



Does financial development and economic growth promote employment in Nigeria?

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ABSTRACT

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In most African countries, including Nigeria, employment generation has been a major challenge that poses a serious issue for the economic well-being of the people. Therefore, the aim of this paper is to investigate whether financial development and economic growth promote employment generation in Nigeria, covering 1999–2020. To investigate the relationship among financial development, economic growth, and employment in Nigeria, the Autoregressive Distributed Lags (ARDL) bound-testing estimation method was employed. This approach allows level $I(0)$ and first difference $I(1)$ macroeconomic data to be estimated without bias. It also offers the possibility of computing the dynamic error correction model (ECM). Our findings show a long-run relationship among financial development, employment rate, inflation rate, and economic growth in Nigeria. The result further shows that inflation has a negative and significant relationship with the employment rate. Also, financial development reveals a positive and significant relationship with employment. The result further shows that economic growth promotes employment in Nigeria. Following the results of our analysis, this study recommends, among other things, policy formulations on expansionary monetary policies that will ensure the availability of credits for the private sector. Also, stock market listing requirements for small and medium-sized businesses should be friendly to encourage small and medium-sized enterprises (SMEs) to list for access to finance. Also, policies that will drastically reduce the high rate of inflation should be implemented.

Contribution/Originality: In the previous literature, research on the impact of financial development on employment generation are very scanty. The few existing ones concentrated on the developed countries with the neglect of the developing countries. Hence, this current study fills this gap by examining the impact of financial development on employment in Nigeria, and contributes to the existing literature.

1. INTRODUCTION

Unemployment is one of the macroeconomic challenges confronting developing economies and Nigeria most especially (Asaleye, 2019). According to the National Bureau of Statistics (2021) Nigerian unemployment rate is 33.3% while youth unemployment is 42.5%. This is despite the increase in economic growth rate by 5% between 2020 and 2021, an indication that growth may not automatically translate to employment (Boustanifar, 2014). The channels of employment generations in the low-income countries have been both public and private enterprises. In Nigeria for instance, the public entities have placed embargos on employment opportunities and as a result contribute to the current level of unemployment, the private sector entities have been constraints in several fronts: (i) Infrastructural

facilities deficits e.g., roads, electricity, water; and (ii) access to finance to buoy productive capacities. The major constraint is access to finance which is occasioned by the asymmetric information between the lenders and the followers (Asongu, Anyanwu, & Tchamyou, 2017; Rao, Kumar, Chavan, & Lim, 2023).

To achieve an effective and efficient financial development that can promote good employment opportunities, there must be a reduction of transaction costs, optimum allocation of scarce resources that can induce employment and economic growth (Sepehrdoust & Ghorbanseresht, 2019). The financial development entails banking sector development, capital market development and evaluation of the key institutional players within them. These institutional players include central banks, deposits money banks, merchant banks, savings institutions, insurance companies, mortgage financial institutions, development financial institutions, pension funds, stock exchange market and other financial market institutions (IMF, 2005; Zaman, Izhar, Khan, & Ahmad, 2012). However, the evaluation of the financial intermediation efficiency of these institutional key players in Nigeria and their roles as engines of growth and employment have not been subjected to much empirical research despite the urgent need for policy formulations and execution to drive both growth and employment.

In the previous literature, focuses were on the relationship between financial development and economic growth without much attention on the impact of financial development on employment (Asongu et al., 2017; Asongu & Nwachukwu, 2019; Pradhan, Arvin, & Norman, 2015; Sepehrdoust & Ghorbanseresht, 2019). Economic growth is anchored on many determinants such as financial development, employment, etc. So, with sound financial development, progressive business activities and employment, economic growth can be induced. For instance, when a large percentage of the labour force in a country is gainfully employed, income per capita, savings, investment, and in turn economic growth increases. Also, improvement in the following financial development channels such as; financial depth (financial system deposits or liquid liabilities and monetary base plus time, savings and demand deposits as a percentage of GDP); Financial intermediation efficiency (financial system credit on financial system deposits and bank credit on bank deposits); financial intermediary activity (private credit by domestic banks and other financial institutions and private domestic credit by deposit banks); and financial size (deposits bank assets to total assets). Improvement in all these channels by the monetary authorities would greatly create employment opportunities, and promote economic growth.

