

## Financial Development on Employment Rate in Nigeria

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### Abstract

This study examines financial development on employment rate in Nigeria on the premise of goal 8 of the sustainable development goals (SDGs). Using the ARDL model and annualized time-series data from 1999-2019. Findings revealed a positive and statistically significant impact of financial development on employment rate. Supporting the Phillips curve of an inverse nexus between inflation rate and unemployment rate. The findings contravene Okun's law of a negative relationship between economic growth and unemployment rate. The study recommences a policy framework to influence the operational and business activities of financial institutions to stir employment generation and economic growth in Nigeria.

**Keywords:** financial development indicators, unemployment rate, ARDL

**JEL Classification:** G20, J24, C22

### 1. Introduction

This study is founded on goal 8 of the sustainable development goals (SDGs) of promoting inclusive and sustained economic growth, full employment rate, productive and decent work for all by 2030. The study focused exclusively on employment as the key macroeconomic objective of the government. The realization of this objective, post a challenge in most countries, particularly in emerging economies like Nigeria due to stages of the financial sector and economic development. The 2007-2009 global crises certainly impacted the economies through globalization and economic integration. Diminishing output in most countries of Japan -31%, Korea -26%, Russia -16%, Brazil -15%, Italy -14%, Germany -12%. The International Labour Organization's (ILO) in 2009 observed a global unemployment rate above 200 million for the first time. Projected to increase by more than 50 million across sectors of construction, real estate, financial services, and the automobile as the global crisis intensifies. Before the global crisis, Nigeria's unemployment rate stood at about 9.24% in 2002, 9.04% in 2004, and 8.8% in 2006 while the rural unemployment rate stood at (25.6%) and urban (17.1%) (National Bureau of Statistics, 2007).

The 2015-2017 recessions in Nigeria resulted in a decline in public sector jobs creation by 37.2% and 8.8% in 2013 to 29.9% and 0.0% respectively in 2016. On the contrary informal sector job creation increase by 73.7% in 2019. Schäfer and Steiner, (2014); Fernandes and Ferreira, (2016); Dromel, Kolakez, and Lehmann (2010) observed a significant impact of financial sector development dwindling unemployment rate through banking sector development of; private sector credit, and financial intermediation. Financial sector development enhances resource availability and accessibility to drive inclusive economic growth through production, and employment generation (Cherif & Dreger, 2016). Private sector credit for innovation, investment, and production considerably checkmate unemployment rate (Dromel *et al.* 2010).

Bank credit to the informal economy accounted for a 54.0% increase in employment rate in 2013, 73.7% in 2016, and 78.0% in 2019 along with a proportional decrease in the poverty rate in Nigeria and other developing countries (Ibrahim & Aliero, 2012; Udo, Akpan, Abner, Idogen & Ndubuaku, 2019; Ajakaiye, Jerome, Nabena & Alaba, 2016). Persistence unemployment in Nigeria has become a major socio-economic challenge, due to the slow pace of job creation, over labour force growth. Despite an average annual growth of 9.9% year on year economic and

financial expansion between 2010-2017. Job creation within the periods stood at 1.9%, lower than the labour force growth of 3.9%. Revealing a huge gap between economic and financial development responsiveness to job creation in Nigeria.

In the bid to checkmate under and un-employment rates, various policy programs and instruments of social investment programs of N-Power, U-win, free interest rate load for Micro, Small and Medium-scale Enterprises, trader money, the stimulus package for small business among others were implemented. Notwithstanding, the positive contribution of these programs and policy instrument unemployment rate is still on the geometric increase largely among the rural dwellers and urban dwellers. Ajaikaye et al, (2016) examines the nexus between growth and employment in Nigeria, reporting high unemployment between 2005-2014, especially in the manufacturing, financial, and service sectors.

The Nigerian financial market is characterised by the triple problem of smallness: taking on small transactions, small financial institutions, and small market size (Ibrahim & Aliero, 2012). Contemporary studies on financial development focus on the banking sector employment rate, and the stock market perspective. The stock market provides mid-term and long-term capital for investment which significantly influences the employment rate, production, business, and operational activities of firms.

