Impact of Financial Inclusion on Unemployment in Sub-Saharan Economies: A Study of Nigeria and Ghana

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Abstract
This paper was undertaken to empirically investigate the impact of financial inclusion on Sub-Saharan economies referencing Nigeria and Ghana for the period 1985 to 2018. Data was sourced from the World Development Indicator (WDI), Statistical Bulletins of the selected Central Banks and National Bureau of Statistics. Unemployment rate (UNPR) was used proxy for the sampled economies while Commercial banks credit to private sector (BCPS), lending interest rates (LINT), number of rural bank branches (NRBB), Total bank loans to rural dwellers (CBLR), Bank Credit to Agriculture (CBCA) and commercial banks liquidity ratios (LIQR) were financial inclusion proxies. From the data observed on the 2 Sub-Saharan African (SSA) countries and by using the dynamic panel statistical techniques, we were able to show that there exists a significant link between financial inclusion and the sampled economies. The coefficient of determination indicated that about 75 percent of the total variations in unemployment rate are explained by the financial inclusion variables in the model. Consequently, the study recommended that the Central Banks should make policies that will encourage proper checks on the exploitative tendencies of commercial banks so as to lower cost of capital; "Rural Credit Guarantee Scheme (RCGS)" should be established in order to favorably incorporate the interest of rural dwellers into the financial cycle.

INTRODUCTION

The connection between financial inclusion and economic development in Sub-Saharan economies appears to have gained both policy and academic relevance in recent times; this is because over the years, the region has witnessed series of "one-step forward and two-steps backwards" syndrome of movement in both her economic and financial systems. Meanwhile, the seemingly sudden change in intellectual focus became inevitable following the need to energize grass root economies of the states through constructive reduction in the growing urbanization and financial exclusion which have left the region among the league of the world poor. Although, despite the age long vulnerability and importance of financial inclusion to the region, no record of sustained inclusive financing exist to support the deficit economic units. Additionally, Financial inclusion underpin an array of economic tool vital to rapid economic development due to its ability to equitability distribute resources/wealth.

Financial inclusion is an important tool which government uses in stimulating economic development because of its ability to expedite efficient allocation of productive resources, thus reducing the cost of capital. Inclusive financing system has the ability to improve the daily activities pertaining to management of finances and reduction in the increase risk of loss of funds through non-formal sources of credit (such as money lenders), which are often found to be manipulative or exploitative (Onaolapo, 2015). However, financial inclusion has assumed greater level of importance owing to its apparent prominence as a driver of economic development.

Despite the fact that Greenwood, Sanchez, and Wang, (2013) argued that financial intermediaries provide savers with higher returns and lower risk on their investment, many individuals of lower economic status still cannot make use of the financial intermediaries due to perceived growing income inequalities. Gretta (2014) in a study further stated that people make use of financial services as it become available and more policies initiated to get the poor or lower income people included in order to reduce inequality.

However, one of the surest ways of inclusive development is financial inclusion in which Africa is largely lagging behind (Gretta 2014). Literature on financial inclusion have largely focused on indices of financial inclusion (see Arora, 2010; Chakravarty and Pal, 2012; Gupte, Venkataramani, and Gupta, 2012; Gretta, 2014). Nevertheless, authors in their respective studies have constructed various indices for measuring financial inclusion and respective economic indices without examining the impact of those indices on Sub-Saharan economies. To the best of our knowledge, the only studies that has gone further to examine the link between financial inclusion and poverty is Recep (2012), Jisha and Titto (2014) and Kehinde, Olayinka and Nwanneka (2017). The authors constructed indices for financial access using various countries and then assessed the impact of the indices on economic development in the sample countries. Nevertheless, the findings of these authors could not exhaust the demand of literature due to absence of financial inclusion in the context of Sub-Saharan economies in their discussion. This therefore provides an avenue for this study to shade light on the impact of financial inclusion on human development index in Sub-Saharan economies as a study of Nigeria and Ghana.

Conceptual Review

Related studies of different geography have given several views and definitions of financial inclusion. Diniz, Birochi and Pozzebon (2012) in a study, defined financial inclusion as the access to formal financial services at an affordable cost for all members of an economy, favouring mainly low-income groups. They argue that financial inclusion has been identified as the major policy contributor to poverty reduction. However, focusing on both access and usage dimension of financial inclusion, Khan (2011) in a study described financial inclusion as a course of action which tries to ensure, access to formal system and then providing well-timed and ample credit facilities to the demanders of financial services including the weaker and disadvantaged people of the country.

