FINANCIAL INCLUSION AND NIGERIAN ECONOMY (1990-2015)

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Abstract
This paper examined the effects of financial inclusion on the Nigerian economy (1990-2015). Financial inclusion is the provision of a broad range of high quality financial products such as savings, credit, insurance, payments and pension, which are affordable for the entire adult population especially the low income segments or disadvantaged economy. The objectives of the study were to determine the relationship between DMBs' financial intermediation activities, financial deepening, and real GDP and to determine the relationship between financial inclusion and poverty eradication in Nigeria. The study employed the use of Ordinary least squares (OLS) regression technique and adopted the analytical method of data analysis. Using the e-view statistical software version 8.0 for test of hypotheses. The major findings were that DMBs' financial intermediation activities, financial deepening, financial accessibility, institutional infrastructures all have positive significant effect on economy growth (Real GDP) while there was no relationship between financial inclusion and poverty eradication in Nigeria. Among several recommendations were the following: government creating and enabling environment for effective financial inclusion; the structures and platforms such as bank branches, ATM and POS terminals of conventional banks should be adequately equipped in order to enhance financial inclusion by bringing those captured by the informal sector, into the formal sector and; DMBs’ role in creating affordable services such as credit should attract further attention from CBN to reduce interest rate to SMEs and rural populace. The three-tiered KYC regime by the CBN is a step in the right direction.

Keywords: Financial deepening, Informal financial sector, Financial illiteracy, Financial inclusion, Economic growth and Development.

Introduction
The principle of financial inclusion has assumed greater level of importance in recent times due to its perceived role as a driver of economic growth. In essence, financial inclusion is complementary to economic growth as the two contributes towards poverty alleviation. Financial inclusion is imperative for economic growth and development process because as more people are brought into the formal financial system, it helps in reducing the volume of money outside the banking sector and hence boosts investment. An economy cannot develop on the whole when a large number of people are excluded and marginalized from gaining access into the financial system because they are the real pillars of the economy (Uma, 2013).
Financial inclusion refers to a process that ensures the ease of access, availability and usage of formal financial system by all members of an economy. It is about the delivery of banking services such as savings, credit, insurance, payment and pension, at an affordable cost to vast sections of the economy, especially the low income segment or disadvantaged sectors (Ahmed, 2006). Martinez (2011) identified financial access as an important policy tool employed by government in fighting and stimulating growth given its ability to facilitate efficient allocation of productive resources, thus reducing the cost of capital. Financial inclusion is a concept that portrays the state in which all people have access to appropriate, desired financial products and services in order to manage their money effectively (Leyshon & Thrift, 1995).

About 2.5 billion adults in the world lack access to formal financial services which makes financial inclusion a complex matter across different nations. Available data shows that financial services are not made readily available to everyone that needs them for some reasons which could be lack of awareness (financial illiteracy), unfavorable regulatory environment, rigid product structure etc. (Serrao, Sequira & Varambally, 2013). The banking sector in Nigeria has grown tremendously in the last decades that it has become the delight for the establishment of branches of multi-national banks and foreign direct investments. However, according of the Central Bank of Nigeria (CBN), only 18% of Nigerians in the North are formally banked, the North-West has the lowest rate of population that keep their money in the banks with only 13%. The North-East followed with 15% and the North Central 27% of the formally banked population (CBN, 2012).

The CBN also indicated that the financial exclusion rate is worse in the northern part of the country with about 68% of the population excluded from financial services in both the North-East and North-West regions (CBN, 2103). Financial inclusion according to (Aduda & Kalunda, 2012) is the "process of availing an array of required financial services at fair price, at right place, form and time without any form of discrimination to all members of the society". Furthermore, financial services play a very crucial role in the growth and development of an economy. A well-functioning and inclusive financial system is linked to a faster and equitable growth; thus it is characterized by the diversity of financial services which leads to wealth creation (Aduda & Kalunda, 2012). World Bank (2012) sees financial inclusion as the range, quality and availability of financial services to the underserved and financially excluded. From the global scene, the recent global financial inclusion index shows that less than a quarter of adults in Africa have accounts with formal financial institutions (Demirguc-kunt & Klapper, 2012). This gives a notion that majority of African adults appear to be financially excluded and perhaps use informal methods to save and borrow. They perhaps still save money in boxes, clay pots, under their beds or resort to local money lenders.