Similarly, Ngoc Bui (2020); Shkumbin (2017); Evoh and Agu, (2015); Filmer and Fox, (2014); Townsend, Benfica, Prasann, and Lee, (2017); Allen, Howard, Jamison, Jayne, Kondo, Snyder, and Yeboah (2016); Beck and Levine (2004) and others focused on firms and cross-country studies ignoring specific country studies and stages of development. Beck and Levine (2004) argued that cross-country studies cannot account for specific-country-stages of development and heterogeneous factors inherent in them. Al-Awad and Harb (2005), Chuah and Thai (2004) substantiate the claims noting that cross-country investigations are profound to model nations and may not explain the economic and financial dynamics in another nation. Thus, a specific-country study would be more rigorous in clarifying the causal relationship. This study examined the effect of financial development on the employment rate in Nigeria. Employing the novel Autoregressive Distributed Lag Model (ARDL), and Error Correction Model (ECM), along with an array of pre-test and diagnostic tests following the Pesaran, Shin, and Smith, (2001) framework.

## 2. Literature Review

The banking sector and stock market developments proxy financial sector development gear towards improving the competitive prowess of the sectors in the global market. The nexus between the financial sector and economic growth in modern times stir argument from the global crisis to the 2015-2017 recession in Nigeria. Schumpeter (1911) proposed the supply-led growth model of financial stability influencing economic growth through financial intermediation and private sector credit in the real sectors (Udo, Akpan, Abner, Idogen & Ndubuaku, 2019). The finding was upheld by Pagano (1993); King and Levine (1993); Hurlin and Venet, (2008); Ndubuisi, (2017). Fosu (2013) in 28 African countries; Mhadhbi (2014) in 27 medium-income countries from 1970 to 2012 and Sunde (2013) in Namibia, Herwartz, and Walle (2014) observed supply-led growth in high-income economies than in low-income economies in the 73 countries between 1975-2011.

On the contrary, Robinson (1952) argues that economic growth influences financial development through GDP per capita proposing the *demand-led growth model*. Kennedy and Nourzad, (2016); Muhammad and Umer, (2010), Abubakar, and Gani (2013) among others corroborate the results. Patrick (1966) proposed the *stages of development model*, of financial development influencing economic growth at the primary stage of economic expansion and declines as the economy expands for economic growth to influence financial stability.

Kar, Nazlıoğlu, and Ağır (2011) in the Middle East and North Africa (MENA) countries and Grassa and Gazdar (2014) in the Gulf Cooperation Council (GCC) observed neutrality. Financial and economic data support the Casino Neutrality of a non-significant relationship. Financial development is inevitable in the integration of emerging and developed markets but does not necessarily lead to economic growth and development (Udo, Akpan, Abner, Idogen & Ndubuaku, 2019). Ehigiamusoe, Lean, and Badeeb (2017); Udo, Akpan, Abner, Idogen, and Ndubuaku, (2019); Nkoro and Uko (2013) among others supported the “*supply-led growth and demand-led growth models*” in their respective studies. The relationship was argued under the “*supply-led growth and demand-led growth models*”. Alternatively, represented by Patrick (1966) as “*finance led-growth and growth led-finance models*”. Despite the lack of homogeneity in the findings, a possible relationship between financial development and economic growth was observed.

The link between financial development and the employment rate was first discussed in the 1960s by Arthur Okun proposing Okun's law. According to Okun's law real gross domestic product (RGDP) of 2% and gross national product (GNP) of 3% reduces the unemployment rate by 1% (Misini & Badivuku-Pantina, 2017). The Phillips curve proposes that unemployment and inflation are inversely (negatively) related.

Studies on the correlation between financial development and employment after the global crisis and the 2015-2017 recession in Nigeria are scanty. Studies conducted by Acemoglu (2001); in Europe, Campello Graham, and Harvey, (2010); in United States, Europe, and Asia, Benmelech Bergman, and Seru, (2011) in Spain examine financial development on employment from the financial constraints perspective. Campello et al. (2010) argued that firms experiencing complexities in accessing credit facilities will downsize their labour forces. Chodorow-Reich (2014), Greenstone, Mas, and Nguyen, (2014); Giroud and Mueller (2015) opined that downsizing is inevitable in highly indebted firms where financial crisis materializes. Bentolila, Jansen, and Jiménez. (2017) authenticate the findings in Spain from 2006-2010; on high indebtedness and unproductive use of credit facilities resulting in unprofitability and labour force downsizing.

The impact of financial development on employment rate is dependent on whether capital and labour are complementary or substitute in the production process.