In addition, few of the empirical studies that examined the financial development and employment are carried out in the developed economies (Boustanifar, 2014; Pagano, Pica, Beck, & Kramarz, 2012) with little research effort on developing economies (Pant, Chowdbury, & Singh, 2004). Therefore, the objective of this study is to investigate the effect of financial development on economic growth and employment with a view to contributing to literature on the link between financial development and employment and provide empirical evidence for policy makers on how to stimulate growth and employment in low income-countries and developing economies.

The paper is structured as follows: section one deals with introduction, section two gives details of literature review and hypothesis highlights. Section three describes the methodology adopted to achieve the objective of the study while section four is used to analyse the data and presents discussion of findings. Finally, section five concludes the study with recommendations for policy formulation and execution.

2. EMPIRICAL LITERATURE REVIEW

2.1. Financial Development and Economic Growth

It is pertinent to review the previous empirical studies related to the field of study. This will help us understand the previous areas covered so far in the literature as well as the estimation techniques used and findings. Ahmed, Kousar, Pervaiz, and Shabbir (2022) and Sepehrdoust and Ghorbanseresht (2019) investigate the impact of financial development and information and communication technology on the economic growth of the Organization of Petroleum Exporting Countries (OPEC) for a period of 2002–2015. Using the Generalized Method of Moments (GMM), they found a positive relationship between information and communication technology, financial

development, and economic growth. The result corroborated the early research of Goldsmith (1969), McKinnon (1973), and Shaw (1973) on the evaluation of the nexus between financial development and economic growth.

Also, Berthelemy and Varoudakis (1996) examine the relationship between financial development and economic growth from 1960 to 1985. Using ordinary least squares (OLS) regression, the findings show that bank development is a major determinant of economic growth. However, the studies of Bencivenga, Smith, and Starr (1996); Andersen and Tarp (2003), and Cooray (2010) proxied financial development with stock market development found that stock market development has positive effect on economic growth. In a similar vein, there are also studies that consider the simultaneous impact of the two measures of financial development on economic growth and found a positive effect of the two markets on economic growth, even though the banking sector's development (the credit market) is found to exert a stronger effect than the stock market's development (Cheng, 2012; Levine & Zervos, 1998; Wu, Hou, & Cheng, 2010).

On the contrary, some studies reveal negative or insignificant relationships between financial development and economic growth. For instance, Narayan and Narayan (2013) examine the relationship between financial development and economic growth for 65 developing countries in the Middle East and Asia for the period 1995–2011. Applying generalised method of moments (GMM) estimator, the study found that neither banking sector development nor stock market development contributed to growth trajectories for the Middle Eastern countries. Similarly, Wang, Zhang, and Zhang (2021) investigate the relationship between renewable energy consumption, financial development, and economic growth in China over the period 1997–2017. Using the ARDL, PMG estimation technique, findings show that financial development impacts negatively on economic growth.

2.2. Financial Development and Employment

Studies on financial development and employment are few. Pant et al. (2004) examined the relationship between low employment in the formal sector in India and little financial intermediation. They established a positive connection between low employment in the formal sector and low financial intermediation in the less developed economies. The authors found that self-employed agents opt for formal sector employment only if they have both safe banking for their wealth and a job. They argued further that safe banking alone cannot create jobs but also sound banking with increasing financial intermediation increases formal sector employment.

In the empirical work by Pagano et al. (2012), the relationship between finance and employment was examined for both Organisation for Economic Cooperation and Development (OECD) and non-OECD countries. Applying the general methods of moment (GMM), they argued that during financial crises, employment grows less in industries that depend on external finance for their capital-intensive projects than in those that rely on retained earnings and those that are in financially developed economies. Also, Boustanifar (2014) examines the relationship between finance and employment covering the period of 1970–1990. Findings show that financial development has a positive impact on employment. Findings further show that labor and capital need to be financed, especially during financial crises when demands for firms' outputs fall in order to maintain their employment of labour. However, firms with financial challenges will not be able to do this. And this may lead to great employment losses for firms that are financially constrained during the period of financial crises (Campello, Graham, & Harvey, 2010).