However, Nigerian financial inclusion strategy (2013) stated that financial inclusion is achieved when adults have easy access to a broad range of formal financial services that meet their needs and are provided at affordable cost. Financial inclusion is a way of discouraging savings, loans and lending of money in informal sectors outside the financial system. It is the whole system, programmes and plans that ensure that more people who have access to formal financial services but did not use them and those who did not have access at all are brought into the formal financial system to ensure their continuous and consistent use of formal financial services over a long period of time.

The worrisome reality is that most African economies including Nigeria are been run by a small fraction of the citizens, as such, any economy where the majority of the citizens are financially excluded and unbanked, the implication might be a threat to the economy. For instance, according to the (CBN 2009), about 83% of the total money in circulation in the country is completely outside...
the banking system, this could lead to a stagnant economic growth and consequently hinder economic development. The study of financial inclusion is highly important for the society, because consequences of financial exclusion may be quite harmful. Financial exclusion may generate lower investment resulting from difficulties in getting access to credit or sourcing credit from informal sector at very high interest rates (Levine, 2005). The possible financial products for financial inclusion are savings accounts, current accounts, mobile banking, rural banking, electronic banking, etc. Mobile banking may appeal more to the educated but the regular breakdown in mobile telecommunication network poses a challenge that may make people reluctant in subscribing to the service. Many Nigerians for numerous reasons are unbanked and lack access to formal financial services. Financial inclusion is a necessary condition for financial deepening which helps to address the basic issues of economic growth. Financial inclusion is also mainly concerned with eradication of poverty aimed at increasing economic growth. However, there is limited access and availability of these formal services. Epileptic power supply in the country, level of financial illiteracy in rural areas and some part of urban centers contributes to low patronage of formal financial services. Moreover, unreliable infrastructural facilities also make financial inclusion difficult and costly (Aube & Laidlaw, 2010). Location of banks could be a barrier because the distance might be far away especially for rural dwellers. In addition, the number of banks available to effect ease of accessing financial services are also few or not even there because the infrastructure is absent. Also, conditions for opening and operating a bank account, the cost or charges by banks for account holders, unfavorable regulatory environment etc all contribute to reasons that prevent people not to be included in financial services (Serrao, 2013). Some even prefer to keep their money at home or patronize this local informal service providers such as the popular "Esusu" or "Isusu" co-operatives rather than operating a bank account; and this informal service providers are prone to high risks such as theft, fraud etc and they are rather exploitative in their dealings (Efina, 2010).

Nigeria is a cash-based economy as a result of different businesses in the informal sector. Yunus & Karl (2007) indicated that a small loan, a savings bank account and insurance policy can make a great difference to a poor and low income family; this in turn enables them to have a better nutrition, housing, education for children thus increasing the standard of living. The main objective of the paper is to examine the effects of financial inclusion on the Nigeria economy from 1990 to 2015. The specific objectives are to: access the nature of relationship between Deposit Money Banks' (DMBs) financial intermediation activities and Real gross domestic product (RGDP) in Nigeria; determine the relationship between financial deepening and RGDP in Nigeria and; to determine the relationship between financial inclusion and poverty eradication in Nigeria.

The following research questions guide the paper: to what extent does Deposit Money Banks' financial intermediation activities support RGDP in Nigeria? to what extent does the rate of financial deepening influence RGDP in Nigeria? and what is the nature of relationship between financial inclusion and poverty eradication in Nigeria?

Review of Related Literature

Conceptual Framework

The traditional idea of financial inclusion is the provision of “access to and usage of” diverse, convenient, affordable financial services. Access to and use of financial services is one of the major drivers of economic growth. Financial inclusion covers sustainable, relevant, cost effective and meaningful financial services for the financially underserved population.
Centre for financial inclusion (2013) see financial inclusion as a stake in which all people who can use financial access has access to a complement of quality financial services provided at affordable prices in a convenient manner and with dignity for the client. Financial inclusion is intended to connect people with banks for consequential benefits. The ability of the poor to access easy, affordable and safe financial service is a pre-condition for accelerating inclusive growth (Serrao, Sequeira & Varambally, 2013). Poverty is usually synonymous or linked with financial exclusion whereby people are directly and indirectly excluded from formal financial service. As a result of this financial exclusion, people are left with the option of engaging in the informal finance providers. Hariharan and Marktanner (2012) opined that financial inclusion is a huge prerequisite for economic growth and they based it on its ability to enhance capital creation, financial sector savings and intermediation. By implication investment is achievement also. Financial inclusion is today widely considered as a right of all citizens to social inclusion, better quality of life and a tool for strengthening the economic capacity and capabilities of the poor in a nation (Banco Central do Brazil, 2010).