Where capital and labour are substitutes, firms may substitute capital for labour by investing in more capital-intensive equipment while intensifying unemployment (Pagano and Pica, 2012).

A unit increase in stock market development increases the employment rate (Holmes & Maghrebi (2016; Bencivenga & Smith, 1991; Bui, 2019). Stock market development denotes future economic activity. The employment rate is sensitive to financial constraints, private sector bank credit, and financial intermediation (Benmelech et al., 2011).

Credit market imperfection, a decline in private sector credit and market concentration, and rigid market regulations increase unemployment rate (Dromel, Kolakez & Lehmann 2010; Borsi 2016; Kim, Chen & Lin, 2018). Bayar (2016); Shabbir, Anwar, Hussain, and Imran, (2012); Ogbeide, Kanwanye, and Kadiri, (2016); Borsi, (2016); et, al (2018); Greenstone et al. (2014) in the United States, Dromel *et al.* (2010) in 19 OECD countries over the period 1982- 2003 reported a negative relationship using the generalized least square estimation method allowing for heteroscedastic errors.

### 2.1 Empirical Literature

Table 1. Summary of empirical reviews

Author	Objective	Scope	Methodology	Findings
Toan Ngoc Bui (2020)	Financial development on Employment	6 ASEAN countries	Generalized Method of Moment (GMM)	Mix results positive impact with private sector credit and a negative impact on the stock market
Aliero, Ibrahim and Shuaibu (2013)	Financial development on unemployment	Nigeria	Auto-Regressive Distributed Lag (ARDL) Bound Testing technique	Positive
Pagano and Pica (2011)	Financial development on employment	Developed and developing countries from 1970- 2003	Panel Regression	In developed countries positive and negative in non-OECD countries.
Shabbir, et, al (2012);	Financial sector development on unemployment	Pakistan from 1973-2007	Auto-Regressive Distributed Lag (ARDL) bound testing technique	Negative
Shkumbin (2017)	Economic growth on unemployment	Kosovo 2004-2014	Linear Regression	Positive
Bayar (2016)	Financial sector on unemployment	Emerging Market Economies.	GMM	Negative
Ogbeide, et, al (2016);	Financial development on employment	Nigeria	Linear Regression	Negative
Borsi, (2016);	Financial development on the employment rate	Trabajo	Linear Regression	Negative

Given the inconclusiveness in the extant studies, it is vital to investigate, in a robust manner, the effect of financial development on the employment rate in Nigeria.

### 3. Methodology

The study employs the *ex-post facto* research design, using the Autoregressive Distributed Lag Model (ARDL), and Error Correction Model (ECM), as the major techniques of analysis. The datasets are secondary, sourced from the Central Bank of Nigeria (CBN) Statistical bulletins, National Bureau of Statistics, International Financial Statistics, and World Development Indicators from 1999-2019. The underlying assumption of the (ARDL) developed by Pesaran, Shin, and Smith, (2001) is that all variables are integrated of order I (1) and Levels I (0).

#### 3.1 Variables

- 1 **Inflation rate:** Implicit Price Deflator ratio accounts for inflation reflecting the changes in the prices of goods and services. Calculated as GDP at current basic prices divided by GDP at constant basic prices.
- 2 **Employment Rate:** is measured by high unemployment reflecting job losses and vice versa.
- 3 **Banking sector development:** measures financial sector stability and development through private sector credit.
- 4 Bank lending-deposit spread measures financial efficiency
- 5 Stock market capitalization measure stock market development
- 6 **M3GDP:** measures the volume of money in circulation.
- 7 **Real GDP:** Is GDP at Constant Basic Prices calculated as GDP at Market Prices less indirect taxes net of subsidies.

The inclusion of the inflation rate through the implicit price deflator in the model is based on the theoretical underpinning. The Phillips curve proposes that unemployment and inflation are inversely (negatively) related.

Okun's law predicts an inverse relationship between real GDP and the unemployment rate. Thus it is expected that an increase in real GDP will reduce unemployment.

