose steadily to 52.9 in 2009. It shows the ratio of Non-workers and Active workers. In general, over the period of 1980 through 2009, the female labor force participation has been on the rise for all age groups except for 55-64 cohort. In contrast, the participation of the males has been on the decline. The rise in female labor force is expected and this is due to several factors such as increasing educational attainment of women, the resulting decline in the fertility level, the increased emphasis on gender equality, the desire to enjoy a higher quality of life as national per capita income rises, and several others. The decline in the male labor force participation may not be unconnected with factors like reducing work hours per week due to union agitation in the formal sector, massive lay-off due to unfavorable economic climate, among many other factors.

### **Factors Affecting Labor Force Participation in Nigeria**

In a survey study conducted by NMB; the age and Labour Participation Force of Respondent. The distribution of labor market participation is influenced by several factors such as personal characteristics of respondents, region of origin, as well as the household characteristics. (NMB, 2005). (LPFR) move in the same direction until age 64 when participation dropped sharply as from age. The males participate more than the females. The married are more active in the labor market than the singles while the divorced/separated group has the highest participation level among the different subcategories in the marital status variable. With respect to education, those with no formal education plus those with primary education have the same level of participation of 58-59%. It is evident that individual decision-making in matters of labor force participation is influenced simultaneously by the household structure. Also not neglecting an individual's disposition to work or seek work could be influenced by a host of factors in the household or family unit, such as pressure to meet a lot of financial obligations to other members of the household or to combine work in the market place with household work.

In the Nigerian case study, age, education, being married, residing in the Southern part of the country (which is more industrialized and economically diversified) and being male increase labor force participation, while living in the urban area decreases it. The latter finding, which is unexpected, may be due to the prevailing high rate of urban unemployment vis-à-vis the relatively high opportunity for under-employment in the rural economy. Summarily, the influence of household structure on labor force participation in Nigeria in terms of one's household status which confers certain responsibilities as is the case of heads of households, husbands vis-à-vis other members of the household; and household size which represents an index of financial pressure and responsibility for male heads of households but, in contrast, an index of household work and responsibility for female heads of households. The implication is that while male heads and husbands in the Nigerian households are able to respond to the "bread winner" responsibilities conferred on them by the society via a higher propensity to participate in the labor force and have more income-earning opportunities, female heads facing similar responsibilities and the need.

### **Empirical Literature**

Anyanwu, Olanrewaju, Babatunde, Adediji, and Adesanya (2021) examined female labour force participation and economic growth nexus in Nigeria using time series data for the period of 1981 to 2015. They established cointegrating relationships and used the Ordinary Least Square (OLS) estimation technique to obtain the long run elasticity coefficients. Their major finding showed an inverse relationship between Female labour force participation and economic growth. They recommended that active labour market policies were needed in Nigeria to promote women's labour market participation in the interest of overall economic growth and development in Nigeria.

Yakubu, Akanegbu, and Jelilov (2020) examined empirically the effect of labour force participation on economic

growth in Nigeria for the period 1990-2017 using time series data sourced from World Bank Development Indicators 2018 database, for both the dependent and independent variables. Johannsen Cointegration, and Vector Error Correction model (VECM) econometric tools were employed. Finding showed that the variables have long-run relationship and that long-run causality was found running from LFPR and GFCF to RGDP. The study recommended that it is necessary for policy makers to address the problems of unemployment and gender inequality in employment.

Neelam (2020) worked on women's participation in workforce: A comparative study of teachers and bank employees and noted that women are most important resource in the development of the country as it comprising of half of the world's population is not fully harnessed as a human resource. Any society cannot develop so much if its 50 % population which is women not participates in the labor market. The labor force participation rate is a measure of the proportion of a country's working age population that engages actively in the labor market, either by working or by looking for work. Today, the state has accepted women's empowerment, and women as active agents participating in their own development. Most of the countries now recognize the need for gender justice and equality. Women can change the nature of power rather than power change the nature of women. The Female Labor Force Participation rate for India remains abysmally low at around 27 % when the male labor force participation rate is 79.9%. The surprising part is that FLFP was 33.9 % in 2005 and has declined ever since. Clearly, the economic progress in India has not permeated to women, at least when you use FLFP as a proxy for women's economic progress. What is more astounding is that the FLFP for a country with similarly large population – China– is 64% and for the USA, a democracy like India, is 56.3% (World Bank, 2017). This study highlights different studies, and different factors which impact the participation of the women in the workforce such as demographic factors like age, caste, education, marriage. The main objective of the paper is to discuss Education as an important factor to participate in the participation also what are various trends which affects participation in workforce, reasons for the decreasing participation of the women in the workforce.

Ahasan, Golam, Muhaiminu, and Dilruba (2019) investigated the relationship between the labor force participation rate for both male and female, gross fixed capital formation, and economic growth in Bangladesh using the annual time series data from 1991 to 2017. The results found two bidirectional nexus which one was between total labor force participation and economic growth and second was between gross fixed capital formations and economic growth. The findings also showed a unidirectional causal association from female labor force participation to economic progress for Bangladesh. The study also found that both total labor force participation and female labor force participation had short-run positive significant effects on the economic development for Bangladesh but adverse effects in the long run. On the contrary gross fixed capital formation contained short term significant negative indication on the economic growth but had an explicit positive considerable impact on the economic development of Bangladesh. The government of Bangladesh needed to give more importance in technical education format that will produce more skilled labor.