Arguing that a single measure is not enough, Sarma (2012) defined financial inclusion as a process offered by the policy makers of a country through which each and every members the country together with the weaker and underprivileged segments, could transport under the sunshade of official financial system.

New technologies have helped broaden access to financial services, including savings and payment products (Cull and Scott, 2009). Until recently, in Africa, little was known about the reach of the financial sector, the extent of financial inclusion and the degree to which disadvantaged groups such as the poor, women, and youth are excluded from formal financial systems (Gupte, Venkataramani, and Gupta, 2012). Systematic indicators describing the use of different financial services that have been lacking for most economies are now available in the 2012 Global Findex database, covering 148 economies that include 42 from Africa (Demirgüç-Kunt and Klapper, 2012).

Barriers to formal account ownership in Africa

According to Demirgüç-Kunt and Klapper (2012) and World Bank (2012), 80% of the adults without formal accounts surveyed indicated reasons for not having a formal account in Africa as lack of enough revenue to use one; Cost, distance, and documentation were also cited by

more than 25% of non-account-holders in Africa. In East Africa, cost is the second most frequently cited reason at 46% and distance is often the third reason. In East and West Africa, documentation is the second most cited cause with 36% of adults giving this as a reason. Fixed fees and high costs of opening and maintaining accounts seem to be hindering factors in Eastern and Southern Africa (Consultative Group to Assist the Poor 2009). For example, in Uganda maintaining a checking account costs the equivalent of 25% of GDP per capita annually, this forms a good reason to avoid having bank accounts.

Internet banking (E-banking)

According to Atay and Apak (2013), internet banking is a convenient and flexible way of banking with various transactions related benefits. Before the internet banking era, traditional bank services constituted labour intensive activities such as deposit, withdrawal and transferring as well as foreign exchange and trading at the stock exchange. Gathembe, Magutu and Muro (2013) observed that the fixed costs in IT investments have become relatively higher and the variable costs relatively lower.

Internet banking is becoming the preferred channel for financial inclusion. In Sub-Saharan Africa, e-banking is fast becoming the preferred rather than the known alternative channel for banking customers as banks offer everything from balance enquiries and loan applications to funds transfer and utility bill payments through mobile and internet banking as explained by Guerrero (2011). Over the past few decades, internet banking has been growing aggressively and globally in the financial sector of the world economies. Individuals have now moved from queuing in the brick banks and opting to access their bank inquiries through the internet.

Structure of the financial services industry and financial inclusion in Africa

To substantiate the financial inclusion agenda in Ghana, the Central Banks have made several reforms in the banking industry which have accelerated the drive for financial inclusiveness in the country (Kwadwo, 2018). Meanwhile, in 2008, a branchless banking regulation was issued by Bank of Ghana to enable her take advantage of digital technologies for the acceleration of financial inclusion (Kwadwo, 2018). While, these regulatory guidelines limited the role of mobile network operators in furtherance to the existing guidelines, the government of Ghana further signed the “Maya Declaration” in 2012 committing to specific goals (Kwadwo, 2018). The set out goals were revising the payment system strategy by the year end 2012; revising the regulatory framework of branchless banking to promote an enabling environment to achieve 70% financial inclusion by 2017; implementing efficiency in the mobile financial services sector; improving consumer protection and taking positive steps to increase the level of financial literacy by the end of 2012 (Kwadwo, 2018). The government subsequently joined the “Better than Cash Alliance” (BTA) in 2014 which was to be finalized in a national financial inclusion strategy that will see Ghana moving towards becoming a cash-light society, expanding access to electronic payments and reducing transaction cost and time (Kwadwo, 2018). The Central Bank of Ghana for instance, released a guideline in 2015 which is governing electronic money issuers and the use of agents in financial services, consumer protection and deposit insurance (CGAP annual report, 2016). These series of reforms has significantly expanded the financial-consumer protection and improved the banks and mobile network operators to offer more services that are competitive, products and pricing.

Personal incomes vary according to the amount of investment in human capital; that is, the education and training undertaken by individuals or groups of workers. Human capital arises out of any activity able to raise individual worker productivity. In practice full-time education is, too readily, taken as the principal example (Schmeid, 2013). For workers, investment in

human capital involves both direct costs, and costs in foregone earnings. Workers making the investment decisions compare the attractiveness of alternative future income and consumption streams, some of which offer enhanced future income, in exchange for higher present training costs and deferred consumption. Returns on societal investment in human capital may in principle be calculated in an analogous way. People need access to credit in order to invest in their human capital; e.g. via schooling, university etc. to find eventually a well-paid job (Schmeid, 2013). This study is anchored on quality of life and human capital theories.