The baseline long-run model equation was estimated thus:

$$UNEM_t = \beta_0 + \beta_1 INFL_t + \beta_2 PSCE_t + \beta_3 BANL_t + \beta_4 STMC_t + \beta_5 M3GDP_t + \beta_6 RGDP_t + ut \quad (1)$$

Where:

UNEM = Unemployment;

INFL = inflation rate;

PSCE = Private sector credit proxy for the financial sector;

BANL= Bank lending-deposit spread, a proxy for financial efficiency;

STMC = Stock market capitalization measures stock market development;

M3GDP = Money supply ( $M_3$ ) within the economy;

RGDP = Real gross domestic product

#### 3.2 Model Specification

Preceding the model estimation, an array of pretest of; scatter plot graph, descriptive statistics, and unit root test with break test was conducted on the variables. The Augmented Dickey-Fuller (ADF) (Dickey and Fuller, 1979), and the Phillips-Peron (PP) were conducted to confirm the stationarity properties of the datasets for a meaningful analysis.

The Cumulative Sum of Recursive Residuals (CUSUM) and the Cumulative Sum of Squares of Recursive Residuals (CUSUMQ) in figures 1 and 2 below were also conducted to confirm the model stability of the long-run coefficients for the regressors at the 5% level of significance.

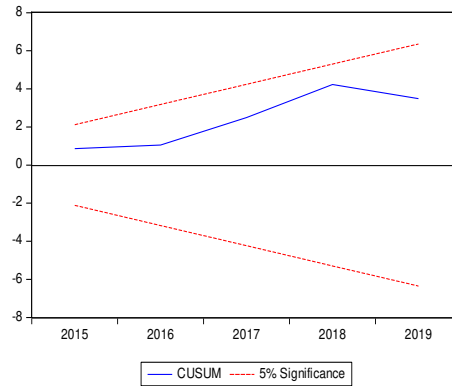


Figure 1. A plot of cumulative sum of recursive residuals

Sources: Authors computation (2020)

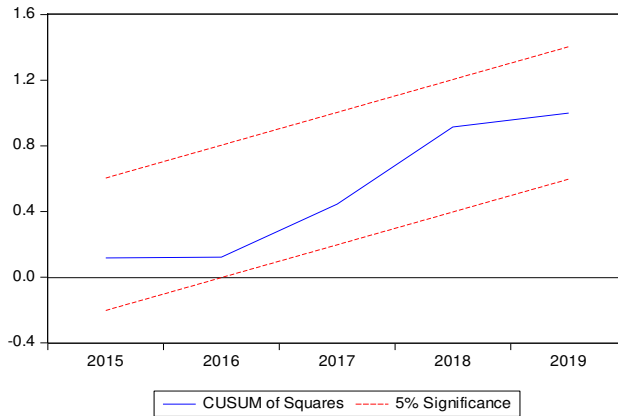


Figure 2. A plot of cumulative sum of squares of recursive residuals

Sources: Authors computation (2020)

Decision Rule: If the regression line falls within the lower and the upper bounds at the 5% range of significance level. The null hypothesis cannot be rejected stating that the coefficients of the models are stable and; if otherwise, we reject the null hypothesis. From figures 1 and 2, above it can be deduced that both plots of CUSUM and CUSUMQ statistics stay within the critical boundaries; we accept the null hypothesis and reject the alternative.

### 3.3 Scatter Plot Graph

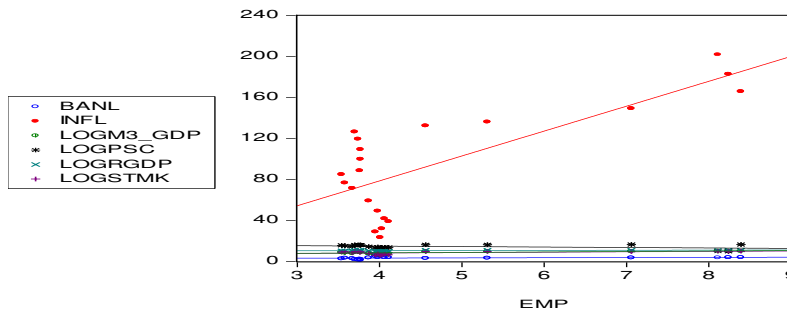


Figure 3. Scatter plot graph between financial development and employment

Source: Author's calculation (2020)

The scatter plot in figure 3 shows a negative relationship between INFL and EMP rate as proposed by the Phillips curve and Okun's law. On the other hand, M3\_GDP, PSC, RGDP, STMK, and BANL shows a positive relationship with EMP.