Yaron, Benjamin and Piprek (2013) asserted that financial inclusion enhances efficient allocation of resources through financial intermediation. Ogunleye (2009) links financial inclusion to financial stability, stating that the former promotes the later by facilitating inclusive growth. Financial inclusion is important for ensuring economic inclusion as financial sector development drives economic growth by mobilizing savings and investment in the productive sector (Johnson & Nino-Lazarawa, 2009). This is premised on institutional infrastructure that a financial system affords; which contributes to a reduction in information and transaction costs as well as indirectly enables lowering of poverty, promote growth and lessen income inequality (Honohan & Beck, 2007). However the need to examine the nature of relationship between financial inclusion and economic growth is recent attraction among researchers especially in developing countries. Generally, the simplest way to measure financial access is through the number of functional bank accounts held by individuals. Sureshander (2003) states that merely having a bank account may not be a good indicator of financial inclusion; rather that the ideal definition should focus on people who want to access financial services but are often denied the same due to one incapacitation or the other. Evidence from available literature tends to show that there are different views on the concept of financial inclusion. Meanwhile, the Indian committee on financial inclusion defined inclusion as the process of ensuring access to financial services as well as timely and adequate credit where needed by groups at an affordable cost (Rangarajan Committee, 2008).

Central Bank of Nigeria (2011) maintain that financial inclusion or inclusive financing is the delivery of financial services at an affordable cost to sections of disadvantaged and lower income segment of society. It is the provision of broad range of high quality financial products such as credit, savings, insurance, payments and provisions which are relevant, appropriate and affordable for the entire adult population especially the low income segment. On the other hand, a government Committee on financial inclusion in India defined inclusion as the process of ensuring access to financial services as well as timely and adequate credit where needed by groups at an affordable cost (Rangarajan Committee, 2008). Furthermore, several definitions of financial inclusion exist with focus on the extent of individual’s involvement in banking activities, it may sometimes be necessary to point out that financial inclusion involves more than mere banker-customer relationship. Chakraborty (2011) defined financial inclusion as the process of ensuring access to appropriate financial product and services needed by vulnerable groups such as weaker societal sections and low income groups at an affordable cost in fair and transparent manner by mainstream
institutional players, thus making an inclusive financing arrangement, a critical aspect in the context of economic growth of any economy.

An alternative definition of financial inclusion is the perception which views inclusion as a progression inculcating some elements of hierarchy of needs with higher levels of financial inclusion achieved as more needs are fulfilled. This perception views inclusive financing as a “hierarchy of financial needs” syndrome that starts by promoting non-cash methods of bill payment, advancing business through borrowing and fund investment (Amit, Jain & Gidget; 2012). Hanig and Jansen (2011), posit that financial inclusion is the “absence of price or non-price barriers in the use of financial services”. In their argument, they maintain firmly that the sole aim of financial inclusion is improvement in access of financial services that basically involve improving the degree to which financial services are available to all at a fair price. Consequently, financial inclusion is defined as “access for individuals to appropriate financial products and services” (as cited by Hayton, Percy & Latimer, 2007). While according to Throat, (2009), financial inclusion is the provision of affordable financial services namely; access to payments and remittance facilities, savings, loans and insurance services by the formal financial system to those who tend to be excluded.

The central meaning of the various definitions of financial inclusion remains the same to a reasonable extent irrespective of the variations in the wordings. There is no controversy or disparities among the authors about the concept of financial inclusion; the researcher rather observed that the conceptualization, are either “context-specific or country specific”. However, for the purpose of this study, the researcher seeks to adopt the Central Bank of Nigeria (CBN) definition which is that, financial inclusion or inclusive financing is the delivery of financial services at affordable cost to sections of disadvantaged and low income segment of the society. The provision of a broad range of high quality financial products, such as credit, savings, insurance, payment and provisions which are relevant, appropriate and affordable for the entire adult population, especially the low income segment. The essence of adopting CBN’s definition is because it duly emphasized on the core indicators (measurable variables) of financial inclusion. Financial Inclusion has been an integral part of Nigeria’s financial industry reforms for over 30 years, from the rural banking scheme in 1977 to the establishment of community and microfinance banks in the 1990s and early 2000s. Government hoped that the rural banking scheme would help achieve the transformation through the following: Provide a platform for the mobilization of savings in the rural areas; encourage banking habits among the largely agrarian rural population; provide credit for the growth of the small scale industries and entrepreneurs and; promote balanced development and eventual reduction in the rural-urban migration (Okorie, 1990).