However, Abiola John Asaleye, Lawal, Popoola, Alege, and Oyetade (2019) examined financial integration, employment and wages nexus in Nigeria using total foreign direct and portfolio investments dividend by the nominal GDP to measure financial integration. They found that in the long run a negative relationship that is statistically significant exists between financial integration and employment in consonance with Lucas's paradox which opined that capital flows from less developed economies to developed economies with negative consequences on wages and employment in the less developed economies. The authors' definition and measurement of financial integration which encompasses external inflows of capital from both the foreign direct and portfolio investments are however a deviation from the measurement of financial development in the literature. Thus, bulk of literature on financial sector

development and growth nexus in silent on their effect on employment which is a critical growth criterion for low-income countries and Nigeria most especially. The finance-growth nexus effect on employment becomes important for policy makers in Nigeria to address the unimaginable consequences of youth unemployment. The study will make an empirical contribution to literature on addressing unemployment through financial development.

2.3. Hypothesis Development

Greater financial development in any economy could result in more availability of credit facilities to both existing and potential businesses. Thus, there would be better allocation of credit and removal of any financial constraint that may clog the wheel of proper allocation of credit to the deficit units of the economy. This would encourage individuals and corporations to create employment opportunities (Pham, Talavera, & Zhang, 2018). The extent to which financial markets in an economy is developed will influence employment generation capacities in the economy. Hence, the hypothesis in respect of the nexus between financial development and employment in an emerging economy could be stated as follows:

Ho: There is no relationship between financial development and employment.

Hi: There is a relationship between financial development and employment.

3. METHODOLOGY

The aim of this study is to examine the relationship between financial development and employment in Nigeria. In the previous studies, several econometric techniques were employed. For instance, Pagano and Pica (2011) used panel regression to test the relationship between finance and employment. Also, Shabbir, Anwar, Hussain, and Imran (2012) applied auto-regressive distributed lags (ARDL) to investigate the relationship between financial sector development and unemployment in Pakistan. In the same vein, Bayar (2016) applied the General Method of Moments (GMM) to examine the impact of financial development on unemployment.

Recently, Ndubuaku, Inim, Samuel, Rosemary, and Prince (2021) examined the impact of financial development on employment in Nigeria using ARDL and error-correction models. Shabbir, Kousar, and Zubair (2021) also applied the vector error correction model (VECM) to examine the factors that affect unemployment in South Asia. Following these studies, we employ autoregressive distributed lags (ARDL) and error correction models (ECM) to answer the research question: Does financial development promote employment in Nigeria? Thus, the estimable equation is as follows:

$$EMP_t = \alpha_0 + \alpha_1 INF_t + \alpha_2 FIN_t + \alpha_3 GDP_t + \alpha_4 SMC_t + \varepsilon_t \quad (1)$$

Where;

EMP = Employment proxy by high unemployment showing job losses and vice versa.

INF_t = Inflation rate, consumer price index.

FIN_t = Financial development proxy by domestic credit to private sector by banks.

GDP_t = Real gross domestic product per capita.

SMC_t = Stock market capitalization measures stock market development.

A positive relationship is expected between financial development and employment, especially when there is improvement in modern technology. Also, a positive outcome is expected between financial development and economic growth. A negative result is expected between inflation and employment. Lastly, stock market development is expected to promote employment.

To examine the long run association among the variables, we employ the autoregressive distributed lags (ARDL) bounds testing approach by Pesaran, Shin, and Smith (2001) because of the following reasons: First, ARDL can accommodate the order of cointegration of variables at level and first difference, i.e., I(0) and I(1). Second, there is possibility of computation of dynamic error correction model (ECM) using ARDL within the simple linear

transformation framework. Hence, our unrestricted ARDL model adopted in this study follows a semi-log linear form as indicated below:

$$\Delta \ln EMP_t = \alpha_1 + \sum_{i=1}^p \sigma_i \Delta \ln EMP_{t-1} + \sum_{i=1}^p \gamma_{1,i} \Delta \ln FIN_{t-1} + \sum_{i=1}^p \gamma_{2,i} \Delta \ln INF_{t-1} + \sum_{i=1}^p \gamma_{3,i} \Delta \ln GDP_{t-1} + \sum_{i=1}^p \gamma_{4,i} \Delta \ln SMC_{t-1} + \omega \ln EM_{t-1} + \varphi_1 \ln FIN_{t-1} + \varphi_2 \ln INF_{t-1} + \varphi_3 \ln GDP_{t-1} + \varphi_4 \ln SMC + \mu_t \quad (2)$$