Empirical review

Demirguc-Kunt, Klapper, and Randall (2013) in a study examined Islamic finance and financial inclusion among Muslims adults in 65 countries. Their results show that Muslims are significantly less likely to own a formal account or save at a formal financial institution than non-Muslims after controlling for certain individual and country level characteristics. In addition, the study finds no evidence that Muslims are less likely than non-Muslims to report formal or informal borrowing.

Aterido, Beck, and Iacovone (2013) in a study assess gender differences in the use of finance by household and enterprises in Sub-Saharan Africa using multivariate regressions. Their results revealed some evidence about the existence of an unconditional gender gap, once they control for firms and household characteristics. They find no additional evidence of a conditional gender gap either for enterprises or individuals. Again, after controlling for an array of characteristics such as size, industry, ownership type, foreign participation, export status, and age, enterprises with female ownership participation in Sub-Saharan Africa use as much external financing as enterprises without female ownership participation and female individuals are as likely to use formal financial services as male individuals. They conclude that women are disadvantaged in participation in the labour force and education, which has repercussions for their participation in the modern market economy, including the formal financial sector. They argue that policies to expand access to financial services by women have to be addressed if women are to reap the benefit of financial services as much as men. By the same token, however, these findings suggest the need for more innovative ways for banks to reach out to female customers that do not qualify for formal banking services based on traditional characteristics.

Klapper and Singer (2013) in a study also show evidence that for formal savings, there is no statistically significant relationship between gender and formal credit despite the documented significant differences by gender in the univariate setting. This is attributed to the fact that, there is low level of formal credit in Africa and the fact that gender differences manifest themselves indirectly through income, education and employment status. However, gender is significantly negatively related to the log-odds ratio of using only informal credit, compared to using formal credit. They also revealed that informal credit has no statistically significant relationship with income, suggesting that credit from informal sources, such as family and friends, the main source of credit in Africa and across developing countries, is equally accessible to all.

Han and Melecky (2013) in a study, examined the connections between financial inclusion and financial stability. Using 90 countries data authors observed that financial inclusion, measured by wider access to and use of deposits, can build the banks' deposit base stronger in period of financial trauma which ultimately promotes financial stability of countries, especially the middle income countries.

Demirguc-Kunt and Klapper (2012) in a study, provided analysis of the Findex Data, a new set of indicators that measure how adults in 148 economies spanning across over 150,000 individuals save, borrow, make payments and manage risk. The data shows that 50 percent of adults worldwide have an account at a formal financial institution, though account penetration varies widely across regions, income groups and individual characteristics. In addition, the study argued that 22% of adults report having savings with a financial institution in the past 12 months and 9% report having taken a loan from either bank or credit union or microfinance institution in the past year. Demirgut-Kunt and Klapper (2012) observed that although half of adults around the world remain unbanked, at least 35% of them report barriers to account use that might be addressed by public policy. Among the most commonly reported barriers were high cost, physical distance and lack of proper documentation. This earlier studies on the data only provides mere description of the situation without testing for strong statistical significance.

Research design

This study used *Ex-post-facto* research design because secondary sources of data were adopted in order to investigate the impact of financial inclusion on unemployment in Sub-Saharan economies. Annual time series data covering the period of 32 years (1985 – 2017) was collected from the Central Bank of Nigeria (CBN) and Bank of Ghana (BOG) Statistical Bulletins, National Bureau of Statistics (NBS), Global Financial Inclusion Database (GFI), World Development Indicators (WDI) and International Monetary Fund (IMF) formed the sources of data collection. In an attempt to determine the relationship and effect of financial inclusion on economic unemployment in the selected countries, one (1) dependent variable were selected as proxy for unemployment. Consistent with the literature, UNPR was used as proxy for unemployment while Commercial banks credit to private sector (BCPS), lending interest rates (LINT), Financial deepening (FIND), number of Rural bank branches (NRBB), Total bank loans to rural dwellers (CBLR), Bank Credit to Agriculture (CBCA) and commercial banks liquidity ratios (LIQR) are financial inclusion proxies.

