FINANCIAL INCLUSION AND ECONOMIC GROWTH: A COMPARATIVE ANALYSIS

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Abstract
The study investigated and compared the level of financial inclusion in Nigeria, with that of Ghana, Kenya, Argentina, Turkey and Colombia. Using descriptive statistics, it was found that the level of financial inclusion in Nigeria improves overtime, but lower than that of the comparative countries, particularly Turkey, Colombia and Argentina. To confirm the linkage between financial inclusion and economic growth, financial inclusion index was generated from three financial inclusion indicators, using principal component analysis. The Pearson correlation coefficient shows that there is a strong and positive relationship between financial inclusion index and Nigerian economic growth. Given these findings, it is concluded that financial inclusion positively influences economic growth. It is therefore recommended that government provide enabling environment and the needed security that will ensure the long term growth and efficient performance of financial institutions and put in place polices that will increase the level of financial inclusion in the country.

Keywords: financial inclusion, GDP per capita, economic growth.

1.0 Introduction

At the hearth of every healthy economy, is a robust, stable and sound financial system. It is also being argued that the nature of the economy of a country is a reflection of soundness, stability and inclusiveness of its financial system. It is therefore incontrovertible that financial inclusion, in

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terms of savings, credit insurance, payment and pensions, which are relevant appropriate and affordable for the entire adult population, needs to be well organized to ensure a sustained economic growth and development. The delivery of financial services at affordable costs to the unbanked and low-income segments of the society is a necessary and undeniable requirement for economic progress of every country. Financial inclusion is the opposite of financial exclusion where those services are neither available nor affordable to a certain category of economic agents, particularly the low income members of the society (Enhancing financial innovation and Access [EFInA] 2013; Umuaru, 2014).

An economy that allows large number of people to participate in her formal financial system is likely to experience a sustained and accelerated economic. The ability of the active poor to access easy, affordable and safe financial services is a pre-condition for accelerating inclusive growth because poverty is usually synonymous with financial exclusion. People are left with the option of patronizing the informal finance providers which in most cases, are expensive, not organized and full of doubts (Segun & Onafowokan, 2014). In a survey conducted in 2012, it was found that about 349 million adults representing 39.7% of the adult populations were financially excluded in Nigeria. Only 28.6 million adults were banked, representing 32.5% of the adult's population. It was discovered that lack of infrastructural development, illiteracy, poverty and insecurity (EFInA, 2013), low financial literacy, inadequate infrastructural facilities as well as inadequate and inefficient technology-based facilities by financial institutions (Kama & Adigun, 2013) account for low financial inclusion of Nigerians. Given this problem, Nigeria is not reaping the full benefit of accelerated development that is derivable from financial inclusion. This study is therefore meant to investigate the nature and extent of financial inclusion in Nigeria and some selected countries, and investigate the nature of the relationship between financial inclusion and economic growth in the country. Knowing this will assist the policy makers to put in place policies that can accelerate financial inclusion, stability and overall soundness of the system.

2.0 Literature Review

Reviewed below are the previous studies that have been conducted on the relationship between financial inclusion and economic growth.

Demirguc-Kunt and Klapper (2012) analyzed savings, credits, payment methods, and risk management methods of 148 economies. Using descriptive statistics, they found that 41% of adults in developing economies are banked, compared to 89% of adults in high income economies, 23% of adults living below $2 per day have a formal account 37% of women in developing economies are banked, compared to 46% of men. Their analysis results show that around 50% of adults have accounts in formal financial institutions throughout the world. In other words, half of the worldwide adult population do not have a formal bank account and at least 35% of them commonly cite the high cost, physical distance, and lack of proper documentation as barriers. This study better presented the financial inclusion of the selected countries. Their use of descriptive statistics ensures simplicity and preciseness of the analysis. The method is very suited for the data used in the study.