Another observed effect of all these initial policies on level of financial inclusion was reflected in the decline in the ratio of cash outside bank to the stock of Narrow money supply in the economy from 61.1 percent in 1969, to 44.3 percent in 1979 to 40.9 percent in 1989 (Martin, 2008). These initial gains were, however diluted by the widespread incidence of bank distress, increased inflation and political uncertainty in the 1990s. Economic growth is an objective of financial inclusion which includes political, economic and social inclusion (Nalin & Mariappan, 2012). Exclusion of a person or group of people from these three dimensions of inclusion will lead to financial exclusion because the three dimensions are required to attain financial inclusion. Where majority are excluded from the financial system the gain of economic development does not reach every one and this leads to inequality.

Financial Exclusion is the direct opposite of financial inclusion. It originated from social exclusion policy. In a mere concrete term, Sinclair (2011) defined financial exclusion as the inability to
access necessary financial services in an appropriate form as a result of difficulties with access, conditions, prices or marketing or sector exclusion in response to negative perception or experience. Poverty eradication can be achieved when more emphasis is laid on inclusive financing. Every year, millions of people around the world transition out of poverty in any number of ways by either adopting newer farming technologies, investing in new business opportunities or finding new jobs. At the same time, large numbers fall back into poverty due to health problems, natural disasters, financial setback and other issues. If majority of those living in near poverty can access especially on insurance policy that insure against such unforeseen circumstance, it will go a long way to eradicate poverty. Also if there is an improved increase in the per capita income, gross domestic product (GDP), all these attributes to the level of growth and development an economy has achieved can also enable it grow and sustain financial inclusion.

Theoretical Framework: Great Spurt Theory
This theory states that for a less developed country to move from the traditional levels of economic backwardness to a modern industrial economy, it requires a sharp break with the past or a great spurt of industrialization (Balami, 2006). The great spurt theory established that the process of industrialization differs from country to country depending on the level of backwardness. According to the theory, all nations were backward once. The theory classified nations into three-advanced, moderate, backward and very backward and that the factory, banks and government will start the development in the nations respectively. The theory also contended the application of capital intensive technique in the production process in order to ensure the great spurt. This theory is inimical to a country that is endowed with labour, for it will end up increasing the trend of financial exclusion which in turn may likely reduce the living standard of the people.

Theoretical evidences suggesting that well developed financial system have strong positive impact on economic growth over a long period (Levine, 2005 and Demirguc-Kunt, 2008). Many academic literatures have also found a positive relationship at the country level between financial depth (deepening), income and level and poverty reduction (Beck, Demirguc-kunt & Levine, 2007). The ineffectiveness of the two previously administered ‘stylized financial sector policy reforms’ in Nigeria in the nature of selected industrial and agricultural development (using liberalization and deregulation) made institutional building approach that focused on the performance of financial institutions in delivery service to the segment of population with little or no access to finance imperative.

Empirical Review
In an empirical study of the effects of financial inclusion on economic growth,(Oruo, 2013) examined the relationship between financial inclusion and Gross domestic product (GDP) growth in Kenya. The study adopted a descriptive research design using secondary data collected from various sources within a period of four (4) years. He found that economic growth in Kenya has a strong positive relationship with financial inclusion. Ibeachu (2010) conducted a comparative analysis on financial inclusion using a case study of Nigeria and the United Kingdom. He employed a deductive approach to measure financial inclusion, accessibility and quality of bank services in Nigeria by analyzing responses from the survey questionnaires administered. The study showed financial inclusion as a growth strategy for banking institutions. From his findings he concluded that financial inclusion (FI) was more market driven in terms of consumer behavior and customer satisfaction when offering financial services.
Udoka & Anyinyang (2012) conducted a research on financial inclusion by examining the effects of interest rate changes on economic growth in Nigeria using annual data over the period 1970-2012. Employing the technique of Ordinary least squares (OLS) analytical technique, they found out a significant negative effect of interest rate on economic growth. They also found evidence of the economy in pre and post reforms period.