Model specification

Prior to model specification, this study reviewed some related empirical studies. The model adopted was influenced by Rasheed, Siong-Hook and Habibullah, (2016). Interestingly, this study explored the connections between the dependent variable and independent variables. Rasheed, Siong-Hook and Habibullah, (2016) in their study of the role financial inclusion in financial development presented their model as follows:

FD = F(FD, FI, GDPC, PD, TO, FO, INS)…….. eq.1

Where:

FD = financial deepening

FI = financial inclusion

GDPC = Gross domestic product per capita

PD = Public debt

TO = trade openness

FO = Financial openness

INS = Institutional quality

The econometric model estimated is given as:

$FD_t = \beta_0 + \beta_1 FD_t + \beta_2 FI_t + \beta_3 GDPC_t + \beta_4 PD_t + \beta_5 TO_t + \beta_6 FO_t + \beta_7 INS_t + \mu_t$ …….eq.2

The functional form of the model used in this paper is represented thus::

UNPR = F(BCPS, LINT, CBRB, CBLR, BCA,LIQR, EXCR). ……eq.3

Where;

UNPR = Unemployment rate ($)

BCPS = Bank credit to private sector ($)
LINT = Bank lending interest rate (%)
NRBB = commercial bank rural branches ($)
CBLR = Bank lending to rural dwellers ($)
CBCA = Bank credit to agriculture ($)
LIQR = Bank liquidity ratios (%)
EXCR = exchange rate ($)
The functional function is further presented in econometric form as follows:

$$UNPR = \beta_0 + \beta_1 UNPR_t + \beta_2 logBCPS_t + \beta_3 LINT_t + \beta_4 logNRBB_t + \beta_5 logCBLR_t + \beta_6 logCBCA_t + \beta_7 LIQR_t + \beta_8 EXCR_t + \varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots eq.4$$

"Log" is the natural logarithm introduced in order to standardize the values of the variables, β_s are the coefficient estimates and μ_t is the error term assumed to have zero expected value and constant variance. *A priori*, the β_s are expected to have positive signs such that $\beta_s > 0$. The study further noted that β_1- β_n in all the equations captures the coefficients estimates in the empirically estimated model; ε, is an error term; and *t* reflects time. This model allows for the testing of the hypotheses outlined earlier.

Results and discussion

This study used panel unit root analysis to test for the stationarity of the variables. This is because Panel unit root tests have become dominantly used in econometric studies with a view to improving the perceived low power of individual unit root tests – particularly in small samples. These tests are often grouped into two main categories: (i) first-generation tests, which assume cross-sectional independence – e.g. Levin et al (2002), Im, Pesaran and Shin, (2003), Choi (2001); and (ii) second-generation tests, which explicitly allow for some form of cross-sectional dependence – e.g. Pesaran (2007). This study considered the following autoregressive (AR) process for panel data:

$$y_{it} = y_i y_{i,t-1} + \delta_i Z_{it} + \mu_{it} \qquad 5$$

Where p_i is the AR coefficient and the error term μ_{it} is assumed to be independent and identically distributed. Moreover, Zit includes individual deterministic effects, such as constants ('fixed effects') and linear time trends, which capture cross-sectional heterogeneity. Meanwhile, the associated AR coefficient is constrained to be homogenous across individuals (i.e. $\alpha i = \alpha$ for all *i*). Hence, the null hypothesis assumes a common unit root (H0: $\alpha = \rho - 1 = 0$) against the alternative hypothesis that each time series is stationary (H1: $\alpha < 0$). We showed that the pooled t-statistic has a limiting normal distribution under the null hypothesis. This is presented in table 1.

Table 1 Panel unit root test

	Im, Pesaran and Shin unit root test		**Fisher-ADF unit root test**	
Variables	**I(0)**	**I(1)**	**I(0)**	**I(1)**
Unemployment rate	-0.45366	-2.28868***	-0.47420	-4.34898***
Bank credit to private sector	-0.08646	-4.89410***	-0.13607	-4.23834***
Lending interest rate	-3.07216***	-7.49217***	-3.05424***	-6.04308***
Number rural bank branches	-0.21775	-3.19220***	-0.23430	-3.07918***
Commercial banks rural loans	-2.29644	-8.10783***	-2.37127	-6.33668***
Commercial banks credit to agriculture	- 0.01676	-4.16847***	- 0.05423	-3.71888***
Liquidity ratios	-1.25938	-4.51806***	-1.29165	-4.17727***
Exchange rate	-1.5E+11	-4.83106***	NA	-3.84430***

Source: Author's computation using E-View 10.0. Note: I(0) = order zero, I(1) = order one while *** = 1% level of significance.