Otiwu, Okere, Uzowuru and Ozuzu (2018) investigated the relationship between financial inclusion and economic growth with particular reference of microfinance for the period 1992 to 2013. Using Johansen Cointegration tests, they found that indicators of financial inclusion (total loans and advances, total deposits, investments and number of microfinance banks) are cointegration with economic growth. They concluded that the growth and development of a nation is significantly dependent on the expansion of banking and financial services. They recommended that microfinance banks concentrate efforts on low cost deposits to reach large number of people and increase in financial education to enlighten the public on benefits of financial services. There are many problems with this study, the time span of dataset is too small for using Johansen cointegration analysis; at least 30 observations are needed for good regression analysis. Secondly, GDP does not represent economic growth. It only represents the state of the economy. Instead, GDP growth could have been used to represent economic growth. The authors also did not do proper empirical review of the past studies, they regurgitated the sayings of the past researchers about financial inclusion and economic growth.

Onaolapo (2015) examined the effects of financial inclusion on the economic growth of Nigeria for the period of 1982 to 2012. Number of commercial bank branches, bank loan to rural areas, demand deposits from rural areas and the central bank agricultural credit guarantee scheme fund were used as proxies for financial inclusion, while per capital income is used for economic growth. The Ordinary Least Square (OLS) method revealed that financial inclusion greatly influenced poverty reduction. but marginally determined national economic growth and Financial Intermediation. Given these findings, it was concluded that financial system indicators are correlated with the Nigerian economic growth. The study recommended the need to create deposit and borrowing windows at affordable cost to the poor and to the income group erstwhile tagged the unbankable. The objective of the study was not correctly stated, the study claimed to investigate the effect of financial inclusion on economic growth, but included financial deepening and intermediation. The use of OLS estimation method undermines the findings of the study. The method is not appropriate for time series that data, instead cointegration method could be used.

Kim, Yu and Hassan (2018) examined the relationship between financial inclusion and economic growth in 55 Organization of Islamic Cooperation (OIC) countries from 1990 to 2013. Using panel vecto-autoregression, impulse response functions and panel granger causality tests, they found that financial inclusion has a positive effect on economic growth. They used number of ATMs, number of bank branches, number of deposit accounts with commercial banks, number of borrowers from commercial banks and life insurance premium volume to GDP were used as proxies for financial inclusion while GDP per capital was used for economic growth. The IFRs results suggested that financial inclusion has positive effects on the economic growth and financial inclusion and economic growth have mutual causalities with each other based on the panel Granger causality tests. They concluded that financial inclusion has positive effect on the economic growth in OIC countries. They study was adequately conducted given the large number of countries involved and the subsequent large dataset. This takes care of heterogeneity and micronumerosity problems that are associated with other studies on financial inclusion.

Bigirimana and Hongyi (2018) examined the relationship between financial inclusion and economic growth of Rwanda, using annual data from 2004 to 2016. They used number of automated teller machines per 1,000 km2, automated teller machines per 100,000 adults, branches of commercial banks per 1,000 km2, branches of commercial banks per 100,000 adults, deposit accounts with commercial banks per 1,000 adults, loan accounts with commercial banks per 1,000 adults, outstanding deposits with commercial banks and Outstanding loans with commercial banks as measurements of financial inclusion while GDP was used for economic growth. Using ARDL model, they found that there is long-run relationship between financial inclusion and economic growth. They recommended that government set policies that ease loan access for more people to take loans. This study is inadequate for two reasons. First, the time span of the dataset is thirteen years, which too small for using regression analysis. Secondly, the authors claimed that the model has mixture of first and second order variables and used ARDL model. ARDL model is not capable of running such model. Instead, descriptive statistics, and at most correlation test, could have been used. Given these reasons, the findings of this study is not valid and not useful for policy making.