Akpan (2004) examined the effect of financial liberalization (Using interest rate and financial inclusion as proxies) on economic growth in Nigeria. He applied the Ordinary least squares (OLS) technique and found a positive significant relationship between financial liberalization and economic growth. Sarma (2012) evaluated the financial inclusion for 94 countries across the world between 2004 and 2010 using index of financial inclusion (IFI) approach which he constructed in line with UNDD within the 94 countries of study. Very few African were in the list, though his choice of country was based on data availability in financial access survey (FAS) data base of IMF. Findings in the study indicates that in the year 2009, out of 91 countries finally measured, Chad with IFI value as low as 0.016 was the lowest financially inclusive country while Cyprus with IFI value of 0.996 ranked highest as the most financially inclusive. Then in 2010, Afghanistan ranked lowest with IFI value of 0.052 while Luxembourg with IFI value of 0.996 ranked highest. The study concludes from his findings, that different countries around the world are at different levels of financial inclusion and exclusion. He recommended that the use of multidimensional approach to monitor the level of financial inclusion and exclusion since it is a good indicator of economic growth.

Onaolapo and Odetayo (2012) in their own study of financial inclusion and micro finance banks in Nigeria disclose that access to finance via micro finance strategy especially by poor and vulnerable groups is prerequisite for poverty alleviation, employment creation, social cohesion and overall economic development for the Nigerian economy. Using survey approach in their study, their findings also shows that the commonest reasons for saving with micro finance banks in Nigeria were consumption, investment in Education and to start a business; whereas those with better education save more money for investment than less educated ones. Collins (2009) in a study tracking the financial diaries of poor people in Bangladesh, India and South Africa tested using the Granger causality and found causation between access to a range of appropriate and affordable financial service and improvement in poor people’s welfare and income. Alper (2008) examined the relationship between financial development and economic growth in middle-east countries as a group by employing panel co-integration for a dynamic heterogeneous panel over a 14 year period (1990-2005). A positive and statistically significant equilibrium relation between financial development and economic growth was established for the middle-East countries. Calderon and Liu (2002) examined whether all financial development leads to economic growth naturally. Their study investigated and found that a mutual Granger causality exists between financial development and economic growth but financial development’s share in causing economic growth is higher in developed countries than in developing countries.

Methodology
This paper applied descriptive and quantitative research techniques based on ex-post facto research design to study financial inclusion and Nigerian economy. Two analytical tools were used in this paper, viz: descriptive statistics and multiple regression analytical models. Multiple analytical models were used to estimate the relationship (or otherwise) between Nigerian economic growth and identified components of financial inclusion. The descriptive statistics were used to conduct economic analysis on the financial inclusion components. The adapted model used Cross-sectional
time series data covering 1990-2015 to determine the influence of financial inclusion variables on Nigerian economic growth. Finally, the study applied data on an ordinary least squares (OLS) approach to conduct the investigations and analysis.

**Model Specification and Validity:** The Ordinary least square method was adopted due to its logical and simplified feature. The research model by Levine (2005) was adapted for the paper thus:

\[ Y = \beta_0 + \beta_1 + U, \]

Where: \( Y \) = Economic growth Variable; \( X \) = Financial Inclusion Variables; \( \beta_0 \) = Constant Term; \( \beta_1 \) = Co-efficient of \( X_1 \); \( N \) = Error term.

The paper modified the model by introducing four other models to represent the objectives, research questions and hypotheses.

Model one

\[ \text{RGDP} = f (\text{DRBD, LRBD}) \]

\[ \text{RGDP} = \beta_0 + \beta_1 \times 1 + \beta_2 \times 2 + U \]

\[ \log \text{RGDP} = \beta_0 + \log \beta_1 \times 1 + \log \beta_2 \times 2 + U \]

Model two

\[ \text{RGDP} = f (\text{MS, PSC}) \]

\[ \log \text{RGDP} = \beta_0 + \log \beta_1 \times 1 + \log \beta_2 + U \]

Model three

\[ \text{PCI} = f (\text{LAS}) \]

\[ \text{PCI} = \beta_0 + \beta_1 \times 1 + U \]

\[ \log \text{PCI} = \beta_0 + \log \beta_1 \times 1 + U \]

Where: \( \text{PCI} \) = Per Capita income; \( \text{LAS} \) = Loans to Agricultural sector (\( X_1 \)); \( \text{RGDP} \) = Real Gross Domestic Product; \( \text{LRBD} \) = Loans of Rural Branches of DMBs (\( X_1 \)); \( \text{DRBD} \) = Deposits of rural Branches of DMBs (\( X_2 \)); \( \text{MS} \) = Money Supply (\( X_1 \)); \( \text{PSC} \) = Private sector credit (\( X_2 \)); \( \beta_0 \) = Constant term; \( \beta_1 \) = Co-efficient of \( X_1 \); \( \beta_2 \) = Co-efficient of \( X_2 \); \( U \) = Error term.