The stationarity test results for the panel data for Nigeria and Ghana economies was run both for level I(0) and first differencing I(1) values using Pesaran and Shin (IPS) and Fisher-ADF methods. The absolute test statistic values were compared to Critical values at 5%. The test results provided mixed evidences on the order of integration of the variables. The Im, Pesaran and Shin (IPS) test strongly accepted the null hypothesis of no unit roots at level (order zero), except for lending interest rate (LINTR) which is stationary of order zero. The IPS test in table 4.2c rejected the null hypothesis of no unit roots for all variables at first difference. On the other hand, the results of the Fisher- ADF tests equally rejected the null hypothesis of no unit root for all variables. Hence, the IPS and Fisher- ADF test results affirmed the conclusion that all variables are stationary of different order.

Table 2 Johansen Fisher Panel Cointegration test for financial inclusion and unemployment rate

Unrestricted Cointegration Rank Test (Trace and Maximum Eigenvalue)				
Hypothesized No. of CE(s)	**Fisher Stat.* (from trace test)**	**Prob.**	**Fisher Stat.* (from max-eigen test)**	**Prob.**
None	42.27***	0.0000	49.35***	0.0000
At most 1	111.4***	0.0000	56.98***	0.0000
At most 2	53.48***	0.0000	34.53***	0.0000
At most 3	25.17***	0.0000	17.06***	0.0019
At most 4	11.05**	0.0260	13.34***	0.0097
At most 5	2.645	0.6188	2.548	0.6361
At most 6	1.406	0.8431	0.576	0.9657
At most 7	2.959	0.5647	1.226	0.8738
At most 8	8.583*	0.0724	8.583*	0.0724

Source: Author's computation from WDI, IMF, CBN, BoG using E-view 10.0. Note: ***(**) Indicates rejection of the null hypothesis at 1%(5%).

Since the pre-tests for unit-roots and cointegration suggest that the variables are stationary and cointegrated and consistent with prior expectations, the study preceded with the estimation of the long run relationship using the dynamic ordinary least squares (DOLS) within-dimension (pooled) estimator suggested by Kao and Chiang (1999). We opt for this estimator since it yields unbiased and asymptotically efficient estimates of the long run relationship, even if there

are endogenous regressors, thus allowing us to control for the potential endogeneity of financial inclusion and the selected economic measure variables (Herzer, Strulik and Vollmer, 2012). Additionally, it has been established that in panel data samples with small time dimension, DOLS estimator performs better than other available estimators, like, the non-parametric fully modified ordinary least squares (FMOLS) estimator developed by Pedroni (2000). This Engle granger based approach combines Johansen and Fisher methods. Using both Fisher test and Max-eigen test statistics, each of the results in table 2 indicated the existence of long run cointegration between the variables of the study. On this premise, the study stated that there is long run relationship between financial inclusion and selection economic indicators.
The study presented the Hausman's test in Table 3.

Table 3: Hausman test results for the unemployment model.

Test Summary		**Chi-Sq. Statistic**	**Chi-Sq. d.f.**	**Prob.**
Cross-section random		**21.743224**	**8**	**0.0012**
*** Cross-section test variance is invalid. Hausman statistic set to zero.**				
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
LOG(FIND)	0.313459	0.870620	0.310429	0.0554
LOG(BCPS)	1.317092	1.269159	0.002298	0.7265
LOG(CBCA)	0.268186	0.293439	0.030638	0.3173
LOG(CBLR)	-1.502804	-1.502737	0.054300	0.2588
LINTR	0.213903	0.207743	0.005438	0.3987
LOG(LIQR)	6.992585	6.721203	0.073648	0.0065
EXCR	-3.607736	-2.761631	0.715887	0.3876
LOG(NRBB)	2.329415	2.085801	0.059347	0.0024

Source: Author's computation from WDI, IMF, CBN, BoG, using E-view 10.0.

Following the result of the Hausman test in table 3, the probability is significant. As such, the alternative hypothesis was accepted that the fixed effect model is the choice model. Haven confirmed the use of fixed effect panel data approach to analyze the impact of financial inclusion on unemployment in Nigeria and Ghana; we proceeded with the pooled regression table.