Just like the above studies, other studies like Pradhan, Arvin, Norman, Nair and Hall, 2016 (for Association of South East Asian Nations); Naceur and Ghazounai, 2007 (for Middle East and North Africa countries), and Van der Werff, Hogarth, and Peach 2013 (for 31 OECD countries)
found cointegration relationship between financial inclusion and economic growth. During the course of literature review, it was found that there is paucity of study on the relationship between financial inclusion and economic growth in Nigeria. Even in the few ones that are available (the likes of Onaolapo, 2015), inappropriate methodology was used. Given that the time span of the indicators of financial inclusion is small, and as such cannot warrant the adoption of regression method, descriptive statistic tools will be used in this study to explain the nature of financial inclusion in Nigeria, in comparison with some countries. The study will also investigate the nature of relationship between financial inclusion index and economic growth in Nigeria.

3.0 Research Methodology

The dataset used in this study, financial inclusion indicators of Nigeria, Ghana, Kenya, Argentina, Turkey and Colombia, and Nigerian GDP per capita from 2010 to 2016 were sourced from World Bank database. The financial inclusion indicators used are number of commercial bank branches per 1000 adults, number of depositors with commercial banks per 1000 adults and number of ATMs machines per 1000 adults. They are used to assess the level of access and inclusion of people in the financial sector of the country

Following a detailed review of previous studies and the available data on financial inclusion indicators in Nigeria, this study used multiple bar graphs to explain and compare the indicators of financial inclusion with some selected countries. Also, the study generated financial inclusion index from the financial inclusion indicators, using principal component analysis. This gives a single index that represents financial inclusion in Nigeria. Afterwards, Pearson correlation was used to investigate the nature of correlation between the financial inclusion index and Nigerian economic growth (proxied GDP per capita income).

4.0 Presentation and Discussion of Results

4.1 Number of Commercial Bank Branches per 1000 Adults.

Table 1 shows the distribution of commercial banks per 1000 adults in Nigeria, Ghana, Kenya, Argentina, Colombia and Turkey.

Table 1: Number of Commercial Bank Branches per 1000 Adults.

Countries/Years	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**
Nigeria	6.56	6.41	5.81	5.90	5.55	5.42	5.36
Ghana	5.36	5.38	5.67	5.82	6.05	7.12	7.13
Kenya	4.71	4.98	5.25	5.35	5.54	5.65	5.43
Argentina	12.88	13.00	13.10	13.13	13.13	13.17	13.37
Colombia	41.70	70.84	110.35	142.19	253.19	257.70	256.78

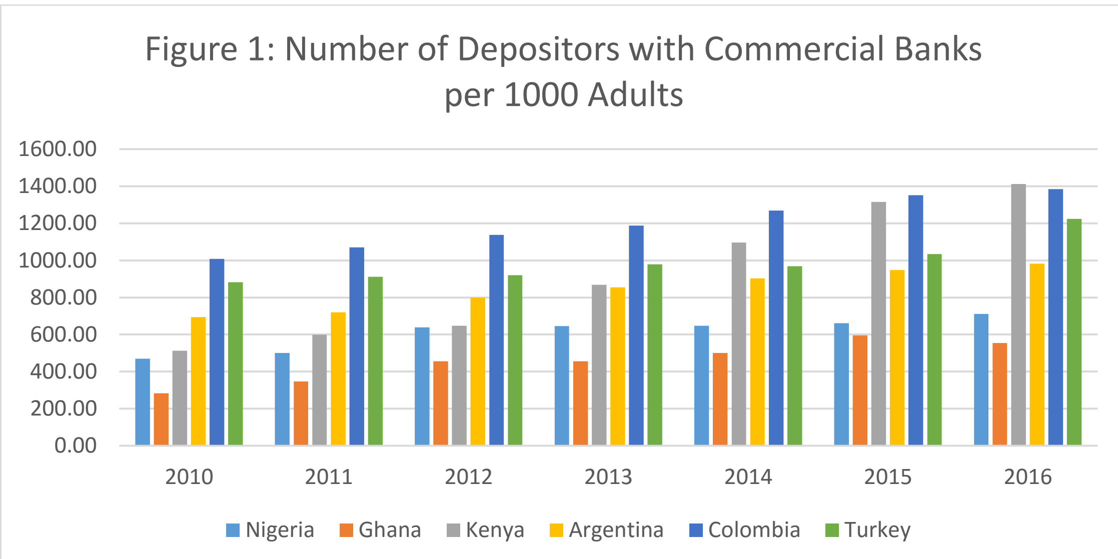
Turkey	17.88	18.24	18.62	19.67	19.64	19.20	18.14