### 3.4 Pre-Test

The basic descriptive statistics as contained in table 2 discloses the statistical properties of the variables under study.

Table 2. Summary of basic descriptive statistics of the variables under study

VARIABLES	MEAN	MEDIAN	STD. DEVIATION	SKEWENESS	KURTOSIS
EMP	4.724	3.980	1.663	1.476	3.466
INFL	96.318	88.826	52.820	0.347	2.091
BANL	3.565	3.747	1.119	-0.153	2.494
LOGM3_GDP	8.811	9.178	1.277	-0.401	1.782
LOGPSC	14.727	15.388	1.943	-1.215	3.744
LOGRGDP	10.735	10.816	0.390	-0.502	1.898
LOGSTMK	8.622	9.202	1.420	-0.796	2.208

Source: Authors' Computation (2020).

The descriptive statistics of the variables contain the mean, median, standard deviation, skewness, and kurtosis. Dispersion in the series is measured by the standard deviation. The skewness is a reflection of the degree of departure or symmetry and kurtosis the degree of peakedness of the series.

Table 3. Unit root test result

Variables	ADF	Critical Value @ 5%	Order of integration	Structural BreakPoint	PP	Critical Value	Order of integration @ 5%	P-Value
BANL	-6.132	-3.673	I(1)	2015	-6.126	-3.673	I(1)	0.000
EMP	-5.450	-2.840	I(1)	2013	-5.260	-3.673	I(1)	0.000
INFL	-3.148	-1.906	I(0)	2015	-8.415	-1.959	I(0)	0.000
LogM3_GDP	-5.891	-3.568	I(0)	2008	-6.069	-3.029	I(0)	0.000
LogPSC	-4.866	-2.673	I(1)	2017	-4.871	-3.673	I(1)	0.000
LogRGDP	-7.268	-3.850	I(0)	2010	-4.302	-1.959	I(0)	0.000
LogSTMK	-5.040	-3.673	I(1)	2007	-4.256	-2.045	I(1)	0.000

### 3.5 Authors Computation (2020)

The Unit root test result of the structural break, trend, and intercept are presented in Table 3. The variables are integrated of order I (1) and level I (0). The PP unit root test results confirm the ADF results. The combination of I (1) and I (0) according to Pesaran, Shin and Smith, (2001) provide theoretical support for the adoption of Autoregressive distributed lag (ARDL) to test for a co-integrating relationship. The structural breaks account for economic changes traceable to the global crisis and the 2015-2017 recession in Nigeria. The stock market in 2007 recorded a negative performance during the global crisis, likewise, M3\_GDP in 2008 and RGDP in 2010. The unemployment rate in 2013 slightly decreased after the GDP rebased from USD 270 billion to USD 510 billion.

The 90% increase was accredited to the telecommunication sector, movies, retail, and employment rate in these sectors were not captured or underreported. The 2015-2017 recession affected bank lending-deposit spread, inflation rate, and bank credit to private sectors resulting in a near-collapse of the private sector.

3.6 The ARDL Bound Test Model Expression

$$\Delta \text{UNEM}_{qt} = \alpha_0 + \sum_{i=1}^p \alpha_i \Delta \text{UNEM}_{qt-i} + \sum_{i=0}^p b_i \Delta L_n \text{INFL}_{qt-2} + \sum_{i=0}^p c_i \Delta L_n \text{PSCE}_{qt-3} + \sum_{i=0}^p d_i \Delta L_n \text{BANL}_{qt-4} + \sum_{i=0}^p e_i \Delta L_n \text{STMC}_{qt-5} + \sum_{i=0}^p b_i \Delta L_n \text{M3GDP}_{qt-6} + \sum_{i=0}^p b_i \Delta L_n \text{RGDP}_{qt-7} + \delta_1 \text{UNEM}_{qt-1} + \delta_2 L_n \text{INFL}_{qt-2} + \delta_3 L_n \text{PSCE}_{qt-3} + \delta_4 I_n \text{BANL}_{qt-4} + \delta_5 I_n \text{STMC}_{qt-5} + \delta_6 I_n \text{M3GDP}_{qt-6} + \delta_7 I_n \text{M3GDP}_{qt-7} + \mu_{qt} \tag{2}$$

Where;

$\Delta$  = first difference operator.

The parameters  $\alpha 1 - \alpha 7$  = short-run relationship parameters.