Table 4: Panel regression result for UNPR model

Variable	Fixed Effect Model++	Random Effect Model	Pooled Model
log(BCPS)	1.317092***	1.269159***	1.018072***
	3.422294	3.323626	8.533539
LINTR	0.213903**	0.207743**	0.175475***
	2.263047	2.202558	0.175475
log(NRBB)	2.329415***	2.085801***	0.809675***
	3.180451	3.019773	6.088879
log(CBLR)	-1.502804***	3.019773***	-1.502384***
	-3.703209	-3.703043	-11.35026
log(CBCA)	0.268186	0.293439	0.425722***
	1.214644	1.337797	6.168418
log(LIQR)	6.992585***	6.721203***	5.299617***
	4.021089	3.912973	10.14573
EXCR	-3.607736	-2.761631	1.670540
	-0.125696	-0.096259	0.178925
C	-37.93303	-37.51952	-35.35342***
	-1.225892	-1.206268	-3.504751
R-squared	0.563358	0.554237	0.514717
Adjusted R-squared	0.493183	0.491673	0.508080
F-statistic	8.027946***	8.858821***	77.56015***
Prob(F-statistic)	0.000000	0.000000	0.000000
Durbin-Watson stat	1.497786	1.105716	1.991524

Source: Author's computation from WDI, IMF, CBN, BoG, using E-view 10.0. Note: ***, ** and *represent 1%, 5% and 10% levels of significance respectively.

The result of the fixed effect model in table 3 showed that BCPS has positive and statistically significant influence on unemployment rate (UNPR). The coefficient of 1.317092 at 1 percent level of significant implies that a unit increase in BCPS leads to 1.317092 proportionate increases in UNPR in Nigeria and Ghana. Lending interest rate (LINT) provided statistically significant result; though positive at 5% level. It showed that a percentage increase in lending interest rate will lead to 21.39% increase in UNPR. Furthermore, the coefficient value of 2.3294 at 1 percent level for number of rural bank branches (NRBB) is an evidence that a positive increase in NRBB will lead to 2.3294 proportionate increases in UNPR in Nigeria and Ghana within the study period. This result corroborated Olaniyi and Adeoye (2016), in a similar study. Nevertheless, commercial banks credit to rural dwellers (CBLR) showed negative effect on the dependent variable within the study period though significant. The estimated value of -1.502804 at 1% level is a prove that a unit change in commercial bank credit to rural areas leads to 1.502804 proportionate decreases in unemployment. Also, commercial banks credit to agriculture (CBCA) showed a positive and insignificant relationship with UNPR within the reference period. It presented 0.268186 elasticity value implying that any increase in the CBCA will cause Unemployment rate to increase proportionately by 28.81%. The panel regression result equally showed that liquidity ratio (LIQR) was statistically significant at 1 percent; an indication that a unit increase in commercial banks liquidity ratio leads to 6.992585 proportionate increase in unemployment rate in Nigeria and Ghana within the study period. Zins and Weill, (2016); Tuesta, *et al.*, (2015); Camara, *et al.*, (2014) in a study found similar results.

As an evidence of high level of goodness of fit of regression line, coefficient of multiple determination (R^2) was 0.563358. Although this outcome (approximately 56%) means the total

variation in the dependent explained by the independent variables, it further validated the aggregation of the financial inclusion variables included in the model. F-statistic (8.027946 at 1% level) on the other hand, explains the general significance of the regression model while Durbin Watson (1.4977) value also justified the absence of serial correlation. The discussed results, however contradicts some of the findings Tuesta, *et al.*, (2015) and Fungáčová and Weill, (2015). Again, the study proceeded with Hausman test to decide on the appropriate model between fixed effect and random effect models.

Conclusion and recommendations

This study examined the impact of financial inclusion on economic development of Sub-Saharan Africa using unemployment rate as proxy for the selected countries of reference (Nigerian and Ghana). This study outlined the drivers of financial inclusion and measure of economic development. From the results, the study concluded that financial inclusion has statistically significant impact on the economies of Sub-Saharan Africa proxy by unemployment rate (UNPR). The study recommend that the Central Banks in the Sub-Sahara African region should make policies and device strategies that will enable proper checks on the exploitative tendencies of commercial banks through Lending interest rate so as to reduce the cost of capital and create quality, responsible and responsive channel of communication between the deficit and surplus economic unit. Secondly, commercial banks in the Sub-Saharan region should create "Rural Credit Guarantee Scheme (RCGS)" under the supervision and regulations of the Central Banks in order to favourably incorporate the interest of rural dwellers into the financial cycle. Again, commercial banks in the sub region should venture into economic assisted productive projects like importation of heavy industrial machineries and equipment in order to keep liquidity ratio on the check.

Finally, commercial banks should venture into agricultural production not just granting credit so as to make the sector more attractive to invest in that commercial banks credit to agriculture negatively related to economic development in the sampled region within the reference period is as a result of little or no priority given to the sector by virtually all commercial banks in the Sub-Saharan Africa.

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