The coefficients $\gamma_1, \gamma_2, \gamma_3,$ and γ_4 in Equation 2 are used to test the short-run impact of financial development, inflation, economic growth, and stock market capitalization on employment in Nigeria, while, the coefficients of $\varphi_1, \varphi_2, \varphi_3, \varphi_4$ are used to test the long-run impact. The tested hypotheses are as follows:

$$H_0: \omega = \varphi_1 = \varphi_2 = \varphi_3 = \varphi_4 = 0 \text{ (no cointegration).}$$

$$H_1: \omega \neq \varphi_1 \neq \varphi_2 \neq \varphi_3 \neq \varphi_4 \neq 0 \text{ (presence of cointegration).}$$

According to Pesaran et al. (2001), when the upper critical bound result is lower than the F-statistic, there is cointegration. Otherwise, there is no cointegration. But when the F-statistic result lies between the lower critical bound and the upper critical bound results, cointegration is inconclusive. When this arises, our decision will rely on the result of the lagged error correction term (ECM) to determine the long run association. Lastly, the Granger causality relationship between the variables is examined in order to determine the cause-and-effect relationship between the series.

4. DATA ANALYSES AND RESULTS

The annual time series data covering 1999–2020 employed for this study were obtained from the World Bank's World Development Indicators, the Central Bank of Nigeria (CBN) database, the National Bureau of Statistics, and International Financial Statistics.

4.1. Unit Root Test Results

To examine whether the variables used in this study are stationary or not, we carried out augmented Dickey-Fuller (ADF) and Phillip Peron (PP) unit root tests. This is necessary in order to avoid spurious results in our regression analysis. Table 1 reveals the results of both level and first difference data. Using level data I(0), at a 5 percent significant level, all the variables examined in the study are nonstationary except inflation, but at first difference I(1), all the variables are stationary.

Table 1. Unit root test results.

Variable	Levels	Order of integration	1st difference	Order of integration
The augmented Dickey-Fuller (ADF) unit root test results				
lnEMP	0.98(0.11)	I(0)	0.91(0.01)	I(1)
lnFIN	0.10(0.23)	I(0)	0.54(0.02)	I(1)
INF	0.78(0.02)	I(1)	-	-
lnGDP	0.11(0.98)	I(0)	0.17(0.01)	I(1)
lnSMC	0.18(0.96)	I(0)	0.12(0.04)	I(1)
Phillip Peron (PP) unit root test results				
lnEMP	0.08(0.91)	I(0)	0.23(0.01)	I(1)
lnFIN	0.87(0.73)	I(0)	0.74(0.01)	I(1)
INF	0.91(0.02)	I(1)	-	-
lnGDP	0.55(0.18)	I(0)	0.77(0.03)	I(1)
lnSMC	0.98(0.16)	I(0)	0.12(0.01)	I(1)

Table 2. Bound test co-integration result.

F-statistic	8.02
Critical bound values at 5% significance	
Lower bound (I0)	3.10
Upper bound (I1)	4.01

4.2. ARDL Bound Test

Table 2 shows the bound test result. From this result, the value of F-statistics of 8.02 is greater than 4.021 and 3.10 in both the upper and lower bound results. According to Pesaran et al. (2001), the null hypothesis states that when the F-statistics value is greater than the critical upper bound value at the 5 percent significance level, there is cointegration among the variables examined in the study; otherwise, there is no cointegration. From the ARDL bound test results, there exists a long run cointegration among the variables examined in this study.

4.3. ARDL Long-Run Test Results

As display in Table 3, in the long run, a lagged value of employment, financial development and economic growth revealed positive and significant values of 0.1714, 2.1341 and 2.4219 respectively. This implies that 1 percent increase in the lagged value of employment rate in Nigeria increases the employment rate by 17.14%. Similarly, 1 percent increase in the level of financial development increases the level of employment rate by 213.41%, and also, 1 percent increase in the level of economic growth increases the level of employment rate by 242.19%. The implication of these results are; as more credits are available to investors, there is tendency that employment will increase through either business expansion or starting of a new business. This result contradicts the work by Abiola John Asaley et al. (2019) who found a negative and statistical relationship between financial integration and employment but Pagano et al. (2012) is in agreement with our finding. In their work, a positive and statistical was found between finance and employment in non- Organisation for Economic Cooperation Development (OECD) countries. Boustanifar (2014) also in was in line with our finding, that is, a positive and significant relationship was found between finance and employment. Also, growth in the real gross domestic product also creates employment through investment. Some foreign investors are interested in the value of a country's real GDP as a factor for investment.

Table 3. ARDL long run results.