**Methods of Data Presentation and Analysis**

Three separate regressions were estimated for (1990-2015). E-view Statistical Software version 8.0 was used in testing the hypotheses. The test of significance and goodness of fit was employed to decide whether or not financial inclusion has a significant relationship with economic growth in Nigeria. These included the T-Values, the Co-efficient of Determination (\( R^2 \)) and adjusted \( R^2 \), and also the F-test. The evaluation of estimates deals with how the study interpreted the results of the analysis in the study. Basically, the co-efficient (\( R^2 \)) is gotten from the relation below:

Where: \( r \) = Co-efficient of correlation; \( n \) = no of time period; \( X \) = Value of the Independent Variable; \( Y \) = Values of the economic growth and development measures.

The \( r \) shows the pattern of the relationship between economic growth and financial inclusion variable. A positive \( r \) shows a negative or an inverse relationship between economic growth and financial inclusion.

A relationship (F Significance) below 0.005 shows significance, while above 0.05 shows insignificance. The co-efficient of determination \( R^2 \) is shown as \( r^2 \) multiplied by 100. This reveals the percentage change in one variable as a result of a percentage change in another variable.

Therefore, the co-efficient of determination indicates the extent of the instability in each of the major economic growth measures.
Data Presentation and Results  
Table 4.1 Data for determining the effect of financial inclusion on the Nigerian economy (1990-2015).

<table>
<thead>
<tr>
<th>YEAR</th>
<th>DRBD</th>
<th>LRBD</th>
<th>MS</th>
<th>PSC</th>
<th>NBB</th>
<th>LSME</th>
<th>LAS</th>
<th>PCI</th>
<th>RGDP</th>
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<td>2007</td>
<td>94.7</td>
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<td>20.2</td>
<td>18.6</td>
<td>3582</td>
<td>0.14</td>
<td>128.4</td>
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<td>63258.6</td>
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<td>2008</td>
<td>80.5</td>
<td>71294.2</td>
<td>19.3</td>
<td>16.9</td>
<td>3812</td>
<td>0.16</td>
<td>255.5</td>
<td>2514</td>
<td>7186.6</td>
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<tr>
<td>2009</td>
<td>96.2</td>
<td>90782</td>
<td>19.4</td>
<td>20.4</td>
<td>3812</td>
<td>0.13</td>
<td>284.8</td>
<td>2739.9</td>
<td>71186.6</td>
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<tr>
<td>2010</td>
<td>87.4</td>
<td>89822.1</td>
<td>18.9</td>
<td>19.7</td>
<td>3820</td>
<td>0.13</td>
<td>343.7</td>
<td>2979.8</td>
<td>80222.1</td>
</tr>
<tr>
<td>2011</td>
<td>102.3</td>
<td>75632.2</td>
<td>19.9</td>
<td>19.2</td>
<td>3820</td>
<td>0.12</td>
<td>361.2</td>
<td>3203.2</td>
<td>89043.6</td>
</tr>
<tr>
<td>2012</td>
<td>116.7</td>
<td>91843.4</td>
<td>21.7</td>
<td>23.1</td>
<td>3831</td>
<td>0.42</td>
<td>401.3</td>
<td>2640.3</td>
<td>82132.7</td>
</tr>
</tbody>
</table>

Source: Central Bank of Nigeria (CBN) statistical bulletin of 2015 and World Bank Indicators (WDI).

KEY: Real gross domestic product (RGDP), Per capita income (PCI), Loans to small scale enterprises (LSME), Money supply (MS), Loans to agricultural sector (LAS), Private sector credit (PSC), Number of Bank branches (NBB), Deposits of rural branches (DRBD), Loans of rural branches (LRBD).

Data Analysis
The data were analyzed to show various relationships existing between the variables. The data were analyzed using graphs that indicate the trends between the variables of financial inclusion and economic growth between 1990 and 2015.
Fig 4.1: Trend showing relationship between DMB’s financial intermediation activities and real gross domestic product (1990-2015)

Fig 4.1 shows that loans of rural branches of the deposit money banks moved in almost the same direction with real gross domestic product, while deposit of rural branches fell drastically in 2005 when real GDP was rising.