Salimov (2019) analysed the effect of female labor force participation rate (FLFPR) on economic growth and included changes in male labor force participation rate (MLFPR) to help improve the power of the model using three robust regressions on the sample of 16 Latin Countries (Argentina, Bolivia, Brazil, Colombia, Costa Rica, Dominican Republic, Ecuador, Guatemala, Honduras, Venezuela, RB, Jamaica, Mexico, Nicaragua, Panama, Paraguay, El Salvador) for the period of 1995-2015 in order to identify the effect of each key variable when tested separately and when tested together. The results indicated that the coefficients of FLFPR and MLFPR are different and also the addition of MLFPR to the model that has an explanatory variable FLFPR and dependent variable economic growth clearly improves the predicting power of the model and helps obtain better coefficients. It was also identified that FLFPR has a strong positive relationship with economic growth, while MLFPR has a negative effect on the latter. Finally, the existence of u-shape relationship between FLFPR and economic growth was reaffirmed in that thesis, while it was also shown that MLFPR does not have a u-shape relationship with the economic growth.

Ademola (2018) empirically examined the impact of labour force dynamics on economic growth in Nigeria over the period 1970–2015 using the newly developed bounds testing approach to co-integration. The results obtained revealed that both the short-run and long-run growth impacts of labour force dynamics in Nigeria were significant and positive. In particular, the results showed that for a one-percentage point increase in labour force

dynamics, 1.0825 percent per capital real GDP is induced in the long-run. Having ascertained the significance of labour force dynamics in positively influencing economic growth in Nigeria, the study recommended that the government should implement a broad set of employment generating policies with the ultimate aim of fostering a sustained increase in the growth rate of real GDP.

Adofu, & Okwanya, (2018) noted that the International Labour Organization (ILO) indicated that female labour force participation rate in Nigeria has been growing in recent years and based on that assertion, examined the effect of the growth in female labour force on economic growth in Nigeria between 1985-2016. Unit root and ARDL bound tests were used to determine whether the growth in female labour force and economic growth are stationary and co-integrated. The study also used the Dynamic Ordinary Least Square (DOLS) model and the Granger causality test to assess the impact of the growth in female labour on economic growth and determined the causal relationship between the variables respectively. The results of the study showed that growth in female labour has a negative and significant effect on economic growth in Nigeria and that there exists a unidirectional causality that runs from growth in female labour to economic growth. The findings suggested that policies geared towards improving the productivity of female labour in Nigeria should be encouraged so as to improve their contribution to growth.

Iweagu, Nwokolo and Bulus (2015) studied the determinants of female labour force participation in Nigeria: The rural/urban dichotomy and noted that cultural and traditional beliefs that determine husband's willingness to permit their spouse work were predominant in rural areas and that motivated the study to investigate the determinants of labour force separately in urban and rural sectors of Nigeria. The study employed the logistic regression on a house hold survey data of employment and discovered that the determinants of female labour participation were not the same in urban and rural areas. The results suggested that marital status, religion, poverty rate and per capita income were significant determinants in the rural sector, while age and literacy rate were the significant determinants in the urban sector. Since the determinants in the urban and rural regions were completely different, the study recommends that, discriminate policies be encouraged when designing measures to improve female labour participation.

Muhammad (2014) examined the impact of labour force participation on economic growth in Pakistan. The study found the short run and long run relationship between the economic growth, labour force participation and gross fixed capital formation. The time series data collected from Pakistan Bureau of Statistic, State Bank of Pakistan and World Bank for the time period of 1980 to 2012 were used. Initially Augmented Dicky Fuller and Phillip Perron tests were used to show that gross fixed capital formation was stationary on first difference but other variables stationary on level and intercept. Furthermore, Johnson Co-integration test showed that the long run relationship did exist between the variables. The vector error correction model indicated that economic growth had negative insignificant relationship, gross fixed capital formation had positive significant relationship and labour force participation had negative significant relationship, in short run.

## METHODOLOGY

### Research Design.

The research design adopted for this work is ex-post facto research design. Kerlinger (1970) as cited in Modebe (2012), defined ex-post facto research design as one in which the independent variable or variables have already occurred and in which the researcher starts with the observation of a dependent variable or variables. Onwumere (2005) noted that the ex post facto research design establishes a causal link between the dependent and the independent variables.

### Theoretical Framework

Theoretical framework adopted for this study is anchored on the Neoclassical growth theory which maintained that there is a positive relationship between economic growth, capital stock, labour and technological progress. The main proponents of economic growth include Solow (1962) and Romer (1991). The theory maintained that growth in GDP is a function of growth in labour, capital and technology. The theory holds that technology play an important role in increasing per capita output by augmenting either labour, capital or both. However, recent

researches have emphasised on the importance of human capital in economic growth (see, Levin & Rant, 1997; Rizvi & Lingard, 2007). This thus suggest that increase human capital efficiency tends to lead to increase in the output of a country mainly because technological progress that is labour augmented increases output faster, especially in developing country.

### Model Specification

The study employs the Cobb-Douglas production function as follows:

$$Y = A \cdot K^\alpha \cdot L^\beta \tag{1}$$

where

Y represents the RGDP growth exercised as a proxy of economic growth,

A is for technological progress,

K exhibits capital stock, and

L for the labor force.

Therefore, the equation mentioned above is used as an econometric model to point out the relationship between economic growth and labor force participation. The following model is used to examine the impact of male labour force and female labour force participation on economic growth in Nigeria.

Mathematical specification:

$$RGDP = (MLFPR, FLFPR) \tag{1}$$

Econometric form of the model is specified as follows:

$$RGDP = \beta_0 + \beta_1 MLFPR + \beta_2 FLFPR + U \tag{2}$$

ARDL model is specified thus:

$$\begin{aligned} \Delta LN RGDP = & \beta_0 + \beta_1 MLFPR_{t-1} + \beta_2 FLFPR_{t-1} + \sum_{i=1}^k \delta_{1i} \Delta MLFPR_{t-1} \\ & + \sum_{i=1}^k \delta_{2i} \Delta \beta_2 FLFPR_{t-1} + \delta_{3i} ECM_{t-1} + \varepsilon_t \end{aligned} \tag{3}$$

where

RGDP = Real gross domestic product (in log form)

MLFPR = Male Labor Force Participation Rate

FLFPR = Female Labor Force Participation Rate

$\beta_1, \beta_2$  = Parameters to be estimated for each independent variable.

U = error term

A priori:  $\beta_1 > 0, \beta_2 > 0$ .

### Method of Evaluation

Econometric methodology will be employed in analyzing the data. Thus, Unit root test, co-integration test will be used to carry out the diagnostic tests of the time series data. Autoregressive distributed lag (ARDL) technique

and Granger causality approach will be the models for analyzing the work. The order of integration of the variables in the model will inform the adoption of the autoregressive distributed lag (ARDL) technique as more appropriate since the application of autoregressive distributed lag (ARDL) model is only applicable where the variables are either I (0), I (1) or mixture of I (0), I (1). E views 9 Econometric software will be used to estimate the specified models.

### Unit Root Test for Stationarity

The variables in the model will be tested and corrected for stationarity. The stationarity of each individual time series over the same time period is a pre-condition for co-integration test for the analysis of the long-run relationships between the variables. Augmented Dickey-Fuller (ADF) unit root test will be used to determine the unit root properties of the single series. Given the time series nature of the data, the unit root procedure requires estimating the ADF equation:

$$\Delta Y_t = \alpha_0 + \eta Y_{t-1} + \sum_{i=1}^k B_i \Delta Y_{t-i} + U_t$$

where

$\Delta Y_t = Y_t - Y_{t-1}$  is the difference of series  $Y_t$ .

$\Delta Y_{t-1} = Y_{t-1} - Y_{t-2}$  is the first difference of  $Y_{t-1}$ .

$\alpha_0$ ,  $\eta$ , and  $B_i$  are parameters to be estimated and  $U_t$  is stochastic error term.

The null hypothesis of non stationarity (presence of unit root) is accepted if

$\eta = 0$  while the null hypothesis of non stationarity is rejected if  $\eta < 0$ .

### Co-integration Test

The model will also be tested for co-integration to find out if a long run relationship exists among the variables in the model and to provide long run estimates of the variables. The co-integration test is done using ARDL bounds test for co-integration.

### Granger causality test

Granger causality test is conducted to test whether any causal relationship exist between real gross domestic product (RGDP) and the explanatory variables in the model. Engle and Granger (1987) noted that if two variables are co-integrated, the possibility of causality between the two exists, at least in one direction. Granger causality test for the series can be expressed in general form as follows:

$$Y_t = \sum_{i=1}^k \delta_{11i} Y_{t-1} + \sum_{i=1}^k \delta_{12i} Y_{t-1} + U_{1t}$$

$$X_t = \sum_{i=1}^k \delta_{21i} Y_{t-1} + \sum_{i=1}^k \delta_{22i} Y_{t-1} + U_{2t}$$

where

$Y$  = dependent variable,

$X$  = independent variables in the model,

$t$  = the current period of the variables and

$t-i$  = the lagged period of the variables,

$\delta_{11}$  to  $\delta_{22}$  = the coefficients of the lagged variables and

$U_1$  and  $U_2$  = mutually uncorrelated white noise error terms.



The Granger causality analysis decision rule follows F-distribution. Rejected null hypothesis if the  $p(F\text{-statistic}) < 0.05$ , otherwise accept.

### Post Estimation Test

Post estimation test will be performed to check for autocorrelation as well as heteroscedasticity. The Test of Heteroscedasticity will be conducted using the Breusch-Pagan-Godfrey heteroscedasticity test. This will be used to evaluate if the assumptions of the econometric method employed is satisfactory or not. The tests to be carried out under this criterion include: Autocorrelation Test which adopts the conventional ‘Durbin-Watson test’ in checking for the present and correlation. Multi-collinearity test that adopts the correlation matrix test in order to check for the degree of multi-collinearity among the variables. Normality test to check whether the error term followed a normal distribution. The normality test to be adopted in this research is Jarque Bera (JB) statistics which follows the chi-square distribution with 2 degrees of freedom. Heteroscedasticity test will be carried out to ascertain the level of distribution of error term (to know whether the variance is constant). This test will be carried out using Breusch-Pagan-Godfrey heteroscedasticity test. It follows chi-square distribution with degree of freedom equal to the number of regressors excluding the constant term.

### Data Required and Sources

The data used in this work are annual time series secondary data sourced from CBN statistical bulletin 2021 online edition, ILO and World Bank Indicators for the period 1990 to 2021. The variables employed include real gross domestic product (RGDP), male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR). Eviews 9 was used in estimating the specified model.

## RESULTS AND DISCUSSION

### Unit Root Test

Augmented Dickey Fuller (ADF) unit root test is conducted at 5% level of significance to verify the stationarity property of the variables in the model, whether the mean value and variances of the variables are time invariant, in other words constant over time or fixed over time in order to avoid generating spurious regression. The null hypothesis states that the series has a unit root if t-statistic is less than the critical value at 5%, otherwise the study rejects it. The result of the unit root test is presented in table 4.1 below.

Table 4.1: Unit Root Test Result

Table 4.1: ADF Unit Root Test

Variables	ADF Test Statistic	5% Critical Value	Prob-Value	Order of Integration
LNRGDP	-4.437489	-2.963972	0.0015	I(1)
MLFPR	-3.908075	-2.963972	0.0056	I(1)
FLFPR	-3.206773	-2.963972	0.0295	I(1)

Source: Researcher’s computation from E-view

The result of Augmented Dickey Fuller (ADF) unit root test (table 4.1) above showed that real gross domestic product (LNRGDP), male labor force participation rate (MLFPR), and female labor force participation rate (FLFPR) are integrated of order one, I (1); none of the variables is stationary at level I (0). The unit root test results therefore fulfilled the underlying conditions for ARDL bound testing proposed by Pesaran et al., (2001) as none of the variables in the model is I (2). In view of this, the co-integration estimation is done using ARDL bounds test framework to test the sufficient condition for the error correction model after satisfying the stationary requirements.

### Co-integration Test - ARDL Bounds Test

The result of ARDL Bounds test performed to test for the presence of co-integration among the variables in the model presented in table 4.2 below showed that the computed F-Statistic for the equation is 4.320825 which fell in between the lower and the upper bounds critical value of 3.79 and 4.854.01 at 5% level of significance. This indicates that the result is inconclusive.

Table 4.2 ARDL Bounds Test

ARDL Bounds Test		
Null Hypothesis: No long-run relationships exist		
Test Statistic	Value	K
F-statistic	4.320825	2
Critical Value Bounds		
Significance	I0 Bound	I1 Bound
10%	3.17	4.14
5%	3.79	4.85
2.5%	4.41	5.52
1%	5.15	6.36

Source: E views 9 Regression Output

### Auto-Regressive Distributed Lag (ARDL) Model

The ARDL model estimation procedure is employed to ascertain the short-run interactions and the long-run relationship of variables in the model. ARDL technique was developed by Pesaran, Shin, and Smith (2001); and Pesaran and Shin (1999) in their efforts to analyze the long-run and short-run coefficients of the variables under study.

### Lag Selection Method

The Akaike Information Criterion (AIC) model selection method was employed to determine the optimal lag length for the dependent and independent variables in the model and to select (by automatic selection) the ARDL (3, 4, 3) model presented in Table 4.3 below.

Table 4.3 ARDL (3, 4, 3) Regression Model

Dependent Variable: LNRGDP				
Selected Model: ARDL (3, 4, 3)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
LNRGDP (-1)	1.242319	0.110332	11.25980	0.0000
LNRGDP (-2)	-0.634093	0.169960	-3.730844	0.0020
LNRGDP (-3)	0.447968	0.122429	3.659008	0.0023
MLFPR	-0.017396	0.006190	-2.810465	0.0132
MLFPR (-1)	0.030429	0.010187	2.987127	0.0092
MLFPR (-2)	-0.035788	0.011679	-3.064421	0.0079

MLFPR (-3)	0.025997	0.008583	3.028945	0.0085
MLFPR (-4)	-0.010707	0.001374	-7.792476	0.0000
FLFPR	0.018720	0.006514	2.873598	0.0116
FLFPR (-1)	-0.031822	0.011981	-2.655956	0.0180
FLFPR (-2)	0.031103	0.014316	2.172569	0.0463
FLFPR (-3)	-0.014295	0.010401	-1.374427	0.1895
C	0.141998	0.133398	1.064472	0.3040
R-squared	0.997210	Mean dependent var		2.361403
Adjusted R-squared	0.994978	S.D. dependent var		0.044266
S.E. of regression	0.003137	Akaike info criterion		-8.386654
Sum squared resid	0.000148	Schwarz criterion		-7.768130
Log likelihood	130.4131	Hannan-Quinn criter.		-8.197565
F-statistic	446.7539	Durbin-Watson stat		2.291548
Prob(F-statistic)	0.000000			
*Note: p-values and any subsequent tests do not account for model				

Source: E views 9 Regression Output

### Regression Model

Table 4.4: ARDL Cointegrating and Long Run Form

ARDL Cointegrating And Long Run Form				
Dependent Variable: LNRGDP				
Cointegrating Form				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D (LNRGDP (-1))	0.186125	0.112134	1.659845	0.1177
D (LNRGDP (-2))	-0.447968	0.122429	-3.659008	0.0023
D (MLFPR)	-0.017396	0.006190	-2.810465	0.0132
D (MLFPR (-1))	0.035788	0.011679	3.064421	0.0079
D (MLFPR (-2))	-0.025997	0.008583	-3.028945	0.0085
D (MLFPR (-3))	0.010707	0.001374	7.792476	0.0000
D (FLFPR)	0.018720	0.006514	2.873598	0.0116
D (FLFPR (-1))	-0.031103	0.014316	-2.172569	0.0463
D (FLFPR (-2))	0.014295	0.010401	1.374427	0.1895
CoInt Eq (-1)	0.056194	0.044342	1.267298	0.2244

Cointeq = LNRGDP - (0.1329*MLFPR -0.0660*FLFPR -2.5269)				
Long Run Coefficients				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MLFPR	0.132874	0.105601	1.258264	0.2275
FLFPR	-0.065952	0.057149	-1.154037	0.2665
C	-2.526926	3.761523	-0.671782	0.5119

Source: E views 9 Regression Output

The results of ARDL Error Correction Regression in table 4.4 above indicates that the co-efficient of the short-run dynamic impact of male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR) in the model is not negatively signed, and not statistically significant as desired though fractional. The coefficient of the error correction mechanism (ECM) is estimated at 0.056194 with probability value of 0.2244 and t-statistic value of 1.267298. Therefore, the ECM is not statistically significant. It implies no speed of adjustment process.

The result of the short run estimation showed that current period male labour force participation rate (MLFPR) has statistically significant impact on economic growth in Nigeria in the short run as indicated by its t-statistic and probability values of -2.810465 and 0.0132. Its coefficient is found to be negative at -0.017396 value, meaning that a unit change in male labour force participation rate reduces economic growth by in Nigeria by 0.017 approximately 0.02 units. Lags 1, 2 and 3 of male labour force participation rate (MLFPR) were also found to have statistically significant impact on economic growth in Nigeria over the period studied. This is indicated by their t-statistic and probability values of 3.064421 and 0.0079; -3.028945 and 0.0085; 7.792476 and 0.0000 respectively. The result further indicated that the impact of female labour force participation rate (FLFPR) on economic growth in Nigeria in the current period is statistically significant in the short run at 5% level of significance as shown by its t-statistic and probability values of 2.873598 and 0.0116. Lag 1 of female labour force participation rate (FLFPR) also has statistically significant impact on economic growth in Nigeria over the period as indicated by its t-statistic and probability values of -2.172569 and 0.0463.

The result of the long run form of the ARDL model in table 4.4 above however showed constant value of -2.526926 which implies that without any change in the independent variables in the model, the constant independently changes the RGDP by -2.526926. The result also indicated that, in the long run, male labour force participation rate has the coefficient value of 0.132874. This implies that MLFPR has positive relationship with RGDP in Nigeria. The result further revealed that MLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review as indicated by its t – statistic and probability values of 1.258264 and 0.2275 respectively. The result equally indicated that, in the long run, female labour force participation rate has the coefficient value of -0.065952 which is negative. This means that FLFPR has negative relationship with RGDP in Nigeria. The result revealed also that FLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review as indicated by it t – statistic and probability values of -1.154037 and 0.2665 respectively.

The R squared value of 0.997210 in the regression equation above showed that the explanatory variables: MLFPR, and FLFPR explained real gross domestic product of Nigeria by 0.997210 or 99 %; the remaining portion, 1% is attributed to other macroeconomic variables outside the model.

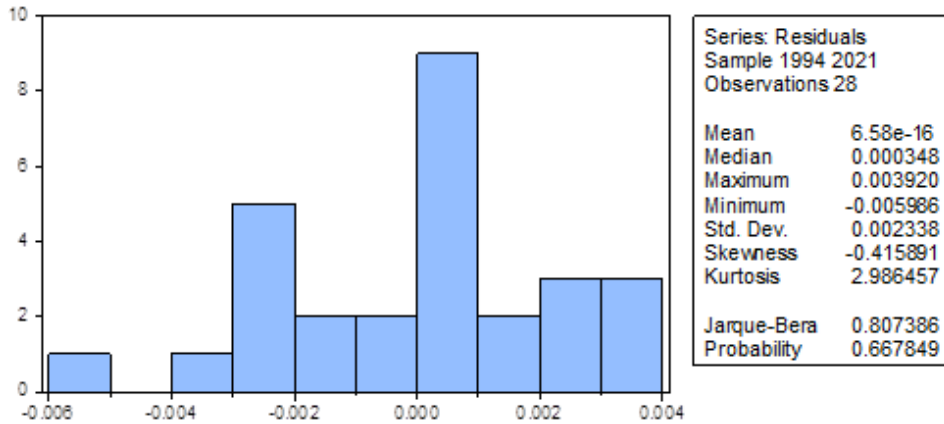
The F-statistic value of 446.7539 and the probability value of 0.000000 indicated that the overall model is statistically significant. In other words, the explanatory variables are jointly significant in explaining the dependent variable. This is indicated by the probability value of 0.000000 which is less than 0.05 level of significance.

**Residual Diagnostics**

### Normality Test

Jarque-Bera Test was carried out to determine whether the residuals followed the normal distribution postulated by classical OLS assumptions. The result presented in figure 4.5 indicates that Jarque – Bera probability is 0.667849 which is greater than 0.05. This means that the residuals follow normal distribution; the assumptions of normal distribution are satisfied.

Figure 4.5 Jarque-Bera Test



Source: E views 9 Regression Output

### Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test was carried out to verify whether the residuals from the model are serially correlated.

Table 4.6 Serial Correlation LM Test

Breusch-Godfrey Serial Correlation LM Test:			
F-statistic	0.976171	Prob. F (2,13)	0.4027
Obs*R-squared	3.655987	Prob. Chi-Square (2)	0.1607

Source: E views 9 Regression Output

The result presented in Table 4.6 above indicates Obs\*R-squared p-value of 0.1607 which is greater than 0.05. This implies that there is no serial correlation problem in the model.

### Heteroskedasticity Test

The result of heteroskedasticity test presented in table 4.7 below also revealed that the residuals are homoskedastic. The Prob. Chi-Square is 0.7895 which is greater than 0.05.

Table 4.7 Heteroskedasticity Test

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
F-statistic	0.495065	Prob. F (12,15)	0.8872
Obs*R-squared	7.943442	Prob. Chi-Square (12)	0.7895
Scaled explained SS	2.264250	Prob. Chi-Square (12)	0.9989

Source: E views 9 Regression Output

### Ramsey RESET Test

Ramsey RESET Test is a specification test for checking whether the model estimated was correctly specified. It makes use of f – statistic. The null hypothesis is that the model was correctly specified. If the probability value of f – statistic is less than 0.05, reject the null hypothesis, otherwise do not reject null hypothesis. The result showed f – statistic probability value of 0.4284 which is greater than 0.05 meaning that null hypothesis should not be rejected. Thus, the estimated model was correctly specified. The result is presented in table 4.8 below.

Table 4.8 Ramsey RESET Test

Ramsey RESET Test			
Omitted Variables: Squares of fitted values			
	Value	Df	Probability
t-statistic	0.815647	14	0.4284
F-statistic	0.665281	(1, 14)	0.4284

Source: E views 9 Regression Output

### Stability Tests (CUSUM and CUSUMSQ) of the Model

Figure 4.6 and Figure 4.7 below showed the plot of stability tests (CUSUM and CUSUMSQ) of the model. The CUSUM and CUSUMSQ are plotted against the critical bounds at 5% level of significance. The result indicates that the model is stable since the critical bounds at 5% fell in between the two 5% lines. This is further confirmed by the CUSUM OF SQUARES TEST Figure 4.7:

Figure 4.6 CUSUM TEST

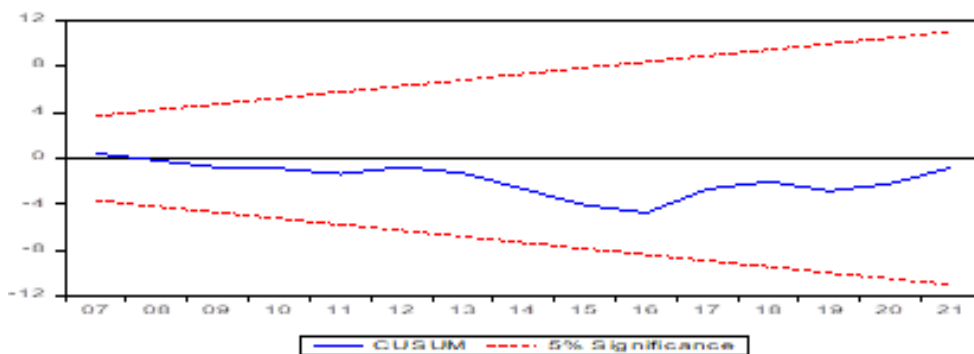
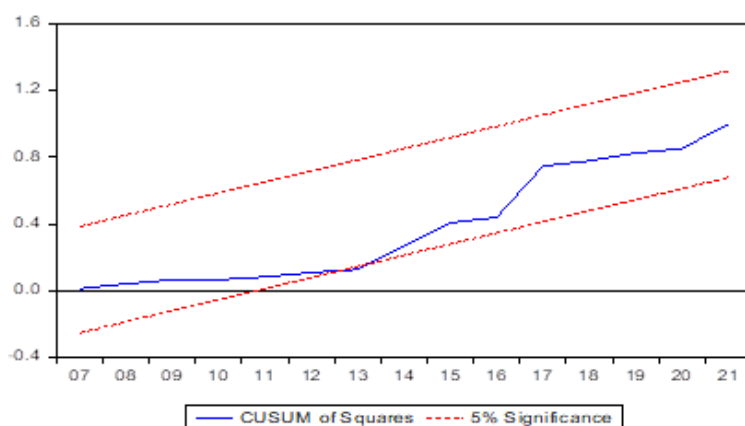


Figure 4.7 CUSUM OF SQUARES TEST



Source: E views 9 Regression Output

## Granger Causality Tests

Table 4.9 Granger Causality Tests

Pairwise Granger Causality Tests			
Null Hypothesis:	Obs	F-Statistic	Prob.
MLFPR does not Granger Cause LNRGDP	30	0.40440	0.6717
LNRGDP does not Granger Cause MLFPR		3.59204	0.0425
FLFPR does not Granger Cause LNRGDP	30	0.58024	0.5671
LNRGDP does not Granger Cause FLFPR		3.01887	0.0669

Source: E views 9 Regression Output

The result of Granger Causality Tests in table 4.9 above indicates that there is uni-directional causality relationship between male labour force participation rate (MLFPR) and economic growth (RGDP) in Nigeria over the period covered with the causality running from economic growth to male labour force participation rate as indicated by the probability values of 0.0425. The result further indicates that there is no significant causality relationship between female labour force participation rate (FLFPR) and economic growth in Nigeria (RGDP) over the period covered as indicated by the probability values of both female labour force participation rate and economic growth.

### Test of Hypotheses

The study tested the hypotheses that the Male labour force participation rate as well as Female labour force participation rate have no significant impact on economic growth in Nigeria and that there is no significant causality relationship between male labour force participation rate, female labour force participation rate, and economic growth in Nigeria. The result showed that current period male labour force participation rate (MLFPR) has statistically significant impact on economic growth in Nigeria in the short run as indicated by its t-statistic and probability values of -2.810465 and 0.0132. Its coefficient is found to be negative at -0.017396 value, meaning that a unit change in male labour force participation rate reduces economic growth by in Nigeria by 0.017 approximately 0.02 units. Lags 1, 2 and 3 of male labour force participation rate (MLFPR) were also found to have statistically significant impact on economic growth in Nigeria over the period studied. This is indicated by their t-statistic and probability values of 3.064421 and 0.0079; -3.028945 and 0.0085; 7.792476 and 0.0000 respectively. The result further indicated that the impact of female labour force participation rate (FLFPR) on economic growth in Nigeria in the current period is statistically significant in the short run at 5% level of significance as shown by its t-statistic and probability values of 2.873598 and 0.0116. Lag 1 of female labour force participation rate (FLFPR) also has statistically significant impact on economic growth in Nigeria over the period as indicated by its t-statistic and probability values of -2.172569 and 0.0463.

The result also indicated that, in the long run, male labour force participation rate has the coefficient value of 0.132874. This implies that MLFPR has positive relationship with RGDP in Nigeria. The result further revealed that MLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review as indicated by its t – statistic and probability values of 1.258264 and 0.2275 respectively. The result equally indicated that, in the long run, female labour force participation rate has the coefficient value of -0.065952 which is negative. This means that FLFPR has negative relationship with RGDP in Nigeria. The result revealed also that FLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review as indicated by its t – statistic and probability values of -1.154037 and 0.2665 respectively.

The result of Granger Causality Tests indicates that there is uni-directional causality relationship between male

labour force participation rate (MLFPR) and economic growth (RGDP) in Nigeria over the period covered with the causality running from economic growth to male labour force participation rate as indicated by the probability values of 0.0425. The result further indicates that there is no significant causality relationship between female labour force participation rate (FLFPR) and economic growth in Nigeria over the period covered as indicated by the probability values of both female labour force participation rate and economic growth (RGDP).

## DISCUSSION OF FINDINGS

The result of ARDL Bounds test performed to test for the presence of co-integration among the variables in the model showed that the computed F-Statistic for the equation is 4.320825 which fell in between the lower and the upper bounds critical value of 3.79 and 4.854.01 at 5% level of significance. The result is therefore inconclusive. The results of ARDL Error Correction Regression indicates that the co-efficient of the short-run dynamic impact of male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR) in the model is not negatively signed, and not statistically significant as desired though fractional. The coefficient of the error correction mechanism (ECM) is estimated at 0.056194 with probability value of 0.2244 and t-statistic value of 1.267298. Therefore, the ECM is not statistically significant. It implies no speed of adjustment process. The result of the short run estimation showed that current period male labour force participation rate (MLFPR) has statistically significant impact on economic growth in Nigeria in the short run as indicated by its t-statistic and probability values of -2.810465 and 0.0132. Its coefficient is found to be negative at -0.017396 value, meaning that a unit change in male labour force participation rate reduces economic growth by in Nigeria by 0.017 approximately 0.02 units. Lags 1, 2 and 3 of male labour force participation rate (MLFPR) are also found to have statistically significant impact on economic growth in Nigeria over the period studied. This is indicated by their t-statistic and probability values of 3.064421 and 0.0079; -3.028945 and 0.0085; 7.792476 and 0.0000 respectively. The result further indicated that the impact of female labour force participation rate (FLFPR) on economic growth in Nigeria in the current period is statistically significant in the short run at 5% level of significance as shown by its t-statistic and probability values of 2.873598 and 0.0116. Lag 1 of female labour force participation rate (FLFPR) also has statistically significant impact on economic growth in Nigeria over the period as indicated by its t-statistic and probability values of -2.172569 and 0.0463.

The result of the long run form of the ARDL model however showed constant value of -2.526926 which implies that without any change in the independent variables in the model, the constant independently changes the RGDP by -2.526926. The result also indicated that, in the long run, male labour force participation rate has the coefficient value of 0.132874. This implies that MLFPR has positive relationship with RGDP in Nigeria. The result further revealed that MLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review as indicated by its t – statistic and probability values of 1.258264 and 0.2275 respectively.

The result equally indicated that, in the long run, female labour force participation rate has the coefficient value of -0.065952 which is negative. This means that FLFPR has negative relationship with RGDP in Nigeria. The result revealed also that FLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review as indicated by its t – statistic and probability values of -1.154037 and 0.2665 respectively. The R squared value of 0.997210 in the regression equation showed that the explanatory variables: MLFPR, and FLFPR explained real gross domestic product of Nigeria by 0.997210 or 99 %; the remaining portion, 1% is attributed to other macroeconomic variables outside the model. The F-statistic value of 446.7539 and the probability value of 0.000000 indicated that the overall model is statistically significant. In other words, the explanatory variables are jointly significant in explaining the dependent variable. This is indicated by the probability value of 0.000000 which is less than 0.05 level of significance.

The result of Granger Causality Tests indicates that there is uni-directional causality relationship between male labour force participation rate (MLFPR) and economic growth (RGDP) in Nigeria over the period covered with the causality running from economic growth to male labour force participation rate as indicated by the probability values of 0.0425. The result further indicates that there is no significant causality relationship between female labour force participation rate (FLFPR) and economic growth in Nigeria over the period covered as indicated by the probability values of both female labour force participation rate and economic growth (RGDP)



## SUMMARY, CONCLUSION AND RECOMMENDATIONS

### Summary of Findings

This work investigated the impact of labour force participation on economic growth in Nigeria over the period 1990 to 2021 using annual time series data on real gross domestic product (RGDP), male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR).

The study employed ARDL Bounds Testing methodology in determining whether long run relationship exists between male labour force participation rate (MLFPR), female labour force participation rate (FLFPR) and real gross domestic product (RGDP) in Nigeria. The objectives are to examine the impact of labour force participation rate, disaggregated into male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR), on economic growth in Nigeria for the period 1990 to 2021 and to find out the causality relationship between male labour force participation rate, female labour force participation rate, and economic growth in Nigeria

The result of the short run estimation showed that current period male labour force participation rate (MLFPR) has statistically significant impact on economic growth in Nigeria in the short run as indicated by its t-statistic and probability values of -2.810465 and 0.0132. Its coefficient is found to be negative at -0.017396 value, meaning that a unit change in male labour force participation rate reduces economic growth by in Nigeria by 0.017 approximately 0.02 units. Lags 1, 2 and 3 of male labour force participation rate (MLFPR) are also found to have statistically significant impact on economic growth in Nigeria over the period studied. This is indicated by their t-statistic and probability values of 3.064421 and 0.0079; -3.028945 and 0.0085; 7.792476 and 0.0000 respectively. The result further indicated that the impact of female labour force participation rate (FLFPR) on economic growth in Nigeria in the current period is statistically significant in the short run at 5% level of significance as shown by its t-statistic and probability values of 2.873598 and 0.0116 Lag 1 of female labour force participation rate (FLFPR) also has statistically significant impact on economic growth in Nigeria over the period as indicated by its t-statistic and probability values of -2.172569 and 0.0463.

The result of the long run form of the ARDL model however showed constant value of -2.526926 which implies that without any change in the independent variables in the model, the constant independently changes the RGDP by -2.526926. The result also indicated that, in the long run, male labour force participation rate has the coefficient value of 0.132874. This implies that MLFPR has positive relationship with RGDP in Nigeria. The result further revealed that MLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review as indicated by its t – statistic and probability values of 1.258264 and 0.2275 respectively.

The result equally indicated that, in the long run, female labour force participation rate has the coefficient value of -0.065952 which is negative. This means that FLFPR has negative relationship with RGDP in Nigeria. The result revealed also that FLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review as indicated by its t – statistic and probability values of -1.154037 and 0.2665 respectively.

The result of Granger Causality Tests indicates that there is uni-directional causality relationship between male labour force participation rate (MLFPR) and economic growth (RGDP) in Nigeria over the period covered with the causality running from economic growth to male labour force participation rate as indicated by the probability values of 0.0425. The result further indicates that there is no significant causality relationship between female labour force participation rate (FLFPR) and economic growth in Nigeria over the period covered as indicated by the probability values of both female labour force participation rate and economic growth (RGDP).

### Conclusion

This work investigated the impact of labour force participation on economic growth in Nigeria over the period 1990 to 2021 using annual time series data on real gross domestic product (RGDP), male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR). The study employed ARDL Bounds Testing methodology in determining whether long run relationship exists between male labour force participation rate (MLFPR), female labour force participation rate (FLFPR) and real gross domestic product

(RGDP) in Nigeria. The objectives are to examine the impact of labour force participation rate, disaggregated into male labour force participation rate (MLFPR) and female labour force participation rate (FLFPR), on economic growth in Nigeria for the period 1990 to 2021 and to find out the causality relationship between male labour force participation rate, female labour force participation rate, and economic growth in Nigeria.

The study therefore concludes that current period male labour force participation rate (MLFPR) has statistically significant impact on economic growth in Nigeria in the short run. Its coefficient is found to be negative at -0.017396 value, meaning that a unit change in male labour force participation rate reduces economic growth by in Nigeria by 0.017 approximately 0.02 units. Lags 1, 2 and 3 of male labour force participation rate (MLFPR) are also found to have statistically significant impact on economic growth in Nigeria over the period studied. It concludes also that the impact of female labour force participation rate (FLFPR) on economic growth in Nigeria in the current period is statistically significant in the short run at 5% level of significance. Lag 1 of female labour force participation rate (FLFPR) also has statistically significant impact on economic growth in Nigeria over the period.

The result of the long run form of the ARDL model however showed constant value of -2.526926 which implies that without any change in the independent variables in the model, the constant independently changes the RGDP by -2.526926. The result also concludes that, in the long run, male labour force participation rate has the coefficient value of 0.132874 which implies that MLFPR has positive relationship with RGDP in Nigeria. The result further revealed that MLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review. The result equally indicated that, in the long run, female labour force participation rate has the coefficient value of -0.065952 which is negative. This means that FLFPR has negative relationship with RGDP in Nigeria. The result revealed also that FLFPR has statistically insignificant impact on RGDP in Nigeria during the period under review. The study also concludes that there is uni-directional causality relationship between male labour force participation rate (MLFPR) and economic growth (RGDP) in Nigeria over the period covered with the causality running from economic growth to male labour force participation rate as indicated by the probability values of 0.0425. The result further indicates that there is no significant causality relationship between female labour force participation rate (FLFPR) and economic growth in Nigeria over the period covered as indicated by the probability values of both female labour force participation rate and economic growth (RGDP).

## Recommendations

Based on findings of this work, the study recommends that government should provide a policy framework to favour and encourage greater proportion of male and women labour force participation in Nigeria. It is also recommended that government should make supportive environments available for women education and training and also put in place good healthcare facilities for the society so as to equip women with requisite skills to actively participate in production of goods and services in the country. Government to should also embark on industrialization, and modern techniques of agricultural production since this area can employ a large labour force resulting into high productivity hence economic growth. Government should implement a broad set of employment generating policies that can help abridge unemployment as having a larger, healthier, and better-educated workforce can only bear economic fruit if the extra workers could find jobs.

## REFERENCES

1. Anyanwu, Sarah Olanrewaju, Adesanya, Babatunde Moses, Adediji, Adebisi Moses, and Adesanya, Adefunke Elizabeth (2021). Female labour force participation and economic growth nexus: Evidence from Nigerian economy. Munich Personal Re PEc Archive.
2. Ahasan Ul Haque, Golam Kibria, Muhaiminul Islam Selim, and Dilruba Yesmin Smrity (2019). Labor force participation rate and economic growth: Observations for Bangladesh. *International Journal of Economics and Financial Research* Vol. 5, Issue. 9, pp: 209-213
3. Adofu, I & Okwanya, I (2018). Female labour participation and economic growth in Nigeria. *Ilorin Journal of Economic Policy* Vol.5, No.1: 1-11,
4. Ademola Obafemi Young (2018). Impact of labour force dynamics on economic growth in Nigeria: An empirical analysis using ARDL Bound Testing Approach. *Journal of Resources Development and*

Management Vol.42,

5. Iweagu, Helen Yuni, Denis N., Nwokolo Chukwudi, Bulus And enyangtso (2015). Determinants of female labour force participation in Nigeria: The Rural/Urban Dichotomy. *Journal of Economics and Sustainable Development* Vol.6, No.10,
6. Maarten Vendrik and Frank Cörvers (2009). Male and female labour force participation: The role of dynamic adjustments to changes in labour demand, government policies and autonomous trends. *IZA Discussion Paper No. 4397*
7. Muhammad Shahid (2014). Impact of labour force participation on economic growth in Pakistan. *Journal of Economics and Sustainable Development* Vol.5, No.11
8. Muhammad M. Yakubu & Benedict N. Akanegbu & Jelilov G (2020). Labour force participation and economic growth in Nigeria. *Advances in Management and Applied Economics SCIENPRESS Ltd*, vol. 10(1), pages 1-1.
9. Neelam Kumara (2020). Women's participation in workforce: a comparative study of teachers and bank employees. *GAP iNTERDISCIPLINARITIES: A Global Journal of Interdisciplinary Studies* Volume - III Issue III.
10. Shahid, M. (2014) Impact of Labour Force Participation on Economic Growth in Pakistan. *Journal of Economics and Sustainable Development*, 5, 89-93.
11. Salimov, Rustam (2019). Female labor force participation rate and economic growth. Student thesis Mälardalen University, School of Business, Society and Engineering.