Dependent variable = $\ln EMP$		
Variable	Coefficient	Prob. values
Constant	-4.692	0.172
$\ln EMP_{t-1}$	0.171	0.012*
$\ln FIN_t$	2.134	0.002*
INF_t	-5.143	0.003*
$\ln GDP_t$	2.422	0.002*
$\ln SMC_t$	0.361	0.812
Diagnostic test	Statistics	
R-squared	0.920	
F-statistic	547.710	
Durbin-Watson	1.650	
χ^2 NORM	3.150	0.734
χ^2 SERIAL	2.011	0.155
χ^2 ARCH	0.013	0.891
χ^2 WHITE	2.010	0.182
χ^2 RAMSEY	1.008	0.381

Note: The figures asterisk (*) are significant at 5% level. NORM represents normality distribution, ARCH represents autoregressive conditional heteroskedasticity, RAMSEY represents a test used to test functional misspecification.

In line with prior expectation, inflation impact negatively on employment. This implies that 1 percent increase in inflationary rate reduces the rate of employment by 514.28%. This is not surprising because when the cost of goods

and services are increasing, producers cost of production increases as well, and this reduces the extent of production. When this persists, some companies may want to lay-off workers, and in turn, reduces employment.

The next step after examining the long-run relationship among financial development, employment, inflation, economic growth, and stock market capitalization is to investigate the equilibrium that occurred in the short-run. The error correction model (ECM) was employed for this purpose. Table 4 shows that the coefficient of the error correction mechanism is negative and significant. At the 5 percent significant level, the ECM is -0.64. This result implies that it will require about 64% of the disequilibrium in short-run to be corrected in the long-run. More so, the ECM result proves that there is a long-run relationship among the financial development, employment, inflation, economic growth, and the stock market capitalization.

In the short run results in Table 4, similar results are revealed, a lagged value of employment and financial development are positive and significant to explain the increase in the rate of employment in Nigeria. But, economic growth shows an insignificant result in determining employment rate in Nigeria.

Table 4. ARDL short run results.

Dependent variable = $\Delta \ln EMP_t$		
Variable	Coefficient	Prob. value
Constant	-0.011	0.080
$\Delta \ln EMP_{t-1}$	0.246	0.002*
$\Delta \ln FIN_t$	2.197	0.042*
ΔINF_t	-0.064	0.335
$\Delta \ln GDP_t$	0.734	0.231
$\Delta \ln SMC_t$	0.823	0.422
ECM_{t-1}	-0.643*	0.001*
Diagnostic tests	Statistics	
R ²	0.898	
F-Statistic	4.161	
Durbin-Watson	1.890	
Test	F-Statistic	Prob. value
χ^2 NORM	0.450	0.891
χ^2 SERIAL	0.017	0.231
χ^2 ARCH	2.072	0.553
χ^2 WHITE	0.913	0.792
χ^2 RAMSEY	0.274	0.630

Note: The figures asterisk (*) denote the significant at 5% level. NORM represents normality distribution, ARCH represents autoregressive conditional heteroskedasticity, RAMSEY represents a test used to test functional misspecification.

5. CONCLUSIONS AND POLICY IMPLICATIONS

Over the decades, generation of adequate employment has been a serious issue in Nigeria despite previous economic growth that has taken place. Among other factors, issue of employment creation in Nigeria may be due to economic and financial crisis that took place in the past. Though, previous scholars have dealt with the subject matter but there is no consensus in their results, especially on the measurement techniques and techniques of analysis. Our study measured financial development with two variables, that is, domestic credit to private sector by banks and stock market capitalization. Other variables used in the study are; employment, economic growth and inflation. Our findings show a long-run relationship between the among financial development, employment rate, inflation rate, and economic growth in Nigeria. As expected, inflation reveals a negative and significant relationship with employment rate. Also, financial development reveals a positive and significant relationship with employment. The result further shows that economic growth promotes employment rate Nigeria.

Following the results of our analysis, this study recommends among other things policy formulations on expansionary monetary policies that will ensure availability of credits for private sector. Also, stock market listing

requirements for small and medium scale businesses should be friendly to encourage the SMEs Small and medium-sized enterprises (SMEs) listing for access to finance. Government policies that will encourage efficient diversification of the economy from Nigeria crude oil major source of generating GDP should be implemented. Lastly, policies that will drastically reduce the high rate of inflation should be implemented.

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