The parameters  $\beta 1 - \beta 7$  = long-run relationship parameters.

All other variables are as defined above.

3.7 Decision Rule

$$H_0: \beta 1 = \beta 2 = \beta 3 = \beta 4 = \beta 5 = \beta 6 = \beta 7 = 0$$

i.e there is no co-integration among these variables.

$$H_1: \beta 1 \neq \beta 2 \neq \beta 3 \neq \beta 4 \neq \beta 5 \neq \beta 6 \neq \beta 7 \neq 0$$

i.e there is co-integration among these variables.

The *F* test determines whether there is a long-run relationship between the variables.

- a. *F*-statistic is greater than the upper critical bound (UCB) value, there is a long-run relationship.
- b. *F*-statistic value is smaller than the lower critical bound (LCB) value, there is no long-run relationship.
- c. *F*-statistic value falls within the range of upper bound and lowers bound the result is inconclusive.

3.8 Estimation and Analysis of Results

Table 4. The ARDL result

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
EMP(-1)	-0.205	0.325	-0.629	0.5564
EMP(-2)	2.257	0.597	3.781	0.0129
INFL	-0.045	0.027	-1.639	0.0000
INFL(-1)	0.033	0.025	1.294	0.2521
BANL	0.201	0.120	1.676	0.1544
BANL(-1)	0.604	0.176	3.423	0.0002
LOGM3_GDP	1.218	0.862	1.411	0.0002
LOGM3_GDP(-1)	-0.674	0.731	-0.921	0.3990
LOGPSC	0.552	0.095	5.762	0.0022
LOGPSC(-1)	0.460	0.127	3.616	0.0000
LOGRGDP	4.300	2.013	2.135	0.0858
LOGSTMK	-0.192	0.203	-0.943	0.0000
LOGSTMK(-1)	0.877	0.339	-2.583	0.0002
C	-62.717	21.341	-2.938	0.0000
Other Parameter Estimate				
R <sup>2</sup>	0.99	Prob-Value	0.0007	
F-statistic	194.593	Durbin-Watson stat	2.965	

Source: Authors' Computation (2020).

From the ARDL result in table 4,  $R^2$  is 99%, measuring the goodness of the model, showing that the exogenous variables are jointly responsible for 99% variation in the endogenous variable. By implication, there is an explained variation of 99% and an unexplained variation of 1%.

Looking at the exogenous variable of interest INFL, an inverse relationship exists between unemployment and the rate of inflation. A unit (1%) increase in the rate of inflation produces a 4.5% decrease in the employment rate in Nigeria. The Durbin Watson statistics (DW) value of 2.96 shows no evidence of a first-order serial autocorrelation (AR(1)). The overall result is statistically significant as the F-statistics (194.593) with its associated p-value of 0.0007, shows the reliability of the results for a meaningful analysis.

### 3.9 Cointegration and ARDL-ECM Results

The long-run relationship amongst the variables in the general model was examined using the ARDL bounds testing procedure. The results of the Bounds F-test are reported in Table 5.

Table 5. Bounds F-Test for cointegration

Selected Model	(2,1,1,1,1,0,1)		
Dependent Variable	Function	F- Statistics	K
EMP	UNEM = INFL, PSCE, BANL, STMC, RGDP M3GDP,	6.2581	6
Critical Value Bounds			
Significance level		Lower Bounds I (0)	Upper Bounds I (1)
10 percent		1.99	2.94
5 percent		2.27	3.28***
1 percent		2.88	3.99

Authors computation: (2020);

Note: \*\*\* denotes significance at the 5%

The F-test results show a long-run relationship between UNEM, INFL, PSCE, BANL, STMC, M3GDP, and RGDP. The estimation of the ARDL model was done with the aid of the Akaike Information Criterion to choose the optimal lag model of (2,1,1,1,1,0,1).