Fig 4.2: Trend showing relationship between financial deepening and Real Gross Domestic Product (1990-2015)

Fig 4.2 shows that money and private sector credit moved simultaneously, while real GDP was increasing from 1990, but it fell in 2011, while it reached its peak in 2013.

Fig 4.3: Trend showing relationship between financial inclusion and poverty eradication (1990-2015)
Fig 4.3 shows that loans to agricultural sector and per capita income were moving relatively in the same direction, and there was a rise in both variables from 2010 to 2015.

**Test of Hypotheses**

**Hypothesis one**

H₀: There is no significant relationship between deposit money banks’ financial intermediation activities and real gross domestic product.

H₁: There is a significant relationship between deposit money banks’ financial intermediation activities and real gross domestic product.

**Table 4.2: Test of Hypothesis for relationship between DMBs’ financial intermediation activities and Real GDP**

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>6.484644</td>
<td>5670.133</td>
<td>1.143649</td>
<td>0.2651</td>
</tr>
<tr>
<td>DRBD</td>
<td>0.273940</td>
<td>0.243073</td>
<td>-1.126985</td>
<td>0.2719</td>
</tr>
<tr>
<td>LRBD</td>
<td>0.865577</td>
<td>0.119168</td>
<td>7.263489</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

**Source: regression result, 2016**

The regression result from Table 4.2 shows that when the independent variables remain constant, real GDP will grow by 6.4%. It also showed that an increase deposit of the rural areas will lead to an increase in GDP by 27%, while when the volume of loans and advances to the rural areas is increased; it will lead to a corresponding increase in GDP by 86%. The R-squared coefficient that the regression line is well fitted, while the adjusted R-squared shows that only 75% variation in the dependent variable is caused by variation in independent variable. Durbin-Watson 1.5 shows a problem of autocorrelation.

The F-statistics of 0.000 is less than the significance value of 0.05, hence in line with the decision rule; we reject the null hypothesis and conclude that there is a significant relationship between deposit money banks’ financial intermediation activities and real gross domestic product.
Hypothesis two
H₀: There is no significant relationship between financial deepening and real gross domestic product.
H₁: There is a significant relationship between financial deepening and real gross domestic product.

Table 4.3: Test of hypothesis for relationship between financial deepening and Real GDP.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>18.85177</td>
<td>11590.17</td>
<td>1.626531</td>
<td>0.1175</td>
</tr>
<tr>
<td>MS</td>
<td>5.018162</td>
<td>1382.342</td>
<td>-3.630190</td>
<td>0.0014</td>
</tr>
<tr>
<td>PSC</td>
<td>68.24430</td>
<td>1225.455</td>
<td>5.568897</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

The regression result from Table 4.3 shows that when the independent variables remain constant, real GDP will grow by 18%. It also showed that both money supply and private sector credit has positive effect on the real GDP. The R-squared coefficient that the regression line is well fitted, while the adjusted R-squared shows that only 64% variation in the dependent variable is caused by variation in independent variable. Durbin-Watson 2.4 shows no problem of autocorrelation. The F-statistics of 0.000 is less than the significance value of 0.05, hence in line with the decision rule; we reject the null hypothesis and conclude that there is a significant relationship between financial deepening and real gross domestic product.

Hypothesis three
H₀: There is no significant relationship between financial inclusion and poverty eradication.
H₁: There is a significant relationship between financial inclusion and poverty eradication.
Table 4.4: Test of Hypothesis for relationship between financial inclusion and poverty eradication

Dependent Variable: PCI
Method: Least Squares
Date: 09/11/16 Time: 00:59
Sample: 1990 2015
Included observations: 26

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-19.15184</td>
<td>85.03500</td>
<td>2.252230</td>
<td>0.0337</td>
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<tr>
<td>LAS</td>
<td>-7.935385</td>
<td>0.537397</td>
<td>14.76634</td>
<td>0.0000</td>
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<tr>
<td>R-squared</td>
<td>0.900845</td>
<td>Mean dependent var</td>
<td>1027.938</td>
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<tr>
<td>Adjusted R-squared</td>
<td>0.016713</td>
<td>S.D. dependent var</td>
<td>1006.258</td>
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</tr>
<tr>
<td>S.E. of regression</td>
<td>323.3938</td>
<td>Akaike info criterion</td>
<td>14.46942</td>
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<tr>
<td>Sum squared resid</td>
<td>2510005</td>
<td>Schwarz criterion</td>
<td>14.56620</td>
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<tr>
<td>Log likelihood</td>
<td>-186.1025</td>
<td>Hannan-Quinn criter.</td>
<td>14.49729</td>
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<tr>
<td>F-statistic</td>
<td>218.0448</td>
<td>Durbin-Watson stat</td>
<td>2.601265</td>
<td></td>
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<tr>
<td>Prob(F-statistic)</td>
<td>0.700000</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: regression result, 2016