Source: World Bank (2012), Global Financial Inclusion (Global Findex) Database.

The table shows that the distribution of commercial banks per 1000 adults decrease in annually in Nigeria, from about 7 banks per 1000 adults in 2010 to about 5 banks in 2016. This implies that distribution of banks does not increase in tandem with increase in the population rate in Nigeria. It could also imply that there is marginal increase in banking awareness among Nigerians, which leads to decrease in the number of banks that are available to serve people. The situation is different in other countries. Comparatively, Nigeria has higher banking distribution than Ghana and Kenya between year 2010 and 2013, but has lower distribution than Ghana from 2010 to 2016, and Kenya from 2015 to 2016. Argentina, Turkey and Columbia have higher distributions of commercial bank branches than Nigeria, Ghana and Kenya. This implies that people in Argentina, Turkey and Columbia have more access to banking services, could be able to utilize banking facilities to positively turn around their lives and the general economy than people in Nigeria, Ghana and Kenya.

4.2 Number of Depositors with Commercial Banks per 1000 Adults

Figure 1 shows number of depositors with commercial banks per 1000 adults in Nigeria, Ghana, Kenya, Argentina, Colombia and Turkey.



The figure shows that the distribution of number of depositors with commercial banks per 1000 adults increases in Nigeria from 2010 to 2016. This implies that there is increase in number of people that patronize commercial banks in Nigeria, possibly because of increasing population and increasing baking awareness. Comparatively, Ghana, Kenya, Argentina, Colombia and Turkey also witness increase in the number of people that have deposits with commercial banks. The figure shows that Colombia has the highest number of depositors across years, followed by Argentina, Turkey and Ghana. The figure shows that all the selected countries, except Ghana, have higher number of depositors than Nigeria.

4.3 Number of ATM Machines per 1000 Adults

Figure 2 shows number of depositors with commercial banks per 1000 adults in Nigeria, Ghana, Kenya, Argentina, Colombia and Turkey.