Table 6. Error Correction Model (ECM)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(EMP(-1))	-2.257	0.282	-7.979	0.0005
D(INFL)	-0.045	0.007	-6.359	0.0004
D(BANL)	0.201	0.042	4.713	0.0053
D(LOGM3_GDP)	1.218	0.192	6.321	0.0005
D(LOGPSC)	0.552	0.034	16.015	0.0000
D(LOGSTMK)	-0.192	0.079	-2.408	0.0000
CointEq(-1)*	-0.320	0.096	10.961	0.0001
Other Parameter Estimate				
$R^2$	0.98	Durbin-Watson stat	2.965	

Authors' computation (2020)

### 3.10 Test of Hypothesis

#### Hypothesis

The null of this hypothesis is stated thus;

**H<sub>0</sub>:** There is no significant impact of financial development on the employment rate in Nigeria.

**H<sub>1</sub>:** Financial development significantly impacts the employment rate in Nigeria.

This hypothesis was tested using the bounds F-Test for co-integration and error correction (ECM) models of ARDL from tables 5 and 6. The coefficient of the co-integrating relationship shows positive and statistically significant long-run relationships. The computed *F*-statistic (6.2581) is higher than the upper critical bound at a p-value of 5%. The *F*-statistic result rejects the null hypothesis, of no co-integration.

The result validates the results of Aliero, Ibrahim, and Shuaibu (2013); in Nigeria, Shkumbin (2017); in Kosovo, Pagano, and Pica (2011) in developing countries. The error correction model in table 6 shows the speed of convergence or adjustment from short-run disequilibrium towards the long-run equilibrium. The ECM coefficient of (-0.32) and the p-value (0.0001) indicate that whenever disequilibria occur in the economy peradventure due to financial shocks at about 32%, such disequilibria are corrected for in the next periods. The convergent periods towards the long-run equilibrium are however low as it will take an average of 2 to 3 years for the convergence to take place.

Raifu, Aminu and Adeniyi, (2019) noted that the slow speed of convergence towards the long-run equilibrium could be accredited to the sluggish response to macroeconomic policies formulated to address either internal or external shocks that might have caused the economic distortions in most emerging countries, particularly Nigeria. The ARDL results presented in Table 4 show the symmetric effects of financial development indicators on the employment rate.

Banking sector development through credit to the private sector and bank lending-deposit spread positively impact on employment rate reducing the unemployment rate. A unit increase in credit to the private sector and bank lending-deposit spread increase employment rate by 55% and 20% respectively ceteris paribus. Aleiro et al. (2013) and Çiftçiöğlü and Bein, (2017) substantiate the findings of this study.

On the contrary, Dromel et al. (2010), Shabbir, et al. (2012) and Borsi, (2016) observed a negative relationship. Stock market development, M3GDP, and RGDP proxy for economic growth positively and statistically impact on the employment rate. A unit increase in stock market development, M3GDP, and RGDP increase the employment rate by 19%, 12%, and 43% respectively. The inflation rate negatively impacts on employment rate by 4.5%

These findings follow a priori expectation rooted in the Phillips curve hypothesis stipulating an inverse nexus between inflation rate and unemployment rate. The findings on real GDP and unemployment rate contravene the prior expectation as propounded by Arthur Okun in 1962 of a negative relationship between economic growth and unemployment.

Real GDP shows a positive impact on the unemployment rate in the study as a result of the economic and financial policy reforms after the global crisis and the 2015-2017 recession in Nigeria. The reforms did not halt the skyrocketing rate of unemployment. As the unemployment rate continues to rise despite an impressive economic recovery and growth. Ajakaiye et al. (2016) described such growth as jobless growth currently experienced in Nigeria.

#### 4. Conclusion and Policy Implication

The central objective of any government is the achievement of full employment in line with goal 8 of the sustainable development goals (SDGs). Over the decades, developed and emerging economies specifically Nigeria have experienced some sorts of economic growth, without a corresponding employment rate. The meager rate of employment rate specifically in Nigeria is accredited to the economic and financial crisis. Scholars, on the other hand, reported mixed results as a result of the model of measurement, stages of development, the technique of analysis among others.

Different measures of financial development and technique of analysis such as financial depth (credit to the private sector), financial efficiency, (bank lending-deposit spread and stock market capitalization) and economic growth (real GDP, M3GDP), and inflation rate. Our findings show a long-run relationship between the variables (financial development indicators, unemployment rate, inflation rate, and real GDP). The impact of inflation rate on unemployment rate follows a priori expectation; while the effects of real GDP on unemployment rate fail to follow a priori.

This study recommends among other things policy framework to encourage deposit money banks and microfinance banks to function effectively as lenders to big and small firms respectively. The level of financial development in the country is still below the threshold compared to other emerging financial systems. Policies that would deepen the financial sector should be implemented.

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