The regression result from Table 4.4 shows that when the independent variable remains constant, level of poverty will decrease by 19%. It also showed that increase in agricultural loan will lead a decrease in the level of poverty in Nigeria. The R-squared coefficient that the regression line is well fitted, while the adjusted R-squared shows that only 1% variation in the dependent variable is caused by variation in independent variable. Durbin-Watson 2.6 shows no problem of autocorrelation.

The F-statistics of 0.700 is greater than the significance value of 0.05, hence in line with the decision rule; we accept the null hypothesis and conclude that there is no significant relationship between financial inclusion and poverty eradication.

Discussion of findings
The paper found that DMBs’ financial intermediation activities has significant relationship with RGDP in Nigeria. This finding suggests that when the banks effectively carry out their function of mobilizing idle cash and channeling it to more productive uses through credit creation, the gross domestic product will also improve. The finding supports the work of Udoka & Anyinyang (2012). It was also found out that there is a significant relationship between financial deepening and real GDP. The result shows that both money supply and credit to private sector has the power of promoting the real gross domestic product positively. The regression result shows that growth of both variables will significantly lead to an increase in the real GDP. The finding supports the a priori expectation of the study, while it also supports the study by Akpan (2004).

The paper also found that there is no significant relationship between financial inclusion and poverty alleviation in Nigeria. even though financial inclusion has the tendency to alleviate poverty, if not totally eradicate it, it has not actually achieved that in Nigeria, as the greater chunk of the Nigeria citizens still live abject poverty, even when they have been banked and have knowledge of the financial services available to them. This could be due to the high rate of interest charged by the banks in granting loans, especially to small saver, and other bureaucratic
bottlenecks which the prospective lender faces. These become an impediment to accessibility of bank loan to small savers. The finding disagrees with the work of Alper (2008).

**Conclusion**

There is a global consensus on the importance of financial inclusion due to its key role of bringing integrity and stability into an economy’s financial system as well as its role in fighting poverty in a sustainable manner. Greater financial inclusion is achieved when every economic activities, geographical region and segments of the society have access to financial information, financial services and financing with ease and at minimum cost. This helps to promote balanced growth through its process of facilitating savings and investments thus causing efficient resource allocation from surplus sector to deficit sectors.

Financial inclusion is necessary for inclusive growth in Nigeria and it can be facilitated through a restructuring of financial services to capture the basic needs of the populace, usage of mobile banking and internet, micro finance institutions and the active roles of educational institution for furthering financial education. Through higher mobile penetration, it becomes easier to have access to deposits and time. Micro credit programme represent the very basics platform through which the poor in the society can be easily introduced into the financial system. Sustainable domestic economic growth and development in the pervasive income redistribution will help majority of the financially excluded populace to overcome poverty, increase income, save more and embrace formal financial service.

**Recommendations**

For Nigeria to achieve the upside potential in terms of growth and poverty reduction, the following recommendations are proposed:

1. Government’s role in creating an enabling environment for the operators and consumers to relate and interact in a beneficial way should be upheld to make the financial services and products customer driven rather than market driven.

2. The structures and platforms such as bank branches, ATM and POS terminals of conventional banks should be adequately equipped in order to enhance financial inclusion by bringing those captured by the informal sector, into the formal sector which will assist in building and strengthening the sector, thus making the excluded, financially included.

3. Consumer education and protection are essential while financial literacy and consumer protection are targeted at ensuring that users of financial service are not unduly exposed to extortion and abuse. This will lead to increased transparency and improved access in retail financial market.

4. Account opening conditions and documentations by banks needs to be “deregulated”. The three-tiered Know Your Customer (KYC) requirements should be tailored to take care of the realities in some rural areas.

5. There is need for steady power supply to drive the infrastructural facilities provided by banks, telecommunication companies and other related service providers such that fluctuations in internet and other networks is reduced to the barest minimum. This will ensure stability and wider network coverage.
References
Centre for Financial Inclusion, (2013). ACCION International; Financial Inclusion: What is the Vision