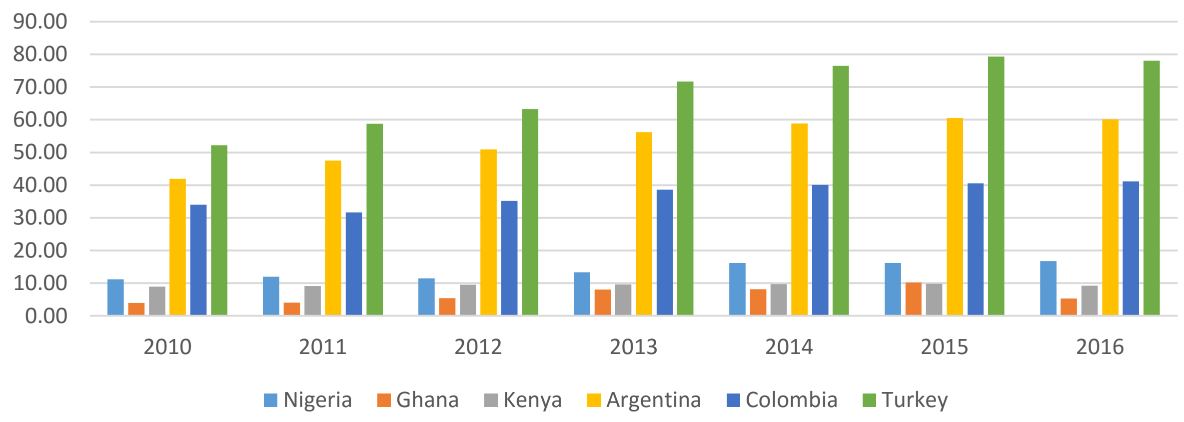


Figure 2: Number of ATMs per 1000 Adults

Figure 2 shows that the number of ATMs per 1000 adults increases in Nigeria from 2010 to 2016. The figure shows that Argentina, Colombia and Turkey have higher number of ATMs per 1000 adults than Nigeria, while Nigeria has higher number of ATMs than Ghana and Kenya. As shown in the figure, Ghana and Kenya have increase in number of ATMs from 2010 to 2015, but decrease from 2015 to 2016.

4.3 Correlation Between Financial Inclusion Index and Economic Growth

Table 2 below shows the Pearson Correlation Matrix for GDP per capita and Financial Inclusion Index for Nigeria

Table 2: Title: Correlation Matrix for GDP per capital and Financial Inclusion Index for Nigeria.

Correlation		
t-Statistics		
Probability	GDPC	FINCLU_IND
GDPC	1.0000	
	……….	
	………..	
FINCLU_IND	0.8651	1.0000
	5.7208	
	0.0001	

Source: Authors' computation

The table shows that GDP per capita income is positively correlated with financial inclusion index with R^2 of 87%. The relationship is statistically significant at 1%, the highest and the strongest level of statistical significance. This shows that there is strong and positive relationship between GDP per capita and financial inclusion index in Nigeria. It implies that financial inclusion positively influences the economy growth of Nigeria.

5. Conclusion and Recommendations

This study shows the extent of financial inclusion in Nigeria, compared to that of Ghana, Kenya Argentina, Turkey and Colombia, using three indicators of financial inclusion (number of commercial bank branches per 1000 adults, number of depositors with commercial banks per 1000 adults and number of ATMs machines per 1000 adults using principal component analysis). The indicators are also called financial access indicators, because they show the extent and ability of people to use financial services. Though found that Nigeria improves on the extent of inclusion in the recent time, it is lower than that of the comparative countries. The comparative countries, particularly Turkey, Colombia and Argentina, have a higher financial inclusion than Nigeria. This may be a contributing factor to their more growing economy than Nigeria.

To confirm the linkage between financial inclusion and economic growth, financial inclusion index was correlated with the Nigerian GDP per capital income. The Pearson correlation coefficient shows that there is a strong and positive relationship between financial inclusion index and Nigerian economic growth. The positive relationship is also confirmed by higher level of financial inclusion in Argentina, Turkey and Colombia, which are of higher economic growth than Nigeria. Given the associated positive relationship between economic growth and financial inclusion, the Nigerian government is encouraged to:

1. Put in polices to increase the level of financial inclusion in the country
2. Ensure adequate monitoring and supervision of the financial institutions, particularly banks, towards qualitative and efficient service delivery.
3. To encourage the establishments of more bank branches in different parts of the country.
4. Provide enabling environment and the needed security that will ensure the long term growth and efficient performance of financial institutions.
5. To provide more public enlightenment and banking awareness on the to use banking services by the people.
6. To ensure a moderate and reasonable interest rate that encourage many people to use banking services.
7. To improve the access and quality of the educational institutions in the country. High number of people with sound educational will naturally increase the use of financial services.

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APPENDIX

Title: Correlation Matrix for GDP per capital and Financial Inclusion Index for Nigeria.

Covariance Analysis: Ordinary
Date: 03/14/19 Time: 08:41
Sample: 2004 2016
Included observations: 13

Correlation t-Statistic Probability	GDPPC	INCIU_ND
GDPPC	1.000000	

INCIU_ND	0.865125	1.000000
	5.720784	-----
	0.0